

INVENTORY OF SENSITIVE SPECIES AND ECOSYSTEMS IN UTAH

ENDEMIC AND RARE PLANTS OF UTAH: AN OVERVIEW OF THEIR DISTRIBUTION AND STATUS

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Our state of knowledge of the Utah flora is based in large part on collections of pressed, dried plant specimens, gathered in the field and filed in museums such as the Bean Life Science Museum (Brigham Young University), the Intermountain Herbarium (Utah State University), and the Garrett Herbarium (Utah Museum of Natural History). Botanical exploration in Utah began with the second and third expeditions of John C. Frémont in 1843 to 1845 (Reveal in Cronquist et al. 1972, Welsh et al. 1993). Sereno Watson was the most prolific collector of the late 1800's, followed by Marcus E. Jones who resided in Salt Lake City from 1880 to 1923 and gathered plants throughout the region. In approximate chronological order, the other important 20th-century plant collectors in Utah include Per Axel Rydberg, Albert O. Garrett, Walter P. Cottam, Bassett Maguire, Bertrand F. Harrison, Edward H. Graham, Arthur H. Holmgren, H. Dwight Ripley, Rupert C. Barneby, Alice Eastwood, John Thomas Howell, Seville Flowers, Mont E. Lewis, Arthur Cronquist, Stanley L. Welsh, N. Duane Atwood, Larry C. Higgins, Stephen L. Clark, Noel H. Holmgren, Patricia Kern Holmgren, James L. Reveal, Lois A. Arnow, Sherel Goodrich, Elizabeth C. Neese, Leila M. Shultz, Richard J. Shaw, Kaye Hugie Thorne, J. Larry England, Gary I. Baird, M.A. (Ben) Franklin, Alan C. Taye, Joel S. Tuhy, Ronald J. Kass, Michael D. Windham, and Frank J. Smith. We are indebted to these botanists and to the curators of the several Utah herbaria who have graciously allowed access to their collections.

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INTRODUCTION

The Utah Division of Wildlife Resources (UDWR), under an agreement with the U.S. Department of the Interior, began work in March 1994 to develop a study plan for a statewide inventory of sensitive species and ecosystems. Activities enumerated in the plan include (1) completing a literature review for vertebrate, invertebrate, and plant species, (2) conducting field studies on sensitive species identified in the plan, and (3) using information obtained from the literature review and field studies to enhance UDWR's central database. UDWR's study plan was approved by the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission) in February 1995, and a subsequent cooperative agreement funded UDWR to carry it to the present. This document summarizes the work that has been completed for plant species in the first two-and-a-half years of plan implementation, involving a thorough review of existing information on the endemic and rare plants of Utah.

Nearly 25 years have passed since the inventory of rare plant species in Utah began. Rare plant lists have been developed and maintained over this period through the efforts of federal and state agencies (e.g, USDI Fish and Wildlife Service, USDA Forest Service, USDI Bureau of Land Management, Utah Natural Heritage Program); professional botanists (Dr. Stanley L. Welsh and others at the Brigham Young University herbarium; Dr. Leila M. Shultz at Utah State University); and the Utah Native Plant Society. The need for a strong State role in assessing the distribution and status of rare plant species was increased substantially in February 1996 when the U.S. Fish and Wildlife Service (USFWS) changed its policy regarding determination of candidate species for possible future listing under the federal Endangered Species Act (ESA). In so doing, the USFWS eliminated the "radar screen" by which various government agencies and non-governmental organizations had been tracking species that are rare, declining, or otherwise tending toward ESA listing. Unless the State in concert with other agencies and organizations effectively moves to perform this function, it will be difficult if not impossible for us to determine which species are most in need of proactive conservation or management attention.

The purpose of this document is to summarize the distribution and status of rare and endemic plants in Utah, and in so doing, to promote thoughtful conservation and land use planning. The report represents the culmination of an exhaustive review of available published and unpublished literature. Results of the literature review have been compiled in a computerized database and then condensed into a series of annotated checklists forming the main body of the report. For each species included in the inventory, the document provides information on current status and geographic distribution at the "county of occurrence" level. For some of the species addressed herein, significant questions regarding distribution and status remain which can only be answered by careful examination of museum specimens or by communication with experts; these information gaps can be filled given adequate funding. This report will also help to guide the efforts of UDWR's Utah Natural Heritage Program and others to gather additional site-specific data on Utah's rare and endemic plant species over the next several years.

WHY DOES UTAH HAVE SO MANY RARE PLANTS?

The state of Utah is remarkable for its rich native flora and especially for its large number of endemic and rare plants. Within the continental United States, there are only four other states (i.e., California, Florida, Texas, and Oregon) that equal or exceed Utah in sheer numbers of rare plant species (McMahan 1987, Shultz 1993). Some of our rare plants are narrow endemics found nowhere else in the world, while others may occupy one tiny corner of the state and range more widely beyond our borders. According to *A Utah Flora, 2nd ed.* (Welsh et al. 1993), there are 2602 species and 393 infraspecific taxa (subspecies or varieties) of vascular plants that are considered native. Of these, 247 taxa (incl. 157 species and 90 infraspecific taxa) are not known from beyond the boundaries of the state, for an endemism rate of 8.2 percent. Utah even has one endemic plant genus, *Glaucocarpum*¹, in the Brassicaceae or Mustard family. The rate of plant endemism in Utah is low when compared with an island flora like Hawaii (92.3% endemic) or a state like California (30.1%) with its mediterranean climate (Raven and Axelrod 1978). Texas (a state three-and-a-half times Utah's size) has more species (4196) but a similar rate of endemism (9.0%), and Utah's plant endemism is relatively high when compared with other states like Alaska (5.9%) or the Carolinas (0.8%).

Why does Utah have so many rare plants? To answer this question, we must first define our terms. It needs to be made clear that not all of Utah's endemic plants are rare and, conversely, that our rare plants are not all narrowly restricted endemics. Examples of Utah endemics that are relatively widespread or common within the state include:

Asclepias labriiformis

Astragalus coltonii var. *coltonii*

Astragalus cymboides

Astragalus eurekaensis

Astragalus saurinus

Cryptantha tenuis

Eriogonum spathulatum var. *spathulatum*

Penstemon carnosus

Penstemon cyananthus ssp. *longiflorus*

Penstemon humilis var. *brevifolius*

Syntherisma laciniata var. *pinnatifida*

Thelypodopsis divaricata

On the other hand, some of the plants that have been considered rare in the state -- for example, the Ute ladies'-tresses orchid (*Spiranthes diluvialis*) -- are even fairly widespread but infrequent in neighboring western states. Many of Utah's endemic plants were only discovered and named in the last half century, and generally when these plants were first described their known range was quite small. In most cases, additional field work on these poorly known plants has demonstrated that their overall distribution and abundance is larger than initially indicated, and often they are no longer considered rare (Welsh 1978a, Welsh 1979a).

¹ Sometimes included in the larger genus *Schoenocrambe*.

The richness of native plant species in Utah can be explained by the state's extraordinary diversity of habitats. Although much of the state is arid or semi-arid, there are many mountain ranges high enough to support coniferous forest, subalpine, or even true alpine vegetation (N. Holmgren in Cronquist et al. 1972). Some of Utah's native plant species cover a broad elevational range or occur widely within one or more of our more common habitats, while others occur here only at the edge of their overall geographic extent. Others are found only in very limited areas, including most of the plant species that are regarded as endemic or rare (Welsh et al. 1975, Welsh 1979a). By examining the distribution of endemic and rare plants across the state, we can see that their occurrence is uneven and nonrandom (Welsh 1979a), i.e., some portions of the state have significantly greater numbers of rare plants than do others.

Rarity by Ecoregion

One of the most informative ways to analyze plant endemism in Utah is to divide the state into ecoregions. As shown in Figure 1, there are five major ecoregions in Utah (i.e., Great Basin, Colorado Plateau, Utah High Plateaus, Wasatch & Uinta Mountains, and Uinta Basin) along with three minor ones which barely enter the state (Columbia Plateau, Green River Basin, and Mojave Desert). Among the various ecoregions, the Colorado Plateau is, by far, the richest area for endemic and rare plant species in Utah (N. Holmgren in Cronquist et al. 1972; Welsh et al. 1975; Welsh 1978b, 1979a; Shultz 1993). This fact can largely be attributed to the unique climate and geology of the area (Welsh 1978b). Most of the endemic and rare plants of the Colorado Plateau occur at lower elevations (below 6500 feet), but it is also true that most of the land area on the Plateau is at these elevations. In fact, when one considers the isolated, higher-elevation habitats of the Colorado Plateau, one finds that the number of endemic plants per unit of land area is actually greater than in the surrounding lowlands (Welsh 1978b). Endemic and rare plants occurring at middle to high elevations in the La Sal, Abajo, and Henry mountains and on Navajo Mountain include:

Allium geyeri var. *chatterleyi*

Cymopterus beckii

Draba fladnizensis var. *pattersonii*

Erigeron kachinensis

Erigeron mancus

Eriogonum corymbosum var. *cronquistii*

Penstemon crandallii var. *atratus*

Penstemon navajoa

Phlox cluteana

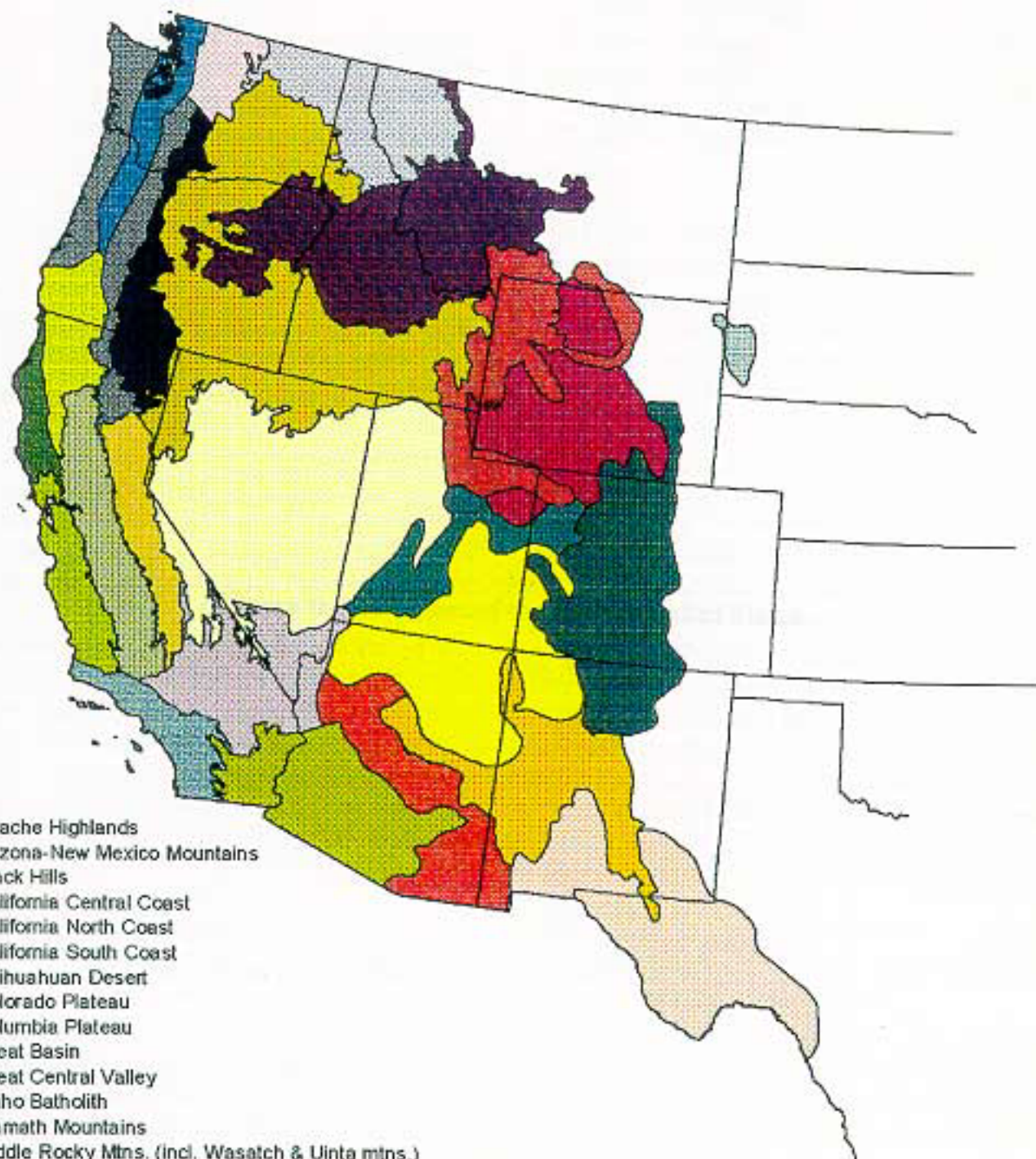
Senecio dimorphophyllus var. *intermedius*

Senecio fremontii var. *inexpectatus*

Other ecoregions containing significant numbers of endemic and rare plants include the Uinta Basin, the Great Basin, the southern portion of the Utah High Plateaus, and the Mojave Desert extension in extreme southwestern Utah (Welsh et al. 1975, Welsh 1979a, Shultz 1993). Within the Great Basin, the limestone mountain ranges of western Millard County are inhabited by a high concentration of endemic and rare plants, including the following:

Figure 1: Ecoregions of the western United States.

Ecoregions of the Western United States



- Apache Highlands
- Arizona-New Mexico Mountains
- Black Hills
- California Central Coast
- California North Coast
- California South Coast
- Chihuahuan Desert
- Colorado Plateau
- Columbia Plateau
- Great Basin
- Great Central Valley
- Idaho Batholith
- Klamath Mountains
- Middle Rocky Mtns. (incl. Wasatch & Uinta mtns.)
- Modoc Plateau and East Cascades
- Mojave Desert
- North Cascades
- Northern Rocky Mountains
- Puget Trough and Willamette Valley
- Sierra Nevada
- Sonoran Desert
- Southern Rocky Mountains
- Utah High Plateaus
- West Cascades and Coastal Forests
- Wyoming Basins (incl. Uinta & Green R. basins)



| | |
|--|--|
| <i>Arabis beckwithii</i> | <i>Lepidium ostleri</i> |
| <i>Astragalus oophorus</i> var. <i>lonchocalyx</i> | <i>Lesquerella goodrichii</i> |
| <i>Astragalus uncialis</i> | <i>Leymus salinus</i> ssp. <i>salmonis</i> |
| <i>Cryptantha compacta</i> | <i>Penstemon concinnus</i> |
| <i>Eriogonum batemanii</i> var. <i>eremicum</i> | <i>Penstemon nanus</i> |
| <i>Eriogonum nummularae</i> var. <i>ammophilum</i> | <i>Primula domensis</i> |
| <i>Eriogonum soredium</i> | <i>Sphaeralcea caespitosa</i> |
| <i>Ivesia shockleyi</i> var. <i>ostleri</i> | <i>Trifolium friscanum</i> |
| <i>Jamesia tetrapetala</i> | |

The Mojave Desert extension (including the St. George Basin, the Beaver Dam Mountains, and the Beaver Dam Wash area) contains some of our rarest plant species, a notable example being the endangered *Arctomecon humilis* or dwarf bearclaw-poppy. Also remarkable is the fact that almost 200 characteristically Mojavean plant species reach the limit of their range in Washington County. Overall, the vast majority of Utah's endemic and rare plants occur in lower elevation, arid and semi-arid habitats in the southern portions of the state (Welsh et al. 1975, Welsh 1979a, Shultz 1993).

Rarity by Soil Type

Another useful way to examine plant endemism in Utah is to consider the kinds of soils on which these plants occur. We have already seen that most of our endemic and rare plant species occupy narrow geographic ranges, and here it should be added that they are usually found on isolated or peculiar soil types. The substrates most commonly occupied by endemic and rare plants are clays, sand, and other fine-textured materials, especially on the Colorado Plateau and in the Uinta Basin and Mojave Desert extension (Welsh 1979a, Shultz 1993). In addition, endemics on calcareous (limestone and dolomite) substrates are concentrated in the southern Great Basin (as mentioned previously in this report), the Bear River Range (part of the Wasatch & Uinta Mountains ecoregion), and the southern portion of the Utah High Plateaus (Welsh 1979a). Endemic calciphiles in the Bear River Range include the following species:

| | |
|---|----------------------------|
| <i>Draba maguirei</i> | <i>Penstemon compactus</i> |
| <i>Erigeron cronquistii</i> | <i>Primula maguirei</i> |
| <i>Eriogonum brevicaule</i> var. <i>loganum</i> | <i>Viola frank-smithii</i> |
| <i>Musineon lineare</i> | |

At the southern end of the Utah High Plateaus the following taxa are largely or entirely endemic to the pink Claron Formation limestone:

| | |
|---|--|
| <i>Astragalus limnocharis</i> var. <i>limnocharis</i> | <i>Lepidium montanum</i> var. <i>claronense</i> |
| <i>Astragalus limnocharis</i> var. <i>tabulaeus</i> | <i>Lesquerella rubicundula</i> |
| <i>Castilleja revealii</i> | <i>Lomatium minimum</i> |
| <i>Cryptantha ochroleuca</i> | <i>Penstemon bracteatus</i> |
| <i>Cymopterus minimus</i> | <i>Physaria lepidota</i> var. <i>membranacea</i> |
| <i>Ericameria zionis</i> | <i>Senecio malmstenii</i> |
| <i>Erigeron proselyticus</i> | <i>Townsendia minima</i> |
| <i>Eriogonum aretioides</i> | |

The presence of unusual soil conditions helps to explain the high incidence of plant endemism in lower-elevation, desert habitats, particularly those of the Colorado Plateau. There the geologic history of regional uplift and subsequent erosion has exposed many different rock strata, which in turn have weathered to create an array of locally unique soil environments. In contrast, the Great Basin is characterized by small, isolated mountain ranges surrounded by broad, alluvium-filled valleys where the vegetation is generally insulated from the effects of peculiar strata (Welsh 1979a). Thus it should come as no surprise that many of the endemic plants in the Great Basin are restricted to the slopes or flanks of the desert mountains with relatively few endemics in the intervening lowlands.

Closer inspection of the kinds of soils in which endemic plants grow indicates that they are not only usually fine-textured but also often either highly saline or alkaline. These soil physical and chemical characteristics tend to intensify the effects of water stress in desert environments (Comstock and Ehleringer 1992, Shultz 1993). That these soil conditions are stressful for plant growth is plainly indicated by the fact that they are often barren or nearly barren of other vegetation (Welsh 1979a). Often these unusual soil types will support concentrations of several narrowly restricted plant species (Welsh 1979a). Some authors have concluded that restriction of plants to certain soil types is related not to a particular requirement for a certain kind of soil, but rather to the absence of competition from the regionally dominant vegetation (see Raven and Axelrod 1978, p. 67). According to Shultz (1993), however, physiological specialization on unusual soil types may be a primary factor in the evolution of endemic and rare plant species in Utah. Meyer (1986) provided further discussion of these “refuge” and “specialist” models of edaphic endemism.

Rarity by Habitat Type

Pinyon-juniper, desert shrub, warm desert shrub, and salt desert shrub habitat types have been found to support 65 percent of all endemic and rare plant taxa in Utah (Welsh 1979a). This is not surprising, however, given the fact that these plant communities predominate the Colorado Plateau and other low-lying desert regions of the state where (as mentioned previously in this report) climate and soils play important roles in determining plant distributions. While it is true that the vast majority of our endemic and rare plant species occur in desert habitats (Shultz 1993), a small but significant number occur in so-called “hanging gardens” and similar seasonally wet areas on the Colorado Plateau (Welsh 1989a), including the following taxa:

Aquilegia formosa var. *fosteri*
Carex haysii
Carex specuicola
Erigeron kachinensis
Erigeron zothecinus

Iris pariensis
Jamesia americana var. *zionis*
Perityle specuicola
Viola clauseniana
Zigadenus vaginatus

Other endemic and rare plants of seasonally to permanently moist or wet areas in Utah include:

Angelica wheeleri
Aquilegia flavescens var. *rubicunda*
Aquilegia grahamii
Botrychium crenulatum
Botrychium paradoxum
Cirsium ownbeyi
Cirsium virginense
Corydalis caseana ssp. *brachycarpa*
Crataegus douglasii var. *duchesnensis*
Dodecatheon dentatum var. *utahense*

Draba brachystylis
Juncus macrophyllus
Leymus simplex
Lupinus latifolius ssp. *leucanthus*
Oenothera flava var. *acutissima*
Primula maguirei
Ranunculus aestivalis
Salix arizonica
Senecio dimorphophyllus var. *intermedius*
Spiranthes diluvialis

Only one endemic plant species in Utah, *Najas caespitosa*, has been found in truly aquatic habitats (Shultz 1993), although another aquatic taxon, *Potamogeton foliosus* var. *fibrillosus*, occurs rarely here and in a few other western states. Another distinctive group of wetland-associated plant species in Utah, including the following endemic and rare taxa, inhabits low-elevation saline meadows of the Sevier River drainage and elsewhere in the western portion of the state:

Astragalus diversifolius
Lepidium integrifolium var. *integrifolium*

Thelypodium sagittatum ssp. *ovalifolium*
Trifolium eriocephalum var. *villiferum*

Welsh et al. (1975) observed that most agricultural and urban development in Utah has been limited to the broad valleys and river basins where it has had relatively little effect on narrowly endemic plant species. To this generalization the saline meadow endemics may represent a significant exception since, although probably abundant under presettlement conditions, they appear to have suffered significant declines in recent years due to alteration or loss of habitat.

Endemics by Life Form

The most characteristic life form among Utah's endemic and rare plant species is that of a low, tufted, xerophytic perennial herb or "cushion plant." Welsh (1979a) found that most of the narrowly endemic taxa in the state are xerophytes, in keeping with their predominant occurrence in desert environments. Comstock and Ehleringer (1992) explained the cushion habit as potentially advantageous in cold desert plant communities, particularly in (1) reducing shoot desiccation during the winter months and (2) allowing rapid vegetative growth and reproduction during the spring season, when the soil profile is recharged from winter precipitation but air temperatures are still relatively cool.

Harper (1979) observed that woody species (trees and shrubs) along with annual and biennial herbs are significantly underrepresented among rare plant species in Utah as compared to the flora as a whole. He also noted that exactly the reverse is true in the case of the California flora, where both woody taxa and annuals and biennials are overrepresented among rare species. Comstock and Ehleringer (1992) attributed the large number of annuals in the Mojave Desert flora to several factors, including very low mean annual precipitation, high year-to-year variation in precipitation, and relatively mild winter temperatures. These authors further noted that "[t]he lower variability of precipitation in much of the Great Basin compared to the Mojave and Sonoran deserts, as well as the more reliable accumulation of moisture during the winter-recharge season, may favor both stable demographic patterns and growth of perennials."

Endemics by Age and Origin

How and when did Utah's endemic and rare plant species arise? Harper (1979) noted that, although most of the rare woody species in the California flora belong to three rapidly evolving genera (*Arctostaphylos*, *Ceanothus*, and *Eriogonum*), a number appear to be "paleoendemics" (i.e., evolutionarily isolated taxa, usually monotypic sections, subgenera, or genera). He further observed that the flora of Utah does not have a significant representation of such ancient, woody taxa. Exceptional examples of relict woody species in Utah include *Ostrya knowltonii* and the cliffbushes (*Jamesia americana* var. *macrocalyx*, *J. a.* var. *zionis*, *J. tetrapetala*). Among the herbaceous members of our flora, two apparent relicts with no nearby close relatives are *Viola clauseniana* in Zion Canyon and *V. frank-smithii* in Logan Canyon (H. Ballard, unpubl. data).

The available evidence suggests that most of Utah's endemic plant species have evolved relatively recently over the span of geologic time, thus fitting the category of "neoendemics" (Shultz 1993). The most spectacular examples are from the lower elevations of the Great Basin which were submerged by Lake Bonneville until as recently as 10,000 years ago (Stokes 1986, p. 210). In spite of the relatively short time of exposure of these lake-bed habitats, several narrowly endemic plant species are found there, including *Astragalus lentiginosus* var. *pohlii*, *A. uncialis*, *Eriogonum spathulatum* var. *natum*, and *Penstemon nanus*. A recurring pattern in the case of these low-elevation endemics is for their nearest relative or "sibling species" to occur in adjacent areas at

higher elevations (Reveal 1979, Shultz 1993). Dr. Howard Stutz, who has made careful studies of rapid evolution in the saltbushes (*Atriplex* spp.) on the bed of Lake Bonneville (Stutz 1978), has in one instance documented the existence of a newly formed *Atriplex* species that is no more than a few decades old! (see Stutz et al. 1979, Stutz 1984a).

Relatively few plant groups possess the physiological tolerance necessary to survive harsh desert climates, but several genera (including *Astragalus*, *Cryptantha*, *Erigeron*, *Eriogonum*, *Penstemon*, and *Phacelia*) are noteworthy for their overall species diversity in Utah as well as their large numbers of endemic species. Species in these groups are evidently pre-adapted for success in the cool desert climate and often stressful soil conditions that we find here in Utah (Shultz 1993).

HISTORY OF RARE PLANT INVENTORY IN UTAH

Rare plant inventory in Utah began when President Nixon signed the federal Endangered Species Act of 1973 (ESA). Among other things, the ESA directed the Secretary of the Smithsonian Institution to prepare a report on endangered and threatened plant species. The Smithsonian report (issued in 1975 as House Document No. 94-51) included a list of 167 native plant taxa thought to be endangered (59 taxa), threatened (101), or extinct (7) in Utah. Later that year, Welsh et al. (1975) reviewed a longer list of 382 Utah plants, including 66 as possibly endangered, 198 threatened, 7 extinct, 20 extirpated within the state, and 4 with questionable taxonomic status. Three years later, Welsh (1978a) published an update which considered 54 Utah plant taxa as endangered and 91 as threatened. This significantly shortened list, eventually produced as an illustrated guide (Welsh and Thorne 1979), reflected Dr. Welsh's view that many of the plants placed on the initial listings were poorly known and not truly rare.

U.S. Fish and Wildlife Service

Beginning in 1980, the USFWS began publishing periodic reviews of plant taxa considered candidates for possible endangered or threatened listing under the ESA. The composition of this candidate plant list has changed considerably over the years, and a number of plant taxa formerly under review as candidates for possible listing were eventually downgraded to non-candidate status because of taxonomic problems or because they were shown to be more common than previously believed or not subject to any identifiable threat (see Table 1). Beginning in 1989, the USFWS has also sponsored occasional meetings among agency botanists to review the candidate plant list and make recommendations on status changes needed to reflect the most current information.

On February 28, 1996, the USFWS published a new *Notice of Review* for plant and animal species considered candidates for possible listing under the ESA (USFWS 1996). This updated candidate list essentially contained only those species identified in previous *Notices of Review* as "Category 1 candidates" (i.e., species for which the USFWS has on file sufficient information on biological vulnerability and threats to support issuance of a proposed rule). The USFWS *Notice* also stated that the agency will discontinue the designation of "Category 2 candidates" (i.e., species for which sufficient data are not currently available to support proposed rules). As mentioned in the introduction to this report, the change in USFWS candidate determination policy has effectively shifted the burden to other agencies and organizations for tracking those plant species that are rare, declining, or otherwise tending toward federal listing.

Since the ESA was passed, the USFWS has formally listed 23 plant species that occur here in Utah as endangered or threatened. Three of these plants -- *Astragalus perianus*, *Echinocereus engelmannii* var. *purpureus*, and *E. triglochidiatus* var. *inermis* -- have subsequently been delisted for various reasons. The two *Echinocereus* species were delisted because of taxonomic problems (i.e., they are no longer regarded as valid "species"), and the *Astragalus* was delisted because additional field inventory demonstrated that it was more common than initially thought.

Table 1. History of Utah plant taxa listed or reviewed as candidates for possible endangered or threatened listing under the federal Endangered Species Act. Source: USFWS Notices of Review (1980, 1983, 1985a, 1990, 1993a, 1996, 1997).

| Year of Publication | Status Category ² | | | | | | | | | Total |
|---------------------|------------------------------|----|--------|---------|--------|---------|---------|---------|---------|-------|
| | LE (PE) | LT | Cat. 1 | Cat. 1* | Cat. 2 | Cat. 2* | Cat. 3A | Cat. 3B | Cat. 3C | |
| 1980 | 6 (0) | 2 | 84 | 6 | 82 | | -- | 10 | 77 | 267 |
| 1983 ³ | -- | -- | 5 | -- | 49 | 3 | -- | 4 | 64 | 125 |
| 1985 | 7 (4) | 5 | 17 | -- | 86 | 4 | -- | 17 | 154 | 294 |
| 1990 | -- | -- | 9 | -- | 106 | 3 | -- | 10 | 14 | 142 |
| 1993 | 10 (2) | 9 | 8 | -- | 120 | 5 | -- | 3 | 14 | 171 |
| 1996 | 10 (2) | 10 | 9 | -- | -- | -- | -- | -- | -- | 31 |
| 1997 | 9 (1) | 11 | 8 | -- | -- | -- | -- | -- | -- | 29 |

² Status categories are defined as follows:

- LE Listed endangered.
- PE Proposed endangered.
- LT Listed threatened.
- 1 Taxa for which the USFWS currently has on file sufficient information to support the appropriateness of listing as either endangered or threatened.
- 2 Taxa for which current information is insufficient to support the appropriateness of listing.
- 3A No longer under review for possible endangered or threatened listing; presumed extinct.
- 3B No longer under review; taxonomically questionable or invalid.
- 3C No longer under review; taxa shown to be more abundant or widespread than previously believed or not subject to any identifiable threat.
- * Possibly extinct.

³ The 1983 version was published as a supplement to the 1980 Notice of Review and not as a “stand-alone” document.

Other Federal Agencies

USDA Forest Service sensitive species policy is defined in *Forest Service Manual* 2670. The sensitive plant species list in Region 4 was last updated on April 29, 1994, and includes 79 taxa that occur in Utah (Joslin 1994). The Forest Service is currently reviewing its sensitive species policy at the national level (T. Prendusi 1997, pers. comm.), and if any policy changes are made as a result of this review then additions or deletions to the Region 4 sensitive plant list may be necessary. The Forest Service also led the interagency effort that culminated in publication of the first *Utah Endangered, Threatened, and Sensitive Plant Field Guide* (Atwood et al. 1991). A revised edition of this *Field Guide* is currently being developed with publication expected sometime in 1998.

USDI Bureau of Land Management sensitive species policy is set forth in the BLM 6840 Manual. On August 28, 1996, the BLM Utah State Office adopted an interim sensitive species list that includes 107 plant taxa (Lamb 1996). It is expected that the interim BLM sensitive plant list will be updated as additional information becomes available.

USDI National Park Service sensitive species policy is provided in Guideline No. NPS-77, Ch. 2. To date, the NPS has not designated a statewide or region-wide sensitive plant list but instead has generally relied on the USFWS candidate species list. Since the aforementioned change in USFWS candidate determination policy in February 1996, the NPS has looked to other sources (including Utah Natural Heritage Program data) to help them define plant species of conservation concern on individual Park units.

Utah Native Plant Society

The Utah Native Plant Society (UNPS) was incorporated in 1978 “to promote in every possible way programs and systems which will assist in the appreciation, preservation, and conservation of the native plants and plant communities of the state of Utah.” In December 1979, UNPS sponsored a meeting of botanists from local universities, land and resource management agencies, and its own membership to evaluate the status of Utah’s rare plants and to make recommendations concerning plant species to be included on the USFWS candidate species list. Immediately following this initial meeting, UNPS established a standing committee, most often termed the “Rare Plants Committee,” with the charge to develop and maintain a list of rare or endemic Utah plant species. Subsequent annual meetings sponsored by the UNPS Rare Plants Committee were often well attended and continued until 1988 when they were replaced by periodic interagency botanists meetings sponsored by the USFWS.

Utah Natural Heritage Program

The Utah Natural Heritage Program (UTNHP) was initiated in 1988 and was transferred to the state Department of Natural Resources in 1990 under a cooperative agreement with The Nature Conservancy. Now a part of the Utah Division of Wildlife Resources, the UTNHP functions as an on-going biological survey of the state with an emphasis on rare or declining species and plant communities. The program also serves as a centralized data repository and responds to requests for information from a wide variety of government agencies, non-government organizations, and private interests. In addition, the UTNHP participates, through the state's Resource Development Coordinating Committee, in reviews of state and federal actions that may affect sensitive species or their habitats. Such responses and reviews are done on a continuous, as-needed basis, and help to minimize or avoid conflicts between rare species and development projects and on-going land management activities. It is hoped that the data-sharing and project review functions of the UTNHP will facilitate better-informed planning for economic development and aid in establishing priorities for conservation and management of rare plant populations in Utah.

HOW TO USE THIS REPORT

The main body of this report is a series of annotated checklists that includes all of Utah's endemic and rare plants. This report section provides an explanation of how the lists were developed and also describes the kinds of information that are given for each plant species. An index at the very end of the document provides an alphabetical listing of all of the plants included in the inventory along with the corresponding page numbers where brief accounts of each species can be found.

Basis for Inclusion

Only **vascular plants** -- i.e., the plant groups commonly called ferns, fern allies, gymnosperms (cone-bearing seed plants), and flowering plants -- are included in this inventory. Algae, fungi, lichens, mosses, and liverworts are not vascular plants and are not treated here. The inventory also embraces only those plants that are **native to Utah**. Ornamentals, plants escaped from cultivation, and naturalized plants are not included.

A plant must also be **rare in Utah** to be included in the inventory. While no statistically precise definition of rarity has been developed, it was decided at the beginning of this project that the inventory would target plants that fall into one or more of the following categories:

- Plants known from three or fewer counties in Utah (as reported in *A Utah Flora, 2nd ed.*, Welsh et al. 1993).
- Plants known in Utah from 10 or fewer collections (as reported by the same source).
- Plants currently or formerly with some form of protection or review status (i.e., listed or proposed for listing under the federal Endangered Species Act; under review as a candidate for possible ESA listing; listed as Sensitive in USDA Forest Service Region 4; etc.).
- Plants endemic to Utah (i.e., not found outside the political boundaries of the state).

These criteria necessarily include many plants that are rare in Utah but perhaps more common or even widespread outside our state. Later it was decided that plants meeting one or more of the above criteria but known from 50 or more collections in Utah should be eliminated from further consideration as being too abundant. It should also be noted that the use of herbarium collections as an index of rarity is not without its problems (see Barkley 1981, Reveal 1981a, Siddall 1981).

Notes on Plant Nomenclature

The plants in this inventory are presented alphabetically by their **scientific names**. Scientific nomenclature generally follows *A Utah Flora, 2nd ed.* (AUF2, Welsh et al. 1993). In addition, we have made extensive use of recent monographs and taxonomic revisions in defining the nomenclature for this work. If a name other than what appears in AUF2 is used, then the treatment in AUF2 is also provided in the index as a cross-reference. In general, only taxa that have been effectively and validly published at the level of species, subspecies, or variety are included. Excluded are plants referred to by botanists under the taxonomic rank of forma -- which generally consists of relatively trivial vegetative or flower color variants. Sterile or otherwise unstable **hybrids**, as sometimes occur in nature, are not included whether they are named or not.

A few of the plants included on the list have **unpublished names**. These are mostly new names or combinations that are in the process of being published, as indicated by the abbreviation **ined.** following the authority for the name.

Most of the included plants also have a **common name**. These are provided because it is often easier for those of us who are not professional botanists to refer to a plant by a more familiar-sounding name.

For each included species, the technical **family name** is also included. Note that all of these names end with the suffix **-aceae**. For an alphabetical list of plant species by family, see **Appendix C**.

Status Categories for Included Plants

Each of the plants included in the inventory has a **status category** to which it has been assigned on the basis of similarity in rangewide distribution, abundance, and other factors. Although these status assignments are somewhat subjective, they are based on the best information currently available to us. In the case of plants that range outside of Utah, overall distribution and abundance has been evaluated primarily using taxonomic literature and published floristic manuals (Kearney and Peebles 1951; Davis 1952; Cronquist 1955; Hitchcock and Cronquist 1961, 1964; Hitchcock et al. 1959, 1969; Howell and McClintock 1960; Cronquist et al. 1972, 1977, 1984, 1997; Martin and Hutchins 1980, 1981; Kartesz 1987; Barneby 1989; Dorn 1992; Weber and Wittmann 1992, 1996a,b; Hickman 1993; Morin 1993, 1997; Cronquist 1994; Roalson and Allred no date, 1995a,b). The seven basic status categories are defined as follows:

- H** **Historical.** Plants presumed extinct or at least known only historically throughout their range.
- R** **Rare.** Plants with known or suspected rangewide viability concern.
- W** **Watch.** Plants regionally endemic but without rangewide viability concern.

- P Peripheral.** Plants rare or uncommon in Utah but more common and widespread outside the state.
- I Infrequent.** Plants widely but infrequently distributed in the western U.S. or in the Intermountain region.
- T Taxonomic problems.** Plants for which validity as a species, subspecies, or variety has been questioned in the literature by one or more experts.
- D Additional data needed.** Plants possibly rare in Utah but for which current information is insufficient for assigning them to one of the other status categories.

Information on the number of plant species in each status category is provided below (see Table 2). The percentages given in the third column of the table indicate the portion of the total native flora in Utah represented by the plants assigned to a particular category.

Table 2. Numerical analysis of plant species by status category.

| Status Category | No. of Species & Intraspecific Taxa | % of Total Native Flora |
|-----------------------------------|-------------------------------------|-------------------------|
| H (Historical) | 4 | 0.1 |
| R (Rare) | 243 | 8.1 |
| W (Watch) | 244 | 8.2 |
| P (Peripheral) | 702 | 23.4 |
| I (Infrequent) | 48 | 1.6 |
| T (Taxonomic problems) | 205 | N/A |
| D (Additional data needed) | 197 | 6.6 |
| TOTAL | 1643 | 48.0 |

For each of the species included in this inventory, the plant's official **federal status** is abbreviated as follows:

- LE** Listed endangered under the federal Endangered Species Act.
- LT** Listed threatened.
- PE** Formally proposed as endangered.
- PT** Formally proposed as threatened.
- C** Plants for which the USFWS currently has on file sufficient information to support the appropriateness of listing as either endangered or threatened. (This category generally includes plants with "C1" status under the old USFWS candidate determination policy.)
- (C2)** Under the former USFWS candidate determination policy, plants under review but with insufficient information to support the appropriateness of listing.
- *** A modifier indicating that the plant is considered possibly extinct.
- +** A modifier indicating that the plant would have been added to the list of Category 2 candidates had the USFWS candidate determination policy not changed.
- (3A)** Under the former USFWS candidate determination policy, plants no longer under review for possible endangered or threatened listing; presumed extinct.
- (3B)** No longer under review; plants taxonomically questionable or invalid.
- (3C)** No longer under review; plants more abundant or widespread than previously believed or not subject to any identifiable threat.
- FS** Plants on USDA Forest Service Region 4 sensitive list (Joslin 1994) and occurring on National Forest lands in Utah.
- BLM** Plants on interim Sensitive list adopted by USDI Bureau of Land Management, Utah State Office (Lamb 1996).

For an alphabetical list of plant species in Utah falling within one or more of these current or former federal status categories, see **Appendix A**.

Also given is the **Utah Natural Heritage Program status rank** in cases where such a rank has already been assigned. As defined in the Natural Heritage Program Operations Manual, a numeric rank (1 through 5) is assigned to indicate the status of a species at both the Global or rangewide level (**G**) and at the State level (**S**). Where appropriate, a Trinomial rank (**T**) is also assigned to indicate the rangewide distribution and abundance at the infraspecific (variety or subspecies) level. These ranks are based primarily on the number of occurrences of the species, along with other factors such as overall abundance, extent of geographic range, population trends, and threats. The range in number of occurrences suggested for each numeric rank is not an absolute guideline, but only the starting point in the ranking process:

- G1 or T1 or S1** Indicates extreme rarity or other factor(s) making the species especially vulnerable to extinction or extirpation (typically 5 or fewer occurrences or very few remaining individuals or acres).
- G2 or T2 or S2** Indicates rarity or other factor(s) making the species very vulnerable to extinction or extirpation (6 to 20 occurrences or few remaining individuals or acres).
- G3 or T3 or S3** Indicates a species that is either very rare and local throughout its range or found locally (even abundantly at some of its locations) within a restricted range, or vulnerable to extinction or extirpation because of other factors (21 to 100 occurrences).
- G4 or T4 or S4** Indicates a species that is widespread, abundant, and apparently secure, though it may be quite rare in parts of its range, especially at the periphery (usually more than 100 occurrences).
- G5 or T5 or S5** Indicates a species that is demonstrably widespread, abundant, and secure, though it may be quite rare in parts of its range.

A range spanning two (or even three) of the numeric ranks denotes a range of uncertainty about the exact status of the species (e.g., **S1S2**); ranges cannot skip more than one rank (e.g., **S1S4** is not allowed). A qualifier of “?” also may be added to a rank to indicate that the rank is inexact. A qualifier of “Q” is added to a rank to denote a taxonomic question.

Additional possible Natural Heritage ranks include:

- GH or TH or SH** Historical: Of historical occurrence throughout its range or within a state, i.e., formerly part of the established biota, with the expectation that it may be rediscovered.
- GX or TX or SX** Extinct (Global) or extirpated (State): Believed to be extinct throughout its range or extirpated in the state with virtually no likelihood that it will be rediscovered.

- SR** Reported in the state, but occurrence not yet confirmed.
- SRF** Reported falsely in the state.

Geographic Distribution

The county distribution in Utah of each listed plant is summarized according to the following abbreviations:

| | | |
|--------------------------|--------------------------|---------------------------|
| Beaver (BEA) | Iron (IRO) | Sevier (SEV) |
| Box Elder (BOX) | Juab (JUA) | Summit (SUM) |
| Cache (CAC) | Kane (KAN) | Tooele (TOO) |
| Carbon (CAR) | Millard (MIL) | Uintah (UIN) |
| Daggett (DAG) | Morgan (MOR) | Utah (UTA) |
| Davis (DAV) | Piute (PIU) | Wasatch (WAS) |
| Duchesne (DUC) | Rich (RIC) | Washington (WSH) |
| Emery (EME) | Salt Lake (SAL) | Wayne (WAY) |
| Garfield (GAR) | San Juan (SNJ) | Weber (WEB) |
| Grand (GRA) | Sanpete (SNP) | |

When we indicate that a particular plant occurs in a particular county, we are making a positive statement that is based on the existence of one or more herbarium specimens or a reliable literature citation (rarely on field observations only). The reported county distribution is according to *AUF2* (Welsh et al. 1993) unless otherwise noted. For an alphabetical list of plant species occurring within each county, see **Appendix B**. In referring to herbarium specimens, the collector’s name and field collection number is given in *italic* type, and the museums in which the specimen is deposited are indicated in CAPITAL letters using standardized acronyms (see *Index Herbariorum*, Holmgren et al. 1990).

If the plant is also found in one or more neighboring states, then this is indicated using the standard (i.e., U.S. Postal Service) abbreviation for that state. Plants that range more widely in the western United States are so designated by a “+” sign, and those of even broader overall range are indicated by a “++.” A question mark “?” is used to express uncertainty of occurrence in a particular county

or state. Parentheses are used in cases where a plant is thought to be extirpated in a particular county or state.

Plants by Family

For an alphabetical list of plant species by family, see **Appendix C**.

Areas for Additional Research

This document should be regarded as a work in progress. For some of the species addressed herein, significant questions regarding distribution and status remain which can only be answered by careful examination of museum specimens, communication with experts, or coordination with botanists in adjoining states; this is particularly true for the 185 taxa that are not currently included in the inventory because of insufficient information.

The document also could be made more useful by the addition of new kinds of information on each listed plant: USGS quadrangles of occurrence for Rare species, occurrence by ecoregion instead of by county, and relevant data on habitat, life form, and blooming period.

It should also be noted that here in Utah we are still very much on the frontier of plant discovery. Field botanists are continuing to find new locations for rare species, and taxonomists are continuing to name and describe new species and varieties in the literature. It is expected that enough new information will eventually accumulate to make a revision of this document necessary.

We encourage, depend on, and enthusiastically invite contributions to this inventory. Such input conceivably could range from reporting a new location or county record for a particular rare plant species to clarifying the overall conservation status or taxonomy of a species either within the state or throughout its range. All suggestions and corrections are welcome and will be fully acknowledged in future editions. Contributions should include the name of the contributor, a complete mailing address, and a phone number. Please send them by regular U.S. mail to:

Utah Natural Heritage Program
Division of Wildlife Resources
P.O. Box 146301
Salt Lake City, UT 84114-6301

Status Category:

Historical

Plants presumed extinct or at least known only historically throughout their range.

Status Category: *Historical*

***Cuscuta indecora* Choisy var. *warneri* (Yuncker) T. Beliz, ined.**

“Warner’s dodder”

Cuscutaceae

Federal Status: (C2*), BLM

UTNHP Rank: G5TH/SH

Distribution: (MIL)

Notes: Treated in *AUF2* (Baird in Welsh et al. 1993) as *C. warneri* Yuncker, *Brittonia* 12: 38. 1960. Known only by the type collection from Millard Co., vicinity of Flowell, 15 miles west of Fillmore (*Lloyd Warner s.n.* in Sept. 1957; holotype UTC, isotypes BRY, UT). Arizona report (see USFWS 1993a) is assumed to be in error. Acc. *AUF2*, several attempts to rediscover Warner’s dodder have been unsuccessful. “At the type locality, the Warner dodder was growing historically in a weedy area between a road and an alfalfa field on *Phyla cuneifolia*. The host plant is common in the area but several attempts at finding the Warner dodder have been unsuccessful. The numerous isotypes known in herbaria indicates [sic] that it was at least locally common, perhaps even abundant, when taken.”

***Iris pariensis* Welsh**

“Paria iris”

Iridaceae

Federal Status: (C2*), BLM

UTNHP Rank: GHQ/SH

Distribution: (KAN)

Notes: For original description see *Great Basin Nat.* 46: 256. 1986. Known only by the type collection from Kane Co., East Clark Bench, south of U.S. Highway 89, sandy soil, semidesert grass community, elev. 1400 m (*Vane O. Campbell 42* in May 1976; holotype BRY). Acc. Welsh (1986a), “... relationships [of *I. pariensis*] apparently lie with those [irises] far to the west in the coastal states.” Henderson (1992) concluded that *I. pariensis* should be considered as nothing more than a depauperate form of *I. missouriensis*. Acc. Franklin (1993a), “numerous attempts have been made to relocate *Iris pariensis* on East Clark Bench, but all have been unproductive.... [O]n 31 May 1992[,] Rick Fridell [of the] Utah Division of Wildlife Resources was camping on West Clark Bench when he discovered 5-10 iris plants.... [A] field trip was scheduled for 26 and 27 June to relocate the iris. Late season date and various other obstacles prevented the relocation and verification of the find as *Iris pariensis*.” Acc. *AUF2* (Welsh et al. 1993), “[i]ntensive searches of both East Clark and West Clark benches during 1991 and 1993 have failed to relocate this plant.” Franklin (1993a) described the habitat as “stabilized dunes dominated by a semiarid grass-shrub community with the addition of patchy piñon-juniper upslope to the south.... The soils of East Clark Bench are aeolian soils derived predominantly from the weathered Navajo Sandstone which tops the landscape to the south.” From information appended to Franklin’s status report, it is evident that most investigators have assumed that the original collection was from a drainage or seepage area or in a depression area showing signs of sometimes collecting water.

Status Category: *Historical*

***Isocoma humilis* Nesom**

“Leverich’s goldenbush”

Asteraceae

Federal Status: (C2+), BLM

UTNHP Rank: GH/SH

Distribution: (WSH)

Notes: For original description see *Phytologia* 70: 92. 1991. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus leverichii* Cronquist, *Intermt. Fl.* 5: 212. 1994. Type from Washington Co., Zion Natl. Park [= Zion Canyon?], sandstone (*W.R. Leverich 1045A*; holotype TEX, photograph at BRY!). Additional collections cited by Nesom (1991a), both from Washington Co.: Dixie State Park, Snow Canyon, near St. George, red sandstone canyon, siliceous sandy soil (*Leverich 1042A*, TEX); 15 miles west of Zion Natl. Park on Utah 15 [= Hwy. I-15?], sandstone, sand (*Leverich 1044A*, TEX). All three known collections of *I. humilis* were made by Dr. W.R. Leverich, who at the time was a grad. student at the Univ. of Texas. It is amazing that he apparently found *I. humilis* in three widely separated areas of Washington Co. and all on the same day (Sept. 25, 1971). Even more astounding is the fact that the species has not been seen or collected at any time before or since. Efforts to relocate *I. humilis* in 1995 and 1996 were uniformly unsuccessful (SWCA 1996; R.D. Stone, unpubl. data).

***Najas caespitosa* (Maguire) Reveal**

“Fish Lake water-nymph”

Najadaceae

Federal Status: (C2*), FS

UTNHP Rank: GHQ/SH

Distribution: (SEV)

Notes: For original description see *Rhodora* 44: 7. 1942. For current treatment see *Great Basin Nat.* 34: 357. 1975. Type collection: “Common, sand-gravel bottom, shallow water to 12 in., Pelican Point, Fish Lake, 8600 ft., Fish Lake National Forest, Sevier Co., Utah” (*Maguire 19888* in Aug. 1940; holotype UTC, isotypes BRY, NY). Additional collections cited by Maguire and Jensen (1942): “[C]hannel north end, Fish Lake, Sevier Co., Utah” (*Jensen & Dargan 201* in Aug. 1938); “Fish Lake, Sevier Co., Utah” (*Maguire 19882*). Acc. Reveal (in Cronquist et al. 1977), “*Najas caespitosa* is a unique species in the *N. flexilis* Rostk. & Schmidt complex. Although *N. flexilis* occurs across North America and Eurasia, nowhere are the plants similar to those found in central Utah. Clausen noted in his [1936] treatment that *N. flexilis* is variable in overall size of the plants and the plumpness of the seeds. However, the extreme reduction seen in the Utah plants is rarely seen elsewhere, and the seed characteristics of *N. caespitosa* are unique.” More recently, Haynes (1979) treated *N. caespitosa* as a synonym of *N. flexilis*. Acc. Maguire and Jensen (1942), “[t]his interesting dwarfed population is known only from Fish Lake, Utah, but there occurs in abundance and with remarkable uniformity of size, habit, and habitat. All of the plants vary between 2-4 cm., rarely 5 cm. in height, and grow in a narrow zone of sand-gravel bottom in water from 6-12 in. in depth. Prolonged search failed to reveal plants growing in deeper water or different habitat.” Recent efforts to relocate this species have been unsuccessful, and acc. Spahr et al. (1991) it is possibly extinct.

Status Category:

Rare

*Plants with known or suspected rangewide
viability concern.*

Status Category: *Rare*

Allium geyeri S. Watson var. chatterleyi Welsh

“Chatterley’s onion” Liliaceae

Federal Status: (C2+), FS, BLM **UTNHP Rank:** G4G5T2/S2

Distribution: SNJ

Notes: For original description see *Rhodora* 95: 417. 1993 [1994]. Endemic to the Abajo Mtns., San Juan Co. (Welsh 1993, Welsh et al. 1993); type from the head of Indian Creek Canyon (Welsh et al. 22371; holotype BRY). Var. *chatterleyi* is distinguished from the typical variety by its outer bulb scales which are many-layered and extend 4.5-11 cm up the flowering stem.

Allium passeyi N. & A. Holmgren

“Passey’s onion” Liliaceae

Federal Status: (C2), BLM **UTNHP Rank:** G1/S1

Distribution: BOX

Notes: For original description see *Brittonia* 26: 309. 1974. Endemic to Box Elder Co., the type from Engineer Mtn. (*A. Holmgren et al. 13125*; holotype NY, isotypes BRY, DAO, ID, RSA, UC, US, UT, UTC, WS, WTU). Also known from the top of Anderson Hill in Blue Creek Valley near Howell (N. and A. Holmgren 1974). Found more recently at two locations in Golden Spike Natl. Historic Site (Boyce 1980) and a nearby site at the southern end of the North Promontory Mtns. (L. Allen 1995, pers. comm.). The habitat is in “[s]hallow, stony, lithosolic soil over dolomitic limestone” (Cronquist and Ownbey in Cronquist et al. 1977).

Anemone multifida Poiret var. stylosa (A. Nelson) Dutton & Keener

“Fish Lake wind-flower” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5T2T3Q/S1S3

Distribution: CAC, GAR, SEV, ?; AZ

Notes: For current treatment see *Phytologia* 77: 84. 1994. Lectotype from Sevier Co., Fish Lake (*Jones 5763*, RM; isolectotypes RM, US), designated by Dutton and Keener (1994). *AUF2* (Welsh et al. 1993) treated *A. stylosa* A. Nelson as a synonym of *A. multifida* var. *tetonensis* (T.C. Porter) C.L. Hitchc. Acc. Dutton and Keener (1994), var. *stylosa* occurs at several Utah localities and in Coconino Co., Arizona. Additional Utah specimens cited: Cache Co., above White Pine Lake, talus slopes following snow (*Maguire 14095*, US); Garfield Co., Bryce Canyon (*Weight B-32/307*, US). “Rocky slopes; of conservation concern” (Dutton et al. in Morin 1997). A search of Utah herbaria is needed; taxonomic problem?

Angelica wheeleri S. Watson

“Utah angelica” Apiaceae

Federal Status: (3C) **UTNHP Rank:** G2/S2

Distribution: CAC, JUA, PIU, SAL, SEV, UTA

Notes: Type locality indefinite (“northern and central Utah,” *Wheeler s.n.* in 1872; holotype GH, isotype US). Type of *A. dilatata* A. Nelson from Salt Lake Co., City Creek Canyon (*Garrett 2157*; holotype RM, isotype US). Cronquist et al. (1997) cited the distribution as “[w]et places, from the

Status Category: *Rare*

foothills to 3000 m in the mts.; Wasatch and Bear River ranges of Utah, s. irregularly to the Utah Plateaus in Sevier and Piute cos.” A location in the Deep Creek Range (Juab Co.), mapped by Albee et al. (1988), is assumed to be in error, perhaps based on a misidentified specimen of *A. kingii* (S. Watson) Coulter & Rose. Distribution and status information needed.

***Aquilegia flavescens* S. Watson var. *rubicunda* (Tidestrom) Welsh**

“Link Trail columbine”

Ranunculaceae

Federal Status: FS

UTNHP Rank: G5T1/S1

Distribution: EME, GAR?, SEV

Notes: For current treatment see Great Basin Nat. 46: 259. 1986. Type from Sevier Co., “Link Trail” west of Emery (*Tidestrom 1418*, US). Acc. *AUF2* (Welsh et al. 1993), var. *rubicunda* is endemic to the eastern margin of the Wasatch Plateau in Emery and Sevier cos. Treated by Whittemore (in Morin 1997) as a synonym of *A. micrantha* Eastw. Acc. *AUF2*, “[t]his phase of *A. flavescens* has long passed as a synonym under *A. micrantha*, primarily because of the smallish flowers and glandular vesture. It is allopatric with that taxon, but is contiguous to (if not sympatric with) the very similar *A. flavescens*. Despite the similarity of this taxon with *A. flavescens* sens. lat., the flowers are proportionally more slender, and the colors more vivid than in most of that entity. Possibly it could, indeed, stand at specific level.” Dr. Michael Windham (UT) refers to this taxon additional material from the Hell’s Backbone area in Garfield Co., including the following collections: Escalante, sandy washes, 5000 ft. (*Cottam 4383*, UT); ca. 10 miles north of Escalante in the downstream portion of The Box, Pine Creek Canyon, 6910 ft., crevices on steep rock face (*Arnou 3338*, UT). The Garfield Co. specimens are evidently treated in *AUF2* under *A. elegantula* E. Greene.

***Aquilegia formosa* Fischer ex DC. var. *fosteri* Welsh**

“Foster’s columbine”

Ranunculaceae

Federal Status: None

UTNHP Rank: G5T1T2/S1S2

Distribution: KAN?, WSH

Notes: For original description see Great Basin Nat. 46: 259. 1986. Type from Washington Co., Zion Natl. Park, northern slope of Bridge Mtn. (*R. & R. Foster 3939*; holotype BRY). Acc. Welsh (1989b), “[t]he Foster columbine is the main phase of *Aquilegia formosa* in Zion National Park. It was described initially on the basis of three collections, one from west of the Tunnel and two from Hidden Valley.... The var. *fosteri* is mainly a crevice plant of upper elevation sandstone outcrops in the Park.... The plant grows in crevices in Wild Cat Canyon, North Gate Peaks, and presumably in all of the sandstone exposures on the west side of Zion National Park.” Also occurs in the Pine Valley Mtns., Washington Co., acc. *AUF2* (Welsh et al. 1993). Welsh (1986a) suggested that var. *fosteri* may have originated through introgression between *A. formosa* and *A. chrysantha* A. Gray, both abundant in Zion Canyon. Acc. Whittemore (in Morin 1997), “[a]side from the red sepals and spurs, [var. *fosteri*] has little in common with *A. formosa* and its relatives. The crowded leaflets, erect flowers, and evenly tapering spurs are reminiscent of *A. scopulorum* Tidestrom, and it could be a hybrid involving that species, but it is not clear what the other parent might be.”

Status Category: *Rare*

Aquilegia grahamii Welsh & Goodrich

“Graham’s columbine” Ranunculaceae

Federal Status: FS **UTNHP Rank:** G1/S1

Distribution: UIN

Notes: For original description see *Rhodora* 95: 412. 1993 [1994]. Not treated (not even in synonymy) by Whittimore (in Morin 1997). Type from Uintah Co., Uinta Mtns., 10 miles north of Vernal, Hole-in-the-Wall Canyon (*Huber & Plunkett 91*; holotype BRY, isotypes CAS, GH, MO, NY, POM, RM, US, UT, UTC). Endemic to deep, shaded canyons in the eastern Uinta Mtns., Uintah Co. (Welsh 1993). Additional collections cited: Little Brush Creek Gorge (*Huber 829*, UTC); Big Brush Creek Gorge (*Huber 875*, UTC).

Arabis falcatoria Rollins

“Grouse Creek rock-cress” Brassicaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: BOX; ID?, NV

Notes: For original description see *Contr. Gray Herb.* 212: 106. 1982. Type from Box Elder Co., 3.7 miles north of Grouse Creek on road to Oakley, Idaho (*R. & K. Rollins 81-259*; holotype GH, isotypes BRY?, RM). Treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. perennans* S. Watson. Rollins (1982a) cited a specimen from the Ruby Mtns., Elko Co., Nevada, along with the following additional collections from Box Elder Co.: summit of ridge 4 miles south of Lynn (*R. & K. Rollins 81-282*; GH, BRY); same locality (*R. & K. Rollins 81-288*; GH, BRY). Rollins (1993) cited the overall distribution as “northwestern Utah, northeastern Nevada and probably adjacent Idaho and Oregon [?].”

Arabis glabra (L.) Bernh. var. furcatipilis M. Hopkins

“Hopkins’ tower-mustard” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T2?Q/S1

Distribution: CAC, SAL, ?; +

Notes: Type from Cache Co., Logan Canyon, Logan City Camp (*Maguire 3437*; holotype GH, isotypes RM, UTC). Additional Utah specimen cited by Hopkins (1937): Salt Lake Co., Parley’s Canyon (*S.G. Stokes* in 1901, US). Other Utah specimens seen which expand the range somewhat: Cache Co., Hardware Ranch (*Bayoumi s.n.* in 1972, UTC); Salt Lake Co., Red Butte Canyon (*Arnou 2807*, BRY). Acc. Rollins (1941, p. 317), “[t]he distribution of [*var. furcatipilis*], including as it does only isolated stations in [northern] Utah and western California, is peculiar.” Reported as uncommon in west-central Calif. (Rollins in Hickman 1993). Mulligan (1995) treated *var. furcatipilis* as a synonym of *A. glabra* without further discussion. Acc. Hopkins (1937), “[v]ar. *furcatipilis* is in every way like the typical form of the plant except for the pubescence of the stem which in the latter is rather coarse and definitely spreading, but which in the former is decidedly fine, stellate and appressed. The range of this variety seems limited to local stations in extreme western North America; I have seen no European or Asiatic material of it.”

Status Category: *Rare*

Arabis pulchra M.E. Jones ex S. Watson var. duchesnensis Rollins

“Duchesne rock-cress” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T1Q/S1

Distribution: DUC

Notes: For original description see Syst. Bot. 6: 59. 1981. The protologue cited only the type collection from Duchesne Co., 3.8 miles east of Duchesne, stony hillside in juniper-dominated area (R. & K. Rollins 79-113; holotype GH, isotype BRY). Treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. pulchra* var. *pallens* M.E. Jones. One additional specimen at BRY appears referable to this taxon: Duchesne Co., 11 miles west of Myton on U.S. Hwy. 40 (Thorne & Fullmer 1637). The type locality was revisited in 1998, and it was found that var. *duchesnensis* and var. *pallens* M.E. Jones are growing together at the site without any apparent intermediates (R.D. Stone, unpubl. data). In addition to the characters provided by Rollins (1981a, 1993), the two varieties differ in calyx length [3.5-4.5 (5) mm in *duchesnensis*, (5) 5.5-6 (6.5) mm in *pallens*], petal length [9-10 mm vs. (10) 11-12 mm], flower color when pressed [deep lavender vs. white to pale lavender], and flowering phenology [flower - early to mature fruit vs. bud - flower - early fruit on May 11].

Arctomecon humilis Cov.

“dwarf bearclaw-poppy” Papaveraceae

Federal Status: LE **UTNHP Rank:** G1/S1

Distribution: WSH; AZ

Notes: Type from Washington Co., St. George (Parry s.n. in 1874; holotype GH, isotypes ISC, NDG, NY, US [fragment]). A plant of gypsiferous outcrops of the Moenkopi Formation, endemic within a semi-circular area (radius 7 miles) to the east, south, and southeast of St. George, with an outlying occurrence on Beehive Dome ca. 9 miles southeast of St. George and less than a mile from the Arizona state line (USFWS 1985b). Arizona record as cited by Kearney and Peebles (1951), based on a collection from “[n]orth of Wolf Hole, Mohave County, 2,500 feet ... (Peebles & Parker 14749).” Acc. Nelson (1989), the soil seed bank is critical for persistence of *A. humilis* populations since mortality rates are high and significant germination events are widely spaced. Van Buren and Harper (1996), using the RAPD (randomly amplified polymorphic DNA) technique on genomic DNA extracted from leaf tissue, concluded that little genetic variation exists among the populations of *A. humilis*. However, Dr. Loreen Allphin has reported (1995, pers. comm.) that her own unpublished studies (using isozyme analysis?) indicate substantial genetic variability within and between populations.

Artemisia campestris L. var. petiolata Welsh

“Moon Lake sagewort” Asteraceae

Federal Status: (C2+), FS **UTNHP Rank:** G5T1?/S1?

Distribution: DUC

Notes: For original description see Rhodora 95: 397. 1993 [1994]. Known only from the type area in Duchesne Co., Uinta Mtns., along trail between Moon Lake and Little Meadow (Goodrich 21096; holotype BRY, isotypes NY, UT). Acc. *AUF2* (Welsh et al. 1993), var. *petiolata* “differs from var.

Status Category: Rare

scouleriana (Besser) Cronquist by its long petioles, leaves with long, linear lateral lobes, and grayish pubescence. The basal tuft of leaves is also much longer than for most *A. campestris* elsewhere in Utah and in North America.” Cronquist (1994) reported that *A. campestris* is “[a] complex species, with three or more subspecies and an indefinite number of varieties.” N. Holmgren (addendum in Cronquist 1994, p. 474) added that “[t]he basal leaves of var. *petiolata* are much longer than in most Intermountain *A. campestris*” but provided no further information or taxonomic opinion.

Asclepias cutleri Woodson

“Cutler’s milkweed”

Asclepiadaceae

Federal Status: (3C)

UTNHP Rank: G3/S2

Distribution: GRA, SNJ; AZ

Notes: A short-lived perennial (or sometimes annual?), primarily of sand-dune habitats. Overall range given as Grand and San Juan cos., Utah, and adjacent Apache Co., Arizona (Woodson 1954, P. and N. Holmgren in Cronquist et al. 1984, Higgins in Welsh et al. 1993). The Grand Co. record is based on a 1935 collection from west of Moab near the Colorado River (*Cottam 5799*, UT). Acc. *AUF2* (Higgins in Welsh et al. 1993), while *A. cutleri* is “rather widespread, it seldom occurs in other than small populations.” Additional data needed on distribution and status in Arizona; move to watch list?

Asclepias welshii N. & P. Holmgren

“Welsh’s milkweed”

Asclepiadaceae

Federal Status: LT

UTNHP Rank: G1/S1

Distribution: KAN; AZ

Notes: For original description see *Brittonia* 31: 110. 1979. Type from Kane Co., Coral Pink Sand Dunes (*N. & P. Holmgren 9009*; holotype NY, isotypes BRY, CAS, UT, UTC). In 1992, ca. 12,500 stems (combined mature and immature) were counted in Coral Pink Sand Dunes State Park (B. Franklin, unpubl. data). Smaller, outlying occurrences are now known from the Sand Hills (Kane Co.); the Paria Canyon-Vermilion Cliffs Wilderness Area (straddling the Utah-Arizona line); and from three locations in adjacent Coconino Co., Arizona (Franklin 1993b).

Astragalus ampullarioides (Welsh) Welsh

“Shivwits milk-vetch”

Fabaceae

Federal Status: C, BLM

UTNHP Rank: G1Q/S1

Distribution: WSH

Notes: For original description see *Great Basin Nat.* 46: 262. 1986. For current treatment see *Great Basin Nat.* 58: 51. 1998. Endemic to Washington Co., the type from near Shivwits, along the Motoqua road, north of [old] Hwy. 91 (*Welsh & Atwood 21049*; holotype BRY). Gypsophile, restricted to outcrops of Chinle Shale (Harper 1997, Welsh 1998). In addition to the type locality, occurrences have been located just east of Hwy. I-15 along Hwy. 9; between the northbound and southbound lanes of Hwy. I-15 near Harrisburg (historical site); and at two locations on either side of Hwy. I-15 near Harrisburg (discovered by BLM wildlife biologist Bob Douglas in 1996); other

Status Category: Rare

populations have been found on BLM land west of the Shivwits Indian Reservation (Harper 1997). Welsh (1998) also referred to this species the plants from the Petrified Forest section of Zion Natl. Park (previously treated as *A. ampullarius* S. Watson?). Barneby (1989) did not recognize the Shivwits milk-vetch, treating it instead as a synonym of *A. eremiticus* (sensu lato). More recently, Welsh (1998) found it sufficiently distinct to stand at species level.

Astragalus anserinus Atwood, Goodrich & Welsh

“Goose Creek milk-vetch” Fabaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G2/S1

Distribution: BOX; ID, NV

Notes: For original description see Great Basin Nat. 44: 263. 1984. Type from Box Elder Co., 22 km northwest of Lynn, Goose Creek drainage, 6.5 km south of Utah-Idaho line (*Atwood & Goodrich 8989*; holotype BRY, isotypes NY, POM, US, RM, UTC). Acc. Baird et al. (1991), “[t]he range of *Astragalus anserinus* centers along the Goose Creek drainage in extreme northwestern Box Elder County, Utah, and extends briefly into Elko County, Nevada and Cassia County, Idaho. The full extent of its range in Nevada and Idaho is still unknown. Within Utah, however, the species is limited to the Goose Creek drainage.... Occurrence of *Astragalus anserinus* centers on outcroppings of a whitish to brownish tuffaceous sediment of the Tertiary age Salt Lake Formation, exposed along dry washes that are tributary to Goose Creek.... Sites supporting *Astragalus anserinus* contained single plants to populations of approximately 1500 individuals, with average population size about 250. Total number of individuals counted was approximately 7000.”

Astragalus cronquistii Barneby

“Cronquist’s milk-vetch” Fabaceae

Federal Status: (C2), BLM **UTNHP Rank:** G2/S1

Distribution: SNJ; CO

Notes: For original description see Mem. New York Bot. Gard. 13: 258. 1964. Type from San Juan Co., 9 miles west of Bluff, west side of Comb Wash (*Cronquist 9123*; holotype NY, isotypes BRY, CAS, UTC). Acc. *AUF2* (Welsh et al. 1993), the species occupies two areas in San Juan Co., Comb Wash (Cutler Formation) and the Aneth vicinity (Morrison Formation), but the principal distribution of the species is in Colorado (on Mancos Shale). Distribution outside of Utah limited to the southwestern corner of Montezuma Co., Colorado (Barneby 1989, Weber and Wittmann 1996a).

Astragalus cutleri (Barneby) Welsh

“Cutler’s milk-vetch” Fabaceae

Federal Status: (C2) **UTNHP Rank:** G1G2/S1S2

Distribution: SNJ

Notes: For original description see Great Basin Nat. 46: 256. 1986. For current treatment see Great Basin Nat. 58: 51. 1998. Type from San Juan Co., Copper Canyon (*Cutler 2283*; holotype NY, isotypes CAS, WIS). Selenophyte, restricted to the Copper Canyon vicinity, south of the San Juan arm of Lake Powell, San Juan Co. (Barneby 1989, Welsh et al. 1993, Welsh 1998). Acc. Welsh

Status Category: Rare

(1998), “the pods [of *A. cutleri*] are of thin texture, approaching *A. eastwoodiae* M.E. Jones more so than *A. preussii* A. Gray, with which it shares features of ascending-erect pods. [*A. cutleri*] differs from *A. preussii* in about the same order of magnitude as does *A. eastwoodiae*.”

***Astragalus desereticus* Barneby**

“Deseret milk-vetch”

Fabaceae

Federal Status: PT

UTNHP Rank: G1/S1

Distribution: UTA, SNP?

Notes: For original description see Mem. New York Bot. Gard. 13: 635. 1964. A central Utah endemic, the type from “slopes near Indianola,” Utah Co. or adjacent Sanpete Co. (*Tidestrom 2249*; holotype GH). This species long remained obscure until its rediscovery in 1981 by Dr. Elizabeth Neese on the east side of the Thistle Creek valley near the town of Birdseye, Utah Co. There are no recent collections or known occurrences from Sanpete Co. The Birdseye occurrence was mapped by Franklin (1990a) on steep, south- and west-facing slopes east of the town, covering 100 acres on the east side of U.S. Highway 89. Franklin (1990a) reported that *A. desereticus* is apparently specific to the Moroni Formation and that soils on other outcrops in the vicinity are more clay-rich and not as sandy as those at the Birdseye site. In 1992, the population was estimated to consist of more than 10,000 plants, and it is also suspected that a large seed bank exists at the site (Stone 1994a). Proposed as a threatened species on January 28, 1998 (63 FR 4207).

***Astragalus equisolensis* Neese & Welsh**

“Horseshoe Bend milk-vetch”

Fabaceae

Federal Status: C, BLM

UTNHP Rank: G1/S1

Distribution: UIN; CO

Notes: For original description see Rhodora 83: 457. 1981. For alternative treatment as *A. desperatus* var. *neeseae* Barneby, see Intermt. Fl. 3B: 140. 1989. Type from Uintah Co., 4.8 km south of Jensen along the Green River, 5.6 km west of the Walker Hollow road (*Neese & Welsh 7380*; holotype BRY, isotypes NY, POM, US, UTC). Acc. Franklin (1992a), “*Astragalus equisolensis* is a narrowly endemic plant species ... in the Uinta Basin of northeastern Utah. It is known only from the immediate vicinity of Horseshoe Bend along the Green River in Uinta County.... An estimated total of approximately 10,000 plants were observed.... *A. equisolensis* occurs on three types of substrate: 1) river terrace sands and gravels overlying the [Duchesne River Formation]; 2) sandy-silty soils that weather directly from the [Duchesne River Formation]; 3) infrequently in crevices of [Duchesne River Formation] outcrops.” Isozyme analysis (Debacon et al., no date) has shown that the Horseshoe Bend population and a second disjunct population on the lower Dolores River near Gateway, Mesa Co., Colorado, are genetically similar to one another. Chloroplast DNA sequence data also support the interpretation that the Horseshoe Bend and Gateway populations belong to the same species, and that *A. equisolensis* should be regarded as separate from *A. desperatus* M.E. Jones.

Status Category: *Rare*

Astragalus hamiltonii C.L. Porter

“Hamilton’s milk-vetch”

Fabaceae

Federal Status: (C2), BLM

UTNHP Rank: G1/S1

Distribution: UIN

Notes: For original description see Rhodora 54: 159. 1952. For alternative treatment as *A. lonchocarpus* var. *h.* (C.L. Porter) Isely, see Syst. Bot. 8: 422. 1983. Endemic to the Uinta Basin in west-central Uintah Co., the type from 5 miles southwest of Vernal (*Hamilton & Beath s.n.* in 1950; holotype RM, isotypes BRY?, GH). *A. hamiltonii* is currently known from 11 locations, these concentrated in the area west and southwest of the town of Vernal, specifically on Asphalt Ridge, along the Vernal - LaPoint road (State Hwy. 121), and near Tridell. Another isolated population is located north of Vernal on the eastern side of Steinaker Reservoir. Acc. Heil and Melton (1995a), the Hamilton milkvetch is most frequently found on clay-rich soils derived from the Duchesne River Formation; a rough estimate of the total number of individuals ranges from 10,000-15,000. The same authors noted that additional potential habitat exists on Uintah and Ouray Indian Reservation lands. Reports of *A. hamiltonii* from the Coyote Basin area of eastern Uintah Co. (Neese and Smith 1982), and from adjacent northwestern Colorado (Naumann 1990, Spackman et al. 1997; Colorado Natural Heritage Program, unpubl. data), are based on misidentified specimens of *A. lonchocarpus* Torrey (a variable and widespread species). Five specimens collected during a 1982 survey in the Coyote Basin area, now accessioned at BRY, have all been annotated to *A. lonchocarpus* by Dr. Stanley Welsh. Acc. Barneby (1964, p. 280), the distribution of *A. lonchocarpus* “in western Colorado [extends] rarely north to the eastern edge of the Uintah Basin in Rio Blanco County.” Referring again to these plants, he noted (pp. 281-282) that “[t]he main range of *A. lonchocarpus* lies south of Tavaputs Escarpment, but it is known to occur in one place on the White River within the Uintah Basin about 60 miles east of Vernal.”

Astragalus holmgreniorum Barneby

“pair-o’-docs milk-vetch”

Fabaceae

Federal Status: C, BLM

UTNHP Rank: G1/S1

Distribution: WSH; AZ

Notes: For original description see Brittonia 32: 24. 1980. Barneby (1989) cited the distribution as “locally plentiful in the valley of Virgin River s. of St. George, astride the boundary between Washington Co., Utah and Mohave Co., Ariz.” Acc. Harper (1997), *A. holmgreniorum* occurs primarily on the Virgin Limestone Member of the Moenkopi Formation (6 of 9 known populations). The same author reported that the main population is located near the historical site of Atkinville (near Hwy. I-15 and the Arizona state line); two populations have also been found just south of Santa Clara (near Stucki Spring) and in Purgatory Basin (south of Quail Creek Reservoir).

Astragalus iselyi Welsh

“Isely’s milk-vetch”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G1/S1

Distribution: GRA, SNJ

Status Category: *Rare*

Notes: For original description see Great Basin Nat. 34: 305. 1974. Type from San Juan Co., ca. 1.5 miles north of Pack Creek Ranch, Brumley Ridge (*Welsh 10970*; holotype BRY, isotypes ISC, POM, UT, UTC). Selenophyte, endemic to the Morrison Formation in the northern and western foothills of the La Sal Mtns., Grand and San Juan cos. (Barneby 1989, Welsh et al. 1993). Acc. Debacon et al. (no date), “[i]sozyme and nuclear DNA provide evidence that *A. sabulosus* M.E. Jones is genetically distinct and isolated from *A. isleyi* [sic].”

***Astragalus laccoliticus* (M.E. Jones) Welsh**

“Caineville milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G2?/S2?

Distribution: EME?, GAR, WAY

Notes: For current treatment see Great Basin Nat. 58: 53. 1998. For alternative treatment as *A. chamaeleuce* var. *l.* (M.E. Jones) Barneby ex Isely, see Iowa State J. Res. 59: 159. 1984. Type from “Cottrell’s Ranch, Henry Mountains, Utah, 6000 [ft.] alt.” [= Fairview Ranch, Wayne Co. acc. Lenz (1986)], (*Jones 5658q*; holotype POM). *A. laccoliticus* is a local endemic of the Henry Mtns. and vicinity in Garfield and Wayne cos. (Welsh 1998). Garfield Co. record based on collections from Capitol Reef Natl. Park, near the intersection of the Notom Road and the Burr Trail (*J.M. Porter 3481*, *R. Fleming 617*; both at BRY). Questionable Emery Co. record as reported by Barneby (1989), which he admitted as “requiring confirmation from mature material.” Acc. Welsh (1998), *A. laccoliticus* “is easily distinguished from *A. chamaeleuce* A. Gray by its lance-ovoid (not ellipsoid), purple-mottled pods. The taxon has been confused with the nearby *A. consobrinus* (Barneby) Welsh, with which it shares structurally similar but much larger pods and flowers, and has been treated previously as a variety of *A. chamaeleuce*, whose distribution is adjacent to but not confluent with that of this plant. Its morphological differences are similar to those regarded as diagnostic in other taxa within the Argophylli.”

***Astragalus lentiginosus* Douglas ex Hook. var. *pohlii* Welsh & Barneby**

“Pohl’s milk-vetch” Fabaceae

Federal Status: (C2), BLM **UTNHP Rank:** G5T1/S1

Distribution: TOO

Notes: For original description see Iselya 2(1): 1. 1981. Type from Tooele Co., ca. 4.5 miles north-northwest of Vernon (*Welsh et al. 16743*; holotype BRY, isotypes NY, UTC). Acc. *AUF2* (Welsh et al. 1993), var. *pohlii* is endemic to Rush and Skull valleys, Tooele Co. Additional occurrence and status information needed.

Astragalus limnocharis* Barneby var. *limnocharis

“Navajo Lake milk-vetch” Fabaceae

Federal Status: (C2), FS **UTNHP Rank:** G2T1/S1

Distribution: IRO, KAN

Notes: For original description see Leafl. West. Bot. 4: 236. 1946. Type from Kane Co., beach of Navajo Lake at Spruce Forest Camp (*Maguire 19474*; holotype NY, isotypes GH, RM, RSA, UTC).

Status Category: Rare

Var. *limnocharis* is endemic to southeastern Iron and northwestern Kane cos., where it is restricted to Claron Formation limestone on the high, eroding margin of the Markagunt Plateau. Abundance data are available for all but two of the known occurrences and indicate that the number of plants in each population is probably quite small (with the possible exception of the type locality at Navajo Lake). Reported (erroneously) from extreme southwestern Garfield Co. (Atwood et al. 1991), presumably based on misidentified specimens of var. *tabulaeus* Welsh.

Astragalus limnocharis Barneby var. tabulaeus Welsh

“Table Cliff Plateau milk-vetch” Fabaceae

Federal Status: (C2), FS **UTNHP Rank:** G2T1/S1

Distribution: GAR

Notes: For original description see Great Basin Nat 46: 261. 1986. Treated by Barneby (1989) as a synonym of *A. limnocharis* var. *montii* (Welsh) Isely. Type from Garfield Co., 6 miles east of Widtsoe Junction (Welsh 20666; holotype BRY, isotype NY). Var. *tabulaeus* is endemic to southwestern Garfield Co., where it is restricted to Claron Formation limestone on the high, eroding margin of the Table Cliff Plateau and Escalante Mtns. Abundance data are available for only two of the known occurrences but seem to indicate that the number of plants in each population is small, with the possible exception of the occurrence on Horse Creek top where Peters (1990) reported it as “abundant.”

Astragalus loanus Barneby

“Glenwood milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G1/S1

Distribution: SEV

Notes: For original description of *A. newberryi* var. *wardianus* Barneby, see Amer. Midl. Nat. 37: 481. 1947. For current treatment see Mem. New York Bot. Gard. 13: 662. 1964. Endemic to Sevier Co., type from canyon east of Glenwood (Ward 223; holotype GH, isotypes K, NY, US). Rare and local on volcanic gravels east of the middle Sevier River valley, foothills of Sevier Plateau (Barneby 1989, Welsh et al. 1993). The epithet *loanus* is a misnomer since the species does not occur near Loa (Wayne Co.).

Astragalus montii Welsh

“Mont Lewis’ milk-vetch” Fabaceae

Federal Status: LT **UTNHP Rank:** G1Q/S1

Distribution: SNP, SEV

Notes: For original description see Great Basin Nat. 38: 11. 1978. Type from Sanpete Co., Heliotrope Mtn. (*S. & J. Welsh 15404*; holotype BRY, isotypes BRY, NY, UTC). Treated by Barneby (1989) as *A. limnocharis* var. *m.* (Welsh) Isely, Syst. Bot. 8: 422. 1983 (including plants from Garfield Co. that have been called *A. limnocharis* var. *tabulaeus* Welsh). Acc. AUF2 (Welsh et al. 1993), *A. montii* is endemic to Sanpete and Sevier cos., on Flagstaff Limestone at high elevations on the Wasatch Plateau. Acc. Tuhy (1988a), the species “occurs on level to very gently

Status Category: Rare

sloping south- and southwest-facing exposures.... At least 85 percent, usually 90 percent or more, of the ground surface is covered with a pavement of limestone rocks or gravel.... The mineral fraction of the soil ranges in texture from silt to silty clay loam to clay loam.” Tuhy (1990a) provided revised acreage and population estimates for the three known occurrences of *A. montii*: Heliotrope Mtn. -- 5 acres, 179,000 plants (63,000 w/ pods); Ferron Mtn. -- 30 acres, 510,000 plants (170,000 w/ pods); White Mtn. -- 110 acres, 1,294,000 plants (96,000 w/ pods); total -- 145 acres, 1,983,000 plants (329,000 w/ pods). For a study of insect pollination and breeding system in this species, see Geer et al. (1995).

Astragalus naturitensis Payson

“Naturita milk-vetch”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G2G3/S1

Distribution: SNJ; AZ?, CO, NM?

Notes: A plant of sandstone outcrops, known in Utah by a single collection from northeastern San Juan Co. (*Atwood 7860*, BRY). Otherwise rare in Mesa, Montrose, and Montezuma cos., Colorado (Barneby 1989, Weber and Wittmann 1996a). Reputedly extending south to McKinley Co., New Mexico (Barneby 1989). Reported by Howell and McClintock (1960) as expected in northeastern Arizona. Rangewide distribution and status information needed; move to watch list?

Astragalus oophorus S. Watson var. lonchocalyx Barneby

“limestone milk-vetch”

Fabaceae

Federal Status: (C2), BLM

UTNHP Rank: G4T2/S1S2

Distribution: BEA, IRO; NV

Notes: For original description see *Leaflet West. Bot.* 7: 194. 1954. In Utah known from western Beaver and Iron cos., specifically from the Needle and Bull Valley Mtns. (Barneby 1989, Welsh et al. 1993). Otherwise rare and local in the calcareous mtn. ranges of Lincoln Co., Nevada (Kartesz 1987, Barneby 1989). Rangewide distribution and status information needed.

Astragalus pinonis M.E. Jones

“Frisco milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G2G3/S1S2

Distribution: BEA, GAR?, IRO, JUA; NV

Notes: Type from Beaver Co., Frisco (*Jones s.n.* in 1880; holotype POM). Barneby (1989) cited the overall distribution as “relatively widespread in Nev. from the Egan and White Pine ranges s. and sw. to the Quinn Canyon Range and Pioche (White Pine, ne. Nye, and Lincoln cos.), e. in Utah to the s. and e. margins of Bonneville Basin (e. Juab to Iron Co.).” *A. pinonis* reportedly occurs mostly on calcareous substrates (Kartesz 1987, Barneby 1989). “[A]pparently rare” in Utah acc. *AUF2* (Welsh et al. 1993), the plants often found growing up through black sagebrush and therefore difficult to see. Questionable Garfield Co. record based on a collection from the Henry Mtns. (*Leary & Meinke 1089*, UNLV), this probably a misidentified specimen of *A. episcopus* S. Watson.

Status Category: Rare

“[S]cattered and rather rare” in Nevada (Kartesz 1987). Rangewide distribution and status information needed; move to watch list?

Astragalus piscator Barneby & Welsh

“Fisher Towers milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G2G3/S2

Distribution: GRA, SNJ, WAY; CO

Notes: For original description see Great Basin Nat. 45: 551. 1985. Type from San Juan Co., Salt Canyon (*Welsh et al. 2979*; holotype BRY, isotype NY). In Utah known from sandy (sometimes gypseous) soils of the lower Grand (Colorado) River valley in southeastern Grand, northern San Juan, and eastern Wayne cos. (Barneby 1989, Welsh et al. 1993). Otherwise occurs in the Dolores River valley in adjacent Mesa Co., Colorado (Barneby 1989, Weber and Wittmann 1996a). Rangewide distribution and status information needed; move to watch list?

Astragalus sabulosus M.E. Jones var. sabulosus

“Cisco milk-vetch” Fabaceae

Federal Status: (C2), BLM **UTNHP Rank:** G1T1/S1

Distribution: GRA

Notes: Type from “Cisco, Utah, on gravelly soil near Grand River” (*Jones s.n.* in 1890; holotype POM, isotype BRY?). Selenophyte, locally endemic in the Cisco Desert, Grand Co. (Franklin 1988a, Atwood 1995, Welsh 1998), where it is known from near Thompson (50 acres; over 3,000 plants) and on Cisco Mesa (250 acres; 8,000 plants). Acc. Atwood (1995), “[m]uch of the Cisco desert appears to be suitable habitat for the Cisco milkvetch at a glance, but closer examination suggests that this rare species is more habitat specific than previously thought.... Cisco milkvetch appears to prefer the softer, fine textured and less firm soils than *Astragalus asclepiadoides* M.E. Jones.” The plants from upper Courthouse Wash northeast of Moab were recently segregated as var. *vehiculus* (Welsh 1998).

Astragalus sabulosus M.E. Jones var. vehiculus Welsh

“Cisco milk-vetch” Fabaceae

Federal Status: (C2), BLM **UTNHP Rank:** G1T1/S1

Distribution: GRA

Notes: For original description see Great Basin Nat. 58: 53. 1998. Type from Grand Co., ca. 16 miles northwest of Moab, ca. 4500 ft. elev., salt desert shrub community on Morrison Formation (*Welsh 22709*; holotype BRY). Selenophyte, locally endemic near the head of Courthouse Wash northeast of Moab, Grand Co. (Franklin 1988a, Atwood 1995, Welsh 1998). In this vicinity the population has been estimated at 10,000 plants over 450 acres (Atwood 1995). Acc. Welsh (1998), “[p]lants of var. *vehiculus* ... approach *A. iselyi* Welsh in flower color but have much larger flowers. They are geographically disjunct, by more than 35 km from *A. iselyi* and about that distance from the nearest known population of var. *sabulosus*.”

Status Category: *Rare*

Astragalus serpens M.E. Jones

“Loa Pass milk-vetch” Fabaceae

Federal Status: (C2) **UTNHP Rank:** G2/S2

Distribution: GAR?, PIU, SEV, WAY

Notes: Type from the Piute-Wayne county line at Loa Pass (*Jones 5639i*; holotype POM, isotypes NY, US). Known from both slopes of the Fremont River-Otter Creek divide in Piute, Sevier, and Wayne cos., where associated with volcanic gravels (Albee et al. 1988, Welsh et al. 1993). Acc. *AUF2* (Welsh et al. 1993), the plants are abundant in some years in the Loa Pass vicinity. Questionable Garfield Co. record as reported in Atwood et al. (1991), probably based on misidentified specimens of *A. perianus* Barneby? Additional distribution and status information needed.

Astragalus striatiflorus M.E. Jones

“sand milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3/S2

Distribution: KAN, WSH; AZ

Notes: Type from Washington Co., above Springdale (*Jones 6080k*; holotype POM). The Utah occurrences are in sandy soils along the base of the White Cliffs, from the Paria River west to the Virgin River in Kane and Washington cos. (Barneby 1989, Welsh et al. 1993, Welsh and Eliason 1995). A main locality for this species is on the Coral Pink Sand Dunes in Kane Co. (Welsh et al. 1975, Welsh and Eliason 1995). Otherwise known from the Paria Plateau in northwestern Coconino Co., Arizona (Barneby 1989). Additional data needed on status in Arizona; move to watch list?

Astragalus uncialis Barneby

“inch-high milk-vetch” Fabaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G2/S2

Distribution: MIL; NV

Notes: Long known only from the vicinity of Currant, Nye Co., Nevada, the principal population of *A. uncialis* is apparently north of Sevier Dry Lake, Millard Co., where it grows on ancient terraces of Lake Bonneville (Welsh et al. 1993). Acc. Franklin (1996a), there are eleven *A. uncialis* occurrences from Long Ridge southward along the western shore of Sevier Lake as far as Steamboat Wash; together these occurrences include an estimated total of 70,000 plants and have a combined area of 1,700 acres. The soil is a light gray to white (seldom buff-colored) clay overlain with gravels; both soil and gravels are of calcareous origin. To date there has not been a focused field inventory for the species in Nevada.

Astragalus welshii Barneby

“Welsh’s milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G2G3/S2S3

Distribution: GAR, IRO, KAN, MIL, PIU, WAY

Status Category: *Rare*

Notes: For original description see Intermt. Fl. 3B: 130. 1989. Type from Wayne Co., west of Loa Pass and 0.8 mile east of the Piute Co. line (*Welsh et al. 6473*; holotype BRY, isotype NY). A Utah endemic, *A. welshii* inhabits “[g]ravelly hillsides among sagebrush” and is scattered in small colonies over the High Plateaus region (Barneby 1989). Although recently described, it is not a newly discovered species but one that has been confused with *A. eurekensis* M.E. Jones when in flower and with *A. loanus* Barneby when in fruit. *AUF2* (Welsh et al. 1993) also noted that the species has long masqueraded within the concept of *A. loanus*. Additional distribution and status information needed; move to watch list?

***Astragalus zionis* M.E. Jones var. *vigulus* Welsh**

“Browse milk-vetch” Fabaceae

Federal Status: (C2+), FS **UTNHP Rank:** G4?T1/S1

Distribution: WSH

Notes: For original description see *Rhodora* 95: 404. 1993 [1994]. Type from Washington Co., east side of Pine Valley Mtns., along road to Browse guard station (*Higgins 13577*; holotype BRY). Acc. Welsh (1993), var. *vigulus* “grows in pinyon-juniper and mountain brush communities on the east and north flanks of the Pine Valley Mtns.” Reported earlier as uncommon in pinyon-juniper and mtn. mahogany-Gambel’s oak communities (Warrick 1987, as *A. tephrodes* A. Gray).

***Atriplex canescens* (Pursh) Nutt. var. *gigantea* Welsh & Stutz**

“dune saltbush” Chenopodiaceae

Federal Status: (C2), BLM **UTNHP Rank:** G5T1/S1

Distribution: JUA

Notes: For original description see *Great Basin Nat.* 44: 189. 1984. Type from Juab Co., Lynndyl sand dunes (*Welsh & Moore 5126*; holotype BRY). Endemic to the Jericho sand dunes at the Little Sahara Recreation Area near Lynndyl, Juab Co. (Hreha and Meyer 1993, 1994a). This giant shrub occurs most often in the relatively stabilized inter-dunal valleys (swales) or on the leeward side of active dunes, and it is the most conspicuous woody species growing on the dunes (Stutz et al. 1975, Stutz 1979). Acc. *AUF2* (Welsh et al. 1993), it is an important browse species for wildlife and domestic livestock, and has been used in habitat reclamation and enhancement projects outside of its extremely narrow natural range. Acc. Stutz (1984a), there are other populations of diploid *A. canescens* in southern Arizona, southern New Mexico, and Mexico, but they are genetically conspicuously different from the Jericho sand dunes form; he further suggested that this diploid population could be a relict of a formerly wider distribution.

***Botrychium paradoxum* W.H. Wagner**

“paradox moonwort” Ophioglossaceae

Federal Status: (C2), FS **UTNHP Rank:** G2/S1

Distribution: GAR; +

Notes: For original description see *Amer. Fern J.* 71: 24. 1981. Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). In Utah known only from the Aquarius Plateau, Garfield

Status Category: Rare

Co., specifically from Cyclone Lake (N. Holmgren collection in 1984) and approx. 1 mile south-southeast of Big Lake along Rock Spring Draw (*Wagner 84-208*, MICH). Otherwise known from scattered localities in Alberta, British Columbia, Saskatchewan, and Montana; “of conservation concern” (W. and F. Wagner in Morin 1993). Among moonworts, *B. paradoxum* is unique in having the sterile blade (trophophore) converted entirely to a second fertile blade (sporophore). Dr. Michael Windham (UT) has suggested that *B. paradoxum* may only be an unusual form and not worthy of taxonomic recognition; additional research is needed.

Camissonia atwoodii Cronquist

“Atwood’s evening-primrose”

Onagraceae

Federal Status: (C2)

UTNHP Rank: G1/S1

Distribution: KAN

Notes: For original description see Great Basin Nat. 46: 258. 1986. Type from Kane Co., 17 miles northeast of Glen Canyon City (Big Water), Smoky Creek dugway (*Atwood 5957*; holotype NY, isotype BRY). This robust, lavender-petaled annual is endemic in eastern Kane Co. in the vicinity of Smoky Mtn., Rock Creek, and the Purple Hills (Welsh et al. 1993, Welsh and Eliason 1995). Previous reports of *C. megalantha* (Munz) Raven from Utah evidently belong here.

Camissonia exilis (Raven) Raven

“slender evening-primrose”

Onagraceae

Federal Status: (C2), BLM

UTNHP Rank: G1/S1

Distribution: KAN; AZ

Notes: For original description see Univ. Calif. Publ. Bot. 34: 114. 1962. For current treatment see Brittonia 16: 383. 1964. In Utah this inconspicuous annual is known from western and central Kane Co. (Welsh et al. 1993) where it “is at least locally common on gypsiferous and calciferous formations from west of Alton east to the Kodachrome Basin” (Welsh and Eliason 1995). The following Kane Co. collections (all at BRY) were cited by Welsh and Eliason (1995): 3.6 miles east of Hwy. 89, on road to Alton (*Atwood 9473*); south of Kodachrome Basin State Park (*Franklin 6417*); Skutumpah Terrace, gypsum knolls of Carmel Formation (*Thorne & Welsh 10501a*); ca. 9 miles east-southeast of Glendale (*Welsh 25690*). *C. exilis* has also been reported to occur along The Cockscomb (Welsh and Eliason 1995; original source not cited). Otherwise the species has been found in northwestern Arizona, in the Virgin Mtns., Mohave Co., and the Buckskin Mtns., Coconino Co. (Raven 1969).

Camissonia gouldii Raven

“Gould’s evening-primrose”

Onagraceae

Federal Status: (C2+), BLM

UTNHP Rank: G1/S1

Distribution: WSH; AZ

Notes: For original description see Contr. U.S. Natl. Herb. 37: 368. 1969. Type from Washington Co., 12 miles north of St. George, Diamond Valley, steep slope of volcanic cone among loose cinders (*Gould 1423*; holotype POM, isotypes CAS, NY, US). In Utah this rare annual is known

Status Category: Rare

only from Lava Ridge in the vicinity of Snow Canyon north of St George, Washington Co. Otherwise the species is disjunct in east-central Coconino Co., Arizona (Raven 1969, Cronquist et al. 1997). *C. gouldii* was listed under Category 3C in the 1980 and 1985 USFWS *Notices of Review*; it was intended for C2 status in the 1993 *NOR* but was inadvertently omitted. Acc. Cronquist et al. (1997), “*C. gouldii* differs so slightly from *C. pygmaea* (Douglas ex Lehm.) Raven that they would probably not be separated were it not for the geographical disjunction.... It may reasonably be surmised that *C. minor* (A. Nelson) Raven, *C. pygmaea*, and *C. gouldii*, all autogamous, represent parallel offshoots from different segments of the outcrossing species *C. boothii* (Douglas ex Lehm.) Raven.”

Carex haysii Welsh

“Zion sedge”

Cyperaceae

Federal Status: (C2)

UTNHP Rank: G1/S1

Distribution: WSH

Notes: For original description see Mem. New York Bot. Garden 64: 124. 1990. Type from Washington Co., Zion Canyon, Lower Emerald Pool (*Welsh et al. 24335*; holotype BRY, isotypes CAS, NY, POM, RM, UT). Acc. *AUF2* (Goodrich in Welsh et al. 1993), *C. haysii* is endemic to hanging gardens in Zion and La Verkin canyons, Washington Co.

Carex specuicola J.T. Howell

“Navajo sedge”

Cyperaceae

Federal Status: LT

UTNHP Rank: G2/S1

Distribution: SNJ; AZ

Notes: For original description see Leaflet. West. Bot. 5: 148. 1949. Not treated (not even in synonymy) in *AUF2* (Goodrich in Welsh et al. 1993). Endemic to hanging gardens in San Juan Co., Utah, and Apache, Coconino, and Navajo cos., Arizona (Navajo Natural Heritage Program and Arizona Heritage Data Management System, unpubl. data). The only confirmed Utah collections were made in 1991 on the Navajo Nation ca. 1.5 miles south of the San Juan River, in a side canyon off the east side of Chinle Wash (*Hevron 1357 & 1358*; ARIZ, Navajo Nation Fish & Wildlife Dept.). Recent reports of *C. specuicola* from north of the San Juan River in Road Canyon (Ecosphere 1996) and from Glen Canyon Natl. Recreation Area (J. Spence 1997, pers. comm.) remain to be confirmed.

Castilleja aquariensis N. Holmgren

“Aquarius paint-brush”

Scrophulariaceae

Federal Status: C, FS

UTNHP Rank: G2/S2

Distribution: GAR, WAY

Notes: For original description see Bull. Torrey Bot. Club 100: 87. 1973. Type from Garfield Co., Aquarius Plateau, 22 miles (35 km) north-northwest of Escalante on road to Bicknell, 0.5 mile north of Clayton Guard Station turnoff (*N. & P. Holmgren 4726*; holotype NY, isotypes ARIZ, BRY, C, DAO, JEPS, KANU, NCU, RSA, TENN, US, UTC, WTU). Acc. Tuhy (1991a), *C. aquariensis* is

Status Category: Rare

endemic to south-central Utah (Garfield and Wayne cos.) on the Aquarius Plateau (elev. 9150-10,500 ft.) and Boulder Mtn. (= Boulder Top; elev. 10,680-11,322 ft.). The same author reported that there are seven known populations containing an estimated total of 42,000 plants (the largest populations on Boulder Top). The habitat on the Aquarius Plateau was described as “small to extensive open ‘meadows’ containing silver sagebrush/sheep fescue communities, that are interspersed with conifer-aspen forest patches. On the Boulder Top, [*C. aquariensis*] occurs ... in two intergrading types of habitats: (1) extensive open areas that contain grass-forb dry meadow communities, and (2) small to moderate sized clearings within larger areas of open- to dense-canopy spruce forests.” The effect of domestic livestock grazing on *C. aquariensis* was studied by Tuhy (1991a) and Whittekiend (1992); the latter author also reported that the species is self-incompatible and presumably pollinated by bumblebees or bee-like flies.

Castilleja parvula Rydb.

“Tushar Mtns. paint-brush”

Scrophulariaceae

Federal Status: (C2), FS

UTNHP Rank: G2/S2

Distribution: BEA, GAR?, PIU

Notes: Type from “[m]ountains north of Bullion Creek, near Marysvale” (*Rydberg & Carlton 7158*; holotype NY, isotype US). Acc. Tuhy (1992a), *C. parvula* is endemic to the Tushar Mtns. (Piute and Beaver cos.) where it is found at elevations from 10,600 to 12,100 feet. The same author estimated the total population at 10,000 plants (based on 1991 field work) and described the habitat as gravelly, cobbly, or rocky soils (mostly derived from the Bullion Canyon Volcanics) on mid and upper slopes, ridge crests, and summits. N. Holmgren (in Cronquist et al. 1984) cited a collection of *C. parvula* from the Aquarius Plateau, Garfield Co. (*Atwood 8174*, NY), this specimen gathered on Claron Formation limestone on Horse Creek Peak, Escalante Mtns. A duplicate of this collection at BRY has been filed with specimens of *C. parvula* var. *revealii* (N. Holmgren) Atwood [= *C. revealii* N. Holmgren].

Castilleja revealii N. Holmgren

“Reveal’s paint-brush”

Scrophulariaceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G2/S2

Distribution: GAR, IRO, KAN

Notes: For original description see Bull. Torrey Bot. Club 100: 87. 1973. Treated in *AUF2* (Atwood in Welsh et al. 1993) as *C. parvula* var. *r.* (N. Holmgren) Atwood, Great Basin Nat. 46: 260. 1986. Type from Garfield Co., Bryce Canyon Natl. Park, along road to Bryce Point near Inspiration Point turnoff (*N. Holmgren & Reveal 2017*; holotype NY, isotypes ARIZ, BRY, C, DAO, JEPS, KANU, NCU, RSA, TENN, US, UTC, WTU). *C. revealii* is endemic to southwestern Utah, where it grows in association with outcrops of Claron Formation limestone. The species is found mainly on the Paunsaugunt Plateau from the Red Canyon vicinity (southwestern Garfield Co.) southward to the Bryce Canyon breaks and the upper drainage of the East Fork Sevier River (northwestern Kane Co.). Two outlying occurrences have been found in the Escalante Mtns.

Status Category: Rare

(southwestern Garfield Co.) and on the eroding western margin of the Markagunt Plateau (southeastern Iron and northwestern Kane cos.).

Ceanothus greggii A. Gray var. franklinii Welsh

“Ben’s buck-brush” Rhamnaceae

Federal Status: None **UTNHP Rank:** G5T1T2/S1S2

Distribution: GAR?, GRA, SNJ; AZ?

Notes: For original description see *Rhodora* 95: 414. 1993 [1994]. Type from San Juan Co., Muley Point (*Welsh et al. 22244*; holotype BRY, isotype NY). Additional specimens cited in Welsh (1993), all at BRY: Grand Co.: ca. 7 miles east of Moab, north slope of Mill Creek (*Franklin 2857*); small mesa between Onion Creek and Fisher Mesa (*Franklin 1593*). San Juan Co.: Young’s Canyon, tributary to Dark Canyon, ca. 2 miles upstream from canyon mouth (*Mikus 610*); southeastern end of Spanish Valley (*Franklin 2842*). Questionable Garfield Co. record as reported in Cronquist et al. (1997). Kearney and Peebles (1951) noted that *C. greggii* in Arizona has “petals commonly whitish but frequently bluish or pinkish.” This raises the possibility that plants referable to var. *franklinii* occur in Arizona.

Ceratoides lanata (Pursh) J.T. Howell var. ruinina Welsh

“Ruin Park winter-fat” Chenopodiaceae

Federal Status: None **UTNHP Rank:** G5T1?Q/S1?

Distribution: GRA, SNJ

Notes: For original description see *Great Basin Nat.* 44: 196. 1984. Type from San Juan Co., Beef Basin, Ruin Park (*S. & B. Welsh 22377*; holotype BRY, isotypes CAS, NY, POM, US). Additional collections cited by Welsh (1984a), all at BRY: Grand Co., Arches Natl. Park, Landscape Arch (*Welsh & Moore 2763*); Arches Natl. Park, near trail to Sand Dune Arch and Broken Arch (*Allan 130*). San Juan Co., Canyonlands Natl. Park, Chesler Park (*Welsh et al. 3730*); ca. 15 miles southeast of La Sal Junction, along power transmission line (*Higgins 3550*). Acc. Welsh (1984a), var. *ruinina* is one of three weakly differentiated morphological phases of *C. lanata* that are present in Utah. Var. *ruinina* “grows in sandy parks surrounded by monoliths” and is visually striking, with individuals exceeding 1 meter in height. *Krascheninnikovia* is apparently the correct generic name (see Mosyakin 1995), but the appropriate nomenclatural combination transferring this variety to that genus has not been published.

Chrysothamnus nauseosus (Pallas) Britton var. psilocarpus S.F. Blake

“Huntington Canyon rabbit-brush” Asteraceae

Federal Status: None **UTNHP Rank:** G5T1T2/S1S2

Distribution: CAR?, DUC, EME, WAS

Notes: For alternative treatment as ssp. *psilocarpus* (S.F. Blake) L.C. Anderson, see *Sida* 3: 466. 1970. For alternative treatment as *Ericameria nauseosa* var. *psilocarpa* (S.F. Blake) Nesom & Baird, see *Phytologia* 75: 87. 1993. Type from Emery Co., Huntington Canyon (*Garrett 7021*; holotype US). Var. *psilocarpus* has the same dwarfed habit as var. *iridis* (L.C. Anderson) Welsh,

Status Category: Rare

but it has a different distribution, at scattered locations at the eastern base of the Wasatch Plateau and the western edge of the Uinta Basin (elev. 6300-7600 ft.). Goodrich and Neese (1986) also reported it as “[i]nfrequent; W. Tavaputs Plateau w. of Indian Canyon” (Duchesne Co.). The few collections seen are from Duchesne Co., 4 miles west of Duchesne, Fruitland Canyon (*Harrison & Garrett 8873*, BRY); Emery Co., 8.7 miles northwest of Orangeville, near mouth of Straight Canyon, “[f]requent” (*Anderson 2886*; BRY, UTC), 11 miles northwest of Orangeville, Straight Canyon (*Anderson 2887*, BRY), mouth of Flag Lake Canyon, Cottonwood Creek, “abundant in sagebrush type” (*Lewis 5188*; BRY, OGDF, UTC); Wasatch Co., 5 miles east of Strawberry Reservoir (*Maguire 17655*; BRY, NY?, UTC). Questionable Carbon Co. record as reported in *AUF2* (Welsh et al. 1993). Additional distribution and status information needed.

Cirsium eatonii (A. Gray) B. Robinson var. harrisonii Welsh

“Tushar Mtns. thistle”

Asteraceae

Federal Status: None

UTNHP Rank: G5T1Q/S1

Distribution: BEA, PIU

Notes: For original description see *Great Basin Nat.* 42: 200. 1982. Type from Piute Co., Mt. Brigham (*Welsh & Henriod 18084*; holotype BRY). Acc. *AUF2* (Welsh et al. 1993), var. *harrisonii* is endemic at high elevations in the Tushar Mtns., Beaver and Piute cos., and is disjunct from the remainder of *C. eatonii* in Utah. Taye (1995) reported that it is rare in the Tushars on volcanic talus and scree slopes. Cronquist (1994) did not recognize var. *harrisonii*, treating it instead as a synonym of *C. eatonii* (sensu lato), without discussion.

Cirsium virginense Welsh

“Virgin thistle”

Asteraceae

Federal Status: (C2), BLM

UTNHP Rank: G2/S1

Distribution: WSH; AZ, NV

Notes: For original description see *Great Basin Nat.* 42: 201. 1982. Type from Washington Co., St. George, hanging garden in sandstone cliffs (*Welsh 21234*; holotype BRY, isotypes CAS, ISC, MO, NY, POM, RM, UT, UTC). A plant of moist, alkaline places in washes and about seeps and springs in Washington Co., especially around St. George (Welsh et al. 1993, Cronquist 1994). Reported by Warrick (1987) as rare at the southern base of the Pine Valley Mtns. (alkali seep 0.5 mile east of Danish Ranch, *Warrick 2961*, BRY). Otherwise known from adjacent northwestern Mohave Co., Arizona, and at Blue Point Springs, Clark Co., Nevada (Cronquist 1994). Acc. *AUF2* (Welsh et al. 1993), the Virgin thistle is most closely related to *C. mohavense* (E. Greene) Petrak. Taxonomy and relationships of *C. virginense* and *C. mohavense* recently under study by a grad. student at the Univ. of New Mexico (Patricia Barlow 1994, pers. comm.).

Cleomella palmeriana M.E. Jones var. goodrichii Welsh

no common name

Capparaceae

Federal Status: None

UTNHP Rank: G3?T1/S1

Distribution: UIN

Status Category: Rare

Notes: For original description see Great Basin Nat. 46: 263. 1986. Acc. *AUF2* (Welsh et al. 1993), var. *goodrichii* is considerably disjunct from the remainder of the species and is known only by the type collection from Uintah Co., near Island Park, clay hillside in Morrison Formation at Rainbow Draw (*Goodrich 12312*; holotype BRY, isotype UT). *C. palmeriana* was also reported from the Uinta Basin by Graham (1937), “between Green River and Quarry ‘L,’ 4700 ft.” (*Graham 6124*, CM), but the identity of this collection as var. *goodrichii* needs to be verified. The type locality is close to the Colorado border, and the variety is perhaps to be expected in the northwestern corner of that state (Moffat Co.). Acc. Welsh (1986b), the growth habit and fruit characters of var. *goodrichii* differ from typical *C. palmeriana*; the raceme stands above the foliage, and the fruit is distinctly horned. Field survey needed.

Corydalis caseana A. Gray ssp. brachycarpa (Rydb.) G. Ownbey

“Wasatch fitweed” Fumariaceae

Federal Status: (3C) **UTNHP Rank:** G5T2/S2

Distribution: SAL, UTA, WAS, WEB

Notes: For current treatment see Ann. Missouri Bot. Gard. 34: 204. 1947. Type from Salt Lake Co., Alta (*Jones 1197*; holotype NY, isotypes BRY, POM, RM, US, UTC). Ssp. *brachycarpa* is endemic to Utah’s Wasatch Mtns., “[o]n gravel bars and stream courses at elevations of about 8500-10,000 feet” (Ownbey 1947). Wasatch Co. record documented by two collections from “Bear Canyon” (*Brotherson & Blauer 61*, *Blauer & Brotherson 96*; both at BRY). Disjunct Weber Co. locality documented by a collection from “North Fork of Ogden River, along trail to Mt. Ben Lomond, 6200 feet” (*Clark 2028*; BRY, UTC). “[O]f conservation concern” acc. Stern (in Morin 1997), who also noted that the epithet *brachycarpa* is a misnomer (i.e., the fruits are no shorter than in the other subspecies of *C. caseana*).

Crataegus douglasii Lindley var. duchesnensis Welsh

“Duchesne River hawthorn” Rosaceae

Federal Status: None **UTNHP Rank:** G5T2/S2

Distribution: DUC, UIN, WAS

Notes: For original description see Great Basin Nat. 42: 10. 1982. Type from Duchesne Co., Duchesne River valley ca. 24 km northwest of Duchesne, along Utah Hwy. 35 (*Welsh et al. 10928*; holotype BRY, isotype NY). Endemic to riparian areas in the western Uinta Basin of Duchesne, Uintah, and Wasatch cos. (Goodrich and Neese 1986, Welsh et al. 1993, N. Holmgren in Cronquist et al. 1997). Additional specimens cited by Welsh (1982a), all at BRY: Duchesne Co., Duchesne River Valley (*Erdman 2516*); Rock Creek, 12 miles west-northwest of Mountain Home (*Hansen s.n.* in 1976); 13 miles west-northwest of Mountain Home (*Hansen s.n.* in 1976); T1N R6W S15 [= Rock Creek] (*Hansen s.n.* in 1976); 5 miles northwest of Hanna (*Erdman 2522*); Red Creek ca. 5 miles north of Fruitland (*Brotherson 508*).

Status Category: *Rare*

Cryptantha compacta Higgins

“mound cryptantha”

Boraginaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: BEA?, MIL

Notes: For original description see Great Basin Nat. 28: 196. 1968. Type from Millard Co., along Hwy. 21 ca. 8 miles west of Desert Range Expt. Sta. headquarters, 100 m west of pass at north end of Needle Range (*Higgins 1613*; holotype BRY, isotypes CAS, GH, NY, POM, US, UTC). Acc. Higgins (1993), “*C. compacta* is an endemic species, located only in southwestern Millard County, Utah in Townships 24, 25S, and Ranges 17, 18 West.... The total population of this taxon is estimated to be over 100,000, with all age classes represented.... It grows almost exclusively on Sevy Dolomite substrates.” Higgins (1971) earlier cited the distribution as “[k]nown only from southwestern Millard County, Utah, but to be expected from northern Beaver County.... Growing on gravelly loam soil, 4,500 to 6,000 feet.... At the type locality it is the most common plant, growing on shallow stony loam.” Earlier reports of *C. compacta* from outside the type region (e.g., Cronquist et al. 1984) are evidently based on misidentified specimens of *C. humilis* (E. Greene) Payson or *C. ochroleuca* Higgins.

Cryptantha creutzfeldtii Welsh

“Creutzfeldt-flower”

Boraginaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G2/S2

Distribution: CAR, EME, SEV

Notes: For original description see Great Basin Nat. 42: 203. 1982. Type from Emery Co., north of Emery, along dirt road at Muddy Creek historical marker (*Welsh 20470*; holotype BRY, isotypes CAS, COLO, ISC, MIN, MO, NY, POM, RM, UC, UT, UTC). Acc. Franklin (1992b), “*Cryptantha creutzfeldtii* is a narrowly endemic plant species that occurs on Mancos Shale habitats along the bases of the Wasatch Plateau and the Book Cliffs as they flank Castle Valley to the west and north, in Sevier, Emery, and Carbon Counties.... Though most potential habitat and known locations are on BLM-administered or private lands, Creutzfeldt-flower is known on the Manti-La Sal National Forest from locations adjacent to the east base of the Wasatch Plateau between Ferron and Muddy Creeks, Emery County.... An estimated total of 25,000-30,000 plants were located on [Manti-La Sal Natl. Forest].” Sevier Co. record based on a June 1986 collection from between Willow Springs Wash and North Hollow (*F. Smith 2795*, UTC); and on another location ca. 4.5 airmiles southwest of Emery (1989 field work by Dr. Stephen Clark, WSCO).

Cryptantha elata (Eastw.) Payson

“tall cryptantha”

Boraginaceae

Federal Status: (3C) **UTNHP Rank:** G3/S2

Distribution: GRA; CO

Notes: Biennial or short-lived perennial, known in Utah only from the Cisco Desert, Grand Co., in heavy clay soils weathered from Mancos Shale (Higgins 1971, Cronquist et al. 1984, Higgins in Welsh et al. 1993). Higgins (1972) cited the first collections from the state as follows: along Hwy.

Status Category: Rare

124 [128?] ca. 3 miles south of U.S. Hwy. 50-6 (*Welsh 6952*, BRY), near milepost 39 along Utah Hwy. 128 (*Higgins 1479*; BRY, WTS). Otherwise known from near Grand Junction in Mesa Co., Colorado (Higgins 1971, Cronquist et al. 1984, Weber and Wittmann 1996a). A “very narrow endemic” (Higgins 1971). “Rarely collected” (Cronquist et al. 1984). Additional information needed on distribution and status in Colorado; move to watch list?

Cryptantha johnstonii Higgins

“large-fl. cryptantha”

Boraginaceae

Federal Status: (3C)

UTNHP Rank: G1G2/S1S2

Distribution: EME

Notes: For original description see *Great Basin Nat.* 28: 195. 1968. Endemic to the northern end of the San Rafael Swell, Emery Co. (Cronquist et al. 1984; Higgins in *Welsh et al.* 1993), the type from low rolling hills ca. 15 miles west of Hwy. 50-6 along road from Woodside to Castle Dale (*Higgins 1310*; holotype BRY, isotypes CAS, GH, NY, POM, RM, US, UTC). The habitat is in “[b]arren, sandy clay soil ..., at least sometimes with *Atriplex*” (Cronquist et al. 1984).

Cryptantha ochroleuca Higgins

“Red Canyon cryptantha”

Boraginaceae

Federal Status: (C2), FS

UTNHP Rank: G1?/S1?

Distribution: GAR, KAN?

Notes: For original description see *Great Basin Nat.* 28: 197. 1968. Type from Garfield Co., Red Canyon (*Higgins 1788*; holotype BRY, isotypes GH, NY, US). Endemic to southwestern Utah (Garfield Co.) on semi-barren outcrops of Claron Formation limestone; known only from the type region (Paunsaugunt Plateau) and from a single occurrence at the western base of the Escalante Mtns. near Widtsoe (*Higgins et al. 14275, Neese 15763*; both at BRY). Additional collections from the Pine Hills, Bryce Canyon Natl. Park, and East Fork Sevier River drainage (Garfield and adjacent Kane cos.) need expert confirmation. Acc. Higgins (1971), “*Cryptantha ochroleuca* is apparently most closely related to *C. caespitosa* (A. Nelson) Payson of southwestern Wyoming, but also has some affinities with *C. humilis* (E. Greene) Payson.” Cronquist et al. (1984) did not recognize *C. ochroleuca*, treating it instead as a synonym of *C. compacta* Higgins. Higgins (1993), however, regarded *C. compacta* as a local endemic in southwestern Millard Co.

Cryptantha semiglabra Barneby

“Pipe Springs cryptantha”

Boraginaceae

Federal Status: (3C)

UTNHP Rank: G2/S1

Distribution: KAN?, WSH; AZ

Notes: For original description see *Leaflet West. Bot.* 3: 197. 1943. Long-lived perennial, known from barren, alkaline clay hills near Fredonia, northwestern Coconino Co., Arizona (type locality), extending west in Arizona to northeastern Mohave Co. and adjacent southeastern Washington Co., Utah (Higgins 1971, Cronquist et al. 1984). The species was noted by Higgins (1971) as possibly occurring in Kane Co. as well.

Status Category: *Rare*

Cycladenia jonesii Eastw.

no common name

Apocynaceae

Federal Status: LT

UTNHP Rank: G2/S2

Distribution: EME, GAR, GRA, KAN, UIN?; AZ

Notes: Treated in *AUF2* (Higgins in Welsh et al. 1993) as *C. humilis* var. *j.* (Eastw.) Welsh & Atwood, *Great Basin Nat.* 35: 333. 1975. Type from Emery Co., San Rafael Swell (*Jones s.n.* in 1914; holotype CAS, isotypes BRY, NY, US). A Colorado Plateau endemic, inhabiting salty clay and gypsum soils weathered from certain members of the Chinle, Cutler, and Summerville formations. Four disjunct populations known, including Castle Valley (Grand Co.), San Rafael Swell (Emery Co.), Purple Hills (Garfield Co.), and near Pipe Springs in Coconino Co., Arizona (Spence 1996). A historical collection from "Southern Utah" (*Siler s.n.* in 1882, ISC [Parry herb.]) was probably made in Kane Co., and the occurrence of *C. jonesii* in Kane Co. is now confirmed (1997 field work by Dr. John Spence in the lower Escalante River drainage). Questionable Uintah Co. record based on a location "51 miles up the Green River from the town of Green River," reported by N. Holmgren (in Cronquist et al. 1984) and mapped by Albee et al. (1988). Ditypic genus (monotypic if *C. jonesii* is considered a variety of *C. humilis* Benth.). The morphological differences between *C. jonesii* and the Californian *C. humilis* are minor, but isozyme analysis (Wolf et al. 1992) has indicated that the two taxa are genetically distinct and suggests that *C. jonesii* should be regarded as a separate species. Sipes and Tepedino (1996) noted that *C. jonesii* has very low sexual reproductive success as a result of both low rates of pollinator visitation and frequent abortion of fruit. However, the individual plants spread by underground rhizomes and form clones up to 10 m across (Wolf et al. 1992, Sipes and Tepedino 1996).

Cymopterus acaulis (Pursh) Raf. var. higginsii (Welsh) Goodrich

"Higgins' spring-parsley"

Apiaceae

Federal Status: (C2), BLM

UTNHP Rank: G5T1/S1

Distribution: KAN

Notes: For original description see *Great Basin Nat.* 35: 377. 1975. For current treatment see *Great Basin Nat.* 46: 79. 1986. Type from Kane Co., ca. 17 miles east of Glen Canyon City, east of None Butte (*Welsh 12740*; holotype BRY, isotype NY). Acc. Welsh and Eliason (1995), this variety "is known from the Tropic Shale Formation east of the Cockscomb in Kane County.... The plant is at least locally common in the alluvium accumulations atop the Tropic Shale north of Lake Powell." Cronquist et al. (1997) did not recognize var. *higginsii*, treating it instead as a purple-flowered form of *C. acaulis* var. *fendleri* (A. Gray) Goodrich. Acc. *AUF2* (Goodrich in Welsh et al. 1993), "[t]his is a well-marked taxon in which the color of the petals persists as a bright purple long following collection. Probably it should best be treated at specific rank."

Cymopterus acaulis (Pursh) Raf. var. parvus Goodrich

"Skull Valley spring-parsley"

Apiaceae

Federal Status: None

UTNHP Rank: G5T2T3/S2S3

Distribution: JUA?, MIL, TOO

Status Category: *Rare*

Notes: For original description see Great Basin Nat. 46: 79. 1986. Type from Tooele Co., 32.7 km northwest of Vernon, Skull Valley, Stansbury Mtns. (*Goodrich 20458*; holotype BRY, isotypes CAS, NY, POM, RM, UC, UTC, UT, US). Endemic to Millard and Tooele cos. in the Sevier Desert and other intermontane valleys of the Bonneville Basin, often growing on deposits of wind-blown sand (Goodrich 1986a, Goodrich in Welsh et al. 1993). Questionable Juab Co. record as mapped for *C. acaulis* in Albee et al. (1988). Cronquist et al. (1997) did not recognize var. *parvus*, treating it instead as a synonym of *C. acaulis* var. *greeleyorum* Grimes & Packard. Acc. *AUF2* (Goodrich in Welsh et al. 1993), var. *parvus* is “apparently most closely related to [var. *greeleyorum*], from which it differs in the strongly undulate erose wings of the smaller fruit.” Additional distribution and status information needed; move to watch list?

Cymopterus beckii Welsh & Goodrich

“Beck’s spring-parsley” Apiaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: SNJ, WAY

Notes: For original description see Brittonia 33: 297. 1981. Type from Wayne Co., near Fruita, Capitol Reef Natl. Park (*Beck s.n.* in 1938; holotype BRY). *C. beckii* has a bicentric distribution in Capitol Reef Natl. Park, Wayne Co., and the Abajo Mtns., San Juan Co. Eight occurrences have been reported from the Abajo Mtns., with an estimated total of less than 5,000 plants (Franklin 1991a, 1993c). The same author cited a recent plant community description and rare plant project in Capitol Reef Natl. Park that documented five occurrences of *C. beckii* with a total of approximately 300 to 400 plants. The habitat was described as “predominately [sic] on sandy soils weathered from Navajo Sandstone, i.e., in sandy crevices and on ledges of gradual to sheer slickrock slopes, in sandy rubble weathered from and accumulated on more gradual slopes, and in sandy soils weathered from and accumulated along the immediate base of those slopes.”

Cymopterus evertii Hartman & Kirkpatrick

“Ashley Gorge spring-parsley” Apiaceae

Federal Status: (3C) **UTNHP Rank:** G2G3/S1

Distribution: UIN; WY

Notes: For original description see Brittonia 38: 420. 1986. Acc. *AUF2* (Goodrich in Welsh et al. 1993), the only known Utah location is from the rim of Ashley Creek Gorge, Uintah Co. The species is otherwise known from Park and Hot Springs cos., northwestern Wyoming (Dorn 1992, Cronquist et al. 1997). *AUF2* also reported that “fresh plants from Wyoming are strongly aromatic with the odor of orange peel, and they are mostly found on volcanic and sandstone outcrops. The disjunct plants of the Ashley Gorge are weakly if at all aromatic, and they are known from limestone. In these features the Ashley Gorge plants are like those of the closely allied *C. nivalis* S. Watson. However, in technical features (carpophores lacking and fruit with low, stout ribs) they belong to *C. evertii*.” Additional data needed on distribution and status in Wyoming. Move to watch list? Taxonomic problem?

Status Category: Rare

voucher specimen) from southwest of Doubletop Mtn., Bear River Range (Utah Natural Heritage Program, unpubl. data). Salt Lake Co. record based on an occurrence at Lake Blanche, central Wasatch Mtns., where the species grows in spruce-fir forest at elev. 8900 feet (Franklin 1990b). Questionable Summit Co. record as reported in *AUF2* (Higgins in Welsh et al. 1993). Weber and Wittmann (1996a) placed the genus *Cypripedium* in the segregate family Cypripediaceae, noting that it has fundamental morphological differences when compared with the true orchids.

Dodecatheon dentatum Hook. var. utahense N. Holmgren

“Wasatch shooting-star” Primulaceae

Federal Status: None **UTNHP Rank:** G4T1/S1

Distribution: SAL

Notes: For original description see *Brittonia* 46: 91. 1994. Endemic to shaded, wet rock crevices in Big Cottonwood Canyon, central Wasatch Range, Salt Lake Co. (Holmgren 1994), the type from Moss Falls (*N. & P. Holmgren 8412*; holotype NY, isotypes BRY, UT, UTC).

Draba brachystylis Rydb.

“Wasatch draba” Brassicaceae

Federal Status: None **UTNHP Rank:** G1G2/S1

Distribution: DUC, JUA, SAL, UTA; NV?

Notes: Type from Wasatch Mtns. (*Jones 1357*; holotype NY, isotypes CAS, POM, RM, US). This species reportedly has a bicentric distribution in the Wasatch Mtns. of northern Utah and the Spring (Charleston) Mtns. of southern Nevada (Hitchcock 1941, Rollins 1993). The range of *D. brachystylis* in Utah extends to the western slope of the San Pitch Mtns., Juab Co. (*Standing 144*, BRY, OGDF, UT; *Atwood & Thompson 13591*, BRY, OGDF) and the western Uinta Mtns., Duchesne Co. (*Goodrich 18784*, BRY). Rare in Nevada (Kartesz 1987). “Uncommon” (Rollins 1993). “Poorly known and rarely collected” acc. *AUF2* (Welsh et al. 1993). Hitchcock (1941), followed by Kartesz (1987), noted that the Nevada plants have especially short styles (0.2 mm) and may be distinct from the Utah population; further research on this topic is needed.

Draba burkei (C.L. Hitchc.) Windham, ined.

“Burke’s draba” Brassicaceae

Federal Status: (3B), FS **UTNHP Rank:** G3T2/S2

Distribution: BOX, CAC, WEB

Notes: For original description see *Univ. Wash. Publ. Biol.* 11: 72. 1941. Type from Box Elder Co., Wellsville Mtns., Cottonwood Canyon (*Burke 2968*; holotype UTC). This *Draba* is endemic to the Wellsville Mtns. and northern Wasatch Range (Box Elder, Cache, and Weber cos.), from the lower montane zone to the summits of the higher peaks (at lower elevations generally on protected, north-facing slopes in shade of Douglas-fir). It inhabits shallow, rocky soils and crevices of rock outcrops of various lithology (including limestone, quartzite, and schist). Eleven occurrences are known, and all populations are relictual. A disjunct location was discovered in August 1996 near the summit of James Peak, Cache Co. (*Stone 2000*, UT). *AUF2* (Welsh et al. 1993) did not recognize *D. maguirei*

Status Category: Rare

var. *burkei* C.L. Hitchc., treating it instead as a synonym of *D. maguirei* C.L. Hitchc. (sensu lato). Rollins (1993) maintained *D. maguirei* var. *burkei* as distinct with the comment “may deserve specific rank.” Dr. Michael Windham (1996, unpubl.) has obtained different chromosome numbers for *D. maguirei* ($n = 8, 16$) and var. *burkei* ($n = 10$). These results, when combined with the consistently observed morphological differences between these taxa, indicate that var. *burkei* should be elevated to species level.

Draba fladnizensis Wulfen var. pattersonii (O. Schulz) Rollins

“Patterson’s draba”

Brassicaceae

Federal Status: None

UTNHP Rank: G4T2T3/S1

Distribution: DAG?, GRA, SNJ, SNP, UIN?; CO, ID?, WY +?

Notes: For current treatment see Cruciferae Continent. N. Amer. 413. 1993. Rollins (1993) noted the circumboreal distribution of *D. fladnizensis* and cited the range of var. *pattersonii* as “high mountains of Wyoming, Colorado, and Utah.” Acc. *AUF2* (Welsh et al. 1993), *D. fladnizensis* in Utah is restricted to the Uinta and La Sal Mtns. and the Wasatch Plateau. Hitchcock (1941) noted that *D. fladnizensis* in western North America is “rare” in “widely separated localities.” Questionable Idaho record based on a report of *D. fladnizensis* from Kane Lake Cirque, Pioneer Mtns. (Moseley and Bernatas 1992). *D. fladnizensis* has also been reported from the Beartooth Mtns. of Montana (Lesica and Shelly 1991). Whether the Idaho and Montana populations represent the var. *pattersonii* remains to be determined. Rangewide status information needed; move to watch list?

Draba kassii Welsh

“Kass’ draba”

Brassicaceae

Federal Status: (C2), BLM

UTNHP Rank: G1/S1

Distribution: JUA, TOO

Notes: For original description see Great Basin Nat. 46: 264. 1986. Endemic to the Deep Creek Mtns., the type from Goshute Canyon, Tooele Co. (*Kass & Herrick 330*; holotype BRY). N. Holmgren (1996, pers. comm.) reported that it is locally common in the type area. Juab Co. record based on a collection from Big Canyon (*Kass 3193*, BRY). Rod Hardy (1996, pers. comm.) has mapped populations of *D. kassii* to the north of the type locality in Reilly and Hardscrabble canyons, extending north into Chokecherry Canyon (Tooele Co.); and to the south of the type locality in Big Canyon, extending southeasterly to the lower portion of Middle Canyon (Juab Co.). Two 1996 collections (*Stone 1923a, 1946*; both at UT) from near the summit of Ibapah Azimuth Peak (Juab Co.) have been tentatively identified as this species. These plants are depauperate but seem to fit *D. kassii* in having predominantly forked (sometimes three-rayed) trichomes on the leaf surfaces and persistent leaf bases clothing the base of the stems. The plants are extremely rare at this particular locality.

Status Category: *Rare*

Draba maguirei C.L. Hitchc.

“Maguire’s draba”

Brassicaceae

Federal Status: (3C), FS

UTNHP Rank: G3T2/S2

Distribution: CAC

Notes: For original description see Univ. Wash. Publ. Biol. 11: 70. 1941. Endemic to the Bear River Range, Cache Co.; type from the eastern slope of Mt. Naomi, elev. 9600 feet (*Maguire et al. 14161*; holotype WTU, isotypes NY, UTC). *Var. maguirei* is found in shallow, rocky soils and crevices of rock outcrops of calcareous origin (limestone and dolomite). Reported by Atwood et al. (1991) as expected for southern Idaho, but not found during field surveys in the Idaho portion of the Bear River Range (Moseley and Mancuso 1990, Moseley 1991). Plants from the Wellsville Mtns. and northern Wasatch Range (Box Elder, Cache, and Weber cos.) are cytologically and morphologically distinct, and are treated separately as *D. burkei* (C.L. Hitchc.) Windham, ined. Dr. Michael Windham (1996, unpubl.) has also determined that the high-elevation population of *D. maguirei* has a different chromosome number ($n = 16$) when compared with the plants from Logan Canyon ($n = 8$). A disjunct population in the upper Blacksmith Fork drainage near Mollen’s Hollow also has $n = 8$. If a consistent morphological basis can be found, then varietal distinction of the low-elevation cytotype may be warranted.

Draba ramulosa Rollins

“creeping draba”

Brassicaceae

Federal Status: None

UTNHP Rank: G1/S1

Distribution: BEA, PIU

Notes: For original description see Contr. Gray Herb. 214: 6. 1984. Endemic to the Tushar Mtns. (Beaver and Piute cos.), the known locations all on volcanic talus at high elevations in the vicinity of Mt. Belknap, the type locality (*Maguire 19778*; holotype MO, isotypes GH, UTC). Treated in *AUF2* (Welsh et al. 1993) as a synonym of *D. sobolifera* Rydb., but preliminary data from isozyme analyses by Dr. Michael Windham (1996, unpubl.) provides strong evidence that *D. ramulosa* and *D. sobolifera* are distinct species. Acc. Rollins (1984), “*Draba ramulosa* is most closely related to *D. ventosa* A. Gray.... They differ in silique shape, size of the stigmatic area, size and branching of the trichomes, and in the fact that *D. ventosa* is scapose while *D. ramulosa* has leaves present on the fertile stems.”

Draba sobolifera Rydb.

“Tushar Mtns. draba”

Brassicaceae

Federal Status: (C2), FS

UTNHP Rank: G2/S2

Distribution: BEA, GAR?, PIU, SEV?

Notes: Endemic at high elevations in the Tushar Mtns. (Beaver and Piute cos.), the type from “Marysvale, Tate Mine” (*Jones 5936*; holotype NY, isotypes MO, POM, US). Subsequent authors (Atwood et al. 1991, Rollins 1993) have followed Hitchcock (1941) in reporting *D. sobolifera* from Garfield Co., based on a collection from Panguitch Lake (*Jones 6015f*, POM; mixed with *D. subalpina* Goodman & Hitchc.). This collection is probably mislabeled inasmuch as all of the more

Status Category: Rare

recent collections of *D. sobolifera* are from the Tushar Mtns. Questionable Sevier Co. record as reported in Albee et al. (1988, p. 614). Tuhy (1992a) and AUF2 (Welsh et al. 1993) treated *D. ramulosa* Rollins as a synonym of *D. sobolifera*, but preliminary isozyme analyses by Dr. Michael Windham (1996, unpubl.) provide strong evidence that they are distinct species. Acc. Rollins (1993), “*Draba sobolifera* is related to *D. cusickii* B. Robinson ex O. Schulz which occurs in Nevada (var. *pedicellata* Rollins & Price) and Oregon (var. *cusickii*).”

Enceliopsis argophylla (D.C. Eaton) A. Nelson

“gypsum sunray”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: WSH; AZ, NV

Notes: Type from “St. George, Utah” (*Palmer s.n.* in 1877; holotype YU, isotype US). Acc. Curtis Clark and Donald Sanders (cited in Cronquist 1994), “the type locality was probably shortly n. of St. Thomas, Nev., at a place now beneath Lake Mead.” *E. argophylla* is a gypsophile (Meyer 1986) and is mostly confined to Clark Co., Nevada (Cronquist 1994) where reportedly rare (Kartesz 1987). The species also extends into the Virgin Narrows and Lake Mead areas of Mohave Co., Arizona (Kearney and Peebles 1951), and was reported by Cronquist (1994) to occur in the Beaver Dam Mtns., Washington Co. The only Utah collection found at BRY (June 5, 1996) is from the Coalpits Mesa road, east of the town of Virgin, on the Schnabkaib Member of the Moenkopi Formation (*Warrick 2040*). Rangewide distribution and status information needed.

Epilobium nevadense Munz

“Nevada willow-herb”

Onagraceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G2/S1

Distribution: IRO, MIL, WSH; NV

Notes: A plant of talus slopes and rock crevices, *E. nevadense* is known in Utah from disjunct populations in the Beaver Dam and Bull Valley mtns. in Washington Co; the Hurricane Cliffs in southeastern Iron Co.; and from the Canyon Mtns. in Millard Co. (Welsh 1989b; Franklin 1991b, 1995a). Acc. Franklin (1995a), there are 13 occurrences in the state with an estimated total of 6000 plants and a combined acreage of approx. 131 acres. In Nevada, since its original discovery in the Spring (Charleston) Mtns. of Clark Co., the range of *E. nevadense* has been extended northward into Lincoln, Lander, and Eureka cos. (Kartesz 1987, Cronquist et al. 1997, Franklin 1995a, Morefield and Knight 1991). Kartesz (1987) reported the species as uncommon in Nevada, but Franklin (1991b) noted that several Nevada botanists consider *E. nevadense* to be abundant although not well documented in that state. Move to watch list?

Ericameria crispa (L.C. Anderson) Nesom

“wavy-lvd. goldenbush”

Asteraceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G2/S2

Distribution: WSH, MIL?

Status Category: *Rare*

Notes: For current treatment see *Phytologia* 68: 152. 1990. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus crispus* L.C. Anderson, *Great Basin Nat.* 43: 359. 1983. Endemic to the Pine Valley Mtns., Washington Co. (Cronquist 1994), the type from 19 air miles northeast of St. George, above Pine Valley along the Whipple Valley trail (*Anderson 5504*; holotype BRY, isotypes FSU, MO, NY, RSA, UC, UTC). Reported by Warrick (1987) as “[r]are but locally common at about the midway point of the Whipple Trail on either side of Hop Canyon.” Questionable Millard Co. record as reported in *AUF2*. Field survey needed.

Ericameria lignumviridis (Welsh) Nesom

“Greenwood’s goldenbush” Asteraceae

Federal Status: BLM **UTNHP Rank:** G1/S1

Distribution: PIU, SEV

Notes: For current treatment see *Phytologia* 78: 64. 1995. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus l.* Welsh, *Rhodora* 95: 398. 1993 [1994]. Type from Sevier Co., Cottonwood Creek riparian area ca. 1.5 miles south of Anabella (*Greenwood 5566*; holotype BRY). Confusion about the habitat frustrated initial efforts to relocate these small shrubs. N. Holmgren (addendum in Cronquist 1994) compared this species with *Ericameria nana* Nutt. but noted that *lignumviridis* has middle involucre bracts with relatively long awns (1.5-2.3 mm vs. 0.2-0.7 mm in *E. nana*). Plants matching the type collection (except for the unusually large heads) were found in 1997 by Dr. Michael Windham (UT) in several canyons affluent to the middle Sevier River valley in Piute and Sevier cos. It now appears that all of the plants from this two-county region that had earlier been called *E. nana* may properly belong to *E. lignumviridis*; additional study needed.

Ericameria zionis (L.C. Anderson) Nesom

“Cedar Breaks goldenbush” Asteraceae

Federal Status: (C2), BLM **UTNHP Rank:** G2/S2

Distribution: GAR, IRO, KAN

Notes: For current treatment see *Phytologia* 68: 153. 1990. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus z.* L.C. Anderson, *Great Basin Nat.* 43: 360. 1983. Type from Iron Co., 13 air miles southeast of Cedar City, Cedar Canyon (*Anderson et al. 5094*; holotype BRY, isotypes ASU, DS, FSU, MO, NY, RSA, UC, UTC). Endemic at high elevations on the Markagunt, Paunsaugunt, and Table Cliff plateaus in southwestern Utah (Iron, Garfield, and Kane cos.), in clay soils weathered from semi-barren outcrops of Claron Formation limestone. Currently known from seven widely scattered localities; field survey needed.

Erigeron awapensis Welsh

“Awapa daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G1Q/S1

Distribution: GAR, WAY

Notes: For original description see *Great Basin Nat.* 43: 365. 1983. Type from Garfield Co., 26.5 miles south of Antimony, igneous bouldery slope in canyon, in *Artemisia* community (*Welsh 9388*;

Status Category: Rare

holotype BRY). Known from one other location ca. 1 mile southwest of Teasdale at the northern base of Boulder Mtn., Wayne Co. (Lewis 6657; L. & J. Shultz 7971 & 7976; all UTC). Cronquist (1994) treated *E. awapensis* as a synonym of *E. abajoensis* Cronquist but provided no discussion. Acc. AUF2 (Welsh et al. 1993), *E. awapensis* is closely related to *E. abajoensis* “but seems to differ in about the same order of magnitude as other taxa in this genus.”

Erigeron carringtoniae Welsh

“Jane Carrington’s daisy”

Asteraceae

Federal Status: (C2), FS

UTNHP Rank: G1/S1

Distribution: EME, SEV, SNP

Notes: For original description see Great Basin Nat. 43: 366. 1983. Type from Sanpete Co., Wasatch Plateau above the head of Cove Creek (Goodrich 15780; holotype BRY, isotypes OGDF, UT, UTC). Endemic at high elevations on the Wasatch Plateau (Emery, Sanpete, and Sevier cos.), *E. carringtoniae* grows on flat to gently sloping plateau margins and adjoining steep, eroding slopes, predominantly on the white Flagstaff Limestone (Stone 1993a). Soils are generally quite shallow with little or no profile development, and consist of gravelly calcareous clays or clay loams overlain by a thin layer of loose, angular limestone fragments or gravel. Ten occurrences of *E. carringtoniae* are currently known (including two with > 1000 plants as recorded by B. Thompson in 1991). Nesom and Hevron (1995) treated *E. carringtoniae* as a synonym of *E. untermannii* Welsh & Goodrich. [Note: if the plants previously called *E. carringtoniae* and *E. untermannii* are indeed conspecific, then the correct name would still be *E. carringtoniae* because it has “page priority” over *E. untermannii* acc. the Internatl. Code of Botanical Nomenclature.]

Erigeron cronquistii Maguire

“Cronquist’s daisy”

Asteraceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G2/S2

Distribution: CAC

Notes: For original description see Brittonia 5: 201. 1944. Type from Cache Co., Logan Canyon (Maguire 16681; holotype NY, isotypes US, UTC). *E. cronquistii* is endemic to Cache Co., specifically in Logan Canyon, upper Smithfield Canyon, and elsewhere at higher elevations in the northern Bear River Range. Acc. Franklin (1990c), “*E. cronquistii* occurs in crevices and on rock ledges of limestone and dolomite outcrops in mountain brush to spruce-fir communities at elevations ranging from 5400 to 9900 feet.” The northernmost known location is on Doubletop Mtn. (ca. 2 miles south of the Idaho border), and the largest population surveyed to date is in the Naomi Peak vicinity with an estimated 1000 to 10,000 plants (Franklin 1990c). The species has been reported as occurring in Idaho (see USFWS 1993a), but this report is apparently in error and perhaps based on unusual, white- to pink-rayed plants of *E. tener* (A. Gray) A. Gray (see Moseley and Mancuso 1990, Moseley 1991).

Status Category: *Rare*

Erigeron garrettii A. Nelson

“Garrett’s daisy”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G2/S2

Distribution: SAL, UTA, WAS?

Notes: Type from Salt Lake Co., Big Cottonwood Canyon (*Garrett 1310*; holotype RM, isotypes NY, UT). Endemic to the central Wasatch Mtns. from Big Cottonwood Canyon (Salt Lake Co.) south to Mt. Timpanogos (Utah Co.), growing mainly on and about limestone rock outcrops at elevations from 8500 to 11,500 feet. Questionable Wasatch Co. record as mapped in Albee et al. (1988) and cited in *AUF2* (Welsh et al. 1993), evidently without a voucher specimen. Acc. Cronquist (1994), “[t]he known range of this species is less than 40 kilometers long, but within that area it is common enough to be frequently collected.” Field inventory needed; move to watch list?

Erigeron kachinensis Welsh & Moore

“kachina daisy”

Asteraceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G2/S2

Distribution: SNJ; CO

Notes: For original description see Proc. Utah Acad. Sci. 45: 231. 1968. Type from San Juan Co., Natural Bridges Natl. Monument, near Kachina Bridge (*Welsh & Moore 2398*; holotype BRY, isotype NY). See Allphin and Harper (1994) for a detailed study of habitat requirements in this species. Allphin et al. (1996) demonstrated that the three main populations of *E. kachinensis* are racially differentiated. The first population includes the type locality and extends into White and Dark canyons, about seeps and in hanging gardens on Navajo Sandstone outcrops. Some of the individual occurrences in this area are quite large with as many as 10,000 individual plants. The second population is at higher elevations on Elk Ridge and vicinity where plants are in crevices on exposed Navajo Sandstone slickrock. There are 18 separate occurrences in this area with an estimated total of 2500 to 3000 plants (Franklin 1993c). The third population is along the Dolores River in Montrose Co., Colorado. There it is “extremely rare, on seepy bases of sandstone cliff alcoves” (Weber and Wittmann 1996a). Acc. Allphin et al. (1996), “[p]hylogenetic analysis demonstrates that the morphologically distinct race (Dolores River) is more closely related to type materials than the ecologically distinct race [= Elk Ridge,] and both may merit varietal status based on allozyme divergence.”

Erigeron maguirei Cronquist

“Maguire’s daisy”

Asteraceae

Federal Status: LT

UTNHP Rank: G2/S2

Distribution: EME, WAY

Notes: For original description see Brittonia 6: 165. 1947. Type from Emery Co., San Rafael Swell, Calf Canyon (*Maguire 18459*; holotype NY, isotype UTC). For original description of var. *harrisonii* Welsh, see Great Basin Nat. 43: 367. 1983. Type of var. *harrisonii* from Wayne Co., Capitol Reef Natl. Park, ca. 1 mile northeast of Fruita (*S. & E. Welsh 21178*; holotype BRY, isotypes CAS, NY). When the U.S. Fish and Wildlife Service listed *E. maguirei* as Endangered on

Status Category: *Rare*

September 5, 1985 (50 *FR* 36089), fewer than 10 plants were known from but a single location in the San Rafael Swell. Knowledge of its distribution, abundance, and threats has improved significantly since then, largely as a result of field work by Dr. Ronald Kass (1990a,b). The range of Maguire's daisy in the San Rafael Swell is now known to extend approx. 30 miles from the type locality (north of the San Rafael River) south to the Lucky Strike Mine. Several locations, including the population at Secret Mesa which contains 1000 to 2000 plants, are located in the BLM Sid's Mountain Wilderness Study Area. Kass (1990a,b) also noted that there are thousands of acres of as-yet unsurveyed habitat in the San Rafael Swell. The plants from Capitol Reef (var. *harrisonii*) were recognized as a weak variety in *AUF2* (Welsh et al. 1993) but treated by Cronquist (1994) as a synonym of *E. maguirei* (sensu lato). The Garfield Co. report for var. *harrisonii* (Atwood et al. 1991) is apparently in error. Based on recent work by Dr. Kimball Harper and students, there is no genetic distinction between the plants from Capitol Reef and those from the type region. *E. maguirei* was formally downlisted from Endangered to Threatened status on June 19, 1996 (61 *FR* 31054).

Erigeron mancus Rydb.

"La Sal Mtns. daisy"

Asteraceae

Federal Status: (C2), FS

UTNHP Rank: G2/S2

Distribution: GRA, SNJ

Notes: Type from the La Sal Mtns. (*Rydberg & Garrett 8671*; holotype NY, isotypes MIN, RM, US, UT), where endemic at high elevations in both Grand and San Juan cos. (Welsh et al. 1993, Cronquist 1994). Not known outside of Utah, but, as noted by Weber and Wittmann (1996a), the species occurs "very close to the [Colorado] line."

Erigeron proselyticus Nesom

"Cedar Canyon daisy"

Asteraceae

Federal Status: (3C)

UTNHP Rank: G2/S2

Distribution: GAR, IRO, KAN

Notes: For original description of *E. flagellaris* var. *trilobatus* Maguire ex Cronquist, see *Brittonia* 6: 258. 1947. For current treatment see *Brittonia* 28: 266. 1976. Treated in *AUF2* (Welsh et al. 1993) as *E. sionis* var. *trilobatus* (Maguire ex Cronquist) Welsh, *Rhodora* 95: 398. 1993 [1994]. Type from Iron Co., 12 miles east of Cedar City, canyon to Cedar Breaks Natl. Monument (*Maguire 14947*; holotype NY, isotype UTC). Abundant at the type locality acc. Nesom (1976). *E. proselyticus* is an endemic of Claron Formation limestone outcrops, now known from the Markagunt Plateau in southeastern Iron Co. (near Cedar Breaks Natl. Monument) and northwestern Kane Co. (Cascade Falls vicinity) and from the Table Cliff Plateau in western Garfield Co. Evidently it does not occur (or at least has not yet been found) on the Paunsaugunt Plateau. Cronquist (1994) treated *E. proselyticus* as a synonym *E. sionis* without discussion. Acc. Nesom (1976), *E. proselyticus* is diploid ($2n = 18$) whereas the closely related *E. religiosus* Cronquist and *E. sionis* Cronquist have populations that are either diploid or triploid (*E. religiosus*, $2n = 18, 27$) or tetraploid (*E. sionis*, $2n = 36$).

Status Category: *Rare*

Erigeron untermannii Welsh & Goodrich

“Untermann’s daisy”

Asteraceae

Federal Status: (C2), FS

UTNHP Rank: G1/S1

Distribution: DUC

Notes: For original description see Great Basin Nat. 43: 367. 1983. Type from Duchesne Co., 17 miles south of Duchesne, Indian Canyon (*Atwood 7554*; holotype BRY, isotype NY). *E. untermannii* is endemic to the West Tavaputs Plateau in Duchesne Co., where it “is confined to main ridge tops and down secondary ridges in the rough canyon and ridge topography ... to the south of Duchesne” (Franklin 1989a). The same author noted the elevational range as 6800 to 9440 feet and described the substrate as “a mixture of fine textured sandy-silty soil and flat, angular fragments that have weathered from the sandstone, shale, and siltstone that make up the Uinta Formation in the western part of the Uinta Basin.” The largest occurrence of *E. untermannii* is reportedly in Monument Gulch (estimated 24,000 plants), and two other major concentrations are known: Jones Hollow- Cottonwood (estimated 22,000 plants on Cottonwood Ridge), and Wild Horse Ridge-Mine Hollow- Sowers Canyon (Franklin 1989a). The extent and abundance on the Uintah and Ouray Indian Reservation is unknown. A questionable Uintah Co. record is based on a collection (*Goodrich 5652*, BRY?) from “off Whiterocks Canyon, south rim of Red Pine Canyon” (USGS Ice Cave Peak 7.5' quadrangle). Acc. Ben Franklin (1996, pers. comm.), he has talked to Dr. Sherel Goodrich about this collection and his conclusion is that it was mislabeled. Nesom and Hevron (1995) considered *E. untermannii* to include those plants from the Wasatch Plateau that have been called *E. carringtoniae* Welsh. [Note: if the plants previously called *E. carringtoniae* and *E. untermannii* are indeed conspecific, then the correct name would be *E. carringtoniae* since it has “page priority” acc. the Internatl. Code of Botanical Nomenclature.]

Erigeron zothecinus Welsh

“alcove daisy”

Asteraceae

Federal Status: (C2), BLM

UTNHP Rank: G1Q/S1

Distribution: KAN

Notes: For original description see Great Basin Nat. 46: 262. 1986. Endemic to the Lake Powell vicinity in Kane Co., inhabiting desert scrub communities on south- and west-facing, open slopes in damp, thin soil layers over slickrock (Welsh et al. 1993; J. Spence 1996, pers. comm.). The type is from near the confluence of Glen and Escalante canyons (*Welsh 22115*; holotype BRY, isotype BRY). Cronquist (1994) treated *E. zothecinus* as a synonym of *E. pumilus* var. *subglaber* Cronquist, without discussion.

Eriogonum aretioides Barneby

“Widtsoe buckwheat”

Polygonaceae

Federal Status: (C2), FS

UTNHP Rank: G2/S2

Distribution: GAR

Notes: For original description see Leafl. West. Bot. 5: 154. 1949. Type from Garfield Co., foothills of the Escalante Mtns. east of Widtsoe (*Ripley & Barneby 8570*; holotype CAS, isotypes

Status Category: *Rare*

BRY, NY). Endemic to Garfield Co. on semi-barren ridges, benches, and lower slopes of Claron Formation limestone. Eleven known occurrences, these concentrated in the Red Canyon vicinity (Paunsaugunt Plateau). Apparently extirpated at the type locality. A report from Bryce Canyon Natl. Park (Van Pelt et al. 1991) is from late-season field work, has no voucher specimen, and should be regarded as unconfirmed; *E. aretioides* was not included in an updated floristic checklist for the Park (Spence and Buchanan 1993). The Emery Co. record, cited in *AUF2* (Welsh et al. 1993), is evidently based on a misidentified collection of *E. tumulosum* (Barneby) Reveal (*Heil 1899*; BRY, SJNM). Acc. Dr. Kenneth Heil (1994[?], pers. comm.), the specimens at SJNM have no flowers, and the same is true of the two sheets at BRY.

***Eriogonum brevicaule* Nutt. var. *loganum* (A. Nelson) Welsh**

“Logan buckwheat” Polygonaceae

Federal Status: (3C), FS **UTNHP Rank:** G4T2/S2

Distribution: BOX, CAC, MOR, RIC; ID?

Notes: For current treatment see *Great Basin Nat.* 44: 531. 1984. Type from Cache Co., Logan (*C.P. Smith 1704*; holotype RM, isotype BRY). Reveal (1969, 1973) originally regarded *E. loganum* A. Nelson as an endemic on clay bluffs and hills in Cache Valley, Cache Co. Since then his concept of this entity has expanded to include plants of higher elevations in the Bear River Range (Mt. Naomi and vicinity) which he had earlier considered naming separately as *E. grayi* var. *maguirei* (Reveal 1969). Acc. *AUF2* (Welsh et al. 1993), also included now in var. *loganum* are some more recent collections from Morgan and Rich cos. (specimens at BRY). Var. *loganum* is not yet known from Idaho (see Moseley and Mancuso 1990, Moseley 1991, Moseley et al. 1992), but Moseley and Mancuso (1990) noted that several *Eriogonum* collections from the Idaho portion of the Bear River Range were sent [to Reveal?] for expert determination.

***Eriogonum brevicaule* Nutt. var. *promiscuum* Welsh**

“Mt. Bartles buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G4T2?/S2?

Distribution: CAR, DUC?, WAS

Notes: For original description see *Great Basin Nat.* 44: 531. 1984. Type from Carbon Co., West Tavaputs Plateau, Mt. Bartles (*Welsh & Clark 15905*; holotype BRY). Acc. *AUF2* (Welsh et al. 1993), var. *promiscuum* is endemic in the vicinity of Minnie Maud Creek and Mt. Bartles, Carbon Co. The variety is not yet definitely known from Duchesne Co., but a 1995 collection (*Huber 3247*, BRY) has extended the known range west to Long Ridge, Wasatch Co. Acc. *AUF2*, “[t]he Mt. Bartles buckwheat is similar in some respects with var. *nanum* (Reveal) Welsh, but seems to have a separate origin. The plants appear to have arisen through hybridization of portions of *E. brevicaule* var. *laxifolium* (Torrey & Gray) Reveal with *E. corymbosum* var. *hylophilum* (Reveal & Brotherson) Welsh, and with a possible infusion of *E. lonchophyllum* Torrey & Gray var. *lonchophyllum*.”

Status Category: *Rare*

Eriogonum corymbosum Benth. var. cronquistii (Reveal) Welsh

“Cronquist’s buckwheat” Polygonaceae

Federal Status: (C2), BLM **UTNHP Rank:** G5T1/S1

Distribution: GAR, WAY?

Notes: For original description see Madroño 19: 289. 1968 [1969]. For current treatment see Great Basin Nat. 44: 534. 1984. Type from Garfield Co., Henry Mtns., talus slopes of decomposed granite on west side of Bull Mtn. (*N. Holmgren & Reveal 3010*; holotype UTC, isotypes BRY, ISC, NY, RM, US, UT). Acc. Reveal (1968), this buckwheat “grows in [a] rock slide from about 8100 feet to about 9250 feet.” Known only from the type locality (Reveal 1969, 1973; Neese 1981; Welsh et al. 1993). Acc. *AUF2* (Welsh et al. 1993), similar plants from Thousand Lake Mtn. (Wayne Co.) have been assigned to var. *revealianum* (Welsh) Reveal. A 1998 collection from Table Mtn., Wayne Co. (*Stone 2270*, UT) matches the description of var. *cronquistii* in its low stature, tomentose lvs. with crenulate margins clustered at the base of the stems, and glabrous inflorescences.

Eriogonum corymbosum Benth. var. hylophilum (Reveal & Brotherson) Welsh

“Gate Canyon buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G5T1/S1

Distribution: DUC

Notes: For original description see Great Basin Nat. 27: 190. 1967 [1968]. For current treatment see Great Basin Nat. 44: 534. 1984. Type from Duchesne Co., Gate Canyon, 2.7 miles below summit of Bad Land Cliffs (*N. Holmgren & Reveal 3017*; holotype UTC, isotypes ARIZ, BRY, CAS, DS, GH, ISC, MO, NY, RM, RSA, UC, US, UT). Reveal (1967) cited the distribution of *E. hylophilum* as “[l]ocally common on the Bad Land Cliffs near Gate Canyon, Duchesne Co., Utah.... The population extends nearly five miles down Gate Canyon on the Wellington side of the summit, but less than half of a mile on the Myton side. Toward the west, the species was found to extend less than a mile, but its eastward limits have not been determined.... In Gate Canyon, *E. hylophilum* occurs as scattered plants on *Artemisia* [= sagebrush] hillsides in the Pinyon-Juniper belt.” Acc. *AUF2* (Welsh et al. 1993), “[m]aterials included within this variety are intermediate between *E. brevicaule* var. *promiscuum* Welsh and *E. corymbosum* var. *corymbosum*, especially that phase called *E. lancifolium* Reveal & Brotherson. The variety is also influenced more or less by *E. brevicaule* var. *laxifolium* (Torrey & Gray) Reveal.”

Eriogonum corymbosum Benth. var. matthewsiae Reveal

“Springdale buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G5T1?/S1?

Distribution: WSH

Notes: For original description see Phytologia 35: 441. 1976. For alternative treatment as *E. thompsoniae* var. *m.* (Reveal) Reveal, see Phytologia 66: 252. 1989. Type from Washington Co., Springdale (*Welsh et al. 9509*; holotype MARY, isotypes BRY, UMO, US, UT). Acc. *AUF2* (Welsh et al. 1993), var. *matthewsiae* is a narrow endemic near the mouth of Zion Canyon, Washington Co., where it inhabits slopes of the Chinle and Moenkopi formations. Welsh (1989b) reported that

Status Category: Rare

specimens from nearby Springdale and within Zion Natl. Park are completely transitional to the subcaulescent *E. thompsoniae* var. *albiflorum* Reveal [= *E. corymbosum* var. *a.* (Reveal) Welsh]. Acc. *AUF2* (Welsh et al. 1993), var. *matthewsiae* “is intermediate in every way between [*E. corymbosum*] varieties *aureum* (M.E. Jones) Reveal and *albiflorum*, both of which are sympatric with it. Apparently the population is a partially stabilized hybrid derivative. Occasional specimens have yellow flowers, demonstrating the condition found within both of the parental types also.”

Eriogonum corymbosum Benth. var. smithii (Reveal) Welsh

“Arthur Smith’s buckwheat” Polygonaceae

Federal Status: (C2), BLM **UTNHP Rank:** G5T1/S1

Distribution: EME, WAY

Notes: For original description see *Great Basin Nat.* 27: 202. 1967 [1968]. For current treatment see *Great Basin Nat.* 44: 535. 1984. Type from Emery Co., between Little Flat Top and Big Flat Top (*N. Holmgren & Reveal 3012*; holotype UTC, isotypes ARIZ, BRY, CAS, DS, GH, ISC, MO, NY, RM, RSA, UC, US, UT). Acc. Reveal (1967), *E. smithii* Reveal is “[k]nown only from the north and east side[s] of Big Flat Top and near Little Flat Top, San Rafael Desert, Emery Co., Utah.... I have seen this species up to 5 miles east of Little Flat Top, but how much further to the east the species extends has not been determined.” Reveal (1973) later reported *E. smithii* as “locally common in deep red ‘blow’ sand.” Disjunct Wayne Co. record based on a 1980 collection from ca. 11 miles south-southeast of Hanksville and 2 miles east of Utah Hwy. 95, near Pool Spring (*Neese 8730A*, BRY; ! J. Reveal, 1992).

Eriogonum darrovii Kearney

“Darrow’s buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G2G3/S1

Distribution: KAN; AZ, NV

Notes: Known in Utah by a 1978 collection from Buckskin Mtn., Kane Co. (*Gierisch 4483*, BRY), where noted as “locally common to abundant.” Rare in Nevada (Reveal 1985a, Kartesz 1987), known only from south of Major’s Place and near Lake Valley Summit, White Pine Co.; and near Sunnyside, White River Valley, Nye Co. (Reveal and Ertter 1980). Otherwise known from the northern edge of the Kaibab Plateau in Coconino Co., Arizona (Kearney and Peebles 1951, Reveal 1976). *E. darrovii* has an unusually scattered distribution (especially for an annual), but its habitat is evidently restricted to limestone outcrops. Move to watch list?

Eriogonum heermannii Dur. & Hilg. var. subspinosum Reveal, ined.

“Bulldog Knolls buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5T1?/S1?

Distribution: WSH; AZ

Notes: Dr. James Reveal (1995, pers. comm.) reported that this low shrub is a local endemic “in the Virgin Narrows region of Mohave Co., Arizona, and in the Bull Dog Knolls area [Beaver Dam Mtns.] of Washington Co., Utah.” The habitat of this buckwheat is evidently on rocky slopes and

Status Category: Rare

outcrops of calcareous origin. Acc. *AUF2* (Welsh et al. 1993), the var. *subspinosum* includes those Utah specimens previously designated as *E. heermannii* var. *subracemosum* (S. Stokes) Reveal. Also included here are Utah specimens previously identified as *E. plumatella* Dur. & Hilg.

Eriogonum jamesii Benth. var. higginsii Welsh

“Higgins’ buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G5T1?Q/S1?

Distribution: SNJ

Notes: For original description see *Rhodora* 95: 411. 1993 [1994]. Type from San Juan Co., 0.5 mile west of junction to Eastland on Hwy. 666 (*L. & E. Higgins 15823*; holotype BRY). Additional specimens cited by Welsh (1993), both at BRY: junction of Hwy. 160 and the road to Eastland (*Higgins 3567*); along Hwy. 160, 11.3 miles east of Monticello (*Reveal 2502*). The same author described the habitat as sandy soil in sagebrush scrub and pinyon-juniper communities. Acc. Welsh (1993), “[t]his is an admittedly weak variety, but it is disjunct by more than 100 km from the remainder of the species in Utah. It is readily identifiable [by its solitary involucre].”

Eriogonum nummulare M.E. Jones var. ammophilum (Reveal) Welsh

“Ibex buckwheat”

Polygonaceae

Federal Status: (C2), BLM

UTNHP Rank: G4T1/S1

Distribution: MIL

Notes: For original description see *Phytologia* 23: 163. 1972. For current treatment see *Great Basin Nat.* 44: 541. 1984. Type from Millard Co., ca. 1.3 miles northwest of Ibex Warm Point (*N. & P. Holmgren 4650*; holotype US, isotypes BRY, NY, UTC). This low subshrub is a local endemic in west-central Millard Co., specifically in sandy traces around the southern end of the Confusion Range and the northern end of the Wah Wah Mtns. (UTNHP, unpubl. data); one collection (*Kass 3215*, BRY) is from somewhat further north, in Little Valley between the Confusion and Conger ranges. Acc. *AUF2* (Welsh et al. 1993), var. *ammophilum* is intermediate both morphologically and geographically between *E. nummulare* (sensu stricto) and *E. batemanii* var. *eremicum* (Reveal) Welsh.

Eriogonum pharnaceoides Torrey var. cervinum Reveal

“Deer Lodge buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G4G5T2/S1

Distribution: BEA?, IRO, MIL?, WSH; AZ, NV

Notes: Treated by Reveal (1969) as *E. pharnaceoides* var. *odocoileum* Reveal, ined. For original description see *Great Basin Nat.* 34: 246. 1974. Type from Washington Co., foothills south of Pinto on north slope of Pine Valley Mtns. (*Atwood & Higgins 5895*; holotype US, isotypes BRY, RM, UTC). In Utah, var. *cervinum* is definitely known from the Pine Valley Mtns. (Washington Co.) where reported as “[l]ocally common in disturbed areas” (Warrick 1987); and from Iron Co., 9.3 miles north of Modena along the Hamlin Valley road (*E. & D. Neese 10927*, BRY). Questionable Beaver and Millard county records as reported by Reveal (1973, 1974, 1976). The Millard Co.

Status Category: Rare

record is based on an 1898 collection (*Purpus* 6229; K, UC, US) from “Cane Springs, 6000-7000 ft elev” (cited by Reveal 1974), but a locality by that name does not seem to exist in Millard Co.; it seems far more likely that the *Purpus* collection was made at Kane Spring in Washington Co., which is near some of the other known locations. In Arizona known only from Mt. Trumbull, Mohave Co. (Reveal 1974, 1976). Reported as rare in southeastern Nevada, known only from the Deer Lodge area and White Rock Mtn., Lincoln Co., inhabiting “[r]avines and foothills with pinyon-juniper” (Kartesz 1987). Acc. Reveal (1974), “var. *cervinum* differs from var. *pharnaceoides* in having yellow instead of white flowers and occupying a geographical area north and west of the typical variant. The flowers of var. *cervinum* are also a bit smaller, but the measurements overlap.” Rangewide distribution and status information needed; move to watch list?

Eriogonum racemosum Nutt. var. *nobile* Welsh & Atwood

“Bluff buckwheat”

Polygonaceae

Federal Status: BLM

UTNHP Rank: G5T1/S1

Distribution: SNJ

Notes: For original description see *Rhodora* 95: 412. 1993 [1994]. Known only by the type collection, from sandy soil along the San Juan River ca. 3 miles west of Bluff, San Juan Co. (*N.D. & J. Atwood 17250*; holotype BRY, isotypes MO, NY, US). Acc. Welsh and Atwood (in Welsh 1993), this variety is disjunct from the similar var. *zionis* (J.T. Howell) Welsh by more than 150 km.

Eriogonum scabrellum Reveal

“Westwater buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G2G3/S2

Distribution: GAR, GRA, KAN, SNJ; CO, NM

Notes: For original description see *Ann. Missouri Bot. Gard.* 55: 74. 1968. Type from Grand Co., near Westwater (*Reveal & Davidse 949*; holotype UTC, isotypes BRY, ISC, NY, RM, US, UT). Reveal (1973) cited the Utah distribution as “[r]are and locally common, on clay hills and flats in e. Utah from Grand Co. s. to San Juan and Kane cos.” Garfield Co. record based on a collection (*Neese 6925*, BRY) from near head of Shitamarine Canyon, Henry Mtns. Acc. Reveal (1976), “[i]n Colorado, [*E. scabrellum*] is in Mesa Co., also along the Colorado River, but in Montezuma Co. it is along the San Juan River drainage. I suspect that it will be found eventually in both Arizona and New Mexico.” In northwestern New Mexico (San Juan Co.) acc. Soreng (1984), the first record for that state. Is this fall-flowering annual truly rare or just rarely collected?

Eriogonum soredium Reveal

“Frisco buckwheat”

Polygonaceae

Federal Status: (C2), BLM

UTNHP Rank: G1/S1

Distribution: BEA

Notes: For original description see *Great Basin Nat.* 41: 229. 1981. Type from Beaver Co., near Frisco (*Welsh et al. 20192*; holotype US, isotypes BRY, MARY). Endemic to outcrops of chalk-white limestone in the San Francisco Mtns., Beaver Co. Acc. Kass (1992a), “[o]ne population of

Status Category: Rare

E. soledium is known at Grampian Hill proper, and individuals from presumably this same population are located about four-miles north of Grampian Hill, on the west slope of the San Francisco Mountains, below Frisco Peak.” The same author estimated the total population size at 2000 individuals over approx. 400 acres of occupied habitat. A 1985 collection from a disjunct location near Lime Point, Wah Wah Mtns. (*Neely & Chambers 2088*, UTC), has been identified as *E. soledium*. Kass (1992a) did not examine this specimen but implied that it might be misidentified. The Frisco buckwheat is closely related to the widespread *E. shockleyi* S. Watson (Reveal 1981b, Welsh et al. 1993). Kass (1992a) noted that the two species are sympatric but observed no evidence of hybridization.

Eriogonum spathulatum A. Gray var. natum (Reveal) Welsh

“Mark Reveal’s buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G3T2/S2

Distribution: MIL

Notes: For original description see *Great Basin Nat.* 35: 363. 1975. For current treatment see *Great Basin Nat.* 44: 545. 1984. *Var. natum* is a local endemic on marly lake bed deposits in the vicinity of Sevier Lake and the eastern base of the Cricket Mtns., Millard Co. (Welsh et al. 1993; specimens at BRY). The type collection is from north-northwest of Sevier Lake, along U.S. Hwy. 50-6, 46.2 miles east of the Nevada state line and ca. 43 miles west of Delta, on low white alkaline clay outcrops 50-300 m north of the highway, ca 0.2 mile east of the dirt road junction to the Antelope Spring-Black Hill Well roads (*J. & M. Reveal 3924*; holotype US, isotypes ARIZ, ASU, BRY, CAS, COLO, GH, ISC, K, MARY, MO, NY, OKL, OSC, PH, RM, RSA, SMU, TEX, UC, UTC, WTU).

Euphorbia nephradenia Barneby

“Utah spurge” Euphorbiaceae

Federal Status: (3C) **UTNHP Rank:** G2/S2

Distribution: EME, GAR, KAN, WAY; CO?

Notes: For original description see *Leafl. West. Bot.* 10: 314. 1966. Type from Kane Co., ca. 41 miles southeast of Cannonville, Cottonwood Canyon (*Barneby 14434*; holotype NY, isotypes ARIZ, BRY, CAS, GH, US, UTC). Cronquist et al. (1997) cited the distribution as “[o]n barren clay or in very sandy soil ...; w. of the Green and Colorado rivers and e. of the Utah Plateaus, from Emery Co. to Kane Co., Utah; also in Montezuma Co., Colo.” Not in Colorado acc. Weber and Wittmann (1992, 1996a).

Frasera gypsicola (Barneby) D.M. Post

“White River green-gentian” Gentianaceae

Federal Status: (C2), BLM **UTNHP Rank:** G1/S1

Distribution: MIL; NV

Notes: For current treatment see *Bot. Gaz.* 120: 3. 1958. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Swertia g.* Barneby, *Leafl. West. Bot.* 3: 155. 1942. In Utah known by a 1983 collection from 17 km north of Garrison, Millard Co. (*Cronquist 11838*; BRY, UT). Otherwise known from

Status Category: Rare

three disjunct areas of the White River valley in eastern Nevada (Smith 1994a): the Sunnyside area in Nye Co. (four populations, 35,300 plants); the Swamp Cedar area southwest of Lund in White Pine Co. (one population, ca. 1500 plants); and the Ruppes Boghole area south of Lund in White Pine Co. (one population, approx. 10,000 plants). Acc. Smith (1994a), “[i]n Nevada, *Frasera gypsicola* occurs on white calcareous barrens[;] in a saline bottom environment on the periphery and within an ecotype of Rocky Mountain juniper[;] and in association with a barberry community and a rabbitbrush community in an area of many springs.... In Utah, the species was collected in a *Sarcobatus-Atriplex* community.” Efforts to relocate the sole Utah occurrence have been uniformly unsuccessful.

***Gilia caespitosa* A. Gray**

“Wonderland Alice-flower”

Polemoniaceae

Federal Status: C, FS, BLM

UTNHP Rank: G1/S1

Distribution: WAY

Notes: Type from Wayne Co., Rabbit Valley, on barren cliffs of sandstone (*Ward 575*; holotype GH, isotypes BRY, NY, US). *G. caespitosa* is locally endemic in Wayne Co., where the plants are concentrated in the Teasdale area (6 known sites) and in Capitol Reef Natl. Park (9 locations). Acc. Porter and Heil (1994a), the species is “associated with cliffs, ledges and exposed sandstone outcrops, growing in detritus, eolian sands or cracks in the sandstone bedrock.... Although it is most commonly found on Navajo Sandstone, *G. caespitosa* is not restricted to a single geologic formation.” The largest population is reportedly at the northern base of Boulder Mtn., where the Teasdale occurrence is estimated at 2100 individual plants and the Black Ridge occurrence at more than 2000 plants (USFS et al., no date). Acc. Porter and Heil (1994a), *G. caespitosa* “is a self-incompatible, obligate out-crossing species (Porter, unpubl. data), presumably hummingbird-pollinated (L. and J. Shultz 1984). But given that no other species of *Gilia* is pollinated by hummingbirds alone, other pollination vectors are undoubtedly involved.... Earlier observations indicate that this species produces very few seeds in spite of the high ovule production (Porter and Floyd 1993). It is not known if this is part of a natural year to year fluctuation in seed production or representative of a reproductive problem.”

***Gilia latifolia* S. Watson var. *imperialis* Welsh**

“Cataract Canyon *gilia*”

Polemoniaceae

Federal Status: BLM

UTNHP Rank: G4T2/S2

Distribution: EME, GAR, KAN, SNJ, WAY

Notes: For original description see *Rhodora* 95: 409. 1993 [1994]. Type from San Juan Co., Cataract Canyon (*Welsh 22507*; holotype BRY). Var. *imperialis* is a Utah endemic that is known from the Moroni Slopes and San Rafael Swell (Emery Co.) and from Cataract and Glen canyons (Garfield, Kane, San Juan, and Wayne cos.) where “locally common” (Welsh 1993).

Status Category: *Rare*

Gilia tenuis F. Smith & Neese

“Mussentuchit gilia”

Polemoniaceae

Federal Status: (C2), BLM

UTNHP Rank: G1/S1

Distribution: EME, SEV, WAY

Notes: For original description see Great Basin Nat. 49: 461. 1989. Type from Sevier Co., 6.8 airmiles (11 km) south of Fremont Junction, 0.9 mile (1.5 km) west of Emery Co. line, head of Mussentuchit Creek (*Neese et al. 18025*; holotype BRY, isotypes NY, RM, UC, UT, UTC). Acc. Porter and Heil (1994b), *G. tenuis* is restricted to the western slope of the San Rafael Swell (extreme eastern Sevier and adjacent western Emery cos.). The same authors documented seven known locations and described the habitat as “sandstone outcrops and sandy detrital slopes of the west slope of the San Rafael Swell... Although *G. tenuis* is not restricted to a single geological formation, it is most frequently associated with light-colored, coarse-textured, sometimes calcareous sandstones.” Wayne Co. record based on a locality in Capitol Reef Natl. Park, Waterpocket Fold, south of the Cathedral Valley road, mouth of Trail Canyon, elev. 6170 ft. (1997? field work by Carrie McCracken, Utah State Univ.).

Glaucocarpum suffrutescens (Rollins) Rollins

“shrubby reed-mustard”

Brassicaceae

Federal Status: LE

UTNHP Rank: G1/S1

Distribution: DUC, UIN

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Schoenocrambe s.* (Rollins) Welsh & Chatterley, Great Basin Nat. 45: 192. 1985. Maintained by Rollins (1993) in the monotypic genus *Glaucocarpum*. Type from Uintah Co., Big Pack Mtn. (*Graham 8959*; holotype GH, isotypes CM, NY). Acc. Franklin (1995b), “*Schoenocrambe suffrutescens* is a Uinta Basin endemic ... now known to range from the type location west onto both Big and Little Pack Mountains; west again onto the slopes of Gray Knolls and Dog Knoll; and lastly, west across the Green River, onto the north-slope-bench above Nine Mile Canyon, along the base of Bad Land Cliffs, Duchesne Co.” The same author documented 18 occurrences for the species containing an estimated total of 2865 plants (more than half of these concentrated in a single occurrence at Pack Draw). The habitat was described as “mixed desert shrub and piñon-juniper communities ... along semi-barren, white-shale layers of the Evacuation Creek member of the Green River Formation.”

Grindelia laciniata Rydb.

“Monticello gumweed”

Asteraceae

Federal Status: None

UTNHP Rank: G2G3/S1S2

Distribution: EME?, GRA?, SNJ; AZ, NM

Notes: *AUF2* (Welsh et al. 1993) reported the distribution of *G. laciniata* in Utah as restricted to San Juan Co., the type from east of Monticello, Montezuma Canyon (*Rydberg & Garrett 9692*; holotype NY, isotype US). Questionable Emery and Grand county records as reported by Cronquist (1994). The Arizona distribution is in southwestern Coconino and northwestern Yavapai cos., at Williams and Seligman (Kearney and Peebles 1951). New Mexico record acc. Roalson and Allred

Status Category: Rare

(no date), citing a single collection from Sandoval Co. (*Perkins 18*, UNM). Not in Colorado (Weber and Wittmann 1992, 1996a). *AUF2* noted that *G. laciniata* inhabits disturbed areas such as road shoulders, borrow pits, and field margins, suggesting that the species might be adventive in portions of its rather limited range. Acc. Cronquist (1994), *G. laciniata* hybridizes with *G. squarrosa* (Pursh) Dunal. Rangewide distribution and status information needed; move to watch list?

Hackelia ibapensis L. & J. Shultz

“Ibapah stickseed”

Boraginaceae

Federal Status: (C2), BLM

UTNHP Rank: G1/S1

Distribution: JUA

Notes: For original description see *Brittonia* 33: 159. 1981. A local endemic of granitic rock outcrops in the Deep Creek Mtns., Juab Co. (Cronquist et al. 1984, Higgins in Welsh et al. 1993), the type from Thom’s Creek drainage, 3 miles north-northeast of Ibapah Peak (*L. & J. Shultz 4350*; holotype UTC, isotypes BRY, COLO, NY, RENO, RSA, UT). Another population of *H. ibapensis* has been located north of the type locality in Goshute Canyon (R. Hardy 1996, pers. comm.).

Heliomeris soliceps (Barneby) W.F. Yates

“Barneby’s goldeneye”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G1/S1

Distribution: KAN

Notes: For current treatment see *Proc. Indiana Acad. Sci.* 88: 370. 1979. Treated in *AUF2* (Welsh et al. 1993) as *Viguiera s.* Barneby, *Leafl. West. Bot.* 10: 316. 1966. Type from Kane Co., 41 miles southeast of Cannonville, in Cottonwood Canyon near its confluence with the Paria River (*Barneby 14435*; holotype NY, isotypes CAS, GH, US, UTC). Endemic on the Tropic Shale Formation from Cottonwood Canyon east to Last Chance Canyon, Kane Co. (Welsh et al. 1975, Cronquist 1994, Welsh and Eliason 1995). Abundant in years of adequate rainfall (Welsh et al. 1993, Cronquist 1994).

Heterotheca jonesii (S.F. Blake) Welsh & Atwood

“Jones’ golden-aster”

Asteraceae

Federal Status: (3C), FS

UTNHP Rank: G2/S2

Distribution: GAR, KAN, WSH

Notes: For current treatment see *Great Basin Nat.* 35: 336. 1975. Type from Washington Co., Springdale (*Jones 5249u*; holotype? POM, isotype? US). A southern Utah endemic, *H. jonesii* “occurs in Zion National Park, on Canaan Mountain, in Bryce Canyon National Park (one collection), and at Hell’s Backbone. At Hell’s Backbone, it is in the general area of the Backbone and south into Box-Death Hollow Wilderness Area” (Franklin 1989b). The species is also known by two collections from east of Hell’s Backbone, i.e., “15 miles south of Boulder” (*Maguire 17997*, UTC) and “Calf Creek crossing, 17 miles below Escalante on the Escalante River” (*Beck 10573*, BRY). There are approx. 20 known occurrences but with few plants in each location (Utah Natural Heritage Program, unpubl. data). Acc. Welsh (1989b), *H. jonesii* is “locally common in the

Status Category: *Rare*

Checkerboard Mesa vicinity on the ... east side [of Zion Natl. Park] and from Cave Valley and ... both sides of Pine Spring Canyon on the west side.” At Hell’s Backbone, the species is found in a ponderosa pine - manzanita - bitterbrush community and is reportedly rare in pockets of loose sand or in sandy crevices of crumbly-fragmented Navajo Sandstone (Franklin 1989b).

***Hymenoxys acaulis* (Pursh) K.L. Parker var. *nana* Welsh**

“cushion gold-flower”

Asteraceae

Federal Status: (C2), BLM

UTNHP Rank: G5T1T2/S1S2

Distribution: DUC, EME, SEV, WAY?

Notes: For original description see *Rhodora* 95: 399. 1993 [1994]. Type from Emery Co., San Rafael Reef ca. 3 miles east of the Muddy River (*Atwood & Goodrich 8652*; holotype BRY, isotype NY). Var. *nana* is endemic to Utah in Duchesne, Emery, and eastern Sevier cos. (Welsh 1993), mostly on sandstone outcrops [?] in the San Rafael Swell. Porter et al. (no date) cited a Wayne Co. record based on a collection from the highway between Teasdale and Grover, northwest end of The Cockscomb (*Heil et al. 8284B*, SJNM?). Garfield Co. record, reported by Atwood et al. (1991) for *H. depressa* (Torrey & Gray ex A. Gray) Welsh & Reveal, is assumed to be in error. Welsh (1993) included in his concept of *H. acaulis* var. *nana* those Utah plants formerly treated as *H. depressa*, not including the type of *Actinella depressa* Torrey & Gray ex A. Gray which he regarded as belonging to *H. torreyana* (Nutt.) K.L. Parker. In a recent survey of genetic diversity based on isozyme variation, Porter et al. (no date) found that “populations formerly referred to ‘*H. depressa*’ (= *H. acaulis* var. *nana*) are more similar to other varieties of *H. acaulis* and not similar to *H. torreyana*.” The data presented by these authors thus lend support to Welsh’s treatment of these plants as a variety of *H. acaulis*.

***Hymenoxys lapidicola* Welsh & Neese**

“rock-dwelling gold-flower”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G1/S1

Distribution: UIN

Notes: For original description see *Great Basin Nat.* 43: 373. 1983. Type from Uintah Co., south edge of Blue Mtn. Plateau, Point of Pines campground (*Neese & Fullmer 11734*; holotype BRY, isotype NY). *H. lapidicola* has been reported from Colorado (USFWS 1993a), but several authors (Goodrich and Neese 1986, Naumann 1990, Atwood et al. 1991, Franklin 1992c) have regarded *H. lapidicola* as endemic to Uintah Co. in northeastern Utah. Acc. Franklin (1992c), “*Hymenoxys lapidicola* has become known from various locations along the rim and base of Blue Mountain and at locations between. It also occurs at one disjunct location ‘... just west of Hog Canyon on the south flank of Split Mountain....’ ” The same author reported that fewer than 5000 plants were seen during a 1991 field survey, but he also noted that this may be an underestimate of the total population. The habitat was described as “precipitous to vertical sandstone slopes of the Weber Formation[, m]ore specifically, ... in sandy soils on ledges or in crevices of that formation at open to protected sites. The general aspect of *Hymenoxys* habitat is south; however, plants were seen in local microsites on all slope aspects.” The treatment of *H. lapidicola* as a species distinct from *H. torreyana* (Nutt.)

Status Category: *Rare*

K.L. Parker is supported by a recent study of genetic variation using isozyme analysis (Porter et al., no date).

***Ipomopsis spicata* (Nutt.) V. Grant ssp. *tridactyla* (Rydb.) Wilken & Hartman**

“Tushar Mtns. *gilia*” Polemoniaceae

Federal Status: None **UTNHP Rank:** G4?T2/S2

Distribution: IRO, PIU

Notes: For current treatment see Syst. Bot. 16: 155. 1991. Treated in *AUF2* (Welsh et al. 1993) as *Gilia tridactyla* Rydb. Type from Piute Co., Mt. Brigham (*Jones 5949*; holotype NY, isotypes POM, US). A Utah endemic, ssp. *tridactyla* is restricted to high elevations in the Tushar Mtns. (Piute Co.) and the Markagunt Plateau (Iron Co.) where it is known from occurrences at Cedar Breaks and on Brian Head peak (Wilken and Hartman 1991, Welsh et al. 1993; specimens at BRY). In the Tushar Mtns., it is reportedly rare in the cushion plant community and on volcanic talus and scree (Taye 1995).

***Ivesia shockleyi* S. Watson var. *ostleri* Ertter**

“Wah Wah *ivesia*” Rosaceae

Federal Status: BLM **UTNHP Rank:** G3T1/S1

Distribution: BEA

Notes: For original description see Syst. Bot. 14: 237. 1989. Type from Beaver Co., Wah Wah Mtns., northernmost of three isolated “Tetons” (*Ertter 6244*; holotype UC, isotypes BRY, CAS, GH, MO, NY, RM, RSA, TEX, US, UTC, WTU). Var. *ostleri* is endemic to the Wah Wah and Needle ranges, Beaver Co., where it is found on rock outcrops in pinyon-juniper-wooded foothills and on ponderosa pine-covered ridges (Ertter 1989, N. Holmgren in Cronquist et al. 1997). Var. *shockleyi* does not occur in Utah but ranges from Nevada to Calif. and southeastern Oregon (Ertter in Hickman 1993).

***Ivesia utahensis* S. Watson**

“Utah *ivesia*” Rosaceae

Federal Status: None **UTNHP Rank:** G2/S2

Distribution: SAL, SUM, UTA, WAS, WEB

Notes: Type from Salt Lake Co., Wasatch Mtns., summit of Bald Mtn. above Alta (*Jones 1231*; isotypes F, GH, ISC, NY, US, UTC). A plant of subalpine to alpine habitats (esp. late snowmelt areas?), *I. utahensis* is endemic to northern Utah in the central Wasatch Mtns. (Salt Lake, Utah, and Wasatch cos.) and the western Uinta Mtns. (Summit Co.) where there are several specimens from Bald Mtn. (*Garrett 5700*, UT; *Maguire et al. 4164*, UTC; *Johnson 17026*, BRY, UT) and a 1985 collection from Ostler Peak (*Kass et al. 2116*, BRY). A disjunct occurrence in the northern Wasatch (Weber Co.) is documented by a 1996 collection from near the summit of Ben Lomond peak (*Stone & Smith 1995*, UT).

Status Category: *Rare*

Jamesia americana Torrey & Gray var. macrocalyx (Small) Engler

“Wasatch cliff-bush” Philadelphaceae

Federal Status: FS **UTNHP Rank:** G5T2/S2

Distribution: JUA, SAL, UTA, WAS; NV?

Notes: Type from Utah Co., Wasatch Mtns., American Fork Canyon (*Watson 371*; holotype NY, isotype US). A shrub of rocky slopes and outcrops (at lower elevations in protected, mainly north-facing sites), var. *macrocalyx* is restricted to the central Wasatch Range of Salt Lake, Utah, and adjacent Wasatch cos., and the Deep Creek Range of western Juab Co. (N. and P. Holmgren 1989; N. and P. Holmgren in Cronquist et al. 1997). In the Wasatch the plants are encountered fairly frequently in appropriate habitats, but they are nowhere abundant. A collection of *J. americana* has also been reported from the Ruby Mtns., Elko Co., Nevada (Kartesz 1987; see also Lewis 1971). Is this the var. *macrocalyx* or, perhaps, *J. tetrapetala* N. & P. Holmgren? Ditypic genus, treated in *AUF2* (Goodrich in Welsh et al. 1993) in the family Saxifragaceae, and by N. and P. Holmgren (in Cronquist et al. 1997) in the family Hydrangeaceae.

Jamesia americana Torrey & Gray var. zionis N. & P. Holmgren

“Zion cliff-bush” Philadelphaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G5T2/S2

Distribution: IRO, KAN, WSH

Notes: For original description see *Brittonia* 41: 344. 1989. Type from Kane Co., ca. 7 miles west of Kanab, South Fork Indian Canyon (*Tuhy 1411*; holotype NY, isotypes BRY, UTC). A shrub primarily of cliff bases and protected slopes on sandstone, var. *zionis* is restricted to southwestern Utah (Iron, Kane, and Washington cos.) from near Cedar Breaks (Markagunt Plateau) to Zion Canyon and eastward to the type area (N. and P. Holmgren in Cronquist et al. 1977). Acc. Welsh (1989b), “[t]his is a plant of hanging gardens and moist shaded defiles almost throughout Zion National Park.” Iron Co. record based on the following specimens: O’Neil Gulch (*Bowns s.n.* in year?, Southern Utah Univ.; cited by N. and P. Holmgren 1989); Cedar Breaks Natl. Monument, uncommon near northwestern boundary in the Tri Story Canyon area (*Jean 1111*, Cedar Breaks herbarium housed at Zion Natl. Park). Ditypic genus, treated in *AUF2* (Goodrich in Welsh et al. 1993) in the family Saxifragaceae, and by N. and P. Holmgren (in Cronquist et al. 1997) in the family Hydrangeaceae.

Jamesia tetrapetala N. & P. Holmgren

“four-petaled cliff-bush” Philadelphaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G2/S1

Distribution: MIL; NV

Notes: For original description see *Brittonia* 41: 348. 1989. A shrub of limestone cliffs and talus, known in Utah only from the House Range, Millard Co. *J. tetrapetala* is otherwise restricted to several isolated mtn. Ranges in eastern Nevada, including the Highland Range of Lincoln Co., the Grant Range of northeastern Nye Co., and the Snake Range of White Pine Co. (N. and P. Holmgren 1989; N. and P. Holmgren in Cronquist et al. 1997). A collection from the Ruby Mtns., Elko Co.,

Status Category: Rare

Nevada, has been reported as *J. americana* Torrey & Gray (Kartesz 1987; see also Lewis 1971). Is this *J. americana* var. *macrocalyx* (Small) Engler or, perhaps, *J. tetrapetala*? Ditypic genus, treated in *AUF2* (Goodrich in Welsh et al. 1993) in the family Saxifragaceae, and by N. and P. Holmgren (in Cronquist et al. 1997) in the family Hydrangeaceae.

Lepidium alyssoides A. Gray var. junceum Rollins

“Lee’s Ferry pepper-wort”

Brassicaceae

Federal Status: None

UTNHP Rank: G5?T1T3/S1S3

Distribution: KAN, SNJ; AZ

Notes: For original description see *Cruciferae Continent. N. Amer.* 546. 1993. Utah specimens cited by Rollins (1993): Kane Co., Kanab (*Eastwood and Howell 9286*, GH); San Juan Co., Cottonwood Canyon north of Bluff, talus slopes (*Maguire et al. 5811*, GH). Otherwise known from the type collection on rocky hillside near water, Lee’s Ferry, Colorado River, Coconino Co., Arizona (*Greenhalgh s.n.* in 1947; holotype GH). Acc. Rollins (1993), var. *junceum* is distinguished by its nearly glabrous aspect, its lower lvs. which are remotely pinnate with narrowly linear lobes; and its pedicels which are mostly arched downward. A recently described and poorly known entity; rangewide distribution and status information needed.

Lepidium barnebyanum Reveal

“Barneby’s pepper-wort”

Brassicaceae

Federal Status: LE

UTNHP Rank: G1/S1

Distribution: DUC

Notes: For original description of *L. montanum* ssp. *demissum* C.L. Hitchc., see *Madroño* 10: 157. 1950. For current treatment see *Great Basin Nat.* 27: 178. 1967. Type from Duchesne Co., 4 miles southwest of Duchesne, white shale benches and hilltops at 5900 feet elev. (*Ripley & Barneby 8699*; holotype WTU, isotypes CAS, NY, US). Acc. USFWS (1993b), *L. barnebyanum* is a local endemic in Duchesne Co., “on either side of Indian Creek about 5 kilometers (3 miles) south of Starvation Reservoir and the town of Duchesne.... The species is known from one population with three distinct stands with a total range of about 8 km (5 miles) across on the Uintah and Ouray Reservation.” The same source estimated the total population at about 5000 plants over an area of less than 500 acres. The habitat was described as “a discontinuous series of marly shale barrens on three ridgelines at an elevation of 1,890 to 1,980 meters (6,200 to 6,500 feet) ... in a zone of interbedding geologic strata from the Uinta and Green River Formations.”

Lepidium huberi Welsh & Goodrich

“Huber’s pepper-wort”

Brassicaceae

Federal Status: None

UTNHP Rank: G1G2/S1S2

Distribution: UIN; CO?

Notes: For original description see *Great Basin Nat.* 55: 359. 1995. Type from Uintah Co., Big Brush Creek Gorge (*Huber 2400*; holotype BRY). *L. huberi* is a narrow endemic on the southeastern flank of the Uinta Mtns. in Uintah Co., northeastern Utah. Most of the collections cited by Welsh

Status Category: Rare

and Goodrich (1995) are from ponderosa pine forest in the Red Mtn. vicinity, north of Vernal. These authors also tentatively included a collection from Moffat Co., Colorado (south of Hamilton, R. & K. Rollins 8387, BRY). Acc. Welsh and Goodrich (1995), the most noteworthy characteristics of *L. huberi* are the very woody base and shrubby overall habit, deeply lobed lower cauline leaves, and relatively small silicles.

Lepidium integrifolium Nutt. ex Torrey & Gray var. heterophyllum S. Watson

“Cedar Canyon pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G2T1?/S1?

Distribution: IRO, MIL, PIU, SEV

Notes: Treated in *AUF2* (Welsh et al. 1993) as *L. montanum* var. *h.* (S. Watson) C.L. Hitchc., Madroño 3: 307. 1936. For alternative treatment as *L. montanum* ssp. *h.* (S. Watson) C.L. Hitchc., see Madroño 10: 158. 1950. Type from Iron Co., near Cedar City (*Parry 16*; holotype GH, isotypes F, MO, PH). Evidently a plant of rocky slopes and crevices, the distribution cited by Rollins (1993) as “oak brush, lower hill slopes, canyons; south central Utah.” Var. *heterophyllum* is a poorly known entity, the following collections seen at BRY: Iron Co., Cedar Canyon (*Cottam 3968, Thorne 4482*), 5 miles south of Utah Hwy. 14 on Kolob Rd. (*R. & D. Foster 4566*); Millard Co., Canyon Mtns., Lyman Canyon (*Goodrich 14316*), Oak Creek canyon (*Johnson 376*); Piute Co., Tushar Mtns., near mouth of Bullion Canyon (*Taye 3320*); Sevier Co., Monroe Creek canyon, ca. 3 miles southeast of Monroe (*Welsh et al. 17573*). Additional distribution and status information needed.

Lepidium integrifolium Nutt. ex Torrey & Gray var. integrifolium

“meadow pepper-wort” Brassicaceae

Federal Status: BLM **UTNHP Rank:** G2T1?/S1?

Distribution: BEA, RIC, SNP, SEV; AZ?, ID?, WY

Notes: Treated in *AUF2* (Welsh et al. 1993) as *L. montanum* var. *i.* (Nutt. ex Torrey & Gray) C.L. Hitchc., Madroño 3: 313. 1936. For alternative treatment as *L. montanum* ssp. *i.* (Nutt. ex Torrey & Gray) C.L. Hitchc., see Madroño 10: 158. 1950. Type locality indefinite, on “plains toward the Columbia” (*Nuttall s.n.*; holotype GH, isotypes NY, PH). The type of *L. utahense* M.E. Jones is from Milford, Beaver Co. (*Jones 1821*; holotype POM, isotypes BRY, F, GH, MO, NY, UT), and the type of *L. zionis* A. Nelson is from Richfield, Sevier Co. (*Jones 5411*; holotype RM, isotypes BRY, MO, NY, POM, UC, US). A plant of low-elevation saline meadows, var. *integrifolium* is restricted to south-central Utah, extreme northern Utah, and southwestern Wyoming. Very questionable Uintah Co. record based on a collection from “Carter, Uintah County” (*Jones s.n.* in 1896, POM; cited in Hitchcock 1936), but Lenz (1986) reported this collection locality as found in Uinta Co., Wyoming. There have been no collections of var. *integrifolium* from Beaver, Sanpete, or Sevier cos. since 1940, and acc. *AUF2* “[t]here is a very real possibility that the species is now extinct in south-central Utah.” Three collections from the early 1980's (*Welsh 20674, K. & J. Thorne 1390, Neese et al. 14582*; all at BRY) suggest that var. *integrifolium* may yet persist along the Bear River in Rich Co. Since the Bear River also passes through extreme southeastern Idaho, it seems possible that var. *integrifolium* may eventually be found in that state. Doubtful Arizona record based

Status Category: *Rare*

on a collection from “Ft. Verde” (*Mearns 309*, NY; questionably cited by Hitchcock 1936 under *L. montanum* var. *integrifolium*). Field survey needed.

Lepidium montanum Nutt. ex Torrey & Gray var. alpinum S. Watson

“Wasatch pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G5?T1/S1

Distribution: SAL, TOO?

Notes: For alternative treatment as ssp. *alpinum* (S. Watson) C.L. Hitchc., see Madroño 10: 158. 1950. Type from the Wasatch Mtns. (*Watson 122*; holotype GH, isotypes NY, US). Var. *alpinum* is restricted mainly to Big and Little Cottonwood canyons in the central Wasatch Range (Salt Lake Co.), where it grows in rock crevices at elevations from 7000 (?) to 10,000 feet. It was noted in 1947 as “[f]requent” on slopes above Lake Blanche in Big Cottonwood Canyon (*A. Holmgren et al. 7116*; BRY, UT, UTC). Rollins (1993) also reported this variety as occurring in the Oquirrh Mtns. (Tooele Co.), apparently based on a historical collection (*Jones s.n.* in 1893, NY; cited in Hitchcock 1936). In *AUF2* (Welsh et al. 1993), var. *alpinum* was also reported from Box Elder Co., apparently based on two specimens from low elevations in the vicinity of the Rosebud BLM Field Station (*Cottam 3069*, BRY; *Jensen 251*, UTC). However, examination of these collections has revealed that they are taprooted and therefore do not correspond to Watson’s type, which has a much-branched, “decidedly perennial rootstock.”

Lepidium montanum Nutt. ex Torrey & Gray var. claronense Welsh

“Casto Canyon pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G5?T1?/S1?

Distribution: GAR, KAN, PIU

Notes: For original description see *Rhodora* 95: 401. 1993 [1994]. Type from Garfield Co., Casto Canyon (*Atwood et al. 13744*; holotype BRY, isotype BRY). County distribution as reported in *AUF2* (Welsh et al. 1993). A recently described and poorly known entity, the following specimens cited by Welsh (1993) in addition to the type (all at BRY): Garfield Co., along the Sevier River ca. 5 km south of Antimony (*Higgins et al. 14271*), near mouth of Dry Wash (*Anderson 552*); Kane Co., ca. 6 km east of Hwy. 89 on road to Alton, ponderosa pine community (*Atwood 9471*); Piute Co., Dry Fork Canyon, ca. 8 km northeast of Antimony (*Welsh et al. 14124*). The varietal epithet, *claronense*, refers to the Claron Formation limestone, but evidently the plants are not restricted to that substrate. Additional distribution and status information needed.

Lepidium montanum Nutt. ex Torrey & Gray var. neeseae Welsh & Reveal

“Neese’s pepper-wort” Brassicaceae

Federal Status: (3C), FS **UTNHP Rank:** G5?T2/S2

Distribution: GAR

Notes: For original description see *Great Basin Nat.* 37: 334. 1977. Type from Garfield Co., Hell’s Backbone (*Neese & White 3332*; holotype BRY, isotypes NY, UT). Var. *neeseae* is endemic in the Hell’s Backbone vicinity (Garfield Co.), where it is abundant in sandy soils and near outcrops of

Status Category: Rare

Navajo Sandstone (Franklin 1989b). Only four occurrences are known, each covering a large area and containing several discrete subpopulations. Plants from Claron Formation limestone on the Paunsaugunt Plateau, formerly referred to var. *neeseae*, were recently segregated by Welsh (1993) as var. *claronense*.

Lepidium ostleri Welsh & Goodrich

“Ostler’s pepper-wort” Brassicaceae

Federal Status: (C2), BLM **UTNHP Rank:** G1/S1

Distribution: BEA

Notes: For original description see Great Basin Nat. 40: 80. 1980. Type from Beaver Co., San Francisco Mtns., Grampian Hill (*Ostler & Anderson 1258*; holotype BRY). Endemic to outcrops of chalk-white limestone in the San Francisco Mtns., Beaver Co. Acc. Kass (1992b), “[o]ne population of *L. ostleri* is known at Grampian Hill proper, and individuals from presumably this same population are located about four-miles north of Grampian Hill, on the west slope of the San Francisco Mountains, below Frisco Peak.” The same author estimated the total population size at 700 individuals over approx. 400 acres of occupied habitat, but he also suggested that this is an underestimate since “the plants were very scattered and somewhat difficult to locate.”

Lesquerella garrettii Payson

“Garrett’s bladderpod” Brassicaceae

Federal Status: (C2), FS **UTNHP Rank:** G2/S2

Distribution: SAL, UTA, WAS

Notes: Type from Salt Lake Co., Big Cottonwood Canyon (*Garrett 1344*; holotype MO, isotypes GH, MO [fragment], RM). Acc. Tuhy (1991b), *L. garrettii* occurs in scattered locations confined to a 25-mile length of the central Wasatch Mtns., from Big Cottonwood Canyon on the north to Provo Peak on the south (including portions of Salt Lake, Utah, and Wasatch cos.); the elevational range of known occurrences is from 8900 to 11,400 feet. Reports of *L. garrettii* from Davis Co. (Albee et al. 1988, Welsh et al. 1993) are evidently based on misidentified specimens of *L. occidentalis* S. Watson. Tuhy (1991b) also noted that *L. garrettii* “is usually fairly scarce in its locations; most occurrences were seen to contain only a few tens of plants, and none were seen that contained more than several hundred.” The total population of *L. garrettii* was estimated at 4250 plants; however, it was also mentioned that this is probably an underestimate and that additional occurrences will likely be found.

Lesquerella goodrichii Rollins

“Goodrich’s bladderpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G2G4/S1?

Distribution: MIL, ?; NV

Notes: For original description see J. Arnold Arbor. 64: 503. 1983. Type from Millard Co., Tunnel Spring Range (*Goodrich 16951*; holotype GH, isotypes BRY, NY, UTC). Rollins (1993) cited the distribution of *L. goodrichii* as “mountains of west central Utah and east central Nevada.”

Status Category: *Rare*

Additional Utah locality cited by Rollins (1983a): Millard Co., Canyon Mtns., Lyman Canyon, 7.75 miles east of Oak City, *Goodrich 16883* (BRY, GH, NY, UTC), *17949* (BRY). *AUF2* (Welsh et al. 1993) did not recognize *L. goodrichii*, treating it instead as a synonym of *L. occidentalis* var. *cinerascens* Maguire & Holmgren. Acc. Rollins (1983a), “[t]he strongly flattened siliques of *Lesquerella goodrichii* indicate a close relationship to *L. occidentalis* S. Watson, and these two species are indeed similar in many respects. However, the trichomes are decidedly different... It is with some hesitation that I have cited the two collections from the Canyon Mountains under *Lesquerella goodrichii*. Although these plants have the same trichome type as those from the Desert Experimental Range, the leaf-blades are much broader and of a different shape, and they usually have two broad teeth instead of being entire... Additional material with mature fruits is required from the Canyon Mountain area to see whether a minor taxon should be recognized under *L. goodrichii*.” Additional data needed on distribution and status in Nevada; move to watch list?

Lesquerella hemiphysaria Maguire var. lucens Welsh & Reveal

“Range Creek bladderpod”

Brassicaceae

Federal Status: None**UTNHP Rank:** G4T1/S1**Distribution:** CAR, EME?, ?

Notes: For original description see *Great Basin Nat.* 37: 338. 1977. Endemic to the West Tavaputs Plateau, Carbon Co. (Rollins 1993, Welsh et al. 1993), the type from Range Creek canyon (*Welsh & Taylor 15139*; holotype BRY, isotype UTC). *AUF2* (Welsh et al. 1993) noted that “plants in the population at the head of Range Creek vary from glabrous to sparingly pubescent; possibly they do not warrant taxonomic recognition, but they are isolated from the remainder of the species.” A few collections from the eastern side of the Wasatch Plateau, Emery Co. (near forks of Huntington Canyon, *Harrison 8166*, UT; East Mtn., *Albee 5316*, UT; Long Point - Gentry Ridge area, *Lewis 7247*, UTC) are also possibly referable to var. *lucens*; the Harrison specimen was annotated in 1941 by Dr. Bassett Maguire as “note subglabrate capsule.”

Lesquerella tumulosa (Barneby) Reveal

“Kodachrome Basin bladderpod”

Brassicaceae

Federal Status: LE**UTNHP Rank:** G1Q/S1**Distribution:** KAN

Notes: For original description see *Leaflet West. Bot.* 10: 313. 1966. For current treatment see *Great Basin Nat.* 30: 97. 1970. Type from Kane Co., 6.5 miles southeast of Cannonville (*Barneby 14424*; holotype NY, isotypes BRY, CAS, GH, UC, US, UTC). Locally endemic in Kane Co., on white, barren shale knolls (Winsor Member of the Carmel Formation) in pinyon-juniper communities south of Kodachrome Basin (Franklin 1990d). The same author estimated the population size at nearly 20,000 plants based on field work in May 1989. “[T]here are two occurrences, with a combined area of approximately 45 acres, within which more than 95% of *L. tumulosa* is concentrated.” Acc. Rollins and Shaw (1973) and Rollins (1993), *L. tumulosa* is not distinct from *L. rubicundula* Rollins. The taxonomy and relationships of *L. tumulosa* and related species are currently under study by Elaine Barton, a grad. student of Dr. Michael Windham at the Univ. of Utah in Salt Lake City.

Status Category: *Rare*

Leymus simplex (Scribner & Williams) D.R. Dewey

“Green River wild-rye” Poaceae

Federal Status: None **UTNHP Rank:** G4?Q/S1

Distribution: DAG; CO, WY

Notes: For current treatment see Brittonia 35: 32. 1983. Treated in *AUF2* (Arnow in Welsh et al. 1993) as *Elymus s.* Scribner & Williams. In Utah, this rhizomatous perennial grass is known only from Daggett Co., in sandy areas along the Green River (A. and N. Holmgren in Cronquist et al. 1977, Barkworth and Atkins 1984, Goodrich and Neese 1986, Arnow in Welsh et al. 1993). The distribution map provided by Barkworth and Atkins (1984, p. 618) suggests that the range of *L. simplex* in Colorado is limited to the eastern portion of the San Juan/La Plata Mtns., along or near the upper Rio Grande. Dorn (1992) reported that *E. simplex* in Wyoming is divisible into var. *simplex* (Albany and Sweetwater cos.) and var. *luxurians* Scribner & Williams ex Scribner (Sweetwater Co. only). Barkworth and Atkins (1984) treated *L. simplex* at species level but noted that additional data may show that it would be more appropriately treated at an infraspecific rank under *L. triticoides* (Buckley) Pilger. Treated by Weber and Wittmann (1992) as a synonym of *E. triticoides* Buckley, without discussion. Rangewide distribution and status information needed; taxonomic problem?

Lomatium graveolens (S. Watson) Dorn & Hartman var. clarkii Welsh

“Zion desert-parsley” Apiaceae

Federal Status: (C2), BLM **UTNHP Rank:** G5?T1/S1

Distribution: WSH

Notes: For original description see Mem. New York Bot. Gard. 64: 126. 1990. Type from Washington Co., Zion Canyon, West Rim trail, south end of Horse Pasture Plateau (*Higgins 18293*; holotype BRY, isotypes CAS, NY, POM, RM, US, UT, UTC). Cronquist et al. (1997) did not recognize var. *clarkii*, treating it instead as a synonym of *L. graveolens* var. *alpinum* (S. Watson) Dorn & Hartman. Acc. Welsh (1990a), “[c]ollections taken from Zion and Kolob canyons in Washington County, Utah have large purple-black petals and large schizocarps. They ordinarily have the lower leaves ternate-pinnate as in var. *alpinum* from Nevada. It is these specimens, which combine characteristics of [var. *graveolens* and var. *alpinum*], that are ... designated as var. *clarkii*.”

Lomatium latilobum (Rydb.) Mathias

“Canyonlands desert-parsley” Apiaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: GRA, SNJ; CO

Notes: For alternative treatment as *Aletes latiloba* (Rydb.) W.A. Weber, see Phytologia 55: 5. 1984. Type from Grand Co., near Wilson Mesa (*Rydberg & Garrett 8371*; holotype NY, isotypes US, UT). *L. latilobum* is endemic to southeastern Utah (Grand and San Juan cos.) and adjacent Mesa Co., Colorado (Franklin 1996b, Weber and Wittmann 1996a, Cronquist et al. 1997). Acc. Franklin (1996b), there are 13 occurrences in Utah, of which six are located at least partly on BLM lands and contain an estimated 3600 plants. The same author noted that “[a]t several locations in southeastern

Status Category: Rare

Utah sandstone ‘fins’ occur as an effect of erosion along vertical fracture lines in Entrada Sandstone, e.g., Devil[’]s Garden, Fiery Furnace and Behind the Rocks. The expanded fracture lines, now narrow ‘slot canyons’, separate the narrow fins and provide the major habitat in which *Lomatium latilobum* grows. In the Sand Flat area and in Mill Creek Canyon, Navajo Sandstone has weathered similarly and provides habitat for scattered plants.... At all locations it grows in sandy soil or in sandstone crevices on slopes of variable gradient. Aspect is also variable, the sheltered, cool nature of the habitat being the more significant feature.”

Lupinus latifolius Agardh ssp. leucanthus (Rydb.) Kenney & Dunn

“Springdale lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G5T2T3/S1

Distribution: WSH; AZ

Notes: For current treatment see Trans. Missouri Acad. Sci. 10/11: 100. 1977. Type from Washington Co., Springdale (*Jones 5249e*; holotype US, isotypes BRY, DS, MO, NY, POM, RM, UC). Acc. *AUF2* (Welsh et al. 1993), *L. latifolius* in Utah is known only from Zion Natl. Park. Acc. Welsh (1989b), *L. latifolius* “is one of the most rare plant species to occur in Zion Canyon.... [T]he plant is currently known from Oak and Birch creeks reentries only. The plants are at least locally abundant in each of those canyons where they grow well on stream terrace sands and gravels.” The overall distribution of ssp. *leucanthus* was cited by Vaughn and Dunn (1977) as “known only from NW Arizona and adj. Utah.” Kearney and Peebles (1951) referred the Arizona plants to *L. parishii* (C.P. Smith) Eastw. [= *L. latifolius* ssp. *p.* (C.P. Smith) Kenney & Dunn] and reported the distribution as “Williams (Coconino County), Prescott (Yavapai County), 5,000 to 7,000 feet, at Prescott along a stream in partial shade.... Most of the Arizona specimens have a whitish or ochroleucous corolla, whereas *L. parishii* was described from violet-flowered California specimens.” Both Barneby (1989) and *AUF2* have treated the Utah specimens as belonging to the var. *columbianus* (Heller) C.P. Smith, which otherwise ranges through the Pacific Northwest. Additional data needed on distribution and status in Arizona. Taxonomy and relationships of ssp. *leucanthus* recently under study by a grad. student at Northern Arizona Univ., Flagstaff (Romey Haberle 1994, pers. comm.).

Lygodesmia grandiflora (Nutt.) Torrey & Gray var. entrada (Welsh & Goodrich) Welsh

“Entrada skeleton-weed”

Asteraceae

Federal Status: (C2), BLM

UTNHP Rank: G4G5T1Q/S1

Distribution: EME, GRA

Notes: For original description see Great Basin Nat. 40: 83. 1980. For current treatment see Rhodora 95: 399. 1993 [1994]. Type from Grand Co., 15 miles west-northwest of Moab, Tusher Canyon (*Welsh et al. 16725*; holotype BRY, isotypes NY, UT). Emery Co. record based on a 1978 collection from the eastern base of San Rafael Swell, north of Hwy. I-70 near the road to Black Dragon Wash (*Despain 401*, BRY). The following collections from Arches Natl. Park (Grand Co.) have also been referred to var. *entrada*: Fiery Furnace (*Welsh & Moore 2006*, BRY); sand dunes 1000 ft. North of Courthouse Wash bridge (*Allen 132*, BRY); ca. 4 miles north of Park headquarters,

Status Category: Rare

between Tower of Babel and Balanced Rock (*Shaw 4328*, UTC). Acc. Welsh (1993), var. *entrada* is closely allied to var. *arizonica* (Tomb) Welsh. Cronquist (1994) treated var. *entrada* as a synonym of var. *dianthopsis* (D.C. Eaton) Welsh, without discussion.

Mentzelia goodrichii Thorne & Welsh

“Goodrich’s blazing-star” Loasaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: DUC

Notes: For original description see *Rhodora* 95: 407. 1993 [1994]. Type from Duchesne Co., West Tavaputs Plateau, Badland Cliffs, breaks north of Argyle Canyon (*Goodrich 23806*; holotype BRY, isotypes CAS, GH, MO, NY, POM, RM, US, UT, UTC). Acc. *AUF2* (Thorne and Welsh in Welsh et al. 1993), *M. goodrichii* is a local endemic in Duchesne Co. where restricted to steep slopes on whitish calcareous shale of the Green River Formation, along the escarpment of Willow and Argyle canyons. Several locations for this species were found in 1995 in the Anthro Mtn. area, West Tavaputs Plateau (documented by S. Goodrich and A. Huber collections at BRY).

Mentzelia multicaulis (Osterh.) Goodman var. librina Thorne & F. Smith

“Book Cliffs blazing-star” Loasaceae

Federal Status: (C2), BLM **UTNHP Rank:** G2G3T1Q/S1

Distribution: CAR, EME

Notes: For original description see *Great Basin Nat.* 46: 556. 1986. Type from Emery Co., Book Cliffs, mouth of Horse Canyon (*Smith 2700*; holotype BRY, isotypes UT, UTC). Acc. *AUF2* (Thorne and Welsh in Welsh et al. 1993), var. *librina* is endemic in eastern Carbon and Emery cos. where restricted to the Mancos Shale and Price River Formations along the western margin of the Book Cliffs. Acc. Thorne and Smith (1986), the habitat of var. *librina* “is isolated both spatially and geologically from the [main] body of distribution for [*M. multicaulis*] in the Uinta Basin.... [Var. *librina*] differs from *M. multicaulis* var. *multicaulis* in its more robust habit of growth, trilobed leaves, rarely 4-5 lobed, and winged seeds 3-3.5 mm long. The cauline leaves are predominantly trilobed, with the pair of lateral lobes near the base of the blade, and with the terminal lobe very long and narrow.” Frank Smith (1997, pers. comm.) reported that there is more variability in *M. multicaulis* (sensu lato) than was previously appreciated, and that the var. *librina* may no longer deserve taxonomic recognition; additional study needed.

Mentzelia shultziorum Prigge

“Shultzes’ blazing-star” Loasaceae

Federal Status: (C2), BLM **UTNHP Rank:** G1/S1

Distribution: GRA

Notes: For original description see *Great Basin Nat.* 46: 361. 1986. Type from Grand Co., along Onion Creek in Fisher Valley (*L. & J. Shultz 2070*; holotype UTC, isotypes RSA, UT). Acc. Smith (1994b), *M. shultziorum* is endemic to Grand Co., where there are seven populations known from southeast of the Colorado River in the vicinity of Fisher Valley, Professor Valley, and Castle Valley.

Status Category: *Rare*

The same author estimated the total population at 5500 plants but noted that additional potential habitat remains to be searched. “The largest known populations are Onion Creek with approximately 2000 plants, and the West Porcupine Canyon population with about 2500 individuals.” The habitat was described as “moderate to very steep slopes of the Paradox and Moenkopi formations. The soils are either a silty clay loam or a silty loam.”

Opuntia basilaris Engelm. & Bigelow var. heilii Welsh & Neese

“Heil’s beavertail-cactus” Cactaceae

Federal Status: None **UTNHP Rank:** G5T2?/S2?

Distribution: EME, GAR?, WAY

Notes: For original description see Great Basin Nat. 43: 700. 1983 [1984]. Type from Wayne Co., north of Henry Mtns., Blue Benches southwest of Hanksville (*Neese 5938*; holotype BRY). Neese (1981) reported that *O. basilaris* “grows in abundance on clay barrens on the Blue Benches north of the [Henry] Mountains; its occurrence there and in similar habitat about 40 miles to the north in Goblin Valley represents a range extension.” Acc. Welsh and Neese (1983), var. *heilii* is found “on saline soils [at] the southern end of the San Rafael Swell and the north end of the Henry Mountains. The remainder of the species is far to the south and southwest of this area.” Emery Co. collections cited by Welsh and Neese (1983), both at BRY: San Rafael Swell, Keesle Country, near Delta Mine (*Harris 833*); 8.8 km west-northwest of Goblin Valley campground (*Neese & Mutz 11715*). Questionable Garfield Co. record as reported by Benson (1982, p. 419) for var. *basilaris*.

Oreoxis trotteri Welsh & Goodrich

“Trotter’s spring-parsley” Apiaceae

Federal Status: (C2), BLM **UTNHP Rank:** G1/S1

Distribution: EME, GAR?, GRA

Notes: For original description see Great Basin Nat. 45: 34. 1985. For alternative treatment as *Cymopterus t.* (Welsh & Goodrich) Cronquist, see Cronquist et al. (1997). Type from Grand Co., 20 km northwest of Moab (*Welsh & Trotter 22729*; holotype BRY). Franklin (1988b) reported that “*O. trotteri* is endemic to the vicinity of Courthouse Rock in Grand County, Utah. At this Courthouse Mesas location, it occurs on the ‘Slickrock’ or Main Body of Entrada Sandstone on the east slope of Courthouse Rock and on Navajo Sandstone on the flat below. It is most abundant, though, on the white sandstone Moab Tongue of the Entrada Formation.” Emery Co. record based on a 1996 collection from near the town of Green River (*Franklin 8127*, to be accessioned). Questionable Garfield Co. record based on a locality north of Escalante, reported by Cronquist et al. (1997) but possibly based on misidentified specimens of *Aletes macdougalii* Coulter & Rose.

Oxytropis deflexa (Pallas) DC. var. pulcherrima Welsh & Huber

“alpine loco-weed” Fabaceae

Federal Status: None **UTNHP Rank:** G5T2T3/S1S2

Distribution: DAG, DUC, SUM, UIN?; CO, ID?, NM

Status Category: Rare

Notes: For original description see Great Basin Nat. 55: 277. 1995. Type from Duchesne Co., Uinta Mtns., 1.8 mile due southwest of Upper Stillwater Reservoir, head of Log Hollow (*Huber 1673*; holotype BRY). Acc. Welsh and Huber (in Welsh 1995), var. *pulcherrima* has a bipartite distribution from alpine sites in the Uinta Mtns. (Daggett, Duchesne and Summit cos.) and similar, but higher, areas in the southwestern Colorado Rockies (Chaffee and Gunnison cos.). Questionable Idaho record based on a report of var. *deflexa* from the “Bear Lake Plateau in se. Idaho” (Barneby 1989). New Mexico record as reported by Sivinski (1993), based on two collections from Rio Arriba Co. (*Sivinski & Lightfoot 1769*, NMC; *Sivinski 1929*, UNM; = var. *pulcherrima* acc. Roalson and Allred 1995b). As discussed by Welsh and Huber (in Welsh 1995), the plants named as var. *pulcherrima* “[have] been regarded in contemporary treatments ... as var. *deflexa*. Specimens of var. *deflexa* from Siberia ... have elongate racemes, smaller flowers, and more slender pods.” Rangelwide distribution and status information needed; move to watch list?

Pediocactus despainii Welsh & Goodrich

“San Rafael pincushion-cactus” Cactaceae

Federal Status: LE

UTNHP Rank: G2/S2

Distribution: EME

Notes: For original description see Great Basin Nat. 40: 83. 1980. Acc. USFWS (1995), *P. despainii* is endemic to the San Rafael Swell in Emery Co.; type from road to The Wedge overlook (*Despain 266a*; holotype BRY, isotype NY). The same source reported that three populations are known with the total number of individuals estimated at 20,000. The species grows in open pinyon-juniper woodland and is edaphically restricted to limestone gravels of the Carmel Formation and the Sinbad Member of the Moenkopi Formation; one population is on shale barrens derived from the Brushy Basin Member of the Morrison Formation (Welsh et al. 1993, USFWS 1995).

Pediocactus sileri (Engelm. ex Coulter) L. Benson

“Siler’s pincushion-cactus” Cactaceae

Federal Status: LT

UTNHP Rank: G3/S1

Distribution: KAN, WSH; AZ

Notes: For current treatment see Cactus & Succ. J. 33: 53. 1961. *P. sileri* ranges from near Fredonia, Coconino Co., Arizona, westward to near St. George, Washington Co., Utah. Its distributional center is in Mohave Co., Arizona (Hreha and Meyer 1994b), where it was reported as “[l]ocally common in the vicinity of Pipe Springs” (Kearney and Peebles 1951). In Utah, the species is restricted to a few locations in southeastern Washington Co. and one site in southwestern Kane Co., about 10 miles east of Kanab (Hreha and Meyer 1994b). The same authors described the habitat of *P. sileri* as “gypsiferous sandy or clay soils derived from the Moenkopi Formation.” Downlisted from Endangered to Threatened status on Dec. 27, 1993 (58 FR 68480).

Status Category: *Rare*

Pediocactus winkleri Heil

“Winkler’s pincushion-cactus” Cactaceae

Federal Status: PE, BLM **UTNHP Rank:** G1/S1

Distribution: EME, SEV?, WAY

Notes: For original description see Cactus & Succ. J. 51: 28. 1979. Type from Wayne Co., east of Capitol Reef (*Winkler s.n.* in year?; holotype UNM). Acc. USFWS (1995), “[t]he range of [*P. winkleri*] forms a narrow arc which extends from the vicinity of Notom in central Wayne County to the vicinity of Last Chance Creek in extreme southwestern Emery County, ... with an outlier population near Ferron ... in western Emery County.” The same source reported that the species is known from six populations with the total number of individuals estimated at 5000. Neese Investigations (1987, p. 30) also provided a tentative report of *P. winkleri* from the vicinity of Fremont Junction in eastern Sevier Co. The species inhabits salt desert scrub communities and is edaphically restricted to fine-textured, saline substrates weathered from the Dakota Formation and the Brushy Basin Member of the Morrison Formation (Welsh et al. 1993, USFWS 1995). *P. winkleri* was proposed as an endangered species on October 6, 1993 (58 FR 52062).

Pediomelum aromaticum (Payson) W.A. Weber var. aromaticum

“Paradox bread-root” Fabaceae

Federal Status: None **UTNHP Rank:** G3T2?/S1

Distribution: EME?, GRA; CO

Notes: For current treatment see Phytologia 53: 188. 1983. In Utah, var. *aromaticum* is definitely known only from Grand Co. The Emery Co. record is based on *Psoralea rafaelsensis* var. *magna* M.E. Jones (type from San Rafael Swell, *Jones s.n.* in 1914; syntypes CAS, DS, NY, UC), but this locality was questioned in *AUF2* (Welsh et al. 1993). Plants from San Juan Co. have been segregated as var. *tuhyi* Welsh. The var. *aromaticum* is otherwise infrequent on adobe hills in Mesa and Montrose cos., Colorado (Weber and Wittmann 1996a).

Pediomelum aromaticum (Payson) W.A. Weber var. barnebyi Welsh

“Barneby’s bread-root” Fabaceae

Federal Status: None **UTNHP Rank:** G3T1?Q/S1

Distribution: KAN?, WSH; AZ

Notes: For original description see Rhodora 95: 404. 1993 [1994]. Type from Washington Co., Hildale (*Welsh & Thorne 25586*; holotype BRY, isotypes CAS, GH, MO, NY, POM, RM, US, UT, UTC). Acc. Welsh (1993), var. *barnebyi* is locally abundant on fine-textured substrates of the Chinle Formation, from the southern base of Canaan Mtn. near Short Creek (Washington Co.) eastward to the vicinity of Moccasin, Mohave Co., Arizona. The source of the Kane Co. record [cited by Barneby (1989) for *P. aromaticum* (sensu lato)] is unknown but may represent this variety. Barneby (1989) and Grimes (1990) noted that the plants from southwestern Utah and adjacent Arizona are unusually robust; they added, however, that some specimens from throughout the range of *P. aromaticum* attain the same size, and there is no character by which the Canaan Mtn. populations can be recognized as distinct. Acc. *AUF2* (Welsh et al. 1993), “[t]his plant is far

Status Category: Rare

removed from the nearest populations of the species... Its variations are in the order of magnitude of varietal differences in this and other genera.”

Pediomelum aromaticum (Payson) W.A. Weber var. tuhyi Welsh

“Tuhy’s bread-root” Fabaceae

Federal Status: (C2), BLM **UTNHP Rank:** G3T1Q/S1

Distribution: SNJ

Notes: For original description see Great Basin Nat. 46: 257. 1986. Type from San Juan Co., Rone Bailey Mesa (*Welsh & Neese 23500*; holotype BRY, isotypes NY, UT). Acc. *AUF2* (Welsh et al. 1993), var. *tuhyi* is endemic to San Juan Co. where, in addition to the type locality, it is known from the Canyonlands overlook and Six-shooter Peak vicinities. Barneby (1989) and Grimes (1990) did not recognize var. *tuhyi*, treating it instead as a synonym of *P. aromaticum* (sensu lato). Acc. *AUF2*, “[t]his variety has been discounted by recent workers in the genus. It does, however, demonstrate more than a mere trend in variation--the plants are isolated from the main body of the species to the north and east, and the flowers are consistently smaller. Even though occasional specimens [of var. *aromaticum*] have flowers approaching the size of those in [var. *tuhyi*], they are generally larger. And, the prostrate-ascending stems of var. *tuhyi* are not due to the plants growing on unstable slopes. Quite the contrary is true; the substrates are quite stable, often with roots in crevices in bedrock.”

Pediomelum epipsilum (Barneby) Welsh

“Kanab bread-root” Fabaceae

Federal Status: (C2), BLM **UTNHP Rank:** G1/S1

Distribution: KAN; AZ

Notes: For original description see Leaflet. West. Bot. 3: 193. 1943. For current treatment see Great Basin Nat. 46: 257. 1986. For alternative treatment as *Pediomelum megalanthum* var. *e.* (Barneby) Grimes, see Brittonia 38: 185. 1986. Type from Kane Co., 17 miles east of Kanab, towards Jepson Spring (*Ripley & Barneby 4832*; holotype CAS, isotype K). Acc. Welsh and Eliason (1995), “this rather narrow endemic ... is local on the Moenkopi Formation from its type locality, ca 6 miles east of Johnson Canyon, to the vicinity of Pipe Springs in adjacent Arizona (Coconino Co.). The population east of Johnson Canyon is along the old highway to Glen Canyon. Where that roadway crosses the Moenkopi Formation[, *P. epipsilum*] grows not only on the formation proper, but up through the graveled, sparingly travelled roadway. There are hundreds, if not thousands of individuals scattered through a sparse juniper woodland.”

Penstemon abietinus Pennell

“fir-lvd. beard-tongue” Scrophulariaceae

Federal Status: (3C) **UTNHP Rank:** G2G3/S2S3

Distribution: SEV, UTA

Notes: Type from Sevier Co., head of Salina Canyon, Ireland Ranch, elev. 8000 ft. (*Jones 5440*; holotype US, isotypes BRY, F, GH, MO, NY, RM, UC). N. Holmgren (in Cronquist et al. 1984) cited the distribution as “[l]oose, limestone-derived gravelly soil, usually in pinyon-juniper-oak

Status Category: Rare

communities ...; Fish Lake Plateau, Sevier Co., with a collection at BRY [*Markham 8958*] from Spanish Fork Canyon, Utah Co., Utah.” Occurs in “scattered colonies” (Keck 1937). Earlier reports of *P. abietinus* from Nevada are apparently in error, probably based on misidentified specimen(s) of *P. linarioides* A. Gray. Additional distribution and status information needed; move to watch list?

Penstemon acaulis L.O. Williams var. acaulis

“stemless beard-tongue” Scrophulariaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G3T2/S1

Distribution: DAG; WY

Notes: Acc. Franklin (1992d), “*Penstemon acaulis* var. *acaulis* is a narrowly endemic plant taxon that occurs in northeastern Utah and adjacent Wyoming. It is known from the vicinity of the town of Manila, Daggett County, west to Phil Pico Mountain, and then north to the vicinity of Mc[K]innon, Wyoming (Sweetwater Co.)” The same author estimated the total number of plants in the “hundreds of thousands” and described the habitat as “black sagebrush-grass-forb communities on substrates of silty sand and gravelly soils. Stemless penstemon grows on surfaces that are flat to 35 degrees and of no specific aspect.” Plants from Brown’s Park and vicinity in easternmost Daggett Co. (adjacent to the Colorado border) are both geographically and morphologically transitional to *P. acaulis* var. *yampaensis* (Penland) Neese. The report of var. *acaulis* from Moffat Co., Colorado, cited in *AUF2* (Neese in Welsh et al. 1993), is assumed to be in error, probably based on misidentified specimen(s) of var. *yampaensis*.

Penstemon ammophilus N. Holmgren & L. Shultz

“sand-loving penstemon” Scrophulariaceae

Federal Status: (C2), BLM **UTNHP Rank:** G2/S2

Distribution: GAR, KAN, WSH

Notes: For original description see *Brittonia* 34: 381. 1982. Type from Washington Co., Canaan Mtn. (*Shultz & Anderson 5349*; holotype UTC, isotypes BRY, NY, RSA). Acc. Welsh and Eliason (1995), *P. ammophilus* also occurs in Kane Co. along the base of the White Cliffs at least as far east as Johnson Canyon and Mollies Nipple where “[t]he plants grow in white, Navajo blowsand, typically with scattered ponderosa pine.” Disjunct Garfield Co. record based on a 1984 collection from near Death Hollow in a deep canyon tributary to Mamie Creek (*Neely & Warner 1941*, UTC).

Penstemon angustifolius Pursh var. dulcis Neese

“Little Sahara beard-tongue” Scrophulariaceae

Federal Status: (C2), BLM **UTNHP Rank:** G5T2/S2

Distribution: JUA, MIL

Notes: For original description see *Great Basin Nat.* 46: 459. 1986. Type from Millard Co., 10 km south-southwest of Oak City, western base of Canyon Mtns. (*Goodrich 15403*; holotype BRY, isotype UT). Acc. *AUF2* (Neese in Welsh et al. 1993), var. *dulcis* is endemic to sand dune habitats in Juab and Millard cos. Hreha (1995) documented four general areas (in addition to the type locality) where var. *dulcis* has been found: (1) West Hills near Nephi (Juab Co.); (2) Little Sahara

Status Category: Rare

Recreation Area near Lynndyl (Juab Co.); (3) north of Delta near the Intermountain Power Plant (Millard Co.); and (4) northeastern base of Cricket Mtns. southwest of Delta (Millard Co.). The same author described the habitat as sandy soils on flats or gentle slopes formed from stabilized sand dunes; most sites are on western exposures and are vegetated by Utah juniper (*Juniperus osteosperma*) and big sagebrush (*Artemisia tridentata*) or greasewood (*Sarcobatus vermiculatus*) communities. Of the 14 sites inventoried during the 1993 field season, eight sites supported fewer than 25 individuals and two sites had more than 100 individuals; the largest population (along Hwy. 174 east of the Intermountain Power Plant) was estimated at greater than 500,000 individuals.

Penstemon bracteatus Keck

“Red Canyon beard-tongue”

Scrophulariaceae

Federal Status: (C2), FS

UTNHP Rank: G2/S2

Distribution: GAR, IRO, KAN

Notes: Type from Garfield Co., Red Canyon (*Eastwood & Howell 783*; holotype CAS, isotype GH). A plant of clay soils weathered from semi-barren outcrops of Claron Formation limestone, *P. bracteatus* is endemic to southwestern Utah where most of the known occurrences are on the Paunsaugunt Plateau (Garfield Co.) with an outlying population on the western foothills of the Escalante Mtns. east of Widtsoe (*Higgins et al. 14283*, BRY; *Neese 15754*, BRY; *Kieffer 36*, UT). Iron Co. record based on two collections from the western base of the Markagunt Plateau: across from Vermillion Castle Campground, approx. 1.2 miles from State Hwy. 143 on U.S. Forest Service Route 049 (*Kieffer 62*, UT); and on hills just east of Parowan Cemetery (*Kieffer 65*, UT). Kane Co. record based on collections from 1 airmile northwest of Podunk Guard Station (*Atwood et al. 13604*, BRY); and 0.7 mile southwest of the intersection of U.S. Forest Service Routes 107 and 087 (East Fork Sevier River Rd.) on the west side of Route 107 (*Kieffer 41*, UT).

Penstemon compactus (Keck) Crosswhite

“Maguire’s penstemon”

Scrophulariaceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G2/S2

Distribution: CAC; ID

Notes: For original description see Amer. Midl. Nat. 23: 615. 1940. For current treatment see Amer. Midl. Nat. 77: 6. 1967. Type from Cache Co., Bear River Range, stony slopes of Mt. Naomi, eastern exposure (*Maguire 16148*; holotype UTC, isotype DS). *P. compactus* is endemic to the Bear River Range, Cache Co., and adjacent Franklin Co., Idaho (Franklin 1990c, Moseley and Mancuso 1990, Moseley 1991, Neese in Welsh et al. 1993), with a disjunct occurrence in the upper Blacksmith Fork drainage near Mollen’s Hollow (Cache Co.) documented by two collections (*Tuhy 2447*, BRY; *Stone & Smith 1806*, UT). Acc. Franklin (1990c), *P. compactus* “is restricted to ledges of limestone and dolomite and to rocky, shallow-soiled areas with bedrock often visible. It occurs in mountain brush to spruce-fir communities at elevations ranging from 7120 to 9700 feet.” He further noted that the largest population surveyed was in the Naomi Peak vicinity with an estimated 1000-10,000 plants. A collection from the Wellsville Mtns., Cache Co. (*Flowers 201*, UT), cited by Keck (1940), was more recently regarded by N. Holmgren (in Cronquist et al. 1984) as a high-elevation form of

Status Category: Rare

P. cyananthus Hook. Another depauperate specimen from Mt. Timpanogos, Utah Co. (Garrett 3695; BRY, UT) was determined by the collector as *P. leonardii* Rydb. and annotated as *P. compactus* by F.S. Crosswhite in 1969. The specimen at UT bears a 1977 annotation by N. Holmgren as “*P. affin. cyananthus.*” *P. compactus* and *P. cyananthus* have the same chromosome number ($2n = 16$); the two taxa generally have different elevational ranges but in certain localities have been found growing in close proximity to one another with no apparent introgression (Maguire in Keck 1940, N. Holmgren in Cronquist et al. 1984). The name *P. cyananthus* var. *compactus* (Keck) Neese appears in *AUF1* (Neese in Welsh et al. 1987, p. 588), but there is some question whether the combination has been validly published.

Penstemon duchesnensis (N. Holmgren) Neese

“Duchesne beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G1G2/S1S2

Distribution: DUC

Notes: For original description see *Brittonia* 31: 219. 1979. For current treatment see *Great Basin Nat.* 46: 459. 1986. *P. duchesnensis* is endemic to the western Uinta Basin in Duchesne Co. (Holmgren 1979, N. Holmgren in Cronquist et al. 1984, Neese in Welsh et al. 1993), the type from 10 miles east of Duchesne on U.S. Hwy. 40 (N. Holmgren et al. 8762; holotype NY, isotypes BRY, UT, UTC). The distribution was cited by Goodrich and Neese (1986) as “[l]ocally common on gravel slopes for about 10 mi on either side of Duchesne in pinyon-juniper communities; 5,400-6,600 ft. ...The low gray-puberulent plants sometime[s] form large colorful patches along the roadside.”

Penstemon flowersii Neese & Welsh

“Flowers’ beard-tongue” Scrophulariaceae

Federal Status: (C2), BLM **UTNHP Rank:** G2/S2

Distribution: DUC, UIN

Notes: For original description see *Great Basin Nat.* 43: 429. 1983. Type from Uintah Co., 5.6 km west of Randlett (Neese & White 8609; holotype BRY, isotypes CAS, MIN, NY, RM, US, UTC). Acc. *AUF2* (Neese in Welsh et al. 1993), *P. flowersii* is endemic to the central Uinta Basin in the vicinity of Roosevelt and Myton (Duchesne and Uintah cos.). Heil and Melton (1995b) reported that *P. flowersii* is found in shadscale communities on clay-rich to silty soils weathered from the Uinta Formation. The same authors estimated the total population at 15,000 to 20,000 plants but noted that additional potential habitat on the Uintah and Ouray Indian Reservation remains to be surveyed. Their study found the highest density of plants at a location northeast of Windy Ridge and southeast of Independence, and at another site 1 mile northwest of Myton near the Dry Gulch Canal. Other sites mentioned as having moderately high plant density are south of Roosevelt, north of Myton, and northeast of Bridgeland.

Status Category: *Rare***Penstemon franklinii Welsh**

“Ben’s beard-tongue”

Scrophulariaceae

Federal Status: (C2+), BLM**UTNHP Rank:** G1/S1**Distribution:** IRO

Notes: For original description see *Rhodora* 95: 414. 1993 [1994]. Type from Iron Co., northern end of Cedar Valley ca. 10 km due northwest of Enoch (*Franklin & Armstrong 7662*; holotype BRY, isotypes CAS, GH, MO, NY, POM, RM, US, UT, UTC). In addition to the type locality, *P. franklinii* is known by a second occurrence from the northern end of Cedar Valley ca. 10 airmiles west-northwest of Summit, between it and Horse Hollow (*Franklin 1994a*). The same author described the habitat for the species as “a grass-forb community with scattered *Artemisia nova*,” on recent colluvial and alluvial deposits [the pinkish hue indicating that they are weathered from nearby isolated low hills of Claron Formation limestone?]. Acc. Ben Franklin (unpubl. data), the two known locations contain a combined total of fewer than 5000 individual plants covering approx. 350 acres, with little likelihood for discovery of additional occurrences.

Penstemon gibbensii Dorn

“Gibbens’ beard-tongue”

Scrophulariaceae

Federal Status: (C2), BLM**UTNHP Rank:** G1/S1**Distribution:** DAG; CO, WY

Notes: For original description see *Brittonia* 34: 334. 1982. A plant of semi-barren slopes and low ridges, *P. gibbensii* is known in Utah only from Brown’s Park (*Anderson & Smith 89-137*, *Smith & Anderson 3230*; both at BRY) where it inhabits clay soils weathered from white shale (*Dorn 1990a*). The species is otherwise known from adjacent Moffat Co., Colorado, and from three populations in Sweetwater and Carbon cos., south-central Wyoming (*Dorn 1992*, *Fertig and Neighbours 1996*). Earlier reports of *P. gibbensii* from the Piceance Basin of Rio Blanco Co., Colorado (*O’Kane 1988*) were based on misidentified specimens of *P. fremontii* var. *glabrescens* (*Dorn and Lichvar 1990*). Rangelwide, the occupied habitat of *P. gibbensii* covers no more than 100 acres (*Dorn 1990a*), and the total population has been estimated at 8600 to 8900 individuals (*Fertig and Neighbours 1996*).

Penstemon goodrichii N. Holmgren

“Goodrich’s beard-tongue”

Scrophulariaceae

Federal Status: (C2), BLM**UTNHP Rank:** G2/S2**Distribution:** DUC, UIN

Notes: For original description see *Brittonia* 30: 416. 1978. Type from Uintah Co., 3.7 km east of Lapoint on bluffs of Halfway Hollow, along Utah Hwy. 121 (*N. Holmgren et al. 8760*; holotype NY, isotypes BRY, UT, UTC). *P. goodrichii* is endemic to the central Uinta Basin (*Duchesne and Uintah cos.*), specifically in the Lapoint-Tridell-Whiterocks area (*Holmgren 1978*, *N. Holmgren in Cronquist et al. 1984*, *Neese in Welsh et al. 1993*). Acc. Heil and Melton (*1995c*), the species is found in clay-rich to silty or sandy clay soils weathered from the blue-gray and red sandy members of the Duchesne River Formation. The same authors noted that “[t]he plants are most common on the bluish-gray member of the Duchesne River Formation growing on steep to moderately steep

Status Category: Rare

hills.... The highest density was found north of Tridell and approximately 2.5 miles east/northeast of Lapoint.... Other sites with a moderately high density are south of Tridell, and west of Tridell.” The total population was estimated at 15,000 to 25,000 plants.

Penstemon grahamii Keck

“Graham’s beard-tongue” Scrophulariaceae

Federal Status: C, BLM **UTNHP Rank:** G2/S2

Distribution: CAR, DUC, UIN; CO

Notes: Type from Uintah Co., west side of the Green River, south of the mouth of Sand Wash, elev. 4500 ft. (*Graham* 7883; holotype CM). *P. grahamii* is endemic and uncommon in the Uinta Basin acc. Goodrich and Neese (1986), “sporadically present on white to tan, steep, barren, shale slopes and ridges ... of the Green River Formation in se. Uintah Co., on Raven Ridge near Mormon Gap in Rio Blanco Co. [Colorado], and in the vicinity of Sand Wash along the Green River near the Carbon-Uintah Co. line.” Acc. Neese and Smith (1982), “[d]istribution of the species runs in a narrow band along the exposure of the Green River Formation for about 50 miles in southern Uintah County.” Carbon Co. record based on a collection from mesa above the Green River south of Sand Wash, 5500 ft. elev. (*Neese* 5249, BRY). Duchesne Co. records documented (apparently without voucher specimens) during a 1992 field survey in the area west of the confluence of the Green River and Sand Wash (Franklin 1993d). The highest concentration of plants documented to date is in the Sunday School Canyon area, Willow Creek drainage, Uintah Co. (see Shultz and Mutz 1979).

Penstemon idahoensis Atwood & Welsh

“Idaho penstemon” Scrophulariaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: BOX; ID

Notes: For original description see Great Basin Nat. 48: 496. 1988. In Utah, *P. idahoensis* occurs in the vicinity of Goose Creek, Box Elder Co.; the species is otherwise known only from adjacent Cassia Co., Idaho (Atwood et al. 1991, Neese in Welsh et al. 1993). Acc. Baird et al. (1991), “*Penstemon idahoensis* appears to be endemic to a small region of southern Idaho, just crossing into Utah. The species appears to be restricted to particular outcroppings of the Salt Lake Formation that have a tuffaceous nature.... The bulk of *Penstemon idahoensis* populations occur in the southern portion of Cassia County, Idaho.”

Penstemon leonardii Rydb. var. patricus (N. Holmgren) Neese

“Art Holmgren’s penstemon” Scrophulariaceae

Federal Status: (3C) **UTNHP Rank:** G4G5T2/S2

Distribution: JUA, MIL, TOO; NV

Notes: For original description see Brittonia 31: 238. 1979. For current treatment see Great Basin Nat. 46: 460. 1986. Type from Juab Co., Deep Creek Mtns., Thom’s Creek Canyon (*N. Holmgren et al.* 9018; holotype NY, isotypes BRY, UT, UTC). Acc. N. Holmgren (in Cronquist et al. 1984), var. *patricus* is known in Utah from the Deep Creek Mtns. (Juab and Tooele cos.) and the House

Status Category: Rare

Range (Millard Co.). The same author cited the habitat as “cracks and crevices of granite cliffs and rocky slopes” and reported the range as extending to the Kern Mtns., White Pine Co., eastern Nevada. Acc. *AUF2* (Neese in Welsh et al. 1993), var. *patricus* passes into typical *P. leonardii* through intermediate populations in the Canyon Range of eastern Millard Co.

Penstemon marcusii (Keck) N. Holmgren

“Castle Valley beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G1G2/S1S2

Distribution: CAR, EME

Notes: For current treatment see Brittonia 31: 105. 1979. Type of *P. pseudohumilis* M.E. Jones [1908, not Rydb. 1900] from Carbon Co., “in clay soil at Price,” elev. 4900 ft. (*Jones s.n.* in 1898; holotype POM). *P. marcusii* is a narrow endemic in the Castle Valley area between the towns of Price and Emery (western Carbon and Emery cos.). Acc. *AUF2* (Neese in Welsh et al. 1993), the species inhabits gravelly clay soils weathered from Mancos Shale.

Penstemon navajoa N. Holmgren

“Navajo Mtn. penstemon” Scrophulariaceae

Federal Status: (C2) **UTNHP Rank:** G1/S1

Distribution: SNJ

Notes: For original description see Brittonia 30: 419. 1978. *P. navajoa* is a narrow endemic on the upper portion of Navajo Mtn., San Juan Co. (Holmgren 1978, N. Holmgren in Cronquist et al. 1984, Neese in Welsh et al. 1993), the type from near the summit at 3050 to 3160 m elev. (*N. & P. Holmgren 8587*; holotype NY, isotypes BRY, UTC). The plants inhabit rocky areas in open forests of ponderosa pine, Douglas-fir, and subalpine fir (N. Holmgren in Cronquist et al. 1984).

Penstemon parvus Pennell

“Aquarius penstemon” Scrophulariaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G2/S2

Distribution: GAR, PIU, SEV, WAY?

Notes: Type from “The Button, Aquarius Plateau (Garfield or Wayne County), Utah, altitude 3,400 to 3,500 meters” (*Ward 546*; holotype US). Recent collections from the Aquarius Plateau are evidently all from Garfield Co. (Albee et al. 1988, Neese in Welsh et al. 1993). Piute Co. record based on a collection from the Parker Mtn. area, 6 miles east of Angle (*Welsh et al. 14173*, BRY). The Sevier Co. record is from the UM Plateau (Franklin 1989c, Neese in Welsh et al. 1993). Acc. Franklin (1989c), “*P. parvus* is found in open areas on a substrate that is a mixture of Tertiary volcanic gravel and loamy soil. The habitat is open sagebrush meadow.... Additional area of potential habitat exists on Monroe Mountain” [Sevier Co.].

Status Category: *Rare*

Penstemon pinorum L. & J. Shultz

“pinyon penstemon” Scrophulariaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: IRO, WSH

Notes: For original description see Brittonia 37: 98. 1985. Type from Iron Co., 5 miles (8 km) southwest of Newcastle, 0.3 mile (0.5 km) due north of Dixie Natl. Forest boundary, 5600 ft. (1700 m) elev. (*J. Shultz 2551*; holotype UTC, isotype NY). Acc. Franklin (1994a), “*Penstemon pinorum* is a narrow endemic restricted, almost exclusively, to the Claron Formation on the north slope of the Pine Valley Mountains [Iron and Washington cos.]... To the northeast of Old Irontown its range extends to the Red Hills, into Joel Spring Canyon, and onto the east slope of the Antelope Range.” The same author estimated the total population at 50,000 plants distributed among eight discrete occurrences. The habitat was described as “slopes of various degree and aspect in pinyon-juniper-mountain brush communities.” Acc. Kass (1995), “*P. pinorum* is common and more abundant along steeper north-facing slopes, and widely scattered on lower drainages that drain steeper upper slopes. It sometimes occurs along main wash bottoms. Elevation range is from 5600-6700 ft. ... *P. pinorum* has been documented as growing more vigorously in shaded area[s] under the canopy of pinyon-juniper and tall shrubs. It has also been documented as growing in open areas in full sunlight, but not as abundant[ly] or vigorous[ly] (Franklin per[s]. comm. 1995).”

Penstemon scariosus Pennell var. albifluvis (England) N. Holmgren

“White River beard-tongue” Scrophulariaceae

Federal Status: C, BLM **UTNHP Rank:** G4T1/S1

Distribution: UIN; CO

Notes: For original description see Great Basin Nat. 42: 367. 1982. For current treatment see Intermt. Fl. 4: 442. 1984. Type from Uintah Co., ca. 2.5 airmiles south of Bonanza and 1 mile upstream from Ignatio bridge on north bank of White River (*England 2046*; holotype BRY, isotype UT). Goodrich and Neese (1986) cited the distribution of var. *albifluvis* as “extreme e. Uintah Co. and closely adjacent Colorado on shale barrens of the Green River Formation.... Locally common.... Plants in the Big Pack Mt. area are transitional to var. *garrettii* (Pennell) N. Holmgren.” Acc. Franklin (1995c), var. *albifluvis* “ranges, in Utah, in scattered occurrences from Ignatio bridge northeast along the White River nearly to the Utah/Colorado state line and south to Weaver Canyon, Hell[']s Hole Canyon [r]idge and into the drainages of Evacuation Creek in the vicinity of Park Canyon, Rainbow and Watson.” The same author estimated the total population at 22,780 plants distributed among 14 discrete occurrences and covering an area of about 200 acres. The habitat of var. *albifluvis* was described as “semi-barren areas on white or infrequently red soils of both Evacuation Creek and Parachute Creek members of the Green River Formation.... The soils are xeric, shallow, fine textured and usually mixed with fragmented shale.”

Status Category: *Rare*

Penstemon scariosus Pennell var. cyanomontanus Neese

“Blue Mtn. beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4T2/S2

Distribution: UIN; CO

Notes: For original description see Great Basin Nat. 46: 460. 1986. Type from Uintah Co., Blue Mtn. Plateau, elev. 2350 m (*Neese et al. 11808*; holotype BRY). The distribution of var. *cyanomontanus* was cited by Goodrich and Neese (1986) as “[c]ommon in crevices of exposed sandstone bedrock on the summit of Blue Mt. and adjacent Colorado.” Neese (1986) cited a Colorado collection from Moffat Co., top of Douglas Mtn. (*Brown 194*, BRY). Naumann (1990) documented 10 occurrences in the Colorado portion of Dinosaur Natl. Monument and reported the elevational range as 5520 to 8720 feet. Taxonomic problem?

Perityle specuicola Welsh & Neese

“alcove rock-daisy” Asteraceae

Federal Status: (C2), BLM **UTNHP Rank:** G1/S1

Distribution: GRA, SNJ

Notes: For original description see Great Basin Nat. 43: 373. 1983. Type from Grand Co., 2 miles due north of Moab, elev. 1220 m, hanging garden (*Welsh 16283*; holotype BRY, isotype UT). Franklin (1992e) reported that “*Perityle specuicola* is a narrowly endemic plant species that occurs in the Colorado Plateau of southeastern Utah. It is known only from the canyons of the Colorado River from its confluence with the Dolores River on the north (Grand County) to its confluence with Dark Canyon on the south (San Juan County)... *Perityle specuicola* has become known from two general localities: 1) along the Colorado River Canyon near Moab, from Bootlegger Canyon on the south to Pole Canyon on the north; and 2) within Glen Canyon National Recreation Area, in Cataract and Dark Canyons.” The same author noted that *P. specuicola* “grows in alcove communities and, at one location, in a narrow, protected canyon. In its alcove habitat, [the species] receives minimal to no direct sunlight through the day, grows in crevices of walls, and noticeably prefers locally drier sites, avoiding seepage areas. In Pole Canyon, [*P. specuicola*] is open to periods of direct light through the day, grows in crevices of ledges and walls, and is isolated from seepage areas. Geologic formations with which it is associated are the Navajo and Wingate Sandstones and the ‘Rico Formation’; it appears to be habitat specific not substrate specific.”

Phacelia anelsonii J.F. Macbr.

“Aven Nelson’s phacelia” Hydrophyllaceae

Federal Status: (3C) **UTNHP Rank:** G2G3/S1

Distribution: WSH; NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “[m]ostly in sheltered places, as along the n. side of cliffs and ledges, ... s. Nev. (Clark, Nye, and Lincoln cos.) and adj. sw. Utah (Washington Co.) w. to Inyo and San Bernardino cos., Calif.; not common.” Most of the known locations in Utah are from the Beaver Dam Wash area or the western slope of the Beaver Dam Mtns. (specimens at BRY), but there is also a collection of *P. anelsonii* from the Virgin River basin ca. 2

Status Category: *Rare*

miles west of Virgin [town], sandy soil (*Wood 140*, BRY). Rare in Nevada (Kartesz 1987). Rare in Calif. (Wilken et al. in Hickman 1993). Rangewide distribution and status information needed; move to watch list?

Phacelia argillacea Atwood

“clay phacelia”

Hydrophyllaceae

Federal Status: LE**UTNHP Rank:** G1/S1**Distribution:** GRA?, UIN?, UTA; CO?

Notes: For original description see *Phytologia* 26: 437. 1973. Annual to biennial herbs, apparently restricted to clay soils weathered from Green River shale in Spanish Fork Canyon, Utah Co.; type from Clear Creek (*Atwood et al. 3091*; holotype BRY, isotypes BRY, GH, NY, RM, UC, US, UT, UTC). Acc. Harper and Armstrong (1992), the first collection of the clay phacelia was made by Marcus E. Jones in 1883 at a site southeast of Soldier Summit called Pleasant Valley Junction (now known as Colton). The vicinity has been searched, but the population has not been relocated and may be extirpated; it is also possible that the directions given by Jones were very general and that *P. argillacea* never existed at that particular locality. The species was collected by Jones a second time in 1894 at a locality west of Soldier Summit called Clear Creek (later named Tucker). Field surveys in recent years have extended the known distribution of *P. argillacea* from the original Tucker population (“small site”) southwest approx. 200 yards across U.S. Hwy. 6 (“main site”) and about 5 miles west to what has been termed the “Water Hollow-Garner Canyon population” (consisting of an “upper” and “lower” site); two additional nearby sites were later discovered (Franklin and Tuhy 1989, Harper and Armstrong 1992). The known populations are quite small, and rosettes typically outnumber mature plants by two orders of magnitude, suggesting that the soil seed bank is critical for persistence of *P. argillacea* (Franklin and Tuhy 1989, Callister and Van Pelt 1992). Acc. *AUF2* (Atwood in Welsh et al. 1993), *P. argillacea* “is a very close ally of *P. glandulosa* Nutt. and might be better combined with it.” Plants identified as *P. glandulosa* from Green River shale in eastern Utah (Grand and Uintah cos.) and adjacent Colorado (Garfield and Rio Blanco cos.) have the seeds excavated on only one side of the ventral ridge, suggesting that they might properly belong to *P. argillacea* (F. Smith 1997, pers. comm.); additional research is needed.

Phacelia cronquistiana Welsh

“Cronquist’s phacelia”

Hydrophyllaceae

Federal Status: None**UTNHP Rank:** G1/S1**Distribution:** KAN; AZ?

Notes: For original description see *Rhodora* 95: 402. 1993 [1994]. Type from Kane Co., 4.5 km east of [Skutumpah-Alton] junction on road to Cannonville, head of Johnson Canyon, elev. 1920 m, on clay outcrops in pinyon-juniper-sagebrush community (*Atwood 9458*; holotype BRY). Acc. Welsh and Eliason (1995), *P. cronquistiana* is “endemic to the Skutumpah Terrace and vicinity [Kane Co.], where it occurs mainly on the Winsor Member of the Carmel Formation.” Additional Kane Co. collection cited by Welsh (1993): 4.5 km east of Hwy. 89 on road to Alton, ponderosa pine community, elev. ca. 2100 m (*Atwood 9472*; BRY, UTC). Additional Kane Co. collections cited by

Status Category: Rare

Welsh and Eliason (1995): topotypes (*Atwood 1800, 1803*; both at BRY), junction of Threemile Hollow and Glendale [Bench?] road (*K. & J. Thorne 10806*, BRY). Acc. Welsh (1993), “similar, and perhaps identical material was collected in 1993 by N.D. Atwood from near Mt. Trumbull in Arizona.”

Phacelia indecora J.T. Howell

“Bluff phacelia”

Hydrophyllaceae

Federal Status: 3B

UTNHP Rank: G1/S1

Distribution: SNJ

Notes: For original description see Amer. Midl. Nat. 29: 12. 1943. Type from San Juan Co., Bluff (*Jones s.n.* in 1919; holotype POM, isotype CAS). Acc. Howell (1943, p. 9), *P. indecora* is closely related to *P. pulchella* A. Gray and is probably “an ecologic segregate growing in the cliff gardens on the bluffs of the San Juan River.” Cronquist et al. (1984) treated *P. indecora* as a synonym of *P. lemmonii* A. Gray, but acc. *AUF2* (Atwood in Welsh et al. 1993), “the characters outlined by Howell, a student of the genus, seem more important than reduction to synonymy would indicate.” In addition to the type collection, the status report by Welsh (1978c) cited a collection from Wayne Co., 19 miles west of Hanksville (*Atwood 1363*, BRY). However, acc. Shultz (1984), “[recent?] collections ... filed as *P. indecora* are based on misidentification of *P. demissa* A. Gray.... This led, unfortunately, to further reports of *P. indecora* throughout the state, and to a report of *P. indecora* from northwestern New Mexico.... This error was caught before publication by R. Spellenberg, who correctly identified the specimen and reported *P. demissa* as a new record for [New Mexico].” True *P. indecora* was rediscovered in 1997 in hanging gardens along the lower San Juan River near Government Rapid (*Atwood et al. 22560, 23326*; both at BRY) and in 1998 at or near its type locality, in an alcove west of Cottonwood Creek approx. 1.7 airmiles northwest of Bluff (*Stone 2308*, UT).

Phacelia laxiflora J.T. Howell

“crevice phacelia”

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G2G3/S1

Distribution: WSH; AZ, NV

Notes: For original description see Leaf. West. Bot. 3: 95. 1941. For alternative treatment as *P. perityloides* var. *l.* (J.T. Howell) Cronquist, see Intermt. Fl. 4: 164. 1984. Acc. *AUF2* (Atwood in Welsh et al. 1993), *P. laxiflora* in Utah is restricted to the Virgin River Gorge and Blakes Lambing Grounds in Washington Co. A plant of shaded rock crevices and cliff bases on limestone, it otherwise ranges from the “Grand Canyon, Ariz., to the Virgin Mts. of Clark Co., Nev.” (Cronquist et al. 1984). The Arizona distribution was cited by Kearney and Peebles (1951) as “Grand Canyon and Havasu Canyon (Coconino County), near Emory Falls (Mohave County), ... type from near Toroweap Point [Grand Canyon, Mohave Co.]” Rare in Nevada (Kartesz 1987). Additional data needed on distribution and status in Arizona; move to watch list?

Status Category: *Rare*

Phacelia pulchella A. Gray var. atwoodii Welsh

“Atwood’s pretty” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5T1/S1

Distribution: KAN; AZ?

Notes: For original description see Rhodora 95: 403. 1993 [1994]. Type from Kane Co., ca. 10 km east of Johnson Canyon, south of Hwy. 89, Moenkopi Formation, juniper-sagebrush community (*Welsh & Thorne 24900*; holotype BRY). Acc. *AUF2* (Atwood in Welsh et al. 1993), var. *atwoodii* is endemic to western Kane Co.; the questionable Arizona record was reported by Welsh and Eliason (1995). Additional Kane Co. collections cited by Welsh (1993), all at BRY: The Cockscomb, south road, Carmel Formation (*Thorne & Zupan 10073*); T44S R5W S1 [= south of Hwy. 89 near Shinarump Cliffs] (*Thorne & Zupan 10125*); ca. 32 km east of Hwy. 89 along Alton Rd. (*Atwood 9470*). Additional Kane Co. collections cited by Welsh and Eliason (1995): topotype (*Welsh 25037*, BRY), T42S R2W S2 NW¼ [= north of Hwy. 89 along Paria townsite rd.] (*Kass & White 3360*, BRY). Acc. Welsh and Eliason (1995), var. *atwoodii* “grows with other annual species in the duff beneath junipers.”

Phacelia pulchella A. Gray var. sabulonum J.T. Howell

“Kaiparowits phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5T2?/S2?

Distribution: GAR, KAN

Notes: For original description see Amer. Midl. Nat. 29: 12. 1943. Type from Kane Co., Kaiparowits Plateau (*Tompkins s.n.* in 1939; holotype CAS). Most of the known locations for var. *sabulonum* are in eastern Kane Co., where it is locally common on gravelly benches and sandy wash bottoms in shadscale (*Atriplex confertifolia*) and greasewood (*Sarcobatus vermiculatus*) communities (Atwood in Welsh et al. 1993, Welsh and Eliason 1995; specimens at BRY). Garfield Co. record based on a collection from along the Notom road at its crossing of Bullfrog Creek, growing on salt-encrusted mud in a *Tamarix* community (*Neese & White 2899*, BRY).

Phacelia utahensis Voss

“Utah phacelia” Hydrophyllaceae

Federal Status: (C2), BLM **UTNHP Rank:** G2/S2

Distribution: CAR?, SNP, SEV

Notes: Type from Sanpete Co., Gunnison (*Jones s.n.* in 1910; holotype POM). Gypsophile, endemic to foothills of Arapien Shale along the eastern edge of the middle Sevier River Valley, Sanpete and Sevier cos. Widespread in that habitat but evidently common only following years of favorable rainfall. Cronquist et al. (1984, p. 190), in their discussion of *P. constancei* (sensu lato, incl. *P. rafaelsensis* Atwood), reported that collections from near Price, Carbon Co. (*Flowers 754*, *Flowers s.n.* in 1930; both at UT) “appear to be transitional toward *P. utahensis*.” *AUF2* (Atwood in Welsh et al. 1993) tentatively referred these Carbon Co. plants to *P. utahensis* and noted that they probably grew on the Mancos Shale.

Status Category: *Rare*

Phlox austromontana Cov. var. lutescens Welsh

“rimrock phlox” Polemoniaceae

Federal Status: None **UTNHP Rank:** G5T1/S1

Distribution: GAR, GRA, KAN?, SNJ

Notes: For original description see Great Basin Nat. 45: 792. 1985. Var. *lutescens* is endemic to southeastern Utah in the Canyonlands region, the type from Garfield Co., margin of Cataract Canyon along the Orange Cliffs road, east of Hwy. 95 (Welsh et al. 21972; holotype BRY). “[L]arge population” at the type locality, “growing in crevices in rimrock of Cedar Mesa Sandstone” (Welsh 1985). It is a poorly known entity, the following additional collections seen: Grand Co., Porcupine Rim northeast of Moab (Thorne et al. 4563, Franklin et al. 2881; both at BRY); San Juan Co., 0.4 mile past Ken’s Lake turnoff on La Sal Mtns. Loop Rd. (Franklin 1462, BRY), Amasa Back (Franklin 1578, BRY), Kane Springs Canyon (Franklin 2810, BRY), Brumley Ridge (Franklin et al. 3262A, BRY), Gypsum Canyon (Tuhy et al. 2997, UTC). A 1987 collection from Kane Co. (ca. 11 miles west-southwest of Bullfrog, upper Cow Canyon, Tuhy & Holland 3117, UTC) also apparently belongs to var. *lutescens* but needs expert confirmation.

Physaria acutifolia Rydb. var. purpurea Welsh & Reveal

“Book Cliffs twinpod” Brassicaceae

Federal Status: (3C) **UTNHP Rank:** G5T2Q/S2

Distribution: CAR?, DUC?, EME?, GRA, SEV?, UIN?, UTA?, WAS?

Notes: For original description see Great Basin Nat. 37: 345. 1977. Type from Grand Co., 5 miles north of Thompson, Sejo Canyon (Welsh 6902; holotype BRY). Rollins (1993) reported var. *purpurea* as endemic to “canyons and foothills of the Book Cliffs area of Grand County, Utah.” Questionable records from Carbon, Duchesne, Emery, Sevier, Uintah, Utah, and Wasatch cos. as reported in AUF2 (Welsh et al. 1993), which cited the distribution of var. *purpurea* as “rim of the Uinta Basin and Tavaputs Plateau, especially along the south and southwest [portions], and less commonly elsewhere.” AUF2 also treated *P. repanda* Rollins as a synonym of *P. acutifolia* var. *purpurea*, but Rollins (1993), while recognizing var. *purpurea*, continued to treat *P. repanda* as a distinct species. Overall, there is wide disparity in the circumscription and geographic distribution of this taxon as reported by Rollins (1993) and AUF2; additional study needed.

Physaria grahamii C. Morton

“Graham’s twinpod” Brassicaceae

Federal Status: (3C) **UTNHP Rank:** G1Q/S1

Distribution: CAR, DUC, GRA?, UIN, UTA?

Notes: Type from Uintah Co., Chandler Canyon (Graham 9976; holotype US, isotype CM). Treated in AUF2 (Welsh et al. 1993) as a synonym of *P. floribunda* Rydb. Rollins (1993) recognized *P. grahamii* as a distinct species and reported it as known only from the type area. Endemic to the Uinta Basin acc. Goodrich and Neese (1986), “rare or perhaps occasional; W. Tavaputs Plateau, from Indian Canyon [Duchesne Co.] to Sand Wash and s. to Range Creek [Carbon Co.]” Questionable Grand Co. record as mapped in Albee et al. (1988) for *P. floribunda*.

Status Category: *Rare*

Questionable Utah Co. record as reported in *AUF2*. Acc. Waite (1973), “[t]he type of [*P. grahamii*] is not altogether satisfactory because the fruits are immature. Its distinctiveness rests upon the fact that the entire plant is covered with loose, spreading stelae and large basal leaves deeply lobed along the margins.” Additional distribution and status information needed; taxonomic problem?

Physaria lepidota* Rollins var. *lepidota

“Mt. Carmel twinpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G3T2?Q/S2?

Distribution: KAN, WSH

Notes: For original description see *Brittonia* 33: 335. 1981. Endemic to south-central Utah (Rollins 1993), the type from Kane Co., 0.25 mile west of Mt. Carmel Junction (*R. & K. Rollins 79-198*; holotype GH, isotype BRY). Rollins (1981a) cited six specimens (including the type), all from northwestern and extreme western Kane Co. and adjacent extreme eastern Washington Co. *P. lepidota* treated in *AUF2* (Welsh et al. 1993) as a synonym of *P. chambersii* var. *membranacea* Rollins. Acc. Rollins (1981a), *P. lepidota* has “trichomes unlike any previously sampled [in the genus *Physaria*]. In this species, ... the trichomes are scalelike with only the tips of the rays free.” The same author noted that “*Physaria chambersii* Rollins commonly has both diploid and tetraploid races based on $x = 4$ but one hexaploid population near Orderville, Utah [was] reported by Mulligan [1967]. It is not known but is suspected that this population may be identifiable with *P. lepidota* rather than *P. chambersii*. Orderville is not far from the type station of *P. lepidota* and we have seen one collection (*Higgins 1214*) from there that is definitely *P. lepidota*. The one known count for *P. lepidota* is $n = 8$ [tetraploid] but this was made from a collection (*Rollins 6788*) from some distance farther west in Washington Co., Utah.”

***Physaria lepidota* Rollins var. *membranacea* (Rollins) Rollins**

“Red Canyon twinpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G3T2?/S2?

Distribution: GAR, KAN

Notes: For current treatment see *Brittonia* 33: 338. 1981. Type from Garfield Co., 16 miles west of Bryce Canyon Natl. Park, Red Canyon (*Rollins & Chambers 2448*; holotype GH, isotypes NY, RM, US). Treated in *AUF2* (Welsh et al. 1993) as *P. chambersii* var. *m*. Rollins (with *P. lepidota* Rollins listed as a synonym). Acc. Rollins (1981a), “the trichomes as well as the basal leaves are different from those of *P. chambersii* Rollins, and now that *P. lepidota* has been discovered, var. *membranacea* is naturally to be associated with that species. Evidently, var. *membranacea* is restricted in range to Bryce Canyon National Park and the immediate neighborhood. Its distinctiveness in relation to *P. chambersii* rests ... upon the erect linear-oblongolate basal leaves and the rather more fused trichomes. In the latter respect, var. *membranacea* is more like *P. newberryi* A. Gray than *P. chambersii*.”

Status Category: *Rare*

***Physaria newberryi* A. Gray var. *racemosa* Rollins**

“Bloomington twinpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G3G4T1?Q/S1?

Distribution: GAR?, GRA?, KAN?, SNJ?, WSH; AZ

Notes: For original description see Brittonia 33: 339. 1981. Type from Washington Co., 13.5 km south of St. George, 1 km north of the Arizona border on the Mokiah Pass road, red-sandy hills (*N. Holmgren et al. 9183*; holotype GH, isotype NY). Additional specimen cited by Rollins (1981a): Washington Co., Price City Hills, southeast of Bloomington on east side of Hwy. I-15 (*Atwood 6589*, BRY). Acc. Rollins (1981a), “[p]lants in southwestern Utah and northwestern Arizona are somewhat different from typical *Physaria newberryi*, which ranges from north-central to eastern Arizona and adjacent New Mexico.” Var. *racemosa* not distinct from *P. newberryi* acc. *AUF2* (Welsh et al. 1993), which reported a much wider distribution for the species in Utah than that given by Rollins; additional study needed.

***Physaria repanda* Rollins**

“Indian Canyon twinpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G1?Q/S1?

Distribution: CAR?, DUC, EME?, SEV?, UIN?, UTA?, WAS?

Notes: For original description see Contr. Gray Herb. 214: 11. 1984. Type from Duchesne Co., 22.5 miles southwest of Duchesne along U.S. Hwy. 191 (*Rollins et al. 83-117*; holotype GH, isotypes BRY, UTC). Additional specimen cited by Rollins (1984) from Indian Canyon, Duchesne Co. (*R. & K. Rollins 79-112*; BRY, GH). Acc. Rollins (1984), “[t]he siliques of *P. repanda* are densely covered with spreading trichomes and these appear as a whitish down on the young siliques. But the trichomes on the siliques of *P. acutifolia* Rydb. are closely appressed, fewer in number, and do not show as a whitish down on the young siliques. There is a marked difference in the radical leaves of these two species. Those of *P. repanda* are dentate to repand with a terminal lobe that is mostly wider than long whereas the radical leaves of *P. acutifolia* are entire and terminated by a blade which is longer than broad.” *AUF2* (Welsh et al. 1993) treated *P. repanda* as a synonym of *P. acutifolia* var. *purpurea* Welsh & Reveal, but Rollins (1993), while recognizing var. *purpurea*, continued to treat *P. repanda* as a distinct species. The two taxa do not even have the same flower color; additional study needed.

***Physaria stylosa* Rollins**

“long-styled twinpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G1/S1

Distribution: DUC?, UTA?, WAS

Notes: For original description see Contr. Gray Herb. 214: 14. 1984. Treated in *AUF2* (Welsh et al. 1993) as *P. acutifolia* var. *s.* (Rollins) Welsh, Great Basin Nat. 46: 255. 1986. Type from Wasatch Co., 23 miles northwest of Tabiona, Duchesne Ridge above Corral Hollow, West Fork Duchesne River drainage (*Goodrich 14905*; holotype GH, isotype BRY). Questionable Duchesne and Utah county records as reported in *AUF2*, but Ben Franklin (1997, pers. comm.) has examined

Status Category: *Rare*

Potamogeton foliosus Raf. var. fibrillosus (Fern.) Haynes & Reveal

“fibrous-stipuled pond-weed” Potamogetonaceae

Federal Status: None **UTNHP Rank:** G5T2T4/S1

Distribution: CAC, DUC, SUM, ?; ID, WY +

Notes: For current treatment see *Rhodora* 75: 76. 1973. A submerged aquatic herb with overall range from “nw. Calif., se. Oregon, sw. Wash., e. across s. Idaho and n. Utah to Yellowstone Natl. Park, Wyo.” (Reveal in Cronquist et al. 1977). Cache Co. record based on collections from slow-moving streams 3 miles northeast of Logan (*Maguire 16685*; CAN, MO, NY, UTC) and 2 miles northwest of Logan (*Maguire 21578*; DAO, F, GH, MICH, MO, NY, US, UTC), cited by Haynes and Reveal (1973) and Haynes (1974). Additional Utah collections seen: Duchesne Co., Uinta Mtns., Yellowstone River, Reservoir Campground (*Goodrich 19819*; BRY?, UT); Summit Co., Bridger Lake (*Peterson 154*, UTC). A collection from Grand Co., East Tavaputs Plateau, Hill Creek drainage, Weaver Reservoir (*N. Holmgren et al. 2358*; BRY, DAO, ILL, NY, UPS), identified at BRY as tending toward var. *fibrillosus*, was cited by Haynes (1974) as representative of typical *P. foliosus*. Var. *fibrillosus* rare in Calif. (Thorne in Hickman 1993, Skinner and Pavlik 1994); extirpated in Oregon (Skinner and Pavlik 1994); rare in Idaho (Davis 1952). Var. *fibrillosus* is distinguished from typical *P. foliosus* by its fibrous stipules, leaves with basal glands usually present, and fruits with poorly developed dorsal keel (Haynes and Reveal 1973, Haynes 1974; cf. Dorn 1988, p. 306). Rangewide distribution and status information needed; move to watch list?

Potentilla angelliae N. Holmgren

“Boulder Mtn. cinquefoil” Rosaceae

Federal Status: (C2), FS **UTNHP Rank:** G1/S1

Distribution: WAY

Notes: For original description see *Brittonia* 39: 342. 1987. Type from Wayne Co., Aquarius Plateau, 21 km (13 miles) south of Bicknell, near west rim of Boulder Mtn., 3350 m (11,000 ft) elev. (*N. & P. Holmgren 10623*; holotype NY, isotypes BRY, NY, UT, UTC). Acc. Holmgren (1987a), *P. angelliae* “is common in an open, sparsely vegetated, rocky subalpine meadow.” The same author noted that “*Potentilla angelliae* seems most closely to resemble *P. crinita* A. Gray, a species of sagebrush, pinyon-juniper, ponderosa pine, Gambel oak, and aspen communities in the adjacent lower elevations no higher than 2600 m (8500 ft).”

Potentilla cottamii N. Holmgren

“Cottam’s cinquefoil” Rosaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: BOX, JUA, TOO; NV

Notes: For original description see *Brittonia* 39: 340. 1987. Holmgren (1992) reported *P. cottamii* as “common” at its type locality near the summit of Pilot Peak, Elko Co., Nevada, elev. 10,400 feet. Holmgren (1987a) and Franklin (1994b) also provided a good discussion of the questionable record from the Utah portion of the Pilot Range (based on *Cottam 4538*, BRY). Acc. Franklin (1994b), the species is known in the Raft River Mtns. (Box Elder Co.) from three small occurrences over an

Status Category: Rare

elevation range from 8700 to 9740 feet, on outcrops of Precambrian rock (Upper Narrows Schist and Elba Quartzite). Dr. Noel Holmgren (NY) has confirmed the identification of two 1996 collections from the Deep Creek Mtns., Juab Co. (Ibapah Azimuth peak, elev. 11,900 ft.; *Stone 1927*, NY) and the Stansbury Mtns., Tooele Co. (*Franklin 8140*, NY). The Deep Creeks locality increases the known elevational range for *P. cottamii* by 1500 feet and represents the first time that the species has been found in association with granitic rocks. Dr. Robert Holland (1998, pers. comm.) did not find any new locations for *P. cottamii* during a 1996 survey in the mtns. of northeastern Nevada.

Primula domensis Kass & Welsh

“House Range primrose”

Primulaceae

Federal Status: (C2), BLM

UTNHP Rank: G1/S1

Distribution: MIL

Notes: For original description see *Great Basin Nat.* 45: 548. 1985. For alternative treatment as *P. cusickiana* ssp. *d.* (Kass & Welsh) J. Richards, see *Primula* 103. 1993. Acc. *AUF2* (Welsh et al. 1993), *P. domensis* is endemic to the House Range (Millard Co.), the type from Sawtooth Canyon, elev. 2590 m, limestone cliff faces in *Cercocarpus intricatus* - *Ephedra viridis* community (*R. & J. Kass 884*; holotype BRY, isotypes NY, POM, RM). Additional collections cited by Kass and Welsh (1985): Notch Peak, moist limestone cliffs at 2623 m (*Kass 289*, BRY); approx. same location, limestone cliffs at 2745 m (*Kass & White 473*; BRY, UT, UTC).

Primula maguirei L.O. Williams

“Maguire’s primrose”

Primulaceae

Federal Status: LT

UTNHP Rank: G1/S1

Distribution: CAC

Notes: For alternative treatment as *P. cusickiana* ssp. *m.* (L.O. Williams) J. Richards, see *Primula* 103. 1993. Type from Cache Co., 5 miles up Logan Canyon, on damp, overhanging rock ledges and in cracks (*B. & R. Maguire 3650*; holotype MO, isotypes UT, UTC). Acc. *Franklin* (1990e), “*P. maguirei* is endemic to the lower elevations of Logan Canyon, Cache County, Utah. It occurs in crevices and on ledges of north facing or well shaded south facing cliffs and boulders of the Laketown and Fish Haven [d]olomites.” Acc. *Padgett* (1986), the largest known population is on the north-facing slope near the mouth of the canyon and consists of “several hundred individuals.”

Psorothamnus arborescens (Torrey ex A. Gray) Barneby var. pubescens (Parish) Barneby

“House Rock Valley indigo-bush”

Fabaceae

Federal Status: None

UTNHP Rank: G5T2/S1

Distribution: KAN; AZ

Notes: For current treatment see *Mem. New York Bot. Gard.* 27: 38. 1977. Barneby (1989) cited the distribution of var. *pubescens* as “highly localized on sandstone bedrock upstream from Grand Canyon in n. Ariz.” and “endemic to House Rock Valley, n. Coconino Co., Ariz., on rocky knolls and talus under sandstone cliffs.” In Utah known by two collections, both from Kane Co.: infrequent along roadside between Glen Canyon City (Big Water) and Page, Ariz. (*Albee 853*, UT); *Gunsight*

Status Category: *Rare*

Bay, Lake Powell (*Welsh & Atwood 11591*, BRY). The epithet *arborescens* is a misnomer since the plants are shrubs no more than about 1 m tall.

Psorothamnus polydenius (Torrey ex S. Watson) Rydb. var. jonesii Barneby

“Jones’ indigo-bush” Fabaceae

Federal Status: (C2), BLM **UTNHP Rank:** G5T1T2/S1S2

Distribution: EME, GRA, WAY?

Notes: For current treatment see Mem. New York Bot. Gard. 27: 52. 1977. Lectotype of *Dalea nummularia* M.E. Jones from “Green River, Utah” (*Jones 28257*, POM; isolectotypes NY, US), designated by Barneby. Acc. *AUF2* (Welsh et al. 1993), var. *jonesii* is “locally common in the vicinity of [the town of] Green River,” eastern Emery Co. Heil and Melton (1994) estimated the total population of var. *jonesii* at 13,000 to 40,000 individuals. Acc. Franklin (1988c), “var. *jonesii* ... occurs on terrace, pedimental, and alluvial gravel surfaces. Infrequently, it occurs on the geologic formation that underlies those surfaces. The underlying formation varies. In the vicinity of Green River it is mainly Mancos Shale undivided. In Long Canyon, however, it’s the Black Hawk Group (sandstone, mudstone, shale and coal). At the Mexican Mountain location, it occurs up the slopes of the reddish brown Muddy Canyon Member of the Moenkopi Formation.” Grand Co. record based on a 1994 collection from ca. 4 miles north of Green River [town], T20S R16E S28 SE¼ of NW¼, elev. 4180 ft., sandy soils with alluvial gravel., assoc. *Gutierrezia sarothrae*, *Tiquilia latior*, *Ephedra torreyana* (*Fleming & Heil 1331*, SJNM). Questionable Wayne Co. record based on a K. Mutz collection from the West Caineville area (specimens at UT, UTC). Dr. Kenneth Heil (1994, pers. comm.) has not seen these specimens, but acc. Heil and Melton (1994) they probably represent *P. thompsoniae* (Vail) Welsh & Atwood.

Psorothamnus thompsoniae (Vail) Welsh & Atwood

var. whitingii (Kearney & Peebles) Barneby

“Wupatki indigo-bush” Fabaceae

Federal Status: (C2) **UTNHP Rank:** G3T2/S1

Distribution: SNJ; AZ

Notes: For current treatment see Mem. New York Bot. Gard. 27: 54. 1977. Acc. *AUF2* (Welsh et al. 1993), var. *whitingii* in Utah is restricted to the area south of the San Juan River, from Monument Valley west to Navajo Mtn., San Juan Co. It is otherwise known by a disjunct population at the type locality in Wupatki Natl. Monument, Coconino Co., Arizona (Barneby 1989).

Ranunculus aestivalis (L. Benson) Van Buren & Harper

“autumn buttercup” Ranunculaceae

Federal Status: LE **UTNHP Rank:** G1/S1

Distribution: GAR, SNP?

Notes: For original description of *R. acriformis* var. *aestivalis* L. Benson, see Amer. Midl. Nat. 40: 43. 1948. For current treatment see Amer. J. Bot. 81: 518. 1994. Treated in *AUF2* (Welsh et al. 1993) as *R. acris* var. *aestivalis* (L. Benson) Welsh, Great Basin Nat. 46: 260. 1986. Type from

Status Category: *Rare*

Garfield Co., ca. 8.3 road miles north of Panguitch and 1.5 miles south of the intersection with Utah Hwy. 20, meadow at springs just east of U.S. Hwy. 89 and about 300 yards west of the Sevier River, elev. 6400 ft. (*Benson 13420*; holotype POM, isotypes BRY, CAS, DS, GH, MO, ND, NY, RM, UC, US, UT, UTC). The autumn buttercup is extirpated at its type locality, and there are currently only two extant occurrences known in the upper Sevier River Valley, Garfield Co. (B. Franklin, unpubl. data). Questionable Sanpete Co. record based on a report by Whittemore (in Morin 1997) from a riparian meadow in Boulger Canyon, eastern slope of the Wasatch Plateau (erroneously attributed to Emery Co.). Acc. Whittemore (in Morin 1997), "R. Van Buren et al. (1994) treated this variety as a distinct species, *R. aestivalis*, emphasizing the saline habitat of the Sevier Valley population. The morphologic differences between *R. acriformis* var. *aestivalis* and the other varieties of *R. acriformis* are minor, and the habitat of the single Emery [= Sanpete] County specimen is typical of the species. I prefer to retain this taxon in *R. acriformis*. The DNA data of Van Buren et al., based on a total of eight populations of the three varieties, are consistent with either interpretation, because the three varieties form a single clade with *R. acriformis* var. *aestivalis* as sister group to the other two."

***Salix arizonica* Dorn**

"Arizona willow"

Salicaceae

Federal Status: (3C), FS

UTNHP Rank: G3/S2

Distribution: IRO, KAN, SEV, SNP; AZ, CO?, NM

Notes: For original description see *Canad. J. Bot.* 53: 1499. 1975. The first collection of *S. arizonica* in Utah (currently accessioned at RM) was made in 1913 and labeled "Sevier Forest, [elev.] 10,000 feet" (G. Argus 1993, pers. comm.). In 1994, Dr. Duane Atwood rediscovered the species in Utah, in the Brian Head vicinity and in Cedar Breaks Natl. Monument (Iron Co.). Acc. USFS et al. (1995), "[a]s of March 1995, the distribution of Arizona willow is known to include four widely disjunct areas: the Mount Baldy vicinity of the White Mountains in east-central Arizona; and from south-central Utah, on the Markagunt Plateau in the vicinity of Brian Head Peak [Iron Co.], the Paunsaugunt Plateau along the East Fork of the Sevier River [Kane Co.], and the Seven Mile Creek drainage on the Fishlake Plateau [Sevier Co.].... Also, potential habitat may occur in other National Forests in southern Utah, as well as in western Colorado and northern New Mexico." Sanpete Co. record based on 1995 field work by Dr. Duane Atwood and Bob Thompson in the upper Muddy Creek drainage, Wasatch Plateau (specimen at BRY). New Mexico record as reported by Roalson and Allred (1995b), based on several collections from Taos Co. (*Dorn 6145, 6146 & 6148*). The Markagunt Plateau population in Utah is the largest known (USFS et al. 1995); there, *S. arizonica* is often the dominant shrub in high-elevation wet meadows, with more than 10 stands consisting of from thousands to tens-of-thousands of plants each. The Paunsaugunt Plateau population is much smaller with only 14 individuals known (all males). On the Fishlake Plateau, the species has been found along an approx. four-mile stretch of Sevenmile Creek, an upper tributary of the Fremont River.

Status Category: *Rare*

Schoenocrambe argillacea (Welsh & Atwood) Rollins

“clay reed-mustard”

Brassicaceae

Federal Status: LT

UTNHP Rank: G1/S1

Distribution: UIN

Notes: For original description see Great Basin Nat. 37: 95. 1977. For current treatment see Contr. Gray Herb. 212: 96. 1982. Endemic to the Uinta Basin (west-central Uintah Co.), type from the eastern slope of Big Pack Mtn. (*Atwood 6627*; holotype BRY, isotypes GH, NY, US). Acc. Franklin (1992f), *S. argillacea* “has become known from two general localities: 1) from the type location toward the south for approximately four miles along the east slopes of Big Pack Mountain and to the east across Willow Creek in Broome Canyon[;] and 2) along the west slopes of Wild Horse Bench from approximately one mile north of Kings Canyon south to approximately one mile northeast of The Wrinkles.” The same author reported the total population at fewer than 5200 plants but considered that as possibly an underestimate because of low rainfall amounts in the years preceding his field survey. The habitat was described as steep, usually north-facing slopes, on bedrock, scree, and fine-textured soils weathered from the Evacuation Creek Member of the Green River Formation. Franklin (1993d) reported additional occurrences in the canyons adjacent to Rays Bottom, just opposite the known localities on Wild Horse Bench. He further noted that these are the first records of *S. argillacea* from the west side of the Green River.

Schoenocrambe barnebyi (Welsh & Atwood) Rollins

“Barneby’s reed-mustard”

Brassicaceae

Federal Status: LE

UTNHP Rank: G1/S1

Distribution: EME, WAY

Notes: For original description see Brittonia 33: 300. 1981. For current treatment see Contr. Gray Herb. 212: 98. 1982. Type from Emery Co., San Rafael Swell, Sye’s Butte, north-facing slope (*Welsh 20345*; holotype BRY, isotypes GH, NY, UTC). *S. barnebyi* is a local endemic on the Colorado Plateau in Emery and Wayne cos. Acc. Ecosphere (1992), “[o]ne major population is located in Capitol Reef National Park, growing on steep slopes above the Fremont River and Sulphur Creek. Another major population is located in the San Rafael Swell near Muddy Creek.” The total population has been estimated by the USFWS (1994) at 2000 plants. Ecosphere (1992) reported that the edaphic requirements of *S. barnebyi* are poorly known but that the species “apparently requires soils high in gypsum.” The same source noted that “*S. barnebyi* is most frequently found growing on the slopes of very steep hills, facing north to northeast,” and near the contact between outcrops of the Moenkopi and Chinle formations which “easily erode and contain sparse vegetation.”

Sclerocactus blainei Welsh & Thorne

“Blaine’s fishhook-cactus”

Cactaceae

Federal Status: None

UTNHP Rank: G1G2/S1

Distribution: IRO; NV

Notes: For original description see Great Basin Nat. 45: 553. 1985. Utah state record based on a collection (*Busek* [coll. # ??], SJNM) from Lund, Iron Co. (cited by Heil and Porter 1994). *S. blainei*

Status Category: Rare

is otherwise known from Nye and Lincoln cos., Nevada, where it is found in desert shrub communities on limestone and igneous gravel substrates (Heil and Porter 1994). Rangewide distribution and status information needed.

Sclerocactus brevispinus Heil & Porter

“Pariette Bench hookless cactus” Cactaceae

Federal Status: LT, BLM **UTNHP Rank:** G1/S1

Distribution: DUC, UIN?

Notes: For original description of *S. wetlandicus* var. *ilseae* F. Hochstätter, see Succulenta (Netherlands) 72: 22. 1993 (*Hochstätter fh0700*; holotype HBG). For current treatment see Haseltonia 2: 26. 1994. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *S. whipplei* var. *roseus* (Clover) L. Benson. Nitschke-Sinclair (1985) reported the range of what was then considered to be a short-spined form of *S. glaucus* (Purpus ex K. Schum.) L. Benson as “Pariette Mine area [southeastern Duchesne Co.] eastward along an unnamed drainage to the confluence of the Pariette Draw and Castle Peak Draw [adjacent west-central Uintah Co.]” Heil and Porter (1994) regarded *S. brevispinus* as “[a] narrow endemic occurring in a series of small scattered populations in badlands near Myton, Utah.” They apparently considered it to be restricted to Duchesne Co. The U.S. Fish and Wildlife Service elevated *S. brevispinus* to listing candidate status in their 1996 *Notice of Review* (61 FR 7596). However, the “short-spined form” is mentioned in the final rule listing *S. glaucus* as Threatened (44 FR 58870; October 11, 1979), and therefore *S. brevispinus* is already protected under the federal Endangered Species Act (L. England 1996, pers. comm.). For a discussion of morphological variation in *S. brevispinus* and its apparent introgression with *S. glaucus* [= *S. wetlandicus* F. Hochstätter], see Franklin (1993d) and Heil and Porter (1994).

Sclerocactus wetlandicus F. Hochstätter

“Uinta Basin hookless cactus” Cactaceae

Federal Status: LT **UTNHP Rank:** G2G3/S2S3

Distribution: CAR, DUC, UIN

Notes: For original description see Succulenta (Netherlands) 68: 123. 1989. Type from Uintah Co., Pariette Wetlands (*Hochstätter fh69.9.3*; holotype HBG). Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). The Uinta Basin plants were regarded by Heil and Porter (1994) as belonging to *S. glaucus* (Purpus ex K. Schum.) L. Benson (Cactus & Succ. J. 38: 53. 1966), which *AUF2* treated as a synonym of *S. whipplei* var. *roseus* (Clover) L. Benson. *S. wetlandicus* is endemic to northeastern Utah in Duchesne and Uintah cos., where it inhabits “salt desert scrub communities and pinyon-juniper woodlands on clay soils that are often covered with cobbles and pebbles” (Ecosphere 1993, as *S. glaucus*). Carbon Co. record based on 1994 field work on the west side of the Green River (B. Franklin, unpubl. data). As treated here, the closely related *S. glaucus* has a wholly separate area of distribution in western Colorado (see Ecosphere 1993, Heil and Porter 1994). Acc. Hochstätter (1993), “[m]any years of observation in habitat and in cultivation ... have demonstrated clear differences in the habit, spination, seeds, and flower [of *S. wetlandicus*] compared to *Sclerocactus glaucus* and/or *Sclerocactus parviflorus* Clover & Jotter. The separation

Status Category: Rare

from *Sclerocactus glaucus* is clearly evident in young plants. In juveniles of *Sclerocactus wetlandicus* the [central spines] are not pubescent, whereas this characteristic is observed in all immature forms of *Sclerocactus glaucus*.” Additional data presented by this author (see table on p. 104) indicate a clear difference in flower size between these taxa (2-2.5 cm long, 2-3 cm diam. in *S. wetlandicus*; 3-6 cm long, 3-5 cm diam. in *S. glaucus*). Also, Dr. Mark Porter (RSA) has recently concluded from DNA sequence data that *S. wetlandicus* is genetically distinct from *S. glaucus* (L. England 1998, pers. comm.).

Sclerocactus wrightiae L. Benson

“Wright’s fishhook-cactus”

Cactaceae

Federal Status: LE

UTNHP Rank: G2/S2

Distribution: EME, GAR?, WAY

Notes: For original description see *Cactus & Succ. J.* 38: 55. 1966. Type from Emery Co., near San Rafael Ridge (*L. & E. Benson 16595*; holotype POM). Acc. USFWS (1985c), “[t]he Wright fishhook cactus occurs in the low elevation desert trough around the south end of the San Rafael Swell... The entire range extends in an arc from the Emery area on the northeast to Hanksville on the south and the Goblin Valley area on the northeast... Collections ... document the cacti’s [sic] existence over about 25 townships in Wayne and Emery [c]ounties.” Questionable Garfield Co. record as mapped by Benson (1982, p. 730). However, Benson’s documentation (p. 952) cited no Garfield Co. specimens. An estimate of the total population size is not available, but the USFWS (1985c) noted that “[t]he number of individuals at each location appears to be small. At each site, their distribution is usually reported to be clustered within a few square meters, possibly due to poor seed dispersal, with many square meters or even hectares between the groups. However, where appropriate habitat exists, populations may be more or less continuous, though widely spaced, over relatively large areas with a dispersed distribution pattern.” The same source noted that “*Sclerocactus wrightiae* occurs over a variety of soil types from clay flats with mat saltbush species to sandier soils of desert grasslands with galleta grass and three-awn and scattered pinyon-juniper woodlands with blue grama.” For results of a focused field inventory, see Neese Investigations (1987). For a discussion of morphological variation and distinguishing characteristics, see Heil and Porter (1994).

Senecio castoreus Welsh

“Tushar Mtns. groundsel”

Asteraceae

Federal Status: (C2+), FS, BLM

UTNHP Rank: G1/S1

Distribution: BEA, PIU

Notes: For original description see *Rhodora* 95: 399. 1993 [1994]. Endemic at high elevations in the Tushar Mtns., Beaver and Piute cos. (Welsh 1993, Welsh et al. 1993, N. Holmgren in Cronquist 1994), the type from Mt. Belknap (*Taye 3680*; holotype BRY). The species was reported by Taye (1995) as infrequent in cushion plant and gravelly barren communities and on volcanic talus and scree slopes. Acc. Welsh (1993), “[b]esides differing from *S. canus* Hook. in lacking ray flowers, [*S. castoreus*] has involucre that average larger, and has shorter basal leaves.” Acc. *AUF2* (Welsh

Status Category: Rare

et al. 1993), the affinities of *S. castoreus* lie with *S. wernerifolius* (A. Gray) A. Gray, but the population is uniformly eradiate. *S. castoreus* “looks like an alpine dwarfed hybrid between *S. canus* and *S. wernerifolius*” (N. Holmgren, addendum in Cronquist 1994).

Senecio dimorphophyllus E. Greene var. intermedius T.M. Barkley

“intermediate butterweed”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G4T2/S2

Distribution: DUC?, GRA, SNJ, SNP?, SUM?; CO

Notes: For original description see Trans. Kansas Acad. Sci. 65: 362. 1962. For alternative treatment as *Packera dimorphophylla* ssp. *intermedia* (T.M. Barkley) Weber and Löve, see Phytologia 49: 46. 1981. Var. *intermedius* in Utah is restricted to the La Sal Mtns., Grand and San Juan cos. (Barkley 1962, Cronquist 1994), the type from Geysers Pass (San Juan Co.), edge of swampy place at 10,500 feet elev. (*E. & L. Payson 4097*; holotype MO, isotypes GH, RM, UC). The distribution of var. *intermedius* also extends into southwestern Colorado on the Uncompahgre Plateau in Mesa, Montrose, and Ouray cos. (Weber et al. 1981; J. Anderson, unpubl. data on file with Utah Natural Heritage Program), and in the San Juan Mtns. (La Plata Co.), the type locality for *S. tracyi* Rydb. (see Weber and Wittmann 1992). Questionable records for var. *intermedius* from the Uinta Mtns. (Duchesne and Summit cos.) and from Sanpete Co. are as reported in *AUF2* (Welsh et al. 1993). The plants from the Uinta Mtns. are perhaps referable to *S. dimorphophyllus* var. *paysonii* T.M. Barkley, while the Sanpete Co. plants might best be placed with *S. crocatus* Rydb. For taxonomic discussion, see Barkley (1962). Additional data needed on distribution and status in Colorado. Move to watch list? Taxonomic problem?

Senecio fremontii Torrey & Gray var. inexpectatus Cronquist

“La Sal Mtns. butterweed”

Asteraceae

Federal Status: (C2+), BLM

UTNHP Rank: G5T1/S1

Distribution: GRA, SNJ

Notes: For original description see Intermt. Fl. 5: 172. 1994. Var. *inexpectatus* is endemic at high elevations in the La Sal Mtns. (Cronquist 1994), the type from San Juan Co., “along the crest of the ridge leading from Mt. Peale toward Mt. Mellenthin and Mt. Tukuhtnikivatz (*Cronquist & N. Holmgren 9464*; holotype NY). A recently described and poorly known entity, the following additional collections at BRY: Grand Co., northwestern corner of Beaver Basin (*Franklin 2282*); San Juan Co., head of Dark Canyon (*Franklin 910*), ridge south-southwest of Mt. Mellenthin (*Tuhy 1847*), ridge between Mt. Mellenthin and Mt. Peale (*Franklin 2039*), along ridge ca. 1.1 mile north of Mt. Peale (*Franklin 3946, 4288*).

Senecio malmstenii S.F. Blake in Tidestrom

“Podunk groundsel”

Asteraceae

Federal Status: (C2+), FS

UTNHP Rank: G1?/S1?

Distribution: GAR, IRO, KAN

Status Category: *Rare*

Notes: Type from “dry rocky soil in the juniper association, Little Podunk Creek, Kane County, Utah, altitude 2,680 meters” (*Malmsten 131*; holotype US, photographs GH, MO, NY, OGDF). Based on the reported east-facing slope and elevation of 8800 feet, the type collection was likely made in the vicinity of Rainbow Point in what is now Bryce Canyon Natl. Park. *S. malmstenii* is endemic to high-elevation outcrops of Claron Formation limestone on the eroding margins of the Markagunt, Paunsaugunt, and Table Cliff Plateaus and the Escalante Mtns. (southwestern Garfield, northwestern Kane, and southeastern Iron cos.). Preliminary data indicate that the number of plants in each population is quite small. Barkley (1978) treated *S. malmstenii* as a synonym of *S. streptanthifolius* E. Greene, as did Bain (1988) who noted that “[t]he inclusion of *Senecio malmstenii* in the list of synonymy is certainly provisional; it is an unusual entity which further study may reveal to be unrelated to *S. streptanthifolius*.” Cronquist (1994) compared *S. malmstenii* with *S. werneriiifolius* (A. Gray) A. Gray and the rare *S. porteri* E. Greene of the Colorado Rockies and Oregon’s Wallowa Mtns.

***Senecio musiniensis* Welsh**

“Ferron Mtn. groundsel”

Asteraceae

Federal Status: (C2+), FS**UTNHP Rank:** G1/S1**Distribution:** SNP

Notes: For original description see *Rhodora* 95: 400. 1993 [1994]. Endemic to Sanpete Co., on high-elevation outcrops of Flagstaff Limestone at Musinia Peak [= Mary’s Nipple] and elsewhere on the eroding margins of the Wasatch Plateau (Welsh 1993, Welsh et al. 1993), the type from Ferron Mtn. (*Atwood & Tuhy 13438*; holotype BRY, isotype NY). These are the plants that were referred to *S. fendleri* A. Gray in *AUF1* (Welsh et al. 1987). Acc. Welsh (1993), “[t]his taxon appears to be allied to *S. canus* Hook. (source of gray tomentum) and *S. multilobatus* Torrey & Gray ex A. Gray (source of the pinnatifid leaves); it differs from both in the presence of sobols and in the eradiate or only sparingly radiate heads.” N. Holmgren (addendum in Cronquist 1994) remarked that *S. musiniensis* is a very distinctive species, difficult to place among the other Intermountain senecios.

***Sphaeralcea caespitosa* M.E. Jones**

“Jones’ globe-mallow”

Malvaceae

Federal Status: (C2), FS, BLM**UTNHP Rank:** G3/S2**Distribution:** BEA, MIL; NV?

Notes: Type from “Wa Wa” [= Wah Wah Springs, eastern base of Wah Wah Mtns.], Beaver Co. (*Jones s.n.* in 1906; holotype POM, isotypes BRY, CAS, DS, F, MO, NY, UC, US). Franklin (1996c) reported *S. caespitosa* as “[a] west-central Utah and east-central Nevada endemic.... Since its initial discovery [the] range has been expanded west into Pine Valley along the base of the Wah Wah Mountains and to the slopes of the Tunnel Spring Mountains, Warm Cove Ridge and Halfway Hills on the east side of Antelope Valley. To the northeast of “Wa Wa” there are three single-collection locations, i.e., the south end of Tule Valley and two locations at the north end of the Cricket Mountains.” The same author reported that “[i]n Utah there are twelve [populations] which

Status Category: Rare

together possess an estimated total number of plants in the tens of thousands and have a combined area of over 18,000 acres.” The habitat was described as “mixed desert shrub and grass communities ... on alluvial slopes and in outcrop-crevices of several immediate or upslope geologic formations of calcar[e]ous origin.” Acc. Franklin (1996c), the locations in the Cricket Mtns. (Millard Co.) “are based on two B.F. Harrison (6366 and 10161) collections (Welsh 1979b), the first of which was annotated by Thomas H. Kearney tending to confirm the identification.” However, the same author noted that recent field work by BLM botanist Lori Armstrong casts doubt on the identify of these plants as *S. caespitosa*. Acc. AUF2 (Welsh et al. 1993), specimens from Nevada identified as *S. caespitosa* pass by degree into *S. ambigua* A. Gray and possibly are not equivalent to those in Utah which are probably more nearly allied to *S. coccinea* (Pursh) Rydb. Kartesz (1987) also reported that the Nevada plants are indistinct from *S. ambigua* and that they may prove to be a hybrid between *S. ambigua* and *S. grossulariifolia* (Hook. & Arn.) Rydb.; he further noted that the Nevada plants tend to be somewhat taller than those from Utah. Is *S. caespitosa* a Utah endemic? Additional study needed.

Sphaeralcea leptophylla (A. Gray) Rydb. var. janeae Welsh

“Jane’s globe-mallow” Malvaceae

Federal Status: (C2), BLM **UTNHP Rank:** G5T1/S1

Distribution: GRA?, SNJ, WAY

Notes: For original description see Great Basin Nat. 40: 36. 1980. Treated in AUF2 (Welsh et al. 1993) as *S. janeae* (Welsh) Welsh, but evidently this combination has not been validly published. Type from San Juan Co., along White Rim road north of Turk’s Head (*Welsh 7085*; holotype BRY). Jane’s globe-mallow is a Canyonlands endemic found in sandy soils weathered from the White Rim and Organ Rock members of the Cutler Formation (Welsh et al. 1993). Additional collections seen at BRY: San Juan Co., vicinity of Junction Butte along the White Rim (*Welsh 7064*), ca. 2 miles south of Potash (*Welsh & Neese 23638*), 3 miles south of Potash (*Atwood et al. 11094*); Wayne Co., Millard Canyon Benches (*Welsh & Chatterley 21878*), Millard Canyon (*Welsh & Holland 21925*). Questionable Grand Co. record as reported in AUF2 (Welsh et al. 1993). Distribution and status information needed.

Sphaeralcea psoraloides Welsh

“San Rafael globe-mallow” Malvaceae

Federal Status: (C2), BLM **UTNHP Rank:** G2/S2

Distribution: EME, GRA, WAY

Notes: For original description see Great Basin Nat. 40: 36. 1980. Type from Wayne Co., ca. 17 miles west-northwest of Hanksville, Salt Wash (*Welsh 13348*; holotype BRY). Acc. AUF2 (Welsh et al. 1993), *S. psoraloides* is endemic to the eastern and southeastern foot slopes of the San Rafael Swell (Emery and Wayne cos.) where associated with various saline and gypsiferous substrates. Grand Co. record based on [TO BE ADDED!].

Status Category: *Rare*

***Sphaeromeria ruthiae* A. Holmgren, L. Shultz & Lowrey**

“Ruth Nelson’s rock-tansy” Asteraceae

Federal Status: (C2) **UTNHP Rank:** G2/S2

Distribution: KAN, WSH

Notes: For original description see Brittonia 28: 257. 1976. Type from Washington Co., Zion Natl. Park, Refrigerator Canyon, Walter’s Wiggles (*Holmgren et al. 16003*; holotype UTC, isotypes ARIZ, BRY, COLO, DS, FSU, GH, NY, RM, US, UT, WTU, Zion Natl. Park). In addition to the type locality which is located along the West Side trail, Welsh (1989b) reported that *S. ruthiae* “is currently known from several localities along Clear Creek on [Zion Natl. Park’s] east side. The [species] has also been observed in the Zion Narrows [and] has recently been located to the east of the Park in The Barracks region [Kane Co.].” McArthur et al. (1989), “observed *S. ruthiae* growing in >15 locations.... Several of [the newly documented] populations are fairly large, and some extend to 2 km outside the Park boundary. Nevertheless the species is rare and is confined to a restricted habitat and distribution.... *Sphaeromeria ruthiae* grows in both main canyons of the Virgin [i.e., in Zion and Parunuweap canyons] and their tributary canyons.... Canyons where it occurs are narrow, shaded, and relatively humid. Plants grow perpendicularly from crevices and cracks and on liverwort and moss matrices of vertical, nearly bare walls of Navajo sandstone or more rarely in shaded canyon alcoves.”

***Spiranthes diluvialis* Sheviak**

“Ute ladies’-tresses” Orchidaceae

Federal Status: LT **UTNHP Rank:** G2/S1

Distribution: DAG, DUC, GAR, (SAL), TOO, UIN, UTA, WAS, WAY, (WEB); CO, ID, (NV), WY +

Notes: For original description see Brittonia 36: 11. 1984. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *S. romanzoffiana* var. *d.* (Sheviak) Welsh, *Rhodora* 95: 419. 1993 [1994]. The names *S. porrifolia* Lindley and *S. cernua* (L.) Rich. were misapplied to *S. diluvialis* by earlier authors. The Ute ladies’-tresses is a native orchid of wide but sporadic distribution in streamside meadows and other low-elevation wetland habitats of the interior western U.S. (Stone 1993b). The species is evidently more frequently encountered in northeastern Utah (Uinta Basin) than elsewhere in its range (see Franklin 1993e). *S. diluvialis* is generally rare along the Wasatch front and is apparently extirpated in Salt Lake and Weber cos. (Stone 1993b), although the population on Diamond Fork (Utah Co.) is among the largest known (CUWCD 1995). Rediscovered in 1994 at the only known location in Utah’s west desert region, at Willow Springs, near Callao, Tooele Co. (R.D. Stone, unpubl. data). Rare on the Colorado Plateau, known there from isolated localities along the Fremont River east of Fruita (Wayne Co.) and on Deer Creek east of Boulder (Garfield Co.). The Nevada record is historical and possibly extirpated. Two populations are now known in Wyoming, in Goshen Co. (Bear Cr.) and Converse Co. (Antelope Cr., tributary to Cheyenne River). Discovered in eastern Montana (Jefferson River, Jefferson Co.) in 1994 and in southeastern Idaho (Snake River) in 1996 (Moseley 1997). Also discovered in Nebraska (Niobrara River) in 1996 (B. Moseley 1996, pers. comm., based on field work by Dr. R. Hartman, RM). For a study of genetic variability within

Status Category: *Rare*

and between populations, see Arft and Ranker (1993). For a study of pollination ecology in this species, see Sipes et al. (1993).

***Stephanomeria tenuifolia* (Raf.) H.M. Hall var. *uintaensis* Goodrich & Welsh**

“Brownie Canyon wire-lettuce” Asteraceae

Federal Status: None

UTNHP Rank: G5T1/S1

Distribution: UIN

Notes: For original description see Great Basin Nat. 43: 375. 1983. Varietal epithet misspelled “*uintahensis*” in *AUF2* (Welsh et al. 1993). Type from Uintah Co., Uinta Mtns., 18 miles northwest of Vernal, Brownie Canyon (*Goodrich 17708*; holotype BRY, isotypes CAS, GH, MO, NY, POM, RM, US, UT, UTC). Acc. Goodrich and Neese (1986), var. *uintaensis* is known only from the type area where it inhabits “ponderosa pine - Rocky Mt. juniper communities at about 8,200 ft.” Cronquist (1994) treated var. *uintaensis* as a synonym of var. *tenuifolia*, adding that it is “[a]n unusual local form, perhaps worthy of some taxonomic recognition, with relatively large heads and with the leaves tending to be runcinate-pinnatifid.”

***Talinum thompsonii* Atwood & Welsh**

“Cedar Mtn. flame-flower” Portulacaceae

Federal Status: (C2), BLM

UTNHP Rank: G1Q/S1

Distribution: EME

Notes: For original description see Great Basin Nat. 45: 485. 1985. Type from Emery Co., east of Castle Dale, Cedar Mtn. (*Atwood & Thompson 8056*; holotype BRY, isotypes NY, POM, US). Smith (1994c) reported that plants referable to *T. thompsonii* are known only from Emery Co. on Cedar Mtn. (north of the San Rafael Swell and ca. 25 airmiles southeast of Price). The same author located and mapped 14 discrete occurrences and estimated the total number of plants at 6500, but he also noted that additional potential habitat remains to be searched. The habitat was described as pinyon-juniper and sagebrush communities at elevations from 6730 to 7600 feet, where the plants grow in very gravelly, shallow soils (3-8 cm deep) weathered from the Buckhorn Conglomerate (the soil surface comprised mainly of rounded, siliceous pebbles). Acc. Smith (1994c), “[s]pecimens of [*T. thompsonii*] were sent to Robert Kiger, an expert in *Talinum* at the Hunt Institute for Botanical Documentation in Pittsburgh, PA. He ... saw no differences between the specimens sent to him and *T. validulum* E. Greene in stamen number per flower, seeds, or in the size of flowers and leaves. Stamen number per flower has been documented to range from 7-16 (Phillips 1993, Smith 1991) among plants of *T. validulum*; the plant [named as *T. thompsonii*] was described as having 10 stamens per flower, which is within the range of stamen number found among flowers of *T. validulum*.... David Ferguson, also an expert in *Talinum* from Albuquerque, New Mexico, concurred with this opinion. He has visited both the Arizona and Utah populations ... and ... agreed that the Utah material is *T. validulum*.” Taxonomic problem; additional study needed?

Status Category: *Rare*

Thelesperma caespitosum Dorn

“Duchesne green-thread”

Asteraceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G1/S1

Distribution: DUC; WY

Notes: For original description see Madroño 37: 293. 1990. Treated in *AUF2* (Welsh et al. 1993) as *T. subnudum* var. *c.* (Dorn) Welsh, but evidently this combination has not been validly published. Dorn (1990b) cited a single collection from Duchesne Co. (southwest of Duchesne, white shale benches, elev. 1800 m, *Ripley and Barneby 8700*, NY), but Dr. Sherel Goodrich (1995, pers. comm.) reported that several large populations of *T. caespitosum* have been found on the West Tavaputs Plateau, in the Anthro Mtn. area and eastward toward the head of Antelope Canyon. The species is otherwise known only from Sweetwater Co. in southwestern Wyoming (the type locality), where restricted to white shale slopes and ridges of the Green River Formation (Fertig 1994). Cronquist (1994) did not recognize *T. caespitosum*, treating it instead as a synonym of *T. pubescens* Dorn. The taxonomy and relationships of *T. subnudum* A. Gray and related species are currently under study by Curtis J. Hansen, a grad. student of Dr. Loreen Allphin at Brigham Young Univ., Provo, UT.

Thelesperma subnudum A. Gray var. alpinum Welsh

“Rabbit Valley green-thread”

Asteraceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G5T1/S1

Distribution: WAY

Notes: For original description see *Great Basin Nat.* 43: 369. 1983. Type from Wayne Co., 3 miles due north of Bicknell, bristlecone pine forest on multicolored clay hills (*Atwood & Thompson 7646a*; holotype BRY). Welsh (1983a) reported that var. *alpinum* is “apparently restricted to the Carmel Limestone, on the peculiar varicolored phase of that formation as it occurs at the east margin of Rabbit Valley.” Acc. *AUF2* (Welsh et al. 1993), the variety also occurs in sandy soils associated with the Navajo and Entrada sandstones. Cronquist (1994) did not recognize var. *alpinum*, treating it instead as a synonym of *T. pubescens* Dorn. The taxonomy and relationships of *T. subnudum* and related species are currently under study by Curtis J. Hansen, a grad. student of Dr. Loreen Allphin at Brigham Young Univ., Provo, UT.

Thelypodopsis ambigua (S. Watson) Al-Shebaz var. erecta Rollins

no common name

Brassicaceae

Federal Status: None **UTNHP Rank:** G3G4T2/S2

Distribution: KAN, WSH?; AZ

Notes: For original description see *Contr. Gray Herb.* 212: 76. 1982. Type from Kane Co., Kanab (*Eastwood & Howell 9300*; holotype GH, isotype US). Rollins (1982b) cited the distribution of var. *erecta* as “southern Utah and northern Arizona;” evidently a rather narrow endemic of clay soils, principally those weathered from purple shales of the Chinle Formation (Rollins 1993, Welsh et al. 1993, Welsh and Eliason 1995). Additional specimens cited by Rollins (1982b): Arizona: Mohave Co., ca. 18 miles west of Fredonia (*Higgins 1370*, GH); ca. 5 miles north of Moccasin on Coral Pink Sand Dunes road (*Atwood & Higgins 3938*, BRY). Utah: Kane Co., ca. 12 airline miles northwest

Status Category: Rare

of Fredonia, Arizona (*Welsh & Atwood 9706*, BRY). Questionable Washington Co. record as reported in *AUF2* (Welsh et al. 1993), based on a collection (*Palmer 27*, US) labeled “southern Utah.” However, Rollins (1982b) cited the same Palmer specimen as belonging to var. *ambigua* (an Arizona endemic!) and further noted that it actually came from Trumbull, Mohave Co., Arizona.

***Thelypodium sagittatum* (Nutt.) Endl. ssp. *ovalifolium* (Rydb.) Al-Shehbaz**

no common name

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G4T2/S2

Distribution: BEA?, GAR, IRO, JUA?, KAN?, MIL?, SEV?, NV

Notes: For current treatment see *Contr. Gray Herb.* 204: 121. 1973. Treated in *AUF2* (Welsh et al. 1993) as *Thelypodopsis sagittata* var. *ovalifolia* (Rydb.) Welsh, *Great Basin Nat.* 46: 254. 1986. Type from Garfield Co., Panguitch Lake (*Jones 6015e*; holotype US, fragments from the type at NY, POM). Ssp. *ovalifolium* is evidently a plant of sporadic distribution in southwestern Utah and adjacent Nevada, growing in moist alkaline meadows and similar habitats at elevations from 6000 to 8400 feet (Al-Shehbaz 1973, Rollins 1993). Utah specimens cited by Al-Shehbaz (1973): Garfield Co., topotypes (*I. & M. Al-Shehbaz 6911 & 6984*, GH), Bryce Canyon Natl. Park (*Eastwood & Howell 766*, CAS); Iron Co., T33S R7W S13 [= Upper Bear Valley] (*Gierisch s.n.* in 1936, UTC). Questionable Beaver Co. record based on the type of *Thelypodium palmeri* Rydb. (“Southern Utah,” *Palmer 25*; holotype NY, isotypes BRY, GH, ISC, MO, NA, NY, US). Al-Shehbaz (1973) reported that, “[a]ccording to an unpublished ‘Miscellaneous Plant List’ in the Gray Herbarium Library, this collection was made from Beaver Valley near Rio Creek” [Beaver Co.?]. Questionable Juab and Millard county records probably based on misidentified specimens of *T. rollinsii* Al-Shehbaz (*Goodrich 13960 & 15541*; both at BRY). Questionable Kane Co. record as reported in *AUF2* (evidently without voucher specimen). Questionable Sevier Co. record based on a 1993 collection from Fish Lake, Pelican Point (*Goodrich 24155*, BRY), possibly a misidentified specimen of ssp. *sagittatum*. Rare in Nevada, known only from two locations in White Pine Co. (Al-Shehbaz 1973, Kartesz 1987). Additional Nevada collections at BRY need to be critically reexamined (at least some of them possibly representing misidentified specimens of ssp. *sagittatum*).

***Tonestus kingii* (D.C. Eaton) Nesom var. *barnebyanus* (Welsh & Goodrich) Nesom**

“Barneby’s rock-aster”

Asteraceae

Federal Status: (C2), FS

UTNHP Rank: G3T1/S1

Distribution: JUA, MIL

Notes: For original description see *Brittonia* 33: 299. 1981. For current treatment see *Phytologia* 71: 125. 1991. Treated in *AUF2* (Welsh et al. 1993) as *Aster kingii* var. *b.* (Welsh & Goodrich) Welsh, *Great Basin Nat.* 43: 221. 1983. Type from Millard Co., Canyon Mtns. (*Goodrich 14929*; holotype BRY, isotypes GH, NY, RM, UC, US, USFS, UT, UTC). In the Canyon Mtns., var. *barnebyanus* is known from the ridge separating the heads of John Williams and Eightmile canyons; from lower elevations in Eightmile Canyon (incl. the type locality); and from several sites along the crest of the range as far north as Wide Canyon Spring (Franklin 1991b). The same author noted the elevation range of var. *barnebyanus* in the Canyon Mtns. as 7400 to 9640 feet and described the

Status Category: *Rare*

habitat as “precipitous, somewhat protected locations ... on outcrops of undifferentiated Precambrian quartzite and argillite and on the conglomerate of the Indianola Formation or Group (also comprised of sandstone and siltstone).” As reported by Tuhy (1991b), the variety has also been found in the Mt. Nebo area of the southern Wasatch Mtns., where it is known only from the western and southern flanks of the peak in Juab Co. (thus far not known from the Utah Co. portion where var. *kingii* occurs). In addition to the toothed leaves, var. *barnebyanus* can be distinguished from var. *kingii* by the longer stipitate-glandular hairs on the stem (Welsh 1981, Welsh et al. 1993).

Townsendia aprica Welsh & Reveal

“Last Chance townsendia”

Asteraceae

Federal Status: LT

UTNHP Rank: G1/S1

Distribution: EME, SEV, WAY?

Notes: For original description see Brittonia 20: 375. 1968. Type from Sevier Co., ca. 6 miles south of Fremont Junction along Utah Hwy. 72 (*Reveal & Welsh 721*; holotype BRY, isotype CAS, GH, MSC, NY, UC, US, UTC). Endemic to clay [or gravelly clay?] soils on the Colorado Plateau of western Emery and eastern Sevier cos., most commonly associated with the Blue Gate Shale and Ferron Sandstone members of the Mancos Formation (Armstrong and Thorne 1991, Welsh et al. 1993). Questionable Wayne Co. record as reported in Atwood et al. (1991), based on a 1984 collection (*Heil 1896*, BRY) from Capitol Reef Natl. Park, also a report by Larry England from near the western boundary of Capitol Reef Natl. Park (possibly on Fishlake Natl. Forest). *AUF2* (Welsh et al. 1993) discounted these records, stating that “[r]eports of [*T. aprica*] from Wayne Co. appear to be *T. jonesii* (Beaman) Reveal.” Armstrong and Thorne (1991) provided an excellent comparison of the differences between *T. aprica* and *T. jonesii* var. *lutea* Welsh, but they did not specifically address the identity of the Capitol Reef plants. Acc. Reveal (1970a), “[u]ntil *T. aprica* was discovered, yellow rays were unknown in the genus.” The same author noted that “[t]he leaves of *T. jonesii*, while pubescent as in *T. aprica*, are decidedly longer and much narrower than in *T. aprica*, and not at all glandular as in *T. aprica*.”

Townsendia jonesii (Beaman) Reveal var. lutea Welsh

“Sevier ground-daisy”

Asteraceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G3?T1/S1

Distribution: JUA, PIU, SEV, SNP?

Notes: For original description see Great Basin Nat. 43: 369. 1983. Type from Sevier Co., ca. 4.2 km east of Sigurd along Utah Hwy. 24, Arapien Shale outcrop with scattered juniper (*Welsh 12700*; holotype BRY). Var. *lutea* is endemic to gravelly clay soils in open juniper woodlands fringing the middle Sevier River Valley, Sevier Co. Most of the localities along the eastern edge of the valley are on the Arapien Shale, although Armstrong and Thorne (1991) noted that the plants also occur on calcareous shale of the Green River Formation. Field work in 1997 by Utah Natural Heritage Program botanists revealed that the population along the western edge of the valley is on calcareous shale of the Bald Knoll Formation. Outlying occurrences are found near Piute Reservoir in Piute Co. (on gypsiferous or calcareous substrates amidst igneous gravels) and in Juab Co. near Scipio

Status Category: *Rare*

(*Goodrich 18135*, BRY; “rays yellowish”). Acc. Welsh (1983a), “[t]he presence of yellow flowers in *T. aprica* Welsh & Reveal was considered to be noteworthy for the genus, although corollas that dried yellowish were admitted for *T. jonesii* (Reveal 1970a). The existence of populations with yellow corollas when fresh in Piute and western Sevier counties at first indicated placement of those plants with *T. aprica*, but the long pappus of the ray flowers indicates relationships with *T. jonesii*, in which the corollas sometimes fade yellowish.” Preliminary data suggest that those colonies further to the north (e.g., on Arapien Shale in the White Hills, Sanpete Co.) may be transitional toward the white-rayed var. *jonesii* [for which Reveal (1970a) cited several collections from Sanpete Valley as far south as Gunnison]. Cronquist (1994) did not recognize *T. jonesii* var. *lutea* as distinct from *T. aprica*. For a detailed discussion of the characteristics distinguishing *T. aprica* and *T. jonesii* var. *lutea*, see Armstrong and Thorne (1991).

***Trifolium eriocephalum* Nutt. in Torrey & Gray var. *villiferum* (House) Martin**

“woolly-head clover”

Fabaceae

Federal Status: None

UTNHP Rank: G4T2?/S1

Distribution: BEA?, JUA, PIU, SEV, TOO?; NV

Notes: For current treatment see Madroño 8: 156. 1946. For alternative treatment as ssp. *villiferum* (House) Gillett, see Canad. J. Bot. 49: 403. 1971. Type from “S. Utah” (*Palmer 91*; holotype US, isotypes BRY, GH, MO, NY). Gillett (1971) reported the type locality as Beaver City (Beaver Co.) and cited several additional Utah collections: Juab Co., Deep Creek (*Jones s.n.* in 1891; MO, UC, US), same loc. (*Jones s.n.* in 1891, F); Sevier Co., Burrville (*Jones 5642a*, MO, US), 0.5 mile north of Koosharem (*Welsh et al. 6482*; BRY, UC). Barneby (1989) cited the distribution of var. *villiferum* as “marshes and alkaline meadows ...; on the middle valley and sink of the Sevier River in Piute, Sevier, Beaver, and Tooele cos., Utah, passing feebly w. in adj. Nev. into the [var. *cusickii* (Piper) Martin].” Beaver and Tooele county records also mapped in Albee et al. (1988). The Juab Co. record is confirmed by a collection from Ibapah, in meadows, elev. 5000 ft. (*Cottam 3161*, BRY).

***Trifolium friscanum* (Welsh) Welsh**

“Frisco clover”

Fabaceae

Federal Status: (C2), BLM

UTNHP Rank: G1/S1

Distribution: BEA, MIL

Notes: For original description see Great Basin Nat. 38: 355. 1968. For current treatment see Rhodora 95: 407. 1993 [1994]. Type from Beaver Co., San Francisco Mtns., Grampian Hill (*Peabody et al. 406*; holotype BRY, isotype NY). Endemic to limestone and dolomite in the San Francisco and Beaver Lake mtns., Beaver Co., and the Tunnel Spring Range, Millard Co. (Welsh 1993). Kass (1992c) completed an extensive search of the Wah Wah, Mountain Home, and Confusion ranges (Beaver and Millard cos.) and did not find additional locations for the species. The same author estimated the total population size at 6000 individuals (4000 at Grampian Hill and 2000 in the Tunnel Spring Range).

Status Category: *Rare*

Viola clauseniana M. Baker

“Clausen’s violet”

Violaceae

Federal Status: None

UTNHP Rank: G1/S1

Distribution: WSH

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *V. nephrophylla* E. Greene. Type from Washington Co., “[a]t foot of Weeping Rock, Zion [Natl.] Park” (*Baker 8438*; holotype UC). Another collection (*Glauser et al. 591*, UT) is labeled “The Narrows, Zion National Park. Moist ledges.” If correctly identified, this specimen clearly establishes that there is at least one additional, discrete occurrence of *V. clauseniana* aside from the Weeping Rock population. Acc. H. Ballard (1996, pers. comm.), *V. clauseniana* “is entirely restricted to Zion National Park but it appears to be frequent in the hanging gardens, where *V. nephrophylla* [= *V. sororia* var. *affinis* (LeConte) McKinney] also occurs occasionally.” The same author noted further that *V. clauseniana* is “known from a few sites within Zion National Park, only in hanging gardens (not all h.g.’s, either, only certain ones).” Clausen (1964) reported that *V. clauseniana* is distinguished from *V. nephrophylla* [= *V. sororia* var. *affinis*] by its beardless petals and by a rare chromosome number, $n = 22$ (*V. nephrophylla* [= *V. sororia* var. *affinis*] has $n = 27$). Acc. H. Ballard (1996, pers. comm.), “I am finishing up ... a systematic study including DNA sequence evidence that *V. clauseniana* is indeed distinct from all other violets in North America; Russell and Crosswhite (1963) never examined the type material and simply assumed it was the same as *V. nephrophylla*.”

Viola frank-smithii N. Holmgren

“Frank Smith’s violet”

Violaceae

Federal Status: (C2), FS

UTNHP Rank: G2/S2

Distribution: CAC

Notes: For original description see *Brittonia* 44: 303. 1992. Endemic to calcareous rock outcrops in the Logan Canyon drainage (Bear River Range, Cache Co.), the type from Cottonwood Canyon (*N. & P. Holmgren 11404*; holotype NY, isotypes BRY, UT, UTC). Stone (1994b) documented the 11 known occurrences of *V. frank-smithii* and estimated the total population size at 10,000 plants. The largest known occurrences are in Card Canyon, the Right Fork of Logan Canyon, the western slope of Logan Canyon above China Wall, and in Cottonwood Canyon. Most of the known locations are on cool, northerly exposures which remain shaded for at least part of the day; open to dense stands of Douglas-fir (*Pseudotsuga menziesii*) are usually present on the adjoining canyon slopes. The only other violet with which *V. frank-smithii* might be confused is the widespread and common *V. adunca* J.E. Smith ex Rees which also occurs in Logan Canyon (usually in loamy forest soils vs. *V. frank-smithii* which occupies the barest of rock crevices without any noticeable soil accumulations). Harvey Ballard (Univ. Wisconsin-Madison) has obtained a chromosome count of $n = 12$ for *V. frank-smithii* (1994, pers. comm. to M. Barkworth); from this he concluded that it cannot be included in the rostrate violets (section *Rostellatae*) as originally proposed by Holmgren (1992).

Status Category: *Rare*

***Viola lithion* N. & P. Holmgren**

“rock-dwelling violet”

Violaceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G1/S1

Distribution: BOX; NV

Notes: For original description see Brittonia 44: 300. 1992. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). One of the few violets that grow in rock outcrop habitats, *V. lithion* is known in Utah by a single collection from the Pilot Range, Box Elder Co. (*Cottam 4545*, BR Y). Acc. Holmgren (1992), “*Viola lithion* is known only from two widely separated (250 km) mountain ranges in eastern Nevada and adjacent Utah: the White Pine Range in southwestern White Pine County and adjacent Nye County and the Pilot Range straddling the Nevada-Utah border in Elko and Box Elder counties.” Dr. Robert Holland (1998, pers. comm.) reported that no new populations of *V. lithion* were found during a 1996 survey in the mtns. of northeastern Nevada; he further noted that the species is found in only a few locations on Pilot Peak (cf. Holmgren 1992) but is abundant in the White Pine Range. Acc. Holmgren (1992), “*Viola lithion* has its closest match with the allopatric *V. flettii* Piper and *V. canadensis* L., belonging to subsection *Canadenses*, a group with a perennial habit, aerial stems, simple leaves, yellow- or purple-spotted lateral petals, a short spur, and a base chromosome number of $x = 6$.” Additional data needed on occurrence and status in Utah.

***Xylorhiza glabriuscula* Nutt. var. *linearifolia* T.J. Watson**

“Canyonlands woody-aster”

Asteraceae

Federal Status: None

UTNHP Rank: G4T1T2/S1S2

Distribution: GAR, GRA, SNJ, WAY

Notes: For original description see Brittonia 29: 215. 1977. For treatment as *Machaeranthera l.* (T.J. Watson) Cronquist, see Intermt. Fl. 5: 274. 1994. Type from Grand Co., 6 miles northwest of Moab along U.S. Hwy. 191 (*Watson 679*; holotype TEX, isotypes COLO, GH, MO, MONTU, NY, UC). Cronquist (1994) cited the distribution as “Canyonlands of Garfield, Wayne, Grand, and San Juan cos., Utah.... [A] distinctive local taxon with a range more than 60 km long.” The habitat of var. *linearifolia* is on “[o]pen, sandy slopes” (Cronquist 1994), primarily on soils weathered from the Chinle, Shinarump, and Moenkopi formations (Welsh et al. 1993). Acc. Stockton (1984), “[v]ariety *linearifolia* is intermediate to [*X. glabriuscula* var. *glabriuscula* and *X. tortifolia* var. *imberbis* (Cronquist) T.J. Watson, both] morphologically and ecologically.... Most populations are tetraploid [$2n = 24$, as opposed to the putative parental taxa which are both diploid, $2n = 12$] and are probably segmental allopolyploids. Interestingly, one population [Mineral Bottom, Grand Co.] is [predominantly] diploid. [Another population, near Moab, is predominantly tetraploid but one diploid count has been obtained from there as well.] Stabilized diploid, hybrid derived taxa are rarely reported in the literature.... It is proposed that variety *linearifolia* be raised to specific rank.” Note: the combination *Xylorhiza linearifolia* apparently has not been effectively and validly published.

Status Category: *Rare*

Yucca angustissima Engelm. ex Trel. var. avia Reveal

“Loa Pass yucca” Liliaceae

Federal Status: None **UTNHP Rank:** G5T1?Q/S1?

Distribution: PIU?, WAY?

Notes: For original description see Intermt. Fl. 6: 534. 1977. Type from Piute Co., Loa Pass (*Jones 5639a*; holotype US). Acc. Reveal (in Cronquist et al. 1977), “[t]he most [geographically] isolated variant of *Y. angustissima* is var. *avia*. It is restricted to the central portion of Utah, and occurs mainly on loamy, but rocky, soils rather than sandy soils like the other members of *Y. angustissima*.” *AUF2* (Higgins in Welsh et al. 1993) did not recognize var. *avia*, noting that it occurs “at the northern limit of [*Y. angustissima*], and seemingly represents a high-altitude form at the end of a cline.” Additional distribution and status information needed; taxonomic problem?

Yucca harrimaniae Trel. var. sterilis Neese & Welsh

“creeping yucca” Liliaceae

Federal Status: None **UTNHP Rank:** G4G5T2?Q/S2?

Distribution: DUC, UIN

Notes: For original description see Great Basin Nat. 45: 789. 1985. A Uinta Basin endemic, the type from Uintah Co., ca. 8 km south of Jensen, mouth of Walker Hollow (*Welsh 18461*; holotype BRY). Additional collections cited by Neese and Welsh (1985), all at BRY: Duchesne Co., ca. 11 km north-northwest of Roosevelt (*Neese 7663*); Uintah Co., 19 km south-southwest of Naples (*White & Neese 133*); mouth of Walker Hollow, topotype (*Neese et al. 7479*), 41 km south of Roosevelt (*Neese & England 5899*); ca. 3 km northwest of Gusher (*Neese & B. Welsh 7542*). The same authors also noted an occurrence in the Pariette Bench vicinity (Duchesne Co. or Uintah Co.?). Acc. *AUF2* (Higgins in Welsh et al. 1993), “[i]n the lower elevation portions of Uintah and Duchesne counties, growing in salt and mixed desert shrub, there is a strongly rhizomatous phase of [*Y. harrimaniae*] with flaccid leaves that tend to sprawl on the surface of the ground. These plants have been collected in flower, but are not known to produce fruit.” Goodrich and Neese (1986, p. 19) provided the following description in their key: “[p]lants consisting of clones (sometimes numbering many hundreds), individual stems (rosettes) solitary, rather widely spaced, connected by deep-seated horizontal rhizomes; leaves relatively narrow, thin, and flexible, the marginal fibers little exfoliating, mostly slender and nearly straight; flowers white; plants of sandy places.”

Zigadenus vaginatus (Rydb.) J.F. Macbr.

“alcove death-camas” Liliaceae

Federal Status: (3C) **UTNHP Rank:** G2/S2

Distribution: GRA, KAN, SNJ; AZ?, CO

Notes: Type from San Juan Co., near the Natural Bridges (Natural Bridges Natl. Monument), Armstrong Canyon (*Rydberg & Garrett 9407*; holotype NY, isotypes BRY, RM, US, UT). Acc. *AUF2* (Higgins in Welsh et al. 1993), *Z. vaginatus* occurs in hanging garden communities in the Canyonlands region of Grand, Kane, and San Juan cos. Also in western Colorado where “[r]are, in moist, protected alcoves of sandstone cliffs, Yampa and Green River canyons, [Moffat Co.]” (Weber

Status Category: *Rare*

and Wittmann 1996a). The report of this species from Nevada (USFWS 1980) is assumed to be in error. Not currently known from Arizona, but additional searches may eventually locate it in or near the Grand Canyon. *Z. vaginatus* is distinguished from *Z. elegans* Pursh by its habitat (lower elevations in southeastern Utah) and blooming period (late summer and early fall); *Z. elegans* in Utah occurs mainly at high elevations and flowers in spring and early summer (Higgins in Welsh et al. 1993). Weber and Wittmann (1992) treated this species as *Anticlea vaginata* Rydb. in the family Melanthiaceae.

Status Category:

Watch

*Plants regionally endemic but without
rangewide viability concern.*

Status Category: *Watch*

Abronia argillosa Welsh & Goodrich

“clay-verbena” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G3G4/S2

Distribution: EME, GRA, UIN; CO

Notes: For original description see Great Basin Nat. 40: 78. 1980. Type from Grand Co., 6 miles south of Cisco (*Welsh et al. 16689*; holotype BRY, isotypes NY, US, UT). Welsh and Goodrich (1980) reported that *A. argillosa* “is restricted to the Grand [= Colorado] River Valley, and less commonly in the drainage of the White River in east-central Utah and west-central Colorado, where it occurs on heavy soils derived from Mancos Shale and Green River formations.” Locally abundant in western Colorado on adobe hills (Weber and Wittmann 1996a).

Achnatherum contractum (B. Johnson) Barkworth

“Wyoming ricegrass” Poaceae

Federal Status: (C2) **UTNHP Rank:** G3/S1

Distribution: DAG; CO, WY +

Notes: For original description see Bot. Gaz. 107: 24. 1945. For current treatment see Phytologia 74: 6. 1993. For alternative treatment as *Oryzopsis contracta* (B. Johnson) Shechter, see Brittonia 18: 342. 1966. For alternative treatment as *Stipa contracta* (B. Johnson) W.A. Weber, see Phytologia 67: 428. 1989. Utah state record based on two 1995 collections from Daggett Co. (*Refsdal 4888 & 5448*; both at RM), cited by Refsdal (1996). The species otherwise ranges through western and central Wyoming to southwestern Montana and (rarely) northern Colorado (Weber 1987, Fertig 1994).

Agave utahensis Engelm. var. *utahensis*

“Utah century-plant” Liliaceae

Federal Status: None **UTNHP Rank:** G4T3?/S2

Distribution: WSH; AZ, NV

Notes: Lectotype from Washington Co., near St. George (*Palmer s.n.* in 1870, MO; isolectotype US), designated by Reveal (in Cronquist et al. 1977). Acc. *AUF2* (Higgins in Welsh et al. 1993), *A. utahensis* is common on the western slope of the Beaver Dam Mtns. (on limestone) and the southern slope of the Pine Valley Mtns. (on Navajo Sandstone). Var. *utahensis* is otherwise known from Coconino and Mohave cos., Arizona (Kearney and Peebles 1951) and is the rarest of three varieties of *A. utahensis* occurring in southern Nevada (Kartesz 1987).

Aletes macdougalii Coulter & Rose ssp. *breviradiatus* Theobald & Tseng

“Mesa Verde spring-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G3G4T3?/S2

Distribution: GAR, SNJ; AZ?, CO, NM?

Notes: For original description see Brittonia 16: 306. 1964. Treated by Cronquist et al. (1997) as *Cymopterus m.* (Coulter & Rose) Tidestrom. The only Utah specimens cited by Theobald et al. (1964) are from San Juan Co. (Armstrong and White Canyons, near the natural bridges, *Rydberg &*

Status Category: Watch

Garrett 9456, 9458; both at NY). The Garfield Co. record is based on several collections on Navajo Sandstone in the Hell's Backbone area (*E. & J. Neese 9634 & 9637; Nixon 1213; Heil 3387; Franklin 6482, 6499 & 6517*; all at BRY). Ssp. *breviradiatus* is otherwise definitely known only from the type region at Mesa Verde in southwestern Colorado (Theobald et al. 1964, Weber and Wittmann 1996a). The typical subspecies is found in Coconino Co., Arizona (Theobald et al. 1964) and was recently reported from New Mexico (Roalson and Allred, no date). Questionable Arizona record for ssp. *breviradiatus* based on a report of *A. macdougallii* from the Navajo Nation (Utah Natural Heritage Program, unpubl. data); additional information needed. Questionable New Mexico record for ssp. *breviradiatus* acc. Sivinski and Lightfoot (1994, cited in Roalson and Allred 1995a). Acc. Theobald et al. (1964), "[i]n both subspecies of *A. macdougallii* the populations rarely produce mature fruit."

Allium atrorubens S. Watson var. cristatum (S. Watson) D. McNeal

"Inyo onion"

Liliaceae

Federal Status: None

UTNHP Rank: G4T3?/S2?

Distribution: KAN, WSH; AZ, NV +

Notes: For current treatment see Madroño 39: 86. 1992. *A. cristatum* S. Watson treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. nevadense* S. Watson. Type from Washington Co., St. George (*Palmer 454*; holotype GH, isotypes ISC, MO, NY, US). McNeal (1992) cited the overall distribution of var. *cristatum*, including those plants formerly referred to var. *inyonis* (M.E. Jones) Ownbey & Aase, as "White Mountains and Owens Valley of California east into northwestern Arizona and southeastern [actually, southwestern] Utah." Rare in southern Nevada (Kartesz 1987, as var. *inyonis*); uncommon in the eastern Sierra Nevada region of Calif. (McNeal in Hickman 1993). Additional data needed on distribution and status in Utah.

Aquilegia barnebyi Munz

"shale columbine"

Ranunculaceae

Federal Status: (3C)

UTNHP Rank: G4/S3

Distribution: DUC, UIN; CO

Notes: For original description see *Leaflet West. Bot. 5: 177. 1949*. A Uinta Basin endemic acc. Goodrich and Neese (1986), "infrequent across the Tavaputs Plateau from the Avintaquin drainage [Duchesne Co.] to the Piceance Basin [Rio Blanco Co., Colorado]; ... often on dry, open, shale or marl limestone slopes." Common in appropriate habitats in western Colorado acc. Weber and Wittmann (1996a), who treated the genus *Aquilegia* in the family Helleboraceae.

Arabis demissa E. Greene var. languida Rollins

"Laramie rock-cress"

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G5T3/S2?

Distribution: DAG, DUC, EME, UIN, ?; CO, NV?, WY

Notes: For original description see *Rhodora 43: 388. 1941*. *AUF2* (Welsh et al. 1993) did not recognize any of the proposed infraspecific taxa in *A. demissa*, but var. *languida* was not included

Status Category: *Watch*

(not even as a synonym). The only Utah specimen originally cited by Rollins (1941) is from Daggett Co., 15 miles southeast of Manila, near Flaming Gorge (*Rollins 2279*; GH, RM). Additional Utah specimens cited by Rollins (1982a) are from Duchesne Co. (ca. 3.5 miles west-northwest of Duchesne, *Neese & Welsh 8900*; BRY, GH); Uintah Co. (10 miles west of Vernal, *Despain 59*, RM); and Emery Co. (ca. 9 miles east of Huntington, *Higgins & Reveal 1249*; BRY, GH). *Var. languida* is otherwise found in south-central and southwestern Wyoming (Dorn 1992) and northwestern Colorado (Rollins 1982a). Questionable Nevada record as reported by Rollins (1993).

Arabis lasiocarpa Rollins

“Wasatch rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G3/S3

Distribution: BOX, CAC, DAV, RIC, SAL, WEB; ID?

Notes: For original description see *Syst. Bot.* 6: 58. 1981. Type from Rich Co., 6 miles west of Garden City, off U.S. Hwy. 89, on a high ridge of the Wasatch [= Bear River] Range (*R. & K. Rollins 79-307*; holotype GH, isotype BRY). Endemic to northern Utah in the central and northern Wasatch Mtns. and the Bear River Range; additional collections cited by Rollins (1981b) from Cache and Salt Lake cos. The following additional collections were made during the 1995 and 1996 field seasons (all at UT): Box Elder Co., near summit of Willard Mtn. (*Stone & Windham 1808, 1811*); Box Elder-Weber county line, near summit of Willard Peak (*Stone & Smith 1993*); Weber Co., western slope of Mt. Ogden in Waterfall Canyon (*Stone 1897*), eastern slope of Mt. Ogden in Snowbasin ski area (*Stone et al. 1954*), eastern slope of Ben Lomond peak (*Stone & Smith 1997*); Cache Co., Wellsville Mtns. near summit of Wellsville Cone (*Stone & Smith 1965*), near summit of James Peak (*Stone 2004*). Davis Co. record based on a collection from Centerville Canyon, elev. 7900 ft. (*Cottam et al. 14999*, UT). Questionable Idaho record as reported by Rollins (1993), based on a collection from 18.9 miles north of Ketchum, Blaine Co. (*R. & K. Rollins 79-281*, BRY 248594), which this author believes is misidentified. *A. lasiocarpa* may yet be found in Idaho, particularly in the northernmost portion of the Bear River Range (Franklin Co.); one collection from Wilderness Peak (*Moseley 1750*, ID) was determined as *A. lignifera* A. Nelson (see Moseley and Mancuso 1990) but may prove to be *lasiocarpa*. Rollins (1981b) compared *A. lasiocarpa* with *A. lignifera*, but in a letter on file at UT he also indicated that it is closely related to *A. lemmonii* S. Watson. The siliques are glabrous in approximately half of the specimens examined thus far.

Arabis schistacea Rollins

“Toiyabe rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G3?/S1

Distribution: GAR; NV

Notes: For original description see *Contr. Dudley Herb.* 3: 370. 1946. Infrequent to rare in Nevada, known from the Monitor and Toiyabe ranges in Eureka and Nye cos. (Kartesz 1987). In Utah known by a single collection from Garfield Co., 6 miles east of U.S. Hwy. 89 turnoff 12 miles north of Panguitch, among low sagebrush (*Rollins et al. 83-161*; BRY, UTC). Additional data needed on

Status Category: Watch

distribution and status in Nevada. The Utah population is disjunct, and the specimens need to be critically reexamined.

Arabis shockleyi Munz

“Shockley’s rock-cress”

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G3/S2?

Distribution: BEA, JUA, MIL, TOO; NV +

Notes: Beaver Co. record based on a collection from northwest of Milford (*Ostler & Anderson 1214*, BRY). Tooele Co. record based on a collection from Dutch Mtn. (*Jones 6169*, POM; cited by Rollins 1941). County distribution otherwise as reported in *AUF2* (Welsh et al. 1993). Evidently *A. shockleyi* occurs on both calcareous and quartzite substrates. Outside of Utah, the species was reported as rare or rarely collected in southern Nevada (Kartesz 1987) and rare in the Mojave Desert region of Calif. (Rollins in Hickman 1993).

Arabis vivariensis Welsh

“Jones Hole rock-cress”

Brassicaceae

Federal Status: (C2), BLM

UTNHP Rank: G2G3Q/S1

Distribution: UIN; CO

Notes: For original description see *Great Basin Nat.* 46: 263. 1986. For alternative treatment as *Boechea* v. (Welsh) W.A. Weber, see *Phytologia* 67: 425. 1989. Type from Uintah Co., Jones Hole Fish Hatchery (*Welsh & Neese 18341*; holotype BRY, isotype BRY). Otherwise known from Dinosaur Natl. Monument and vicinity in northeastern Uintah Co., Utah, and western Moffat Co., Colorado (Rollins 1981b, Goodrich and Neese 1986, Welsh et al. 1993, Weber and Wittmann 1996a). Naumann (1990) documented 21 localities for *A. vivariensis*, mostly from the Colorado portion of the Monument, and noted that the species “is known primarily from sandy soils derived from Weber Sandstone in pinyon-juniper woodlands in shade or on north aspects, in duff, and in association with sandy cryptogams, or steep canyon slopes.” Rollins (1981b) did not recognize *A. vivariensis*, treating it instead as a synonym of *A. fernaldiana* Rollins var. *f.* Acc. *AUF2* (Welsh et al. 1993), *A. vivariensis* “is closely similar to *A. fernaldiana* from Nevada, differing from the type variety of that species in smaller flowers and from the species generally in the shorter style.”

Artemisia nova A. Nelson var. duchesnicola Welsh and Goodrich

“Sherel’s dwarf sagebrush”

Asteraceae

Federal Status: None

UTNHP Rank: G5T3?/S3?

Distribution: UIN

Notes: For original description see *Great Basin Nat.* 55: 361. 1995. Var. *duchesnicola* is a central Uinta Basin endemic, the type from Uintah Co., 16 km west of Vernal (*Goodrich 23215*; holotype BRY). Acc. Welsh and Goodrich (1995), “var. *duchesnicola* is the dominant plant, often in association with other desert shrubs, on reddish clay soils of the Duchesne River Formation, ... from about 15 km west of Vernal to Tridell.” The same authors noted that the variety may have arisen

Status Category: Watch

through hybridization between typical *A. nova* and *A. tridentata* var. *wyomingensis* (Beetle & Young) Welsh.

Asclepias hallii A. Gray

“Hall’s milkweed”

Asclepiadaceae

Federal Status: None

UTNHP Rank: G3?/S1

Distribution: EME, GAR, GRA, KAN, MOR, UTA, WSH; AZ, CO, NM?, NV, WY

Notes: A plant of dry, rocky slopes, widespread in Utah but known from relatively few collections. Most of the county records cited in *AUF2* (Higgins in Welsh et al. 1993) are those reported earlier by Woodson (1954). Acc. P. and N. Holmgren (in Cronquist et al. 1984), the species is “sporadically occurring throughout its range,” which includes south-central Wyoming, Colorado, north-central Arizona (San Francisco Peaks), and central and east-central Nevada (Kearney and Peebles 1951, Kartesz 1987, Dorn 1992, Weber and Wittmann 1996a). Questionable New Mexico record as reported by P. and N. Holmgren (in Cronquist et al. 1984); cf. Martin and Hutchins (1981), Roalson and Allred (no date).

Aster welshii Cronquist

“Zion aster”

Asteraceae

Federal Status: None

UTNHP Rank: G3?/S3?

Distribution: BEA, GAR, KAN, PIU, SUM?, WAY, WSH

Notes: For original description see *Intermt. Fl.* 5: 291. 1994. Type from Washington Co., Zion Canyon, Kaye’s Garden (*Welsh & Hays 24379*; holotype BRY). Endemic to Utah, the distribution cited by Cronquist (1994) as “hanging gardens and wet ledges, or in seeps ...; common in and about Zion Natl. Park, n. along the Utah Plateaus to the Tushar Mts. in Beaver and Piute cos., ... and (disjunct?) near Park City in Summit Co.” *AUF2* (Welsh et al. 1993) mentioned an occurrence at Calf Creek Falls, Garfield Co.

Astragalus ampullarius S. Watson

“gumbo milk-vetch”

Fabaceae

Federal Status: (C2)

UTNHP Rank: G2/S2

Distribution: KAN, WSH; AZ

Notes: Type from “Kanab, Southern Utah” (*Thompson s.n.* in 1872; holotype GH, isotype US). Endemic on clay knolls of the Chinle Formation in western Kane and Washington cos., Utah, and adjacent Mohave and Coconino cos., Arizona (Barneby 1989, Welsh et al. 1993). Acc. Welsh and Eliason (1995), “[t]here are numerous subpopulations of the species in Kane County from the Cockscomb west to southwest of Kanab.” Acc. Barneby (1989), “[t]he five or six known major populations of gumbo milkvetch are mutually isolated and the plants show some incipient differentiation, most notably in color of the flower.”

Status Category: *Watch*

Astragalus barnebyi Welsh & Atwood

“Barneby’s milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3/S2

Distribution: GAR, WAY; AZ

Notes: For original description of *A. desperatus* var. *conspicuosus* Barneby, see Leaflet. West. Bot. 5: 87. 1948. For current treatment see Great Basin Nat. 35: 346. 1975. Barneby (1989) cited the overall distribution of *A. desperatus* var. *conspicuosus* as “discontinuously widespread and localized in drainage of Dirty Devil and Escalante rivers in Wayne and Garfield cos., Utah, on Kanab Creek in extreme nw. Coconino Co., Ariz., and ... on the Little Colorado River in s. Navajo Co., Ariz., these widely separated populations perhaps independently derived from widespread *A. desperatus*.”

Astragalus brandegei T.C. Porter

“Brandeggee’s milk-vetch” Fabaceae

Federal Status: (C2) **UTNHP Rank:** G3G4/S2

Distribution: CAR, EME, GAR, IRO, PIU, SEV, WAY; AZ, CO, NM

Notes: Barneby (1989) cited the overall distribution as “discontinuously widespread over the s. Rocky Mts., the Colorado Plateau, and the Mogollon Escarpment, extending on the Atlantic slope from c. Colo. to c. N.M., w. to c. Ariz., thence n. in Utah to the Utah Plateaus in Carbon, w. Emery, w. Wayne, Piute, and w. Garfield cos. and to the margin of the Escalante Desert in w. Iron Co.” Acc. *AUF2* (Welsh et al. 1993), *A. brandegei* “is a cryptic plant that is seldom collected,” suggesting that it may be more common than collection data alone would lead one to believe. Move to peripherals list?

Astragalus callithrix Barneby

“Callaway milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3/S2

Distribution: MIL; NV

Notes: For original description see Leaflet. West. Bot. 3: 103. 1942. Barneby (1989) cited the overall distribution as “locally plentiful in two detached areas: n. Nye Co., Nev., from Stewart Valley s. of Gabbs e. to the lower White River; and c. Millard Co., Utah, in foothills of Confusion Range and on old shoreline of Sevier Lake.” “Rare but locally abundant” in Nevada, known from Mineral and Nye cos. (Kartesz 1987).

Astragalus chamaemeniscus Barneby

“ground-crescent milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G2G3/S1

Distribution: BEA, IRO; NV

Notes: For original description see Leaflet. West. Bot. 3: 105. 1942. Barneby (1989) cited the overall distribution as “scattered and seldom seen in numbers; endemic to the southern two-thirds and periphery of the Calcareous Mountains Sect. of the Great Basin in White Pine, ne. Nye, and n.

Status Category: Watch

Lincoln cos., Nev. and the Escalante Desert in Beaver and Iron cos., Utah.” Additional data needed on distribution and status in Nevada; move to rare list?

Astragalus chloödes Barneby

“grass-like milk-vetch”

Fabaceae

Federal Status: (3C)**UTNHP Rank:** G3/S3**Distribution:** UIN

Notes: For original description see Leafl. West. Bot. 5: 6. 1947. Type from Uintah Co., 6 miles southeast of Jensen (*Ripley & Barneby 7797*; holotype CAS, isotypes GH, K, NY, POM, RM, RSA, UTC). *A. chloödes* is a Uinta Basin endemic acc. Goodrich and Neese (1986), “[o]ccasional or locally common ... from near Dry Fork to the Colorado-Utah line (possibly in Colorado) n. of Hwy. 40; crevices of sandstone outcrops; 5,000-6,000 ft.” “[F]orming populous colonies but highly localized” (Barneby 1989). Not in Colorado (Weber and Wittmann 1992, 1996a).

Astragalus consobrinus (Barneby) Welsh

“Bicknell milk-vetch”

Fabaceae

Federal Status: (3C), FS**UTNHP Rank:** G2G3/S2S3**Distribution:** EME, GAR, PIU, SEV, WAY

Notes: For original description see Amer. Midl. Nat. 41: 496. 1949. For current treatment see Great Basin Nat. 38: 271. 1978. Type from Wayne Co., southeast of Bicknell (*Ripley & Barneby 8605*; holotype CAS, isotypes GH, NY, RM, RSA, UTC). Endemic to Utah, the distribution cited by Barneby (1989) as “local on upper forks of Sevier River and the e. slope of the e. file of the Utah Plateaus from se. Emery and adj. Sevier to sw. Garfield Co.” Piute Co. record as reported by Barneby (1964), who noted the species as “apparently not common but sometimes locally plentiful.” Move to rare list?

Astragalus convallarius E. Greene var. finitimus Barneby

“Enterprise milk-vetch”

Fabaceae

Federal Status: (3C)**UTNHP Rank:** G5T3/S2**Distribution:** IRO, WSH; NV

Notes: For original description see Leafl. West. Bot. 7: 192. 1954. Type from Washington Co., 3 miles south of Enterprise (*Ripley & Barneby 4967*; holotype CAS, isotype RSA). Barneby (1989) cited the overall distribution of var. *finitimus* as “Washington and Iron cos., Utah, and Lincoln Co., Nev.” In Nevada known only from Elko and Lincoln cos. where “rare ... but locally abundant” (Kartesz 1987).

Astragalus cottamii Welsh

“Cottam’s milk-vetch”

Fabaceae

Federal Status: (3C)**UTNHP Rank:** G4Q/S2**Distribution:** SNJ; AZ, CO, NM

Status Category: *Watch*

Notes: For original description see *Rhodora* 72: 189. 1970. Type from San Juan Co., ca. 4 miles east of Clay Hills divide (*Welsh* 5207; holotype BRY, isotypes ISC, NY). Treated by Barneby (1989) as *A. monumentalis* var. *c.* (*Welsh*) Isely (*Syst. Bot.* 8: 423. 1983), with overall distribution cited as “Natural Bridges e. to Comb Wash in San Juan Co., Utah, n. Navajo Co. (Laguna Creek n. of Kayenta), Ariz., and San Juan Co. (Hogback Mt.), N.M.” *A. monumentalis* var. *c.* also in southwestern Colorado (*Weber and Wittmann* 1992, 1996a), where “[l]ocal, on sandstone along canyon rims, [Montezuma Co.]”

***Astragalus desperatus* M.E. Jones var. *petrophilus* M.E. Jones**

“rimrock milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5T3/S3

Distribution: EME

Notes: Type from the San Rafael Swell (*Jones s.n.* in 1914; holotype POM, isotypes BRY, NY, RM). Var. *petrophilus* is endemic to Emery Co. in the northern and western portions of the San Rafael Swell (*Barneby* 1989, *Welsh et al.* 1993), but Drs. Duane Atwood and Ron Kass have noted (1996, pers. comm.) that it is common within its limited range. *Debacon et al.* (no date) showed that var. *petrophilus* possesses unique genetic markers (nuclear DNA internal transcribed spacer sequence data) when compared with other taxa in the *A. desperatus* complex; they further suggested that it might be better treated at species level.

***Astragalus detritalis* M.E. Jones**

“debris-dwelling milk-vetch”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G3/S3

Distribution: DUC, UIN; CO

Notes: Type from Duchesne Co., ca. 4 miles above [southwest of?] Theodore [Duchesne] on the Colton road (*Jones s.n.* in 1908; holotype POM, isotypes BRY, G, GH, NY). A Uinta Basin endemic acc. *Goodrich and Neese* (1986), “occasional to locally common across the Tavaputs Plateau and adjacent in the Basin from near Starvation Reservoir to the White River drainage and Vermillion Bluffs in Colorado; ... 5,600-9,000 ft.” “[I]n scattered colonies populous only following winter rains” (*Barneby* 1989).

***Astragalus diversifolius* A. Gray**

“meadow milk-vetch”

Fabaceae

Federal Status: FS, BLM

UTNHP Rank: G3/S1

Distribution: JUA, (TOO); ID, (NV), (WY)

Notes: A plant of saline-alkaline meadows at low elevations, the main distribution apparently in Idaho on the Snake River Plains and northward (*Barneby* 1989). Otherwise known historically from the Green River Basin of Wyoming (*Barneby* 1989, *Fertig* 1994); Spring Valley in southern White Pine Co., Nevada (*Kartesz* 1987, *Barneby* 1989); and from near Iapah in Deep Creek Valley, Tooele Co., Utah (type loc. of *A. ibapensis*, *Jones s.n.* in 1891; holotype POM). Acc. *AUF2* (*Welsh et al.* 1993), *A. diversifolius* was rediscovered in Juab Valley (Juab Co.) by Dr. Sherel Goodrich in 1980.

Status Category: *Watch*

Astragalus ensiformis M.E. Jones var. ensiformis

“Pagumpa milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3T2T3/S1S3

Distribution: WSH; AZ

Notes: Barneby (1989) cited the overall range of var. *ensiformis* as “Mohave Co., Ariz. on and around the Shivwits and Uinkaret plateaus, and n. just into Utah on Smithsonian Butte s. of Rockville [Washington Co.]” The same author treated plants from elsewhere in Washington Co. (i.e., foothills of Beaver Dam, Bull Valley, and Pine Valley mtns.) as var. *gracilior* Barneby (Proc. Calif. Acad. Sci. IV. 25: 158. 1944), based on supposed morphological differences of the stem, root crown, and fruit. *AUF2* (Welsh et al. 1993) did not recognize var. *gracilior* as distinct, noting “from the rather abundant material available for study in the herbarium and from long experience with the taxon in the field, there is no discernible evidence of more than a single, variable taxon.”

Astragalus harrisonii Barneby

“Harrison’s milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G2G3/S2S3

Distribution: GAR, WAY

Notes: For original description see Mem. New York Bot. Gard. 13: 271. 1964. Endemic to southeastern Utah, the type from Wayne Co., near Fruita, wash below the Natural Bridge (*Barneby 13131*; holotype CAS, isotypes BRY, GH, NY, RM, RSA, US, UTC). Acc. *AUF2* (Welsh et al. 1993), “[r]ather large populations of this plant ... are known from Capitol Reef, but the main body of its distribution lies to the south, in the Waterpocket Fold.” Additional distribution and status information needed; move to rare list?

Astragalus henrimontanensis Welsh

“Dayna’s milk-vetch” Fabaceae

Federal Status: (3C), FS **UTNHP Rank:** G2G3/S2S3

Distribution: GAR; AZ?

Notes: For original description of *A. stocksii* Welsh, see Great Basin Nat. 34: 307. 1974 [not Benth. ex Bunge, 1868]. For current treatment see Great Basin Nat. 38: 12. 1978. Type from Garfield Co., near Pennellen Pass, The Horn (*Welsh 11740*; holotype BRY, isotypes ISC, US). Treated by Barneby (1989) as *A. argophyllus* var. *stocksii* (Welsh) Barneby ex Isely (Iowa State J. Res. 59: 121. 1984), with overall distribution cited as “Henry Mts. and Aquarius Plateau, Garfield Co., Utah, and Uinkaret Plateau (Mt. Trumbull) in Mohave Co., Ariz.” Acc. *AUF2* (Welsh et al. 1993), the Arizona report is based on misidentified specimens of *A. argophyllus* var. *panguicensis* (M.E. Jones) M.E. Jones. In the Henry Mtns., the distribution was reported by Neese (1981) as “[l]ocally common but with very narrow distribution, occurring between 2250-2560 m (7400-8400 ft) elevation in ponderosa pine, pinyon-juniper, and sagebrush communities on rocky slopes of igneous detritus.” Additional collections cited (all at BRY?): Lonesome Beaver Campground (*Neese 1697, Neese & White 3087, 3415*), slopes of Mt. Pennell (*Neese & White 3459*), McClellan Spring (*Neese 1738A & 5061*), 1 mile northwest of Cass Creek Peak between Mt. Pennell and Mt. Hillers (*Neese & White*

Status Category: Watch

4096), east base of The Horn (*Neese 5128, Welsh 9817*), Sawmill Flat (*Wood s.n. in year?*), Cass Creek Peak Reservoir (*Neese & Taye 9948*).

Astragalus jejunus S. Watson

“starveling milk-vetch”

Fabaceae

Federal Status: FS

UTNHP Rank: G3/S1

Distribution: RIC; CO, ID, NV, WY

Notes: Barneby (1989) cited the overall distribution as “locally abundant in the basins of upper Green and Bear rivers in sw. Wyo. and immediately adj. Utah (Rich Co.) and Idaho (Bear Lake Co.); ... ne. Elko and disjunct ... in the foothills of the White Pine Mts., White Pine Co., Nev.; nw. Colo.” Rare in Nevada (Kartesz 1987).

Astragalus lancearius A. Gray

“Beaver Dam milk-vetch”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G2G3/S2S3

Distribution: KAN, SNJ?, WSH; AZ

Notes: Treated by Barneby (1989) as *A. episcopus* var. *l.* (A. Gray) Isely (Syst. Bot. 8: 421. 1983), with overall distribution cited as “localized in the valleys of the Virgin River, Kanab Creek, and Paria River in sw. Washington and s. Kane cos., Utah, and n. Mohave Co., Ariz.” Questionable San Juan Co. record as reported in *AUF2* (Welsh et al. 1993), possibly based on misidentified specimens of the closely related *A. episcopus* S. Watson. Acc. Welsh and Eliason (1995), *A. lancearius* “grows on a variety of substrates, typically in the juniper-pinyon community. There are large acreages of this plant.”

Astragalus lentiginosus Douglas ex Hook. var. scorpionis M.E. Jones

“scorpion milk-vetch”

Fabaceae

Federal Status: (C2), FS

UTNHP Rank: G5T3?/S1

Distribution: JUA; NV

Notes: Var. *scorpionis* in Utah is known only from the Deep Creek Mtns., Juab Co. (Barneby 1989). The same author cited the extralimital distribution as “scattered through mountainous Nev. from the Ruby Mts. in Elko Co. s. through the White Pine and Egan ranges to Morey Peak in Lincoln Co., w. through the higher ranges of n. Nye Co. to the Wassuk Range in Mineral Co.”

Astragalus lentiginosus Douglas ex Hook. var. stramineus (Rydb.) Barneby

“Virgin milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5T2T3/S1

Distribution: WSH; AZ, NV

Notes: For current treatment see Leaflet. West. Bot. 4: 122. 1945. Type from “Southern Utah” (*Palmer s.n. in 1870*; holotype NY, isotype US). An endemic of the lower Virgin River valley in Mohave Co., Arizona and Clark Co., Nevada (Barneby 1964, 1989), in Utah restricted to the western

Status Category: *Watch*

slope of the Beaver Dam Mtns., Washington Co. (Welsh et al. 1993). Locally common to abundant (Welsh et al. 1975, Barneby 1989). Rare in Nevada (Kartesz 1987).

***Astragalus lentiginosus* Douglas ex Hook. var. *vitreus* Barneby**

“glass-pod milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T3/S3

Distribution: KAN, WSH; AZ, NV?

Notes: For original description see Leaflet. West. Bot. 4: 119. 1945. Type from Washington Co., 5 miles west of Leeds (*Maguire & Blood 4413*; holotype POM, isotype UTC). Barneby (1989) cited the overall distribution of var. *vitreus* as “forming populous colonies ... in Washington and w. Kane cos., Utah and adj. Mohave and Coconino cos., Ariz.” Var. *vitreus* is not currently known from Nevada but was reported by Kartesz (1987) as expected in Clark Co. Schoener (1974) reported the range of var. *vitreus* as extending into Kane and Garfield cos., but at least some of the collections she cited are apparently now referred to var. *wahweapensis* Welsh.

***Astragalus lutosus* M.E. Jones**

“Dragon milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G4/S3

Distribution: UIN, UTA, WAS; CO

Notes: Type from Uintah Co., White River and Dragon (*Jones s.n.* in 1908; syntypes POM, isosyntypes DS, GH, NY). Endemic on semi-barren outcrops of Green River shale around the southern periphery of the Uinta Basin (Goodrich and Neese 1986, Barneby 1989), reportedly most common in the Piceance Basin (Rio Blanco and Garfield cos., Colorado) but extending into the White River country of eastern Uintah Co.; also known from isolated populations on the West Tavaputs Plateau (Willow Creek drainage, Wasatch Co.; upper Price River drainage, Utah Co.).

***Astragalus malacoides* Barneby**

“Kaiparowits milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3/S3

Distribution: GAR, KAN, WAY?

Notes: For original description see Mem. New York Bot. Gard. 13: 501. 1964. Type from Kane Co., northeastern slope of Kaiparowits Plateau, south of Willow Tank (*Harrison 9069*; holotype US, isotypes BRY, NY [fragment]). Barneby (1989) cited the distribution as “locally plentiful but confined to a segment of the Canyonlands in c. Garfield and e. Kane cos., Utah, from the w. foothills of the Henry Mts. sw. through Waterpocket Fold, the Circle Cliffs, and Kaiparowits Plateau to Smoky Mt.” Neese (1981) cited a single collection from Tarantula Mesa, Garfield Co. (*Neese 5087*, BRY). Questionable Wayne County record as mapped in Albee et al. (1988).

Status Category: *Watch*

***Astragalus miser* Douglas ex Hook. var. *tenuifolius* (Nutt. ex Torrey & Gray) Barneby**

“Garrett’s milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T3/S1

Distribution: RIC, SAL; ID, NV, WY

Notes: For current treatment see Leafl. West. Bot. 7: 195. 1954. Barneby (1989) cited the overall range of var. *tenuifolius* as “Wasatch Mts. and e. Snake River Plains in ne. Utah and se. Idaho, w. around the nw. edge of Bonneville Basin into ne. Elko Co., Nev., e. through the Bear River valley to sw. Wyo.” Rich Co. record as reported in *AUF2* (Welsh et al. 1993). Salt Lake Co. record based on the type collection of *Homalobus paucijugus* Rydb. (Big Cottonwood Canyon, *Garrett 1580*; holotype NY, isotypes US, UT). “A comparatively rare, or at least seldom collected form, var. *tenuifolius* is locally common on the Bear-Green River divide in southwestern Wyoming” (Barneby 1964).

***Astragalus missouriensis* Nutt. var. *amphibolus* Barneby**

“Mancos milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T3T4/S1

Distribution: GRA, SNJ; CO, NM

Notes: For original description see Amer. Midl. Nat. 37: 447. 1947. Typical *A. missouriensis* is widespread east of the Rocky Mtns. and is replaced by var. *amphibolus* west of the Rockies in Colorado and adjacent Utah, where it is found on the foothills of the La Sal and Abajo Mtns. (Barneby 1989). Var. *amphibolus* also in northwestern New Mexico, mapped in San Juan and Rio Arriba cos. (Martin and Hutchins 1980; !Roalson and Allred, no date). Acc. Barneby (1964), var. *amphibolus* is “locally plentiful in scattered stations on the west slope of the southern Rocky Mountains in Colorado” and “locally abundant on the sagebrush plains extending east from Monticello into Colorado.”

***Astragalus monumentalis* Barneby**

“Cataract Canyon milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3?/S3?

Distribution: GAR, SNJ

Notes: For original description see Leafl. West. Bot. 7: 35. 1953. Type from San Juan Co., 25 miles southeast of Hite, White Canyon (*Harrison 11595*; holotype US, isotype BRY). Typical *A. monumentalis* is endemic to southeastern Utah, the distribution cited by Barneby (1989) as “White and Cataract canyons and tributary gulches leading to the Colorado River in w. San Juan and e. Garfield cos.” Also reported from the San Juan River drainage (Atwood et al. 1991), there apparently sympatric with the closely related *A. cottamii* Welsh [= *A. monumentalis* var. *c.* (Welsh) Isely]. Reports of *A. monumentalis* from Arizona (Howell and McClintock 1960, Atwood et al. 1991), Colorado (USFWS 1993c), and New Mexico (Atwood et al. 1991; Roalson and Allred, no date) are evidently based on misidentified specimens of *A. cottamii* or *A. naturitensis* Payson.

Status Category: *Watch*

Astragalus nelsonianus Barneby

“Aven Nelson’s milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: DAG; CO, WY

Notes: For current treatment see Mem. New York Bot. Gard. 13: 427. 1964. Primarily an endemic of the Red Desert and Green River Basin in southwestern Wyoming, barely entering northeastern Utah and northwestern Colorado (Barneby 1989; Dorn 1992, as *A. pectinatus* var. *platyphyllus* M.E. Jones; Weber and Wittmann 1996a). The Utah records are all from within 5 miles of Manila, Daggett Co. (Goodrich and Neese 1986). “[F]orming colonies but local” (Barneby 1989).

Astragalus nidularius Barneby

“bird’s-nest milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3?/S3?

Distribution: GAR, SNJ, WAY

Notes: For original description see Leaflet West. Bot. 8: 16. 1956. Type from San Juan Co., 2 miles below Kachina Bridge (Natural Bridges Natl. Monument), near head of White Canyon (*Barneby 12778*; holotype CAS, isotypes GH, K, NY, POM, RM, US, UT, UTC, WS, WTU). Endemic to southeastern Utah, “locally plentiful along immediate tributaries of the Green and Colorado rivers downstream from Horseshoe Canyon in ne. Wayne Co. to e. Garfield and adj. San Juan cos., ... in Wayne Co. extending w. up Fremont [River] to Notom” (Barneby 1989).

Astragalus pardalinus (Rydb.) Barneby

“panther milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3?/S3?

Distribution: EME, GAR, WAY

Notes: For current treatment see Mem. New York Bot. Gard. 13: 884. 1964. Type from Emery Co., “Cedar Mountain, Green River” (*Jones s.n.* in 1915; holotype NY, isotypes DS, POM). Endemic to southeastern Utah, “locally plentiful around and within the nw. lobe of the Canyonlands Sect. of the Colorado Plateau, from San Rafael Swell s. to n. foothills of the Henry Mts. in Emery, c. Wayne, and adj. Garfield cos.” (Barneby 1989). Reported by Neese (1981) as uncommon in the Henry Mtns. vicinity with the following collections cited (all at BRY?): Garfield Co., 25 miles south of Hanksville along Hwy. 95 (*Welsh et al. 8955*), 13 miles south of Hanksville at Butler Wash (*Neese & White 2670*), 4 miles south of Hwy. 276 on Hwy. 95, North Wash (*Neese & White 2677*); Wayne Co., 3 miles north of Hanksville (*Harrison 11524*), 12 miles north of Hanksville along Hwy. 24 (*Neese & White 2840*). Acc. AUF2 (*Welsh et al. 1993*), the main area of distribution is on the sandy eastern foot of the San Rafael Swell.

Astragalus perianus Barneby

“Rydberg’s milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3/S3

Distribution: BEA, GAR, IRO, KAN, PIU, SEV

Status Category: *Watch*

Notes: For original description see Mem. New York Bot. Gard. 13: 973. 1964. Type from Piute Co., near [west of] Marysvale, mtns. north of Bullion Creek (*Rydberg & Carlton 7104*; holotype NY, isotypes GH, RM, US). Acc. Barneby (1989), *A. perianus* is “endemic to the Utah Plateaus, from the Tushar Mts. in Piute Co., s. through Sevier Plateau in w. Garfield Co. to the Markagunt Plateau in e. Iron and adj. Kane Co.” Listed as threatened under the Endangered Species Act in 1978 (43 *FR* 17910); delisted and reduced to 3C [non-Candidate] status in 1989 (54 *FR* 37941).

***Astragalus praelongus* Sheldon var. *lonchopus* Barneby**

“Navajo milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G4T3?/S1S2

Distribution: SNJ; AZ, CO?, NM

Notes: For original description see Leafl. West. Bot. 9: 90. 1960. Barneby (1989) cited the overall range of var. *lonchopus* as “valley of San Juan River and White Canyon in San Juan Co., Utah, n. Navajo and Apache cos., Ariz., and adj. Colo. and N.M.” Not in Colorado acc. Weber and Wittmann (1992). Typical *A. praelongus* is an ill-scented selenophyte, and var. *lonchopus* is perhaps unusual in its apparent restriction to sandstone substrates (Barneby 1960, 1964).

***Astragalus rafaensis* M.E. Jones**

“San Rafael milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3/S2S3

Distribution: EME, GRA; CO

Notes: Type from Emery Co., near Cedar Mtn. (*Jones s.n.* in 1915; holotype POM, isotypes BRY, CAS, GH, NY, PH, RM, UTC). Acc. *AUF2* (Welsh et al. 1993), there are two main populations of this ill-scented selenophyte in Emery Co.: one at the eastern base of Cedar Mtn. and the other near Window Blind Butte in the San Rafael Swell. The remainder of the distribution is in the Dolores River canyon of eastern Grand Co. and adjacent Mesa and Montrose cos., Colorado (Barneby 1989, Weber and Wittmann 1996a).

***Astragalus saurinus* Barneby**

“Dinosaur milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3/S3

Distribution: UIN

Notes: For original description see Leafl. West. Bot. 8: 17. 1956. Type from Uintah Co., 6 miles north of Jensen (*Holmgren & Tillett 9527*; holotype NY, isotypes CAS, DAV, RM, TEX, US, UTC). Endemic to east-central Uintah Co. (Albee et al. 1988, Barneby 1989), the overall range “from Twelve Mile Wash near Lapoint to Dinosaur National Monument and s. to Red Wash; on Duchesne River, Morrison, Chinle, Moenkopi, and other formations that weather to badlands” (Goodrich and Neese 1986). “[L]ocally plentiful” (Barneby 1989). *A. saurinus* is found extremely close to the Colorado border on Raven Ridge (Weber and Wittmann 1996a), and the species may eventually be found in that state (Naumann 1990).

Status Category: *Watch*

Astragalus wardii A. Gray

“Ward’s milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G3/S3

Distribution: BEA, GAR, KAN, PIU, SEV, WAY

Notes: Type from Sevier Co. [?], edge of Aquarius Plateau (*Ward 424*; holotype GH, isotypes K, NY, PH, US). A Utah endemic, “locally abundant on the forks of Sevier River and adj. plateaus upstream from Sevier Co. to w. Garfield Co., ... e. in Sevier Co. to Fish Lake, in Garfield Co. to the Henry Mts., and extending se. to the headwaters of the Paria in extreme n. Kane Co.; disjunctly on Needle Range at w. edge of Escalante Desert in w. Beaver Co.” (Barneby 1989). Reported by Neese (1981) as uncommon in the Henry Mtns. vicinity with the following localities cited in Garfield Co.: Crescent Creek near Eagle City in semi-shade of aspen (*Neese 2019*, BRY), Crescent Creek at 2600 m (*Stanton 366*, BRY?), Granite Creek at 1500 m, sandy wash (observed but not collected?).

Astragalus wetherillii M.E. Jones

“Wetherill’s milk-vetch”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G3/SH

Distribution: GRA; CO

Notes: Known in Utah by a historical collection from the canyon of the Colorado River east of Moab, Grand Co. (Barneby 1989, Welsh et al. 1993). The species was otherwise reported as rare and local in the Grand, lower Gunnison, and Yampa river valleys of western Colorado (Barneby 1989, Weber and Wittmann 1996a).

Astragalus woodruffii M.E. Jones

“Woodruff’s milk-vetch”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G3/S3

Distribution: EME, GAR, WAY

Notes: An ill-scented selenophyte, the type from Emery Co., sandy foot of the San Rafael Swell (*Jones s.n.* in 1914; syntypes POM, isosyntypes BRY, CAS, GH, NY, PH, RM, US, UTC, WS, WTU). Endemic to southeastern Utah, “local but forming extensive colonies; known only from deserts on the w. affluents of the Colorado River between the s. end of San Rafael Swell and the Henry Mts., in se. Emery, Wayne, and adj. Garfield cos.” (Barneby 1989). Reported by Neese (1981) as “[l]ocally common in sandy low deserts to the east and north of the Henry Mountains, often with ephedra, sandsage, and *Poliom[i]ntha*,” the following collections cited (all at BRY?): Garfield Co., mouth of North Wash (*Kaneko 27*), west side of Mt. Ellen (*Cottam 5584*); Wayne Co., 5 miles south of Hanksville (*Neese & White 2668*, *Welsh & Moore 7096*), 3 miles south of Notom (*Neese & White 2756*, *Neese 5015*, *Holmgren et al. 2129*), Muddy Creek bridge near Hanksville (*Welsh 3928*), 3 miles northeast of Hanksville (*Welsh & Thorne 14702*).

Status Category: *Watch*

be accessioned). Locally abundant at this locality (10,000+ plants observed) based on Aug. 1994 field work (B. Franklin, unpubl. data). Otherwise of local occurrence in the mtns. of Arizona, Calif., Idaho, Montana, Oregon, Nevada, Washington, and Wyoming (W. and F. Wagner in Morin 1993).

Botrychium hesperium (Maxon & Clausen) Wagner & Lellinger

“western moonwort” Ophioglossaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: JUA, SUM, ?; AZ, CO, ID?, WY +

Notes: For current treatment see Amer. Fern J. 71: 92. 1981. Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). In Utah, *B. hesperium* occurs in the Deep Creek Mtns., Juab Co. (W.H. Wagner 1987, pers. comm.; cited in Albee et al. 1988). Summit Co. record based on 1991 collections from the western Uinta Mtns. (east-northeast of Big Elk Lake, in shale talus on steep northeast-facing slope, *Windham 91-193*; southwest of Marjorie Lake, partially shaded site in open spruce-fir forest, *Windham & Norman 91-265*; both at UT). An earlier report from Salt Lake Co. [Flowers (1944), as *B. matricariaefolium* var. *h.* (Maxon & Clausen) M. Broun] is based on a misidentified specimen of the closely related *B. lanceolatum* (S. Gmelin) Angström (*Garrett 1519* in part, UT). Outside of Utah, *B. hesperium* occurs sporadically in the cordilleran region from British Columbia and Alberta south to northern Arizona, with an outlying population in the Lake Superior region of Ontario and Michigan (W. and F. Wagner in Morin 1993); the questionable Idaho record is based on the distribution map provided by these authors.

Calystegia longipes (S. Watson) Brummitt

“Mojave morning-glory” Convolvulaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: WSH; AZ, NV +

Notes: For current treatment see Ann. Missouri Bot. Gard. 52: 214. 1965. Overall distribution cited by N. Holmgren (in Cronquist et al. 1984) as “s. Calif. e. across the Mojave Desert of s. Nev. to nw. Ariz. and sw. Utah (Beaver Dam Wash) and n. to Owens Valley of Inyo and s. Mono cos., Calif.” Uncommon to rare in southern Nevada (Kartesz 1987).

Camissonia parryi (S. Watson) Raven

“gypsum evening-primrose” Onagraceae

Federal Status: (3C) **UTNHP Rank:** G3?/S2

Distribution: BEA?, IRO?, WSH; AZ, NV?

Notes: For current treatment see Brittonia 16: 282. 1964. Type collection: “[a]bundant on bare gypseous clay hills near St. George, Washington Co., Utah” (*Parry 72*; holotype GH, isotypes BRY, DS, F, GH, ISC, MO, ND, NY, US). Overall distribution cited by Raven (1969) as “southwestern Utah and northwestern Arizona.” Although restricted geographically and edaphically, *C. parryi* is an annual that is abundant in years of sufficient rainfall (Raven 1969, Welsh et al. 1993). Cronquist et al. (1997) cited the Utah distribution as “mainly in Washington Co., but extending n. to Beaver Co.”; the same authors reported the species as occurring in southern Nevada (Clark Co.).

Status Category: *Watch*

Chrysothamnus nauseosus (Pallas) Britton var. nitidus (L.C. Anderson) Welsh

No common name

Asteraceae

Federal Status: None

UTNHP Rank: G5T3?/S1

Distribution: KAN; AZ

Notes: For original description see *Phytologia* 38: 313. 1978. For current treatment see *Great Basin Nat.* 43: 242. 1983. For alternative treatment as *Ericameria nauseosa* var. *nitida* (L.C. Anderson) Nesom & Baird, see *Phytologia* 75: 87. 1993. Acc. Anderson (1978), “[t]hese plants form attractive displays in the dry washes along [U.S.] hiway 89 in northern Arizona.” The same author cited additional specimens from Coconino and Navajo cos., Arizona, and Kane Co., Utah (*Anderson 1868*; FSU, KSC, MSC). Cronquist (1994) did not recognize var. *nitidus*, treating it instead as a synonym of *C. nauseosus* var. *turbinatus* (M.E. Jones) S.F. Blake.

Chrysothamnus nauseosus (Pallas) Britton var. salicifolius (Rydb.) H.M. Hall

“willow-lvd. rabbit-brush”

Asteraceae

Federal Status: None

UTNHP Rank: G5T3?/S3?

Distribution: BOX, CAC, CAR, DUC, EME, JUA, MOR, SAL, SNP, SEV, SUM, TOO, UTA, WAS

Notes: For alternative treatment as *Ericameria nauseosa* var. *salicifolia* (Rydb.) Nesom & Baird, see *Phytologia* 75: 87. 1993. Type from Wasatch Co., Strawberry Valley (*Leonard 288*; holotype NY, isotype BRY). Acc. Hall and Clements (1923), ssp. *salicifolius* (Rydb.) Hall & Clements is “[a]pparently rare and confined to Utah.” Cronquist (1994) cited the distribution as “mts. of Utah, from Cache Co. to Sevier Co.; typically in somewhat more mesic habitats than the other vars.”

Cirsium barnebyi Welsh & Neese

“Barneby’s thistle”

Asteraceae

Federal Status: None

UTNHP Rank: G3/S2

Distribution: DUC?, UIN; CO

Notes: For original description see *Brittonia* 33: 296. 1981. Type from Uintah Co., ca. 1.5 km east of Ignacio ghost town, northern bank of White River (*Welsh 19606*; holotype BRY, isotypes MIN, NY, US). Endemic to the Uinta Basin acc. Goodrich and Neese (1986), “locally common to abundant, lower edge of the E. Tavaputs Plateau; nearly barren, white, shale or marl limestone hills and slopes.... The specimens seen are all from near the old mining towns of Rainbow and Watson.” Otherwise known from the Piceance Basin of Garfield and Rio Blanco cos., Colorado (Weber and Wittmann 1996a). Acc. Welsh (1981), *C. barnebyi* often forms the dominant vegetation on semi-barren, white shale outcrops of the Green River Formation. Questionable Duchesne Co. record as reported in *AUF2* (Welsh et al. 1993). Cronquist (1994) presented an expanded concept of *C. barnebyi* which includes plants from as far west as Morgan and western Juab cos. and as far north as Carbon Co., Wyoming.

Status Category: *Watch*

Cirsium murdockii (Welsh) Cronquist

“Murdock’s thistle”

Asteraceae

Federal Status: None

UTNHP Rank: G2G3/S2S3

Distribution: DAG, DUC, UIN

Notes: For original description see Great Basin Nat. 42: 200. 1982. For current treatment see Intermt. Fl. 5: 404. 1994. Type from Duchesne Co., Uinta Mtns., Yellowstone Canyon (*Welsh & Neese 19935*; holotype BRY). *C. murdockii* is endemic to the Uinta Mtns., from Rock Creek eastward, at elevations from 9800 to 11,400 (12,000) feet (Goodrich and Neese 1986, Welsh et al. 1993, Cronquist 1994).

Cirsium ownbeyi Welsh

“Ownbey’s thistle”

Asteraceae

Federal Status: (C2), BLM

UTNHP Rank: G3/S1

Distribution: DAG, MIL?, UIN; CO, WY

Notes: For original description see Great Basin Nat. 42: 200. 1982. Type from Uintah Co., Split Mtn., Horse Trail Canyon (*Welsh 343*; holotype BRY). The range of *C. ownbeyi* in Utah extends from northeastern Uintah Co., where it is “abundant” in Dinosaur Natl. Monument (Naumann 1990), to the Brown’s Park vicinity in Daggett Co. (specimens at BRY). The species is otherwise known from adjacent portions of Moffat Co., Colorado (Naumann 1990, Weber and Wittmann 1996a) and Sweetwater Co., Wyoming (Dorn 1992, Fertig 1994). It is a plant of rocky, gravelly, or sandy soils at elevations from 5100 to 7280 feet, often found in alcoves and side canyons, about cliff bases and bedrock seeps, or in riparian areas (Naumann 1990; specimens at BRY). Acc. *AUF2* (Welsh et al. 1993), a specimen from Painter Spring, House Range, Millard Co. (*R. & J. Kass 1019*, BRY) must be placed with *C. ownbeyi* until a better resolution is found.

Cirsium rydbergii Petrak

“alcove thistle”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G3G4/S2S3

Distribution: GAR, GRA, KAN, SNJ, WAY; AZ

Notes: Type from San Juan Co., along the San Juan River near Bluff (*Rydberg & Garrett 10001*; holotype NY?, isotypes US, UT). Cronquist (1994) cited the distribution as “[h]anging gardens; along the Colorado and San Juan rivers and in some of the nearby side-canyons in San Juan, Kane, Grand, Garfield, and Wayne cos., Utah.” Howell and McClintock (1960) cited a collection of *C. rydbergii* (*Deaver 3675*) from Black Mesa, northern Apache Co., Arizona. Inasmuch as J.T. Howell was a critical student and has published taxonomic treatments on the genus *Cirsium*, the Arizona report is here assumed to be a valid record.

Cordylanthus kingii S. Watson var. densiflorus (Chuang & Heckard) Atwood

“Uinta Basin bird’s-beak”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G5T3?/S3?

Distribution: CAR, DUC, EME, GRA?, UIN

Status Category: *Watch*

Notes: For original description see Syst. Bot. Monogr. 10: 81. 1986. For current treatment see Great Basin Nat. Mem. 9: 572. 1987. Type from Uintah Co., 4 miles west of Vernal (*Ripley & Barneby 8721*; holotype PH, isotypes CAS, GH, RSA). The center of distribution for var. *densiflorus* is evidently the Uinta Basin, where Goodrich and Neese (1986) reported it as “[o]ccasional to locally common; s. slope of the Uinta Mts. and on the E. and W. Tavaputs Plateaus in Uintah and e. Duchesne Cos.; usually on dry clay soils.” Questionable Grand Co. record as mapped in Albee et al. (1988). Acc. Weber and Wittmann (1992), reports of *C. kingii* from Colorado are based on “[m]isidentifications of *C. wrightii* A. Gray, fide Chuang & Heckard.”

***Cryptantha barnebyi* I.M. Johnston**

“Barneby’s cryptantha” Boraginaceae

Federal Status: (3C) **UTNHP Rank:** G3/S3

Distribution: UIN

Notes: For original description see J. Arnold Arbor. 29: 240. 1948. Type from Uintah Co., 30 miles south of Ouray (*Ripley & Barneby 8748*; holotype GH [photograph at BRY], isotype NY). Endemic to the East Tavaputs Plateau between Hill Creek and the Colorado border (Goodrich and Neese 1986). The same authors reported that the species is “locally abundant [on] white shale barrens of the Green River Formation ..., mostly in the pinyon-juniper zone ...; 5,600-7,200 ft.” *C. barnebyi* is not yet known from Colorado (Weber and Wittmann 1992, 1996a), but it may eventually be found in that state.

***Cryptantha caespitosa* (A. Nelson) Payson**

“tufted cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G3/S1?

Distribution: CAR?, DAG, DUC?, RIC, UIN?; CO, ID, WY

Notes: In Utah, *C. caespitosa* is known from Daggett Co. (Brown’s Park and summit of Phil Pico Mtn.) and Rich Co. (Goodrich and Neese 1986, Higgins in Welsh et al. 1993). The species has also been reported from the Uinta Basin of Duchesne and Uintah cos. and from near Price in Carbon Co. (Cronquist et al. 1984, Albee et al. 1988). The distributional center is evidently in southwestern and south-central Wyoming (Higgins 1971, Dorn 1992), but *C. caespitosa* has also been found in Bear Lake Co., Idaho (Moseley 1991) and Moffat Co., Colorado (Goodrich and Neese 1986, Weber and Wittmann 1996a).

***Cryptantha capitata* (Eastw.) I.M. Johnston**

“Grand Canyon cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G4/S2?

Distribution: GAR, KAN, SNJ, WAY; AZ, NM

Notes: For current treatment see J. Arnold Arbor. 21: 66. 1940. Cronquist et al. (1984) cited the overall distribution as “mostly in and about the Grand Canyon in Ariz., but extending n. to Kane, Garfield, and Wayne cos., Utah.” New Mexico record acc. Ecosphere (1996).

Status Category: *Watch*

***Cryptantha cinerea* (E. Greene) Cronquist var. *arenicola* Higgins & Welsh**

“sand-dwelling cryptantha” Boraginaceae

Federal Status: (C2) **UTNHP Rank:** G5T3?/S3?

Distribution: GAR, KAN, WSH; AZ

Notes: For original description see Great Basin Nat. 46: 255. 1986. Type from Kane Co., Johnson Canyon, Lone Pine Point (*Higgins et al. 14296*; holotype BRY). Var. *arenicola* was reported by Higgins (1992) as common to abundant on Navajo blow sand south and west of Boulder, Garfield Co. It is also widely distributed in sandy areas of Kane Co. (Welsh and Eliason 1995). Washington Co. record based on a 1983 collection from Pocket Mesa, Zion Natl. Park (*Higgins & Barnum 13615*, BRY), cited by Higgins and Welsh (in Welsh 1986a). Arizona record as reported in *AUF2* (Higgins in Welsh et al. 1993).

***Cryptantha grahamii* I.M. Johnston**

“fragrant cryptantha” Boraginaceae

Federal Status: (3C) **UTNHP Rank:** G3/S3

Distribution: DUC, UIN

Notes: Type from Uintah Co., bench west of the Green River, north of the mouth of Sand Wash (*Graham 7924*; holotype GH [photograph at BRY]). Endemic and locally common in the Uinta Basin acc. Goodrich and Neese (1986), from “Gate Canyon in se. Duchesne Co. eastward to the Willow Creek-Buck Canyon area; ... restricted to sparsely vegetated shale terraces, benches, gentle talus slopes, and knolls of Green River Formation; 4,750-6,750 ft.”

***Cryptantha humilis* (E. Greene) Payson var. *nana* (Eastw.) Higgins**

“dwarf cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G4?T3?/S2S3

Distribution: DUC, UIN; CO

Notes: For current treatment see Brigham Young Univ. Sci. Bull., Biol. Ser. 13(4): 37. 1971. For alternative treatment as *Oreocarya h. ssp. n.* (Eastw.) W.A. Weber, see Brittonia 33: 326. 1981. Acc. *AUF2* (Higgins in Welsh et al. 1993), *C. humilis* is a widespread and variable species, the var. *nana* applying to shorter, more hispid plants from the Uinta Basin with short styles and quite rugulose nutlets. Goodrich and Neese (1986) reported var. *nana* as common but scattered across the Uinta Basin in Duchesne and Uintah cos. eastward to Rio Blanco Co., Colorado. Also reported from the Colorado River valley in western Colorado (Weber and Wittmann 1996a).

***Cryptantha interrupta* (E. Greene) Payson**

“Elko cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G4?/S1

Distribution: BOX; ID, NV

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *C. interrupta* in Utah is known only from Box Elder Co. The overall distribution was cited by Cronquist et al. (1984) as “Elko and ne. White Pine

Status Category: Watch

cos. to Eureka and ne. Nye cos., Nev., and in se. Cassia Co., Idaho.” Abundant in piñon-juniper woodland east of Wells, Elko Co., Nevada (Higgins 1971).

Cryptantha jonesiana (Payson) Payson

“Jones’ cryptantha” Boraginaceae

Federal Status: (3C) **UTNHP Rank:** G2G3/S2S3

Distribution: EME

Notes: Type from Emery Co., San Rafael Swell (*Jones s.n.* in 1914; holotype POM, isotypes BRY, RM). An endemic of semi-barren clay hills in the San Rafael Swell, Emery Co. (Higgins 1971, Cronquist et al. 1984). Additional distribution and status information needed; move to rare list?

Cryptantha longiflora (A. Nelson) Payson

“Palisades cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G3/S2

Distribution: EME?, GRA, SEV?, SNJ?; CO

Notes: Short-lived perennial (or biennial?), in Utah apparently restricted to the Colorado River drainage in Grand Co. (Higgins 1971); otherwise known from west-central Colorado where locally abundant on adobe soils of the Colorado and Gunnison river valleys (Weber and Wittmann 1996a). Higgins (1972) cited the first Utah collections as follows: Grand Co., along Colorado River, ca. 32.5 miles from Moab along Utah Hwy. 128, Morrison Formation (*Welsh 6989*, BRY); near milepost 32 along Utah Hwy. 128, sand-loam soil, associated with *Populus* and *Atriplex* (*Higgins 1478*; BRY, WTS); near Cisco, along U.S. Hwy. 6-50, clay soil, *Atriplex* community (*Higgins 3314*, BRY). Questionable Emery and Sevier county records as reported in *AUF2* (Higgins in Welsh et al. 1993) and Cronquist et al. (1984), respectively; both perhaps based on misidentified specimens of *C. wetherillii* (Eastw.) Payson. Questionable San Juan Co. record as mapped by Albee et al. (1988).

Cryptantha paradoxa (A. Nelson) Payson

“Paradox cryptantha” Boraginaceae

Federal Status: (3C) **UTNHP Rank:** G3G4/S3?

Distribution: EME, DUC, GRA?, UIN; CO, NM

Notes: Cronquist et al. (1984) cited the overall distribution as “sandy or gravelly soil or on sandstone on the San Rafael Swell in Emery Co., Utah, and in Duchesne and Uinta cos. in the Uinta Basin; on barren clay in w. Colo. and nw. N.M. ... The Utah populations are geographically disjunct from the populations in Colorado and New Mexico, but the plants from the two areas look very much alike.” Uncommon in the Uinta Basin acc. Goodrich and Neese (1986). Cottam et al. (1940) cited a location “[n]ear Moab, Grand Co.” (based on a specimen at BRY), but since this county record has not been repeated by more recent authors it is regarded here as questionable.

Status Category: *Watch*

Cryptantha stricta (Osterh.) Payson

“Flaming Gorge cryptantha” Boraginaceae

Federal Status: (3C) **UTNHP Rank:** G3/S2S3

Distribution: DAG, SUM, UIN; CO, WY

Notes: Locally common in the Uinta Basin acc. Goodrich and Neese (1986), known there from Phil Pico Mtn. and Browns Park in Daggett Co., south to Blue Mtn. and Raven Ridge in Uintah Co. Also reported from northeasternmost Summit Co. (Cronquist et al. 1984). *C. stricta* otherwise ranges through southwestern, south-central, and east-central Wyoming (Dorn 1992) and northwestern Colorado (Moffat and Rio Blanco cos.) where “[c]ommon in sagebrush plateaus” (Weber and Wittmann 1996a).

Cryptantha wetherillii (Eastw.) Payson

“Wetherill’s cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G3?/S3?

Distribution: CAR, EME, GAR, GRA, SNJ, UIN?, WAY

Notes: Lectotype from Grand Co., near Moab, Courthouse Wash (*Eastwood s.n.* in 1892, CAS [photograph at BRY]; isolectotypes NY [fragment], RM, UC), designated by whom? (cited by Higgins 1971). Acc. Higgins (1971), *C. wetherillii* is endemic to “[e]ast central Utah in Grand, Carbon, Emery, Wayne, and Garfield counties. Usually growing on heavy clay soils, 4,000 to 6,000 feet.” The reported distribution is wholly to the west of the Colorado River (Higgins 1971, Cronquist et al. 1984, Albee et al. 1988), although a San Juan Co. record was cited in *AUF2* (Higgins in Welsh et al. 1993). Questionable Uintah Co. record as cited by Cronquist et al. (1984).

Cymopterus basalticus M.E. Jones

“misnamed spring-parsley” Apiaceae

Federal Status: (3C) **UTNHP Rank:** G2G3/S2

Distribution: BEA, MIL, UTA?; NV

Notes: Type from Beaver Co. or Millard Co.?, “gathered at the half way station near Wa Wa, Utah, west of Frisco” (*Jones s.n.* in 1906; holotype POM, isotype BRY). *C. basalticus* in Utah is restricted to western Beaver and Millard cos. where it is mostly found on calcareous substrates (Albee et al. 1988, Goodrich in Welsh et al. 1993). Questionable Utah Co. record as cited in Cronquist et al. (1997). Reported as restricted but locally abundant (Welsh et al. 1975) and “common enough in its range and habitat” (Cronquist et al. 1997). Extremely rare in Nevada, known only by a few collections from the Snake Range, White Pine Co. (Kartesz 1987).

Cymopterus coulteri (M.E. Jones) Mathias

“Juab spring-parsley” Apiaceae

Federal Status: (3C) **UTNHP Rank:** G3/S3

Distribution: JUA, MIL?, SNP, SEV, TOO

Notes: Type from Juab Co., Juab (*Jones 1691*; holotype US, isotypes BRY, POM). *C. coulteri* is endemic to central Utah (Tuhy 1992b), primarily in the Sevier Valley (Sanpete and Sevier cos.) but

Status Category: Watch

also at scattered locations in Juab and Little valleys (Juab Co.) and Rush Valley (Tooele Co.). Questionable Millard Co. record as cited in Cronquist et al. (1997). Tuhy (1992b) documented the approx. 30 known occurrences and added that more locations could be discovered with additional searching. The same author reported that “[m]ost populations of *C. coulteri* grow on substrates derived from shale or limestone parent materials. Soils range from clay-like to sandy loam, and often contain appreciable gravel and/or rocks, at least on the surface.... Vegetation on *C. coulteri* sites is typically sparse, with black sagebrush (*Artemisia nova*) and shadscale (*Atriplex confertifolia*) being the most common associated species.”

Cymopterus duchesnensis M.E. Jones

“Uinta Basin spring-parsley” Apiaceae

Federal Status: (3C) **UTNHP Rank:** G3/S3

Distribution: DUC, UIN; CO

Notes: Type from Duchesne Co., Myton (*Jones s.n.* in 1908; holotype POM, isotypes BRY, CAS, RM, US). A Uinta Basin endemic acc. Goodrich and Neese (1986), “locally common from Myton to Raven Ridge and disjunct at the confluence of Vermillion Creek and Dry Creek, Moffat Co. [Colorado], but by far most abundant in Uintah Co.; ... on raw clay hills and slopes in Duchesne River, Uinta, Morrison, and other formations that weather to badlands; 4,700-5,600 (6,200) ft.” In western Colorado known from the Yampa and White river basins, Moffat and Rio Blanco cos. (Goodrich in Welsh et al. 1993, Weber and Wittmann 1996a, Cronquist et al. 1997).

Cymopterus lapidosus (M.E. Jones) M.E. Jones

“Echo spring-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: SUM; WY

Notes: Acc. *AUF2* (Goodrich in Welsh et al. 1993), *C. lapidosus* is known in Utah only from western Summit Co., the type from Echo City (*Jones s.n.* in 1890; holotype POM, isotypes RM, US). The species is otherwise found in west-central and southwestern Wyoming (Dorn 1992). Cronquist et al. (1997) did not recognize *C. lapidosus*, treating it instead as *C. longipes* S. Watson “but with the dorsal wings of the fruit scarcely developed. This form is represented by several collections from Summit Co., Utah, and Uintah and Sweetwater cos., Wyo. It may deserve some sort of taxonomic status.” Additional data needed on distribution and status in Wyoming; move to rare list?

Cymopterus purpureus S. Watson var. rosei (M.E. Jones ex Coulter & Rose) Goodrich

“Sevier spring-parsley” Apiaceae

Federal Status: (3C) **UTNHP Rank:** G5T3/S3

Distribution: DUC, JUA, MIL, SNP, SEV, WAS

Notes: For current treatment see Great Basin Nat. 46: 86. 1986. Treated by Cronquist et al. (1997) as *C. rosei* (M.E. Jones ex Coulter & Rose) M.E. Jones, but “[p]erhaps better treated as a variety of *C. purpureus*.” Type from Sevier Co., Richfield (*Jones 30*; holotype US, isotype POM). Acc. *AUF2* (Goodrich in Welsh et al. 1993), var. *rosei* is an endemic of lower to midmontane areas in central

Status Category: *Watch*

Notes: For current treatment see Great Basin Nat. 46: 259. 1986. Type from Washington Co., Zion Canyon (*Eastwood & Howell 1144*; holotype CAS). Acc. *AUF2* (Welsh et al. 1993), var. *zionense* is an endemic of seeps and hanging gardens in Zion Canyon (Washington Co.) and the tributary canyons draining into Lake Powell (Kane Co. and questionably in San Juan Co.). The variety is distinguished from typical *D. pulchellum* on a quantitative feature (i.e., relatively large leaves), but *AUF2* noted that “[t]he plants tend to maintain their characteristics even where growing in open sunny sites ...; the features are thus not merely ecologically induced.”

***Draba asprella* E. Greene var. *zionensis* (C.L. Hitchc.) Welsh & Reveal**

“Zion draba”

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G4T3?/S3?

Distribution: IRO, JUA, KAN, TOO, WSH

Notes: For original description see Univ. Wash. Publ. Biol. 11: 49. 1941. For current treatment see Great Basin Nat. 37: 318. 1977. Type from Washington Co., Zion Canyon (*Jones s.n.* in 1923, holotype POM, isotypes BRY, CAS, WTU). Acc. Welsh (1989b), var. *zionensis* occurs in “sandy crevices and depressions throughout the middle and upper elevations of Zion National Park. It is known to grow on Navajo Sandstone, Moenkopi, and Kaibab Limestone formations. The plant is restricted to the Park and nearby environs.” Disjunct Juab and Tooele county records based on collections from the Deep Creek Mtns.: Johnson’s Canyon (*Cottam 7201*, UT; ! C.L. Hitchcock), Goshute Canyon (*Kass 429*, BRY).

***Draba globosa* Payson**

“Wyoming draba”

Brassicaceae

Federal Status: FS

UTNHP Rank: G3G4/S2

Distribution: DAG, DUC, JUA, SAL, SUM, UIN; CO, ID, WY +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *D. densifolia* var. *apiculata* (C.L. Hitchc.) Welsh, Great Basin Nat. 46: 255. 1986. County distribution as reported by Stone (1995a); the Sanpete Co. record for *D. densifolia* var. *apiculata* (reported in *AUF2*) was based on a misidentified specimen of *D. oligosperma* Hook. Most of the Utah records for *D. globosa* are from the Uinta Mtns., where the species appears to be widespread if not common in alpine areas. It is comparatively rare in the central Wasatch Range (Salt Lake Co.) and the Deep Creek Mtns. (western Juab Co.). *D. globosa* is otherwise known from 15 occurrences in northwestern Wyoming (Wind River Range, Grand Tetons, etc.; W. Fertig 1995, pers. comm.) and from disjunct populations in central Colorado, central Idaho, and southwestern Montana (Fox and Moseley 1991, Lesica and Shelly 1991; Colorado Natural Heritage Program, unpubl. data).

***Draba juniperina* Dorn**

“Flaming Gorge draba”

Brassicaceae

Federal Status: None

UTNHP Rank: G2G3Q/S2

Distribution: DAG, UIN; CO, WY

Status Category: Watch

Notes: For original description see Madroño 25: 101. 1978. Treated in *AUF2* (Welsh et al. 1993) as *D. oligosperma* var. *j.* (Dorn) Welsh, Great Basin Nat. 46: 255. 1986. In Utah, *D. juniperina* is occasional in Daggett and northeastern Uintah cos. (Goodrich and Neese 1986, Naumann 1990, Welsh et al. 1993). The type collection is from the Green River Basin, Sweetwater Co., Wyoming, and plants referable to *D. juniperina* also occur in the pinyon-juniper zone in Moffat Co., Colorado (Naumann 1990; see also Weber and Wittmann 1996a, p. 122, under *D. oligosperma* Hook.). Previous reports of *D. pectinipila* Rollins from Utah (e.g., Rollins 1953) evidently belong here. Rollins (1993) did not recognize *D. juniperina* or *D. pectinipila*, treating them instead as synonyms of *D. oligosperma*. However, Dr. Robert Price (1994, pers. comm.) continues to recognize *D. oligosperma*, *D. pectinipila*, and *D. juniperina* as distinct species: *D. oligosperma* is yellow-flowered, occurs at higher elevs., and is primarily asexual (agamospermy). *D. pectinipila* also occurs at high elevs. but is white-flowered and has doubly pectinate hairs on the fruits. *D. juniperina* is a yellow-flowered, long-styled species that also has doubly pectinate hairs on the fruits; it occurs at lower elevs. and is sexual.

Draba spectabilis E. Greene var. spectabilis

“San Juan Mtns. draba”

Brassicaceae

Federal Status: None

UTNHP Rank: G3T3?/S1S2

Distribution: GRA, SNJ; AZ, CO, NM?

Notes: In Utah restricted to the La Sal and Abajo mtns., Grand and San Juan cos. (Hitchcock 1941). *AUF2* (Welsh et al. 1993) also reported *D. spectabilis* from the Wasatch Plateau (Emery Co.), but this record was based on a misidentified specimen of *D. aurea* Vahl (M. Windham 1996, pers. comm.). Var. *spectabilis* otherwise occurs in the mtns. of southwestern Colorado where locally abundant (Hitchcock 1941, Rollins 1993, Weber and Wittmann 1996a). Arizona record as reported by Hitchcock (in Kearney and Peebles 1951), based on a collection from the “Lukachukai Mountains, northern Apache County, 7,000 feet (*Peebles 14388*).” Not currently known but expected in northern New Mexico (Martin and Hutchins 1980; ! Roalson and Allred, no date).

Draba subalpina Goodman & Hitchc.

“Cedar Breaks draba”

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G3/S3

Distribution: GAR, IRO, KAN, MIL, SEV

Notes: Type from Iron Co., Cedar Breaks (*Goodman & Hitchcock 1622*; holotype MO, isotypes NY, RM). *D. subalpina* occurs on the Markagunt, Paunsaugunt, and Table Cliff plateaus in southwestern Utah, where it is evidently one of the more widespread and frequently encountered endemics on the Claron Formation limestone [along with *Lesquerella rubicundula* Rollins, *Lomatium minimum* (Mathias) Mathias, and *Townsendia minima* Eastw.]. Disjunct Millard Co. record based on a collection from the Pavant Range (*Welsh et al. 16948*, BRY). Sevier Co. record based on a specimen labeled “Fillmore Natl. Forest, west of Shingle Creek Ranger Station. Alt. 6800 ft. North slope” (*Miller 243*, OGDF). The approximate location of this collection is the northern end of the Tushar

Status Category: *Watch*

Mtns.; it was first determined as *D. crassifolia* Graham and later annotated (B. Albee in 1985) as *D. sobolifera* Rydb., but the flowers are white and in other respects it appears as good *D. subalpina*.

***Draba ventosa* A. Gray**

“Wind River Mtns. draba”

Brassicaceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: DUC, SUM; CO, ID?, NV?, WY +

Notes: Rollins (1993) cited the overall distribution as including the “mountains of western Wyoming and the Uinta Mountains of Utah, to central Colorado.” *D. ventosa* is also known from two sites in southwestern Montana (Lesica and Shelly 1991), disjunctly northward to southwestern Alberta and southeastern British Columbia (Mulligan 1971). Not yet known from Idaho but perhaps to be expected in that state. Questionable Nevada record based on a report from the Ruby Mtns., Elko Co. (Lewis 1971, Kartesz 1987), but the identification needs to be confirmed.

***Echinocereus engelmannii* (Parry ex Engelm.) Lem.**

***var. variegatus* (Engelm. & Bigelow) Engelm. ex Rumpler**

“Bigelow’s hedgehog-cactus”

Cactaceae

Federal Status: None

UTNHP Rank: G5T3?/S1S2

Distribution: GAR, KAN, SNJ, WAY?; AZ

Notes: Acc. *AUF2* (Welsh et al. 1993), *var. variegatus* in Utah is restricted to the canyons of the Colorado River. Reported by Neese (1981) as rare in the Henry Mtns. vicinity, known “only from benches on the south side of Mt. Hillers at ca. 1850 m (6000 ft), where it is locally common.” The same author cited the following Garfield Co. collections (both at BRY?): 2 miles west of Star Spring (*Neese 3094*), 4 miles below Star Spring (*Woodruff 1187*). Questionable Wayne Co. record as cited by Benson (1982, pp. 943-944), based on specimens from the Henry Mtns. (northwest side of Mt. Ellen, 0.5 mile south of Bert Avery’s corral, *Reimann s.n.* in 1964 & 1965, both at POM; south of Fairview Ranch, *Reimann s.n.* in 1964, POM), but his map (p. 642) and text (p. 648) indicate that these collections may actually be from Garfield Co. The variety otherwise occurs in northwestern Arizona from northern Mohave Co. eastward to northern Coconino Co.; rare in Gila Co. (Benson 1982).

***Ericameria cervina* (S. Watson) Rydb.**

“Antelope Valley goldenbush”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G3?/S2

Distribution: BEA, IRO, MIL; AZ, NV?

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus cervinus* S. Watson. Type from Antelope Canyon, Nevada (*Wheeler s.n.* in 1872; holotype US), suspected in *AUF2* to be Antelope Valley in western Millard Co., Utah. Cronquist (1994) cited the overall distribution as “sw. Utah (as far n. as w. Millard Co.) and adj. Nev. (Clark Co.) and the Arizona Strip, even to the n. side of the Grand Canyon.” Not in Nevada acc. Kartesz (1987); an oversight on his part?

Status Category: *Watch*

Ericameria obovata (Rydb.) Nesom

“Wasatch goldenbush” Asteraceae

Federal Status: None **UTNHP Rank:** G3G4/S3S4

Distribution: BOX, CAC, DAV, JUA, MIL, RIC, SAL, SUM, TOO, WEB

Notes: For current treatment see *Phytologia* 68: 152. 1990. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus watsonii* var. *rydbergii* (S.F. Blake) Welsh, *Great Basin Nat.* 43: 295. 1983. Type from Salt Lake Co., City Creek Canyon (*Jones 1081*; holotype NY, isotypes CAS, POM, RM, US, UTC). Endemic to Utah, the distribution cited by Cronquist (1994) as “cliff-crevices and rock-outcrops ...; ... mts. of Salt Lake, Cache and Rich cos., w. to the Stansbury Mts. in Tooele Co.; Canyon Mts. of ne. Millard Co.”

Erigeron arenarioides (D.C. Eaton ex A. Gray) Rydb.

“Wasatch daisy” Asteraceae

Federal Status: (3C) **UTNHP Rank:** G3?/S3?

Distribution: BOX, DAV, DUC?, SAL, SNP?, TOO, UTA, WEB

Notes: Type from Salt Lake Co., Cottonwood Canyon (*Watson 547*; original material at NY, US). Endemic to Utah, the distribution cited by Cronquist (1994) as “[r]ocky crevices ...; from the base to middle elev. in the Wasatch Mts. from Ogden to Provo, Utah, and on Stansbury Island in Great Salt Lake.” Box Elder Co. record based on a disjunct occurrence in the Newfoundland Mtns. (*Neely et al. 956*, BRY, UTC; *Stone 2158 & 2160*, UT); some of the plants from this population are unusual in having involucre and peduncles with both short, glandular and longer, whitish-hispidulous hairs (*Stone 2171* in part, UT). Davis Co. record based on a collection from Francis Peak (*Smith 3521b*, UTC). Questionable Duchesne Co. record based on a collection from Granddaddy Lake, Uinta Mtns. (*Flowers? 2052?*, UT 46614). Questionable Sanpete Co. record based on a collection from the western slope of the Wasatch Plateau, Manti Canyon, Yearn's Reservoir (*Lewis 5465*, OGDf).

Erigeron canaani Welsh

“Canaan Mtn. daisy” Asteraceae

Federal Status: (C2) **UTNHP Rank:** G2G3/S2S3

Distribution: KAN, WSH

Notes: For original description see *Great Basin Nat.* 43: 366. 1983. Type from Washington Co., Canaan Mtn. (*Anderson s.n.* in 1980; holotype BRY, isotype NY). Endemic to southwestern Utah, the distribution cited by Cronquist (1994) as “[c]revices of sandstone cliffs, and in sandy soil ...; vicinity of Zion Natl. Park, in e. Washington and w. Kane cos.” Acc. Welsh (1989b), *E. canaani* “is abundant on the sandstone on both the east and west sides of Zion. It is especially abundant in the North Gate Peaks area.”

Erigeron compactus S.F. Blake var. compactus

“mound daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5T3?/S1S2

Distribution: BEA, BOX, MIL, TOO; NV +

Status Category: Watch

Notes: Type from Tooele Co., Deep Creek (*Jones s.n.* in 1891; holotype US, isotypes BRY, GH, MIN, MO, NY, POM, UC). Var. *compactus* is a plant of the Great Basin that is known in Utah from widely scattered locations in the western portions of Beaver, Box Elder, Millard, and Tooele cos. (Albee et al. 1988, Welsh et al. 1993). It also ranges irregularly and infrequently through eastern and central Nevada and (disjunctly?) to the White Mtns. of eastern Calif. (Kartesz 1987, Nesom in Hickman 1993, Cronquist 1994).

Erigeron goodrichii Welsh

“Goodrich’s daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G2G3/S2S3

Distribution: DAG, DUC, SUM, UIN, UTA

Notes: For original description see Great Basin Nat. 43: 366. 1983. Type from Duchesne Co., Uinta Mtns., southern rim of South Fork Rock Creek drainage (*Goodrich & Jepson 15907*; holotype BRY, isotypes CAS, MO, NY, POM, RM, US, UT, UTC). Endemic to northern Utah, the distribution cited by Cronquist (1994) as “[r]ocky places and dry meadows ..., often above timberline ...; Uinta Mts. of Daggett, Duchesne, and Uintah cos., Utah.” Utah Co. record based on a collection from Emerald Lake, Mt. Timpanogos (*Castle 101c*, BRY), cited by Welsh (1983b).

Erigeron religiosus Cronquist

“religious daisy”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G3?/S3?

Distribution: GAR?, KAN, WSH

Notes: For original description see Brittonia 6: 258. 1947. Type from Washington Co., Zion Natl. Park, Clear Creek Canyon (*Eastwood & Howell 6339*; holotype CAS, isotype US). Acc. Welsh (1989b), *E. religiosus* “is an abundant to common species in [Zion Natl.] Park and eastward to Coral Pink Dunes in western Kane County.” The same author reported that “[s]andy depressions and alluvium in the Clear Creek area [are] clothed with this small daisy. Plants of it grow also on gravel and sand bars in and along the Virgin River in Zion Canyon. It is also [found] along the west side of the Park.” Questionable Garfield Co. record as reported by Cronquist (1994).

Erigeron sionis Cronquist

“Zion daisy”

Asteraceae

Federal Status: (C2), BLM

UTNHP Rank: G2G3/S2S3

Distribution: KAN, WSH

Notes: For original description see Brittonia 6: 258. 1947. Type from Washington Co., Zion Natl. Park (*Pilsbry s.n.* in 1925; holotype PH). *E. sionis* grows throughout Zion Natl. Park in moist places such as hanging gardens and margins of seeps, springs, and streams (Welsh 1989b). Acc. *AUF2* (Welsh et al. 1993) the species is also known from east of Zion in Kane Co.

Status Category: *Watch*

***Eriogonum batemanii* M.E. Jones var. *eremicum* (Reveal) Welsh**

“Snake Valley buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G4?T2T3/S2S3

Distribution: BEA, MIL

Notes: For original description see *Phytologia* 23: 165. 1972. For current treatment see *Great Basin Nat.* 44: 529. 1984. Type from Millard Co., 17 miles southeast of Garrison along Utah Hwy. 21 (*N. Holmgren et al.* 2247; holotype UTC, isotypes ARIZ, BRY, CAS, GH, MO, NY, OKL, RM, RSA, UC). Acc. Reveal (1981c), “*Eriogonum eremicum* Reveal is an infrequently collected species apparently endemic to western Millard Co., collected from a variety of locations, mostly on limestone slopes at elevations below 6800 ft (2000 m).” Beaver Co. record based on several specimens at BRY; a 1980 collection from Hamlin Valley (*Welsh & Chatterley 19559*) was made 100 m east of the Nevada border, raising the possibility that var. *eremicum* may eventually be found in that state.

***Eriogonum batemanii* M.E. Jones var. *ostlundii* (M.E. Jones) Welsh**

“Elsinore buckwheat” Polygonaceae

Federal Status: (3C), FS **UTNHP Rank:** G4?T3/S3

Distribution: PIU, SEV

Notes: For current treatment see *Great Basin Nat.* 44: 529. 1984. Type from Sevier Co., near Joseph City [= Elsinore], on clay banks in Sevier Valley (*Jones 5388v*; holotype POM?). Var. *ostlundii* is endemic to central Utah, the distribution cited by Tuhy (1992c) as “in or along the edges of valleys through which the Sevier River flows, from the vicinity of Piute Reservoir northward to near Glenwood. There is one known occurrence somewhat disjunct from the others, located just south of Salina.” The same author documented 37 known occurrences and noted that many of the locations reported for var. *ostlundii* in the Fishlake Natl. Forest’s Management Strategy document (no date) were based on misidentified specimens of *E. spathulatum* A. Gray var. *s.*

***Eriogonum brevicaule* Nutt. var. *desertorum* (Maguire) Welsh**

“Wendover buckwheat” Polygonaceae

Federal Status: FS **UTNHP Rank:** G4T3?/S1

Distribution: BOX, TOO; ID?, NV

Notes: For original description see *Leaflet West. Bot.* 3: 11. 1941. For current treatment see *Great Basin Nat.* 44: 531. 1984. Treated by Reveal (1969, 1973, 1985a) as *E. desertorum* (Maguire) R.J. Davis, *Fl. Idaho* 246. 1952. Reveal (1973) cited the overall distribution as “[d]ry sagebrush slopes and hills in extreme nw. Utah in Tooele and Box Elder cos.; ne. Nev. and s-central Ida.” The Idaho record is regarded as questionable because it was not cited in a later publication by Reveal (1985a). In Nevada, this buckwheat is known from Elko, Eureka, and White Pine cos. (Reveal 1985a). Previous reports of *E. lewisii* Reveal from Utah evidently belong here (see Morefield 1996).

Status Category: *Watch*

Eriogonum brevicaule Nutt. var. ephedroides (Reveal) Welsh

“broom buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G4T3/S3

Distribution: UIN; CO

Notes: For original description see Madroño 19: 295. 1968 [1969]. For current treatment see Great Basin Nat. 44: 531. 1984. Type from Uintah Co., ca. 10 miles south of Bonanza, along Utah Hwy. 45 south of the White River (*N. Holmgren et al. 2265*; holotype UTC, isotypes BRY, ISC, RM, UT). A Uinta Basin endemic acc. Goodrich and Neese (1986), “locally common e. of the Green River from Nutters Hole to McCook Ridge, also along lower Evacuation Creek in se. Uintah Co. and on Raven Ridge in adjacent Rio Blanco Co. [Colorado]; ... mostly on barren hillsides on Green River Shale Formation.”

Eriogonum clavellatum Small

“Comb Wash buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G3/S1S2

Distribution: SNJ; CO

Notes: Type from San Juan Co., Barton Range (*Eastwood 132*; NY, US). Reveal (1973) considered *E. clavellatum* a Utah endemic with the distribution cited as “[c]lay hills and slopes, s-central San Juan Co. near Bluff.” *AUF2* (Welsh et al. 1993) treated *E. pelinophilum* Reveal as a synonym and therefore expanded the range of *E. clavellatum* to include west-central Colorado. Both *E. clavellatum* and *E. pelinophilum* are found in western Colorado acc. Weber and Wittmann (1986a), with the range of *E. clavellatum* cited as “[l]ocal on shales, Four Corners” and that for *E. pelinophilum* given as “[l]ocal on clay-shale near Delta.”

Eriogonum contortum Small ex Rydb.

“Grand Junction buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G3/S2

Distribution: GRA; CO

Notes: In Utah known from low, rolling, clay hills of the Colorado River valley in eastern Grand Co. (Reveal 1973). *E. contortum* is otherwise found in adjacent Mesa Co., Colorado (Reveal 1973, Weber and Wittmann 1996a), where there are several large occurrences (P. Lyon 1996, pers. comm.).

Eriogonum corymbosum Benth. var. albiflorum (Reveal) Welsh

“Virgin buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G5T2T3/S2S3

Distribution: WSH; AZ?

Notes: For original description see Madroño 19: 299. 1968 [1969]. For current treatment see Rhodora 95: 410. 1993 [1994]. Type from Washington Co., ca. 3 miles west of Virgin (*N. Holmgren & Reveal 2991*; holotype UTC, isotypes BRY, ISC, NY, RM, US, UT). The distribution of *E. thompsoniae* var. *a.* was cited by Reveal (1973) as “[i]nfrequent on clay hills near Hurricane, Washington Co.” Acc. Reveal (1976), “[v]ar. *albiflorum* may be eventually discovered in the

Status Category: Watch

Colorado City area of Mohave Co., Arizona.” Questionable Arizona record as reported in *AUF2* (Welsh et al. 1993), perhaps based on specimens of *E. corymbosum* var. *atwoodii* (Reveal) Welsh which is known from the Fredonia area and is similarly white-flowered. *AUF2* also noted that white-flowered plants have been found growing intermixed with yellow-flowered ones [referable to *E. corymbosum* var. *thompsoniae* (S. Watson) Welsh?] in the area north of Rockville on the Petrified Forest Member of the Chinle Formation.

Eriogonum corymbosum Benth. var. revealianum (Welsh) Reveal

“Jim Reveal’s buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G5T3/S3

Distribution: GAR, KAN, PIU, WAY

Notes: For original description see *Great Basin Nat.* 30: 17. 1970. For current treatment see *Great Basin Nat.* 35: 362. 1975. Type from Garfield Co., south of Antimony along Utah Hwy. 22, east-facing slope near head of canyon at milepost 26 (*S. & S. Welsh 9389*; holotype BRY, isotypes ISC, NY, RM, US, UT). Acc. *AUF2* (Welsh et al. 1993), var. *revealianum* is a Utah endemic that is known from the Sevier River drainage (Garfield and Piute cos.), Sink Valley (Kane Co.), and Thousand Lake Mtn. (Wayne Co.).

Eriogonum corymbosum Benth. var. thompsoniae (S. Watson) Welsh

“Ellen’s buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G5T4/S3

Distribution: KAN, WSH; AZ

Notes: For current treatment see *Rhodora* 95: 411. 1993 [1994]. Treated by Reveal (1968, 1969, 1973) as *E. thompsoniae* S. Watson var. *t.* Type from Kane Co., sandstone cliffs near Kanab (*Thompson s.n.* in 1872; holotype GH, isotypes NY, UC [fragment], US [fragment]). Reveal (1968) reported this buckwheat as locally abundant on the lower slopes of red sandstone cliffs northeast of Kanab and “near the local baseball diamond.” The same author later cited the overall distribution of var. *thompsoniae* as “[i]nfrequent to rare on clay hills near Kanab, Kane Co.; s. and w. in Mohave Co. to w. of Pipe Springs, Ariz.” (Reveal 1973). Most of the Washington Co. plants are the white-flowered var. *albiflorum* (Reveal) Welsh, but yellow-flowered colonies referable to var. *thompsoniae* appear locally in the vicinity of Harrisburg Junction and the historical site of Harrisburg (*Atwood 6463*, BRY; *Stone 1879*, UT; R.D. Stone, unpubl. data). *AUF2* (Welsh et al. 1993) also noted that yellow-flowered plants have been found growing intermixed with white-flowered ones north of Rockville on the Petrified Forest Member of the Chinle Formation.

Eriogonum heermannii Dur. & Hilg. var. sulcatum (S. Watson) Munz & Reveal

“limestone buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5T3T4/S2

Distribution: WSH; AZ, NV +

Notes: For current treatment see *Suppl. Calif. Fl.* 62. 1968. Type from Washington Co., near St. George (*Palmer 432*; BRY, NY, US). Reveal (1973) cited the overall distribution of var. *sulcatum*

Status Category: Watch

as “[l]ocally common in Washington Co.; w. across s. Nev. to e. Calif. and s. to nw. Ariz.” The variety is associated with calcareous rock outcrops in the eastern Mojave Desert of Calif. and Nevada (Reveal 1989a), but in Washington Co. it is found on both limestone in the Beaver Dam Mtns. and Navajo Sandstone in the Red Cliffs area (Warrick 1987) and Snow Canyon (R.D. Stone, unpubl. data). Move to peripherals list?

Eriogonum howellianum Reveal

“J.T. Howell’s buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G3?/S2

Distribution: JUA, MIL, TOO; NV

Notes: For original description see *Phytologia* 25: 204. 1973. Type from Millard Co., 17 miles southeast of Garrison along Utah Hwy. 21 (*N. Holmgren et al. 2248*; holotype US, isotypes ARIZ, BRY, CAS, DS, GH, KSC, MO, NY, OKL, OSC, RM, RSA, TEX, UC, UTC, WTU). Reveal (1973) cited the overall distribution of this summer-flowering annual as “[r]are and local on dry sandy to gravelly soil in low foothills of the desert ranges in w. Utah from Tooele Co. s. to Millard Co.; e. Nev. from Elko Co. s. to Lincoln and se. Nye cos.” Local and rare in Nevada (Reveal 1985a, Kartesz 1987).

Eriogonum insigne S. Watson

“exalted buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G3?/S2

Distribution: IRO, KAN, WSH; AZ, NV

Notes: Type from Iron Co., Red Creek near Paragonah (*Palmer 431*; holotype? NY, isotypes? BRY, ISC). Reveal (1973) cited the overall distribution of this summer- and fall-flowering annual as “[r]are, sandy soil in Washington Co. and perhaps to be found in Iron Co.; s. Calif. e. across s. Nev. to nw. Ariz. and sw. Utah.” Infrequent and local in southern Nevada, most common in Clark Co. but also known from Lincoln and southern Nye cos. (Reveal 1985a, Kartesz 1987). “[N]ot uncommon in northern Mohave County,” Arizona (Kearney and Peebles 1951). *E. insigne* not in Calif. acc. Reveal (1989a), the name misapplied to plants now called *E. deflexum* var. *rectum* Reveal.

Eriogonum jamesii Benth. var. rupicola Reveal

“sandstone buckwheat”

Polygonaceae

Federal Status: (3C)

UTNHP Rank: G5T2T3/S2S3

Distribution: KAN, WSH

Notes: For original description see *Phytologia* 25: 202. 1973. Type from Washington Co., 4.9 miles west of eastern entrance to Zion Natl. Park, Checkerboard Mesa (*J. & C. Reveal 2874*; holotype US, isotypes BRY, NY, UTC). Var. *rupicola* is endemic to southwestern Utah, the distribution cited by Reveal (1973) as “[r]are on sandstone ledges and in adjacent reddish blow sand in Zion National Park, Washington and Kane cos.” Acc. Welsh (1989b), “[t]his dwarf phase of the James buckwheat is a plant of crevices and depressions mainly on the Navajo Sandstone. It is common to abundant on that formation, which is broadly exposed in Zion National Park.... The plant is endemic to the

Status Category: *Watch*

Park and nearby vicinity.” A report of *E. jamesii* from Bitter Creek at the southern base of the Pine Valley Mtns. (Warrick 1987) evidently belongs to var. *rupicola*, as does a 1996 collection from Snow Canyon (Stone 2008, UT).

***Eriogonum leptophyllum* (Torrey) Wooton & Standley**

“slender-lvd. buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G3G4/S1

Distribution: SNJ; AZ, CO, NM

Notes: Acc. *AUF2* (Welsh et al. 1993), *E. leptophyllum* in Utah is known by a single collection from San Juan Co. (*Heil & Porter s.n.* in year?, BRY). The overall distribution was cited earlier by Reveal (1976) as “[l]ocal and frequently common from se. Utah and sw. Colo. s. to ne. Ariz. and nw. N.M., ranging from extreme e. Coconino Co. e. to Taos Co. s. to Bernalillo Co.” Peripheral in Colorado (Weber and Wittmann 1996a).

***Eriogonum lonchophyllum* Torrey & Gray var. *saurinum* (Reveal) Welsh**

“Dinosaur buckwheat”

Polygonaceae

Federal Status: (3C)

UTNHP Rank: G4T3/S3

Distribution: UIN; CO

Notes: For original description see Great Basin Nat. 27: 196. 1967 [1968]. For current treatment see Great Basin Nat. 44: 540. 1984. Type from Uintah Co., 10 miles east of Vernal, Island Park road, along Brush Creek (*N. Holmgren & Reveal 3019*; holotype UTC, isotypes ARIZ, BRY, CAS, DS, GH, MO, NY, RM, RSA, UC, US). Endemic to the Uinta Basin acc. Goodrich and Neese (1986), “locally common from Island Park s. to Dinosaur National Monument and [west] to Maeser and Asphalt Ridge; ... forming nearly pure stands on acidic Mowry Shale, but also on ... other formations that are not acidic.” The population in Dinosaur Natl. Monument extends into Moffat Co., Colorado (Weber 1987, Naumann 1990).

***Eriogonum nutans* Torrey & Gray var. *nutans*.**

“nodding buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G5T3/S1

Distribution: BEA, CAR, MIL, SNP, SEV, TOO; NV +

Notes: Reveal (1973) cited the overall distribution of this late spring- and summer-flowering annual as “[r]are and infrequent in scattered locations in n. Utah, from Tooele Co. s. to Sevier Co. and e. to Carbon Co., on sandy to loam soils; w. Nev. and se. Ore. e. to Utah.” The same author added that *E. nutans* “is rare in most of its known locations, often known from but a single plant! Infrequently, a local population may be composed of several individuals, but even then the plants are usually scattered and only rarely is this plant weedy like other members of this group.”

Status Category: *Watch***Eriogonum racemosum Nutt. var. zionis (J.T. Howell) Welsh**

“Zion buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G5T2/S2**Distribution:** KAN, WSH; AZ

Notes: For current treatment see Great Basin Nat. 44: 543. 1984. Treated by Reveal (1969, 1973) as *E. zionis* J.T. Howell var. *z.*, Leafl. West. Bot. 2: 253. 1940. Type from Washington Co., Zion Natl. Park, along the Mt. Carmel highway in Clear Creek canyon (*Eastwood & Howell 6344*; holotype CAS). Endemic to Utah acc. Reveal (1973), “[i]nfrequent to rare in sandy soil in Zion National Park, Washington and Kane cos.” Acc. Welsh (1989b), “[t]he Zion buckwheat occurs eastward at least as far as Johnson Canyon east of Kanab in Kane County. It is common throughout sandy sites in practically all of Zion National Park.” Var. *zionis* was tentatively reported from Arizona by Reveal (1973, 1976), based on a 1967 collection from Lake Mary, near Flagstaff, Coconino Co. (*Mishler 1215*; ASU, BRY). Reveal and Ertter (1980) later confirmed the Arizona record for var. *zionis* based on a different collection (*Gierisch 4690*, MARY) from the Paria Plateau in Mohave Co.

Eriogonum subreniforme S. Watson

“baby’s-breath buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G3G4/S3?**Distribution:** GAR, KAN, SNJ?, WSH; AZ, NM

Notes: Lectotype from Washington Co., “Valley of the Virgin River near St. George” (*Parry 237*, GH), annot. by Reveal, 1967. This spring- and summer-flowering annual is “[i]nfrequent and usually local on clay hills and slopes” acc. Reveal (1976), who also reported the overall distribution as “divided into two discrete units. The largest unit extends across southern Utah from Washington Co. to western San Juan Co., and northward to Garfield Co., and southward into northwestern Arizona in northeastern Mohave and adjacent northwestern Coconino cos. The smaller unit occurs in central Apache Co., Arizona, and extends into western McKinley Co., New Mexico.” The San Juan Co. record was not repeated in *AUF2* (Welsh et al. 1993). Acc. Weber and Wittmann (1992), an earlier report of *E. subreniforme* from southwestern Colorado (Montezuma Co.) was based on a misidentified specimen of *E. wetherillii* Eastw.

Eriogonum tumulosum (Barneby) Reveal

“mound buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G3/S2**Distribution:** DUC, EME, UIN; CO

Notes: For original description see Leafl. West. Bot. 5: 153. 1949. For current treatment see Phytologia 23: 173. 1972. Type from Emery Co., southwest of Woodside, Red Plateau (*Ripley & Barneby 8678*; holotype CAS, isotypes BRY, GH, NY, UTC). Acc. Reveal (1981c), “*Eriogonum tumulosum* is a local species of disjunct distribution. Part of its range lies at the western end of the Uintah Basin in Duchesne Co., Utah, where the plant is found on rocky outcrops usually in juniper-pinyon woodlands; another part of its range is in western Grand Valley in Emery Co. where

Status Category: *Watch*

the plant occurs on sedimentary gravels or clays, usually in the open or with only scattered juniper. It also occurs at the eastern end of the Uintah Basin in Uintah Co. (*Despain 45*, RM), Utah, and in Moffat Co. (*MacLeod 23b*, CS), Colorado. As the plant is small, infrequently collected, and found in country hard to explore, I suspect it may be more common than presently known." Goodrich and Neese (1986) reported the following collections from the Uinta Basin: "10 from within a 10 mi radius nw. of Duchesne; 1 from near Hanna, Duchesne Co.; 1 from near Steinaker Reservoir, Uintah Co.; and 6 from the Gates of Lodore to Vermillion Gap, Moffat Co."

Escobaria vivipara (Nutt.) F. Buxb. var. desertii (Engelm.) D. Hunt

"Mojave beehive-cactus" Cactaceae

Federal Status: None **UTNHP Rank:** G5T3?/S1

Distribution: IRO?, WSH; AZ, NV +

Notes: For current treatment see Cact. Succ. J. Gr. Brit. 40: 13. 1978. Treated in *AUF2* (Welsh et al. 1993) as *Coryphantha v. var. d.* (Engelm.) W.T. Marshall. Benson (1982) cited the overall distribution of var. *desertii* as "[l]imestone areas.... California in E San Bernardino Co.; Nevada in Nye and Clark Cos.; Utah in Washington Co.; Arizona in N Mohave and W Coconino Cos." Reported by Warrick (1987) as "[s]omewhat common in very rocky gravel areas" at the northern base of the Pine Valley Mtns. Questionable Iron Co. record based on a collection cited by the same author "near pond ca 2 miles SW of Little Pinto" (*Warrick 3085*, BRY).

Eucephalus pulcher (S.F. Blake) Windham, comb. nov. ined.

"Jones' aster" Asteraceae

Federal Status: None **UTNHP Rank:** G3?/S1

Distribution: KAN, SNJ?, WSH; AZ

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Aster glaucodes* var. *p.* (S.F. Blake) S.F. Blake in Kearney & Peebles, Fl. Pl. Ferns Ariz. 919. 1942. Type from western Kane Co., Elk Ranch [= a few miles north of Glendale along East Fork Virgin River acc. Lenz (1986)] (*Jones 6037*; holotype US; isotypes POM, RM). Reported by Warrick (1987) from the Pine Valley Mtns. (Washington Co.), "[s]omewhat common along ephemeral streams" (Bitter Creek, *Warrick 408*, BRY). Arizona distribution cited by Kearney and Peebles (1951) as "Kaibab Plateau and both rims of the Grand Canyon, in Havasu Canyon, and near Sunset Crater (Coconino County), ... known only from southern Utah and northern Arizona." Cronquist (1994) did not recognize *A. glaucodes* var. *pulcher*, treating it instead as a synonym of *A. wasatchensis* (M.E. Jones) S.F. Blake [= *Eucephalus w.* (M.E. Jones) Rydb.]. He also reported a form of *A. wasatchensis* approaching *A. glaucodes* S.F. Blake [= *Eucephalus glaucus* Nutt.] "along the San Juan River near its mouth." Are these the plants referred by other authors to *A. glaucodes* var. *pulcher*?

Eucephalus wasatchensis (M.E. Jones) Rydb.

"Markagunt aster" Asteraceae

Federal Status: None **UTNHP Rank:** G3?/S3?

Distribution: GAR, IRO, MIL, PIU, SNJ?, WSH; AZ?

Status Category: *Watch*

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Aster w.* (M.E. Jones) S.F. Blake. Type from Piute Co., near Marysvale, Tate Mine (*Jones 5861*; holotype? POM; isotypes BRY, NY, RM, US). Cronquist (1994) cited the distribution as “Utah Plateaus ..., from the Canyon and Pavant mts. to Zion Natl. Park, and s. to the Grand Canyon; [also] along the San Juan River near its mouth [San Juan Co.], in a form approaching *A. glaucodes* S.F. Blake” [= *Eucephalus glaucus* Nutt.]. Note that the Arizona plants are evidently the ones referred in *AUF2* to *A. glaucodes* var. *pulcher* (S.F. Blake) S.F. Blake in Kearney & Peebles [= *Eucephalus p.* (S.F. Blake) Windham, comb. nov. ined.]; the same may be true for the plants from the lower San Juan River.

Festuca dasyclada Hackel ex Beal

“Utah fescue”

Poaceae

Federal Status: (3C)

UTNHP Rank: G3/S1

Distribution: EME, GAR, SNP, WAS; CO

Notes: For alternative treatment in the monotypic genus *Argillochloa* W.A. Weber, see *Phytologia* 55: 1. 1984. Type from Emery Co., Joe’s Valley (*Parry 93*; syntypes? ISC, NY, US). In Utah, this perennial bunchgrass is known to occur in three general areas (Franklin 1990f): the Wasatch Plateau in Emery and Sanpete cos. (historical localities not yet relocated); the Willow Creek area on the West Tavaputs Plateau near Strawberry Reservoir, Wasatch Co. (on semi-barren talus slopes of the Uinta and Green River formations); and the Table Cliff Plateau in Garfield Co. (on limestone colluvium of the Claron Formation). A report from Uintah Co. (Atwood et al. 1991) is assumed to be in error. *F. dasyclada* is otherwise known from Rio Blanco and Garfield cos. in western Colorado, where “[a]bundant on shale slopes in the Piceance Basin” (Weber and Wittmann 1996a).

Gaillardia flava Rydb.

“yellow blanket-flower”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G2G3/S2S3

Distribution: EME, GRA

Notes: Type from Emery Co., lower crossing of Price River, near Woodside (*Jones 6412*; holotype US, isotypes BRY, POM). Acc. Franklin (1988d), “*G. flava* is a narrow endemic to the main and tributary canyons of the Green and Price Rivers in the vicinity of the city of Green River in Emery and Grand Counties. It occurs throughout Gray Canyon and in lower Desolation Canyon as far [upstream] as the mouth of Bull Canyon. It is [also] in the canyon of the Price River from just east of Woodside to its convergence with the Green River.” The same author noted that the species is “abundant within its [narrow] range” and described the habitat as “sandy gravel along wash bottoms and roadsides and on closely associated low rocky slopes.”

Gaillardia parryi E. Greene

“Parry’s blanket-flower”

Asteraceae

Federal Status: None

UTNHP Rank: G3?/S3?

Distribution: GAR, KAN, WSH; AZ

Status Category: Watch

Notes: Type from “s. Utah” (*Parry 120*; holotype GH, isotypes NDG, NY). Cronquist (1994) cited the overall distribution as “[m]ostly in clay soil, ... s. Utah (Garfield, Kane, and Washington cos.) and n. of the Colorado River in Mohave and Coconino cos., Ariz.”

Galium coloradoense Wight

“plateau bed-straw”

Rubiaceae

Federal Status: None

UTNHP Rank: G3G4/S3?

Distribution: GRA, SNJ, UIN, WSH?; AZ, CO, NM, WY

Notes: Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as *G. multiflorum* var. *c.* (Wight) Cronquist, *Intermt. Fl.* 4: 530. 1984. Cronquist et al. (1984) cited the overall distribution as “Canyon Lands and Uinta Basin ..., and e. into w. Colo. and adj. ne. Ariz. and nw. N.M.” Questionable Washington Co. record as reported in *AUF2*. Also in Sweetwater Co., Wyoming (Dorn 1992). *G. coloradoense* is one of the diploid pillars of the *G. multiflorum* Kellogg polyploid complex (Ehrendorfer 1961).

Gilia haydenii A. Gray

“Hayden’s gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: GAR?, GRA, SNJ; AZ, CO, NM

Notes: Type from “plains of the San Juan River,” southern Colorado or adjacent Utah (*Brandege s.n.* in 1875; isotype NY). Endemic in the Four Corners region, the distribution mapped by Porter and Heil (1994a,b) as including Grand and San Juan cos., Utah; Mesa, Montrose, San Miguel, Delta, Montezuma, La Plata, and Archuleta cos., Colorado; San Juan and Rio Arriba cos., New Mexico; and Apache Co., Arizona. Questionable Garfield Co. record as mapped in Albee et al. (1988).

Grindelia fastigiata E. Greene

“Grand Junction gumweed”

Asteraceae

Federal Status: None

UTNHP Rank: G3/S2

Distribution: EME, GAR?, GRA, SNJ; CO

Notes: Cronquist (1994) cited the overall distribution as “[d]ry, open places in the desert, on sand or clay substrate, now sometimes along roadsides ...; Canyonlands of e. Utah (Grand, e. Emery, and n. San Juan cos.) and adj. Colo. (Grand Junction).” Questionable Garfield Co. record as mapped in Albee et al. (1988). Common in the western counties of Colorado, mostly north of the Colorado River (Weber and Wittmann 1996a).

Gutierrezia petradoria (Welsh & Goodrich) Welsh

“Pavant snakeweed”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G3/S3

Distribution: JUA, MIL

Notes: For original description see *Brittonia* 33: 301. 1981. For current treatment see *Great Basin Nat.* 43: 288. 1983. Type from Millard Co., Canyon Mtns. (*Goodrich 15240*; holotype BRY,

Status Category: Watch

isotypes ASU, GH, MO, NY, RM, TEX, UC, US, UT). Acc. Franklin (1991b), *G. petradoria* is endemic to central Utah in the Canyon Mtns. and the Pavant Range (Juab and Millard cos.). The same author reported that it “is known from numerous locations across the southern two-thirds of the Canyon Mountains.... In the Pavant Range it is known from two occurrences located southeast of Kanosh in the vicinity of the confluence of Second and Corn Creeks.” The habitat was described as “rocky soils ... in sagebrush-forb-grass openings in mountain-brush communities.” It was also noted that “*G. petradoria* appears to be an increaser species under [domestic livestock] grazing.”

Gutierrezia pomariensis (Welsh) Welsh

“Uinta Basin snakeweed”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G2G3/S2S3

Distribution: DUC, UIN

Notes: For original description see Great Basin Nat. 30: 19. 1970. For current treatment see Great Basin Nat. 43: 288. 1983. Type from Uintah Co., Dinosaur Natl. Monument, mouth of Orchard Creek Draw (*Welsh et al. 9471*; holotype BRY, isotypes NY, US). A Uinta Basin endemic acc. Goodrich and Neese (1986), “occasional to common in Uintah Co., rather infrequently to Mt. Home in Duchesne Co.”

Hackelia patens (Nutt.) I.M. Johnston var. harrisonii J. Gentry

“Harrison’s stickseed”

Boraginaceae

Federal Status: None

UTNHP Rank: G5T2T3/S2S3

Distribution: BEA, SUM, UTA, WAS?, WSH

Notes: For original description see Southwest. Nat. 19: 140. 1974. Type from Washington Co., Pine Valley Mtns. (*Gentry 2002*; holotype NY, isotypes BRY, CAS, DAO, F, KANU, LD, UTC, WTU). Var. *harrisonii* is a Utah endemic, the distribution cited by Cronquist et al. (1984) as “Pine Valley Mtns. of Washington Co., Utah (to the exclusion of var. *patens*); Mountain Home Range in Beaver Co. ...; a limited portion of the Wasatch Range, mainly in Utah Co., but extending to Summit Co.; to be expected at some intervening stations, but not generally distributed from one end of its range to the other. Intergrades with var. *patens* where the ranges overlap.” Questionable Wasatch Co. record based on a collection from Soldier Summit (*Eastwood 7690*, CAS), cited by Gentry (1974). Var. *harrisonii* was reported by Warrick (1987) as “[v]ery common” in pinyon-juniper and mtn. mahogany-Gambel’s oak communities in the Pine Valley Mtns.

Hesperodoria scopulorum (M.E. Jones) E. Greene

“Zion goldenbush”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G4/S2S3

Distribution: GAR, IRO, KAN, SNJ, WSH; AZ

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus s.* (M.E. Jones) S.F. Blake. Type from Washington Co., Zion Canyon (*Jones 6074*; holotype US). Cronquist (1994) cited the overall distribution as “s. Utah (Washington, Iron, Kane, and San Juan cos.) and nw. Ariz. (Coconino and Mohave cos.)” Type of *Haplopappus scopulorum* var. *hirtellum* S.F. Blake from Iron Co., Cedar

Status Category: *Watch*

Canyon (*Garrett 6051*; holotype US, isotype UT). *AUF2* held out the possibility that var. *hirtellum* could be recognized once additional specimens become available for study. Ditypic genus (see Nesom and Morgan 1990, Nesom 1991b).

***Hymenopappus filifolius* Hook. var. *eriopodus* (A. Nelson) B.L. Turner**

“white-fld. cutleaf”

Asteraceae

Federal Status: None

UTNHP Rank: G5T3?/S2

Distribution: WSH; NV +

Notes: For current treatment see *Rhodora* 58: 225. 1956. Type from Washington Co., Diamond Valley (*Goodding 880*; holotype RM, isotypes GH, MO, NY, POM, US). Turner (1956) cited the overall distribution of var. *eriopodus* as “[l]imestone soils, associated with pines and junipers at high elevations (5,500-10,000 ft.) on isolated mountains ranges of southern Nevada, adjacent California and Washington Co., Utah.” A distinctive variety with flowers white or faintly ochroleucous (not yellow).

***Hymenoxys lemmonii* (E. Greene) Cockerell**

“alkali gold-flower”

Asteraceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: BEA, MIL, TOO, WSH?; NV +

Notes: Cronquist (1994) cited the overall distribution as “[m]oist or wet, alkaline meadows in the valleys and foothills ...; w. Utah (Tooele, Millard, and Beaver cos.) to Elko, Lander, Nye, and Clark cos., Nev.; disjunct (?) in Siskiyou Co., Calif.” Questionable Washington Co. record based on *H. lemmonii* ssp. *greenei* Cockerell, type from “Rock Creek, Utah” (*Palmer 261*; holotype US, isotype NY), now regarded as a synonym of *H. lemmonii* (sensu lato). Keil (in Hickman 1993) reported a much larger overall range for *H. lemmonii*, extending into southeastern Oregon and southern Idaho, but his concept evidently included some plants that Cronquist (1994) referred to *H. cooperi* var. *canescens* (D.C. Eaton) K.L. Parker.

Ivesia arizonica* (Eastw. ex J.T. Howell) B. Ertter var. *arizonica

“rock purpusia”

Rosaceae

Federal Status: None

UTNHP Rank: G3G4T2T3/S1

Distribution: WSH; AZ, NV +

Notes: For current treatment see *Syst. Bot.* 14: 233. 1989. Treated in *AUF2* (Welsh et al. 1993) as *Purpusia saxosa* Brandegees. Acc. *AUF2*, this taxon was reported from Utah by Meyer (1976), based on a collection from Kolob Reservoir, Washington Co. A plant mostly of calcareous rock outcrops, the overall distribution of var. *arizonica* was cited by N. Holmgren (in Cronquist et al. 1997) as “se. Calif. (Grapevine and Funeral mts. of Inyo Co.), s. Nev. (Silver Peak Range, Esmeralda Co.; Shoshone Mt., Belted Range, and Grant Range of Nye Co.; Meadow Valley Wash of Lincoln Co.), sw. Utah (Kolob Plateau, Washington Co.), and nw. Ariz. (both sides of the Grand Canyon, Mohave and Coconino cos.)”

Status Category: *Watch*

***Ivesia setosa* (S. Watson) Rydb.**

“sky-island ivesia”

Rosaceae

Federal Status: None

UTNHP Rank: G3?/S1

Distribution: JUA?, TOO; NV

Notes: A plant of rock outcrops and rocky slopes, in Utah known only from the Deep Creek Mtns., Juab [?!] and Tooele cos. (Albee et al. 1988, Welsh et al. 1993, N. Holmgren in Cronquist et al. 1997). *I. setosa* is otherwise known from “c. and n. Nev. from s. Humboldt Co. to Elko Co. (rare in n. part), s. to n. Nye and White Pine cos.; ... disjunct in the Silver Peak Range, Esmeralda Co., Nev.” (N. Holmgren in Cronquist et al. 1997).

***Lepidium nanum* S. Watson**

“mound pepper-wort”

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G3/S1

Distribution: TOO; NV

Notes: Utah state record based on an occurrence in extreme western Tooele Co., discovered by Robert Johnson during the 1996 field season (B. Franklin 1996, pers. comm.). *L. nanum* is otherwise known from central and eastern Nevada (Elko, Eureka, Nye, and White Pine cos.), where apparently restricted to semi-barren, white, gravelly or clay knolls weathered from calcareous substrates (Kartesz 1987, Rollins 1993).

***Lesquerella arizonica* S. Watson**

“Arizona bladderpod”

Brassicaceae

Federal Status: None

UTNHP Rank: G3/S2

Distribution: GAR, KAN, WSH; AZ

Notes: Rollins and Shaw (1973) cited the overall distribution as “southwestern Utah and in north central Arizona; on sandy and gravelly soils or on limestone chip, often in open stands of piñon and juniper.” The same authors (p. 196) further noted that *L. arizonica* is “common in Grand Canyon National Park.”

Lesquerella hemiphysaria* Maguire var. *hemiphysaria

“skyline bladderpod”

Brassicaceae

Federal Status: None

UTNHP Rank: G4T3?/S3?

Distribution: BOX?, DUC, EME, SEV?, SNP, UTA, WAS

Notes: For original description see Amer. Midl. Nat. 27: 466. 1942. Type from Sanpete Co., Wasatch Plateau, southern side of “Middle Forks Park” [= head of Middle Fork Manti Canyon?] (Maguire 20053; holotype UTC). Acc. AUF2 (Welsh et al. 1993), var. *hemiphysaria* is endemic to central Utah on the Wasatch Plateau and the southwestern rim of the Uinta Basin. The same source reported the variety as disjunct in Grouse Creek Valley, Box Elder Co. (Baird 3350, BRY), this record perhaps based on a misidentification. Questionable Sevier Co. record as mapped in Albee et al. (1988).

Status Category: *Watch*

Lesquerella multiceps Maguire

“Cache bladderpod”

Brassicaceae

Federal Status: None

UTNHP Rank: G3/S2S3

Distribution: BOX?, CAC, DAV?, RIC, WEB?; ID, WY

Notes: For original description see Amer. Midl. Nat. 27: 465. 1942. Type from Cache Co., Bear River Range, vicinity of Tony Grove Lake (*Maguire 16030*; holotype UTC, isotype RM). Rollins and Shaw (1973) cited the overall distribution as “Bear River Mountains of northern Cache and Rich counties, Utah, and in adjacent Idaho; also in northern Lincoln County, Wyoming. Usually in dry gravelly or rocky situations associated with limestone.” R.D. Stone (1995, pers. comm. to W. Fertig) wrote: “at UTC we found 31 collections from Utah (including the holotype!), five collections from Idaho, and one collection from Lincoln Co., Wyoming. The vast majority of collections are from the Bear River Range in Cache Co., Utah, which seems to be the center of distribution for this species. Specific collection localities in the Bear River Range include Tony Grove Lake, Logan Peak, Smithfield Canyon, Steam Mill Peak, Mt. Naomi, White Pine Lake, and Spring Hollow. Additional specimens were seen from the following outlying areas in Utah: Monte Cristo Peak (Cache Co. at the Weber Co. line), Raft River Mtns. (Box Elder Co., possibly a misidentified specimen of *L. occidentalis* S. Watson), and Bountiful Peak, Davis Co. (also possibly misidentified *L. occidentalis*).”

Lesquerella parvula E. Greene

“Middle Park bladderpod”

Brassicaceae

Federal Status: None

UTNHP Rank: G3?Q/S2

Distribution: DAG, DUC, WAS; CO, WY

Notes: Treated in *AUF2* (Welsh et al. 1993) as *L. alpina* var. *p.* (E. Greene) Welsh & Reveal, Great Basin Nat. 37: 337. 1977. For alternative treatment as *L. alpina* ssp. *p.* (E. Greene) Rollins & Shaw, see Gen. *Lesquerella* N. Amer. 189. 1973. Occasional in the Uinta Basin acc. Goodrich and Neese (1986), “n. slope and flank of the Uinta Mts. in Daggett Co.; 6,400-8,400 ft, and at isolated stations in Duchesne and Wasatch Cos. [Tabby and Red Creek Mts.] up to 10,400 ft.” The species otherwise ranges to southwestern Wyoming (Uinta and Sweetwater cos.) and north-central Colorado (Rollins and Shaw 1973), including the type locality at Middle Park where “abundant” (Weber and Wittmann 1996a).

Lesquerella rubicundula Rollins

“Cedar Breaks bladderpod”

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G3/S3

Distribution: GAR, IRO, KAN, PIU?; NV?

Notes: For original description see Contr. Dudley Herb. 3: 178. 1941. For alternative treatment as *L. hitchcockii* ssp. *r.* (Rollins) Maguire & Holmgren, see Madroño 11: 175. 1951. For recent taxonomic treatment see Reveal (1970b). Type from Garfield Co., Red Canyon (*Eggleston 8198*; holotype US, isotype GH [fragment]). *L. rubicundula* occurs on the Markagunt, Paunsaugunt, and Table Cliff plateaus in southwestern Utah, where it is evidently one of the more widespread and

Status Category: *Watch*

frequently encountered endemics on the Claron Formation limestone [along with *Draba subalpina* Goodman & Hitchc., *Lomatium minimum* (Mathias) Mathias, and *Townsendia minima* Eastw.]. The distribution was reported by Reveal (1970b) as extending northward in the Sevier River drainage rarely to near Marysvale, Piute Co. Questionable Nevada record as reported by Rollins (1993), probably based on misidentified specimen(s) of *L. hitchcockii* Munz or *L. confluens* (Maguire & Holmgren) Reveal.

Lesquerella utahensis Rydb.

“Utah bladderpod”

Brassicaceae

Federal Status: None

UTNHP Rank: G3/S3

Distribution: DAG, DUC, SAL, SUM, UIN, UTA, WAS

Notes: Type from Utah Co., American Fork Canyon (*Jones 1354*; holotype NY, isotypes ARIZ, DS, MO, US). Endemic to northern Utah at high elevations in the central Wasatch and Uinta mtns. (Rollins and Shaw 1973, Rollins 1993, Welsh et al. 1993).

Leymus salina (M.E. Jones) Á. Löve ssp. salmonis (C.L. Hitchc.) Atkins

“Challis wild-rye”

Poaceae

Federal Status: None

UTNHP Rank: G5T?/S2?

Distribution: BOX, MIL, TOO; ID, NV

Notes: For original description see Univ. Wash. Publ. Biol. 17(1): 558. 1969. For current treatment see Great Basin Nat. 43: 569. 1983 [1984]. Barkworth and Atkins (1984) cited the overall distribution of this perennial bunchgrass as “scattered locations on rocky hillsides in the western mountains of Utah and in Nevada and north to Custer County, Idaho.” In Box Elder Co., ssp. *salmonis* is locally common to abundant in the Newfoundland Mtns. (R.D. Stone 1997, unpubl. data). In Millard Co., it has been collected or reported (as *E. ambiguus* Vasey & Scribner) from several mtn. ranges including the Confusion Range, Beaver [= Cricket] Mtns., House Range (“[l]ocally common on open slopes and often occurring in pure stands at low to medium elevations”) and Tunnel Spring Mtns. where “[l]ocally common” (Dewey 1976, Goodrich 1986b, Kass 1988; specimens at BRY, UT). Tooele Co. record based on a 1981 collection from the Grassy Mtns., northern base of Cobble Hill (*Taye 1326*, BRY) where it evidently forms one of the important components of the local plant community. In Idaho apparently known only from the type locality 9 miles south of Challis along the Salmon River (Hitchcock et al. 1969, Barkworth and Atkins 1984). Rare in Nevada, known only from 9 miles west of Carlin, Eureka Co. (Kartesz 1987). *AUF2* (Arnow in Welsh et al. 1993, p. 818) did not recognize ssp. *salmonis*, noting that “[e]xamination of hundreds of Utah specimens [of *Elymus salina* M.E. Jones] revealed no consistent correlation between [herbage pubescence or lack thereof and the number of spikelets per node].” Additional data needed on distribution and status in Idaho and Nevada; taxonomic problem?

Status Category: *Watch*

Lomatium junceum Barneby & N. Holmgren

“rush-like desert-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G2G3/S2G3

Distribution: EME, GAR, SEV, WAY

Notes: For original description see Brittonia 31: 96. 1979. For alternative treatment as *Aletes juncea* (Barneby & N. Holmgren) W.A. Weber, see Phytologia 55: 5. 1984. Type from Emery Co., San Rafael Swell, 45 km (28 miles) airline distance west-northwest of Green River, ca. 2.4 km (1.5 mile) south of San Rafael River crossing (*N. Holmgren et al.* 8778; holotype NY, isotypes BRY, UT, UTC). Cronquist et al. (1997) cited the distribution as “[a]long draws in barren clay and shaley hills, in desert scrub and pinyon-juniper communities, 1500-2500 m; Emery Co. (San Rafael Swell and adjacent e. slope of the Wasatch Plateau) and e. Sevier Co. to Wayne and Garfield cos. (Waterpocket Fold), Utah.... A very distinctive local species.”

Lomatium minimum (Mathias) Mathias

“least desert-parsley” Apiaceae

Federal Status: (3C) **UTNHP Rank:** G3/S3

Distribution: GAR, IRO, KAN

Notes: For alternative treatment as *Aletes minima* (Mathias) W.A. Weber, see Phytologia 55: 6. 1984. Type from Garfield Co., Bryce Canyon (*Mathias* 670; holotype MO, isotypes CAS, NY). *L. minimum* is endemic to southwestern Utah on the Markagunt, Paunsaugunt, and Table Cliff plateaus, where it is evidently one of the more widespread and frequently encountered endemics on the Claron Formation limestone [along with *Draba subalpina* Goodman & Hitchc., *Lesquerella rubicundula* Rollins, and *Townsendia minima* Eastw.].

Lomatium scabrum (Coulter & Rose) Mathias var. tripinnatum Goodrich

“Snow Canyon desert-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G3G4T2T3/S2S3

Distribution: WSH; AZ, NV?

Notes: For original description see Great Basin Nat. 46: 99. 1986. Type from Washington Co., 14.2 km northwest of St. George, Lava Ridge-Snow Canyon, on sandstone (*Goodrich* 20282; holotype BRY, isotypes ARIZ, CAS, MO, NY, POM, RM, UC, US, UT, UTC, WS). Acc. *AUF2* (Goodrich in Welsh et al. 1993), var. *tripinnatum* in Utah is restricted to Washington Co., “often on sandstone or in sandy places.” It is otherwise known only from “adjacent Arizona” (Goodrich 1986a); “a Virgin-Mohave endemic” (*AUF2*). Acc. Cronquist et al. (1997), the distribution of var. *tripinnatum* extends westward into Clark and southern Nye cos., Nevada, but this report needs to be confirmed. Additional distribution and status information needed.

Lupinus polyphyllus Lindley var. ammophilus (E. Greene) Barneby

“Aztec lupine” Fabaceae

Federal Status: None **UTNHP Rank:** G5T2T4/S1S2

Distribution: DUC?, GRA, SNJ, UIN?; CO, NM

Status Category: *Watch*

Notes: For current treatment see Great Basin Nat. 46: 257. 1986. Barneby (1989) cited the overall distribution of var. *ammophilus* as “around the e. edge of the Colorado Plateau, in Colorado southward from the confluence of the Dolores and San Miguel rivers to the San Juan Valley in n. N.M., thence e. just across the divide to the headwaters of Chama River, and feebly w. to the Uinta Basin in Uintah and e. Duchesne cos., Utah and to the Abajo Mts. in San Juan Co.” *AUF2* (Welsh et al. 1993) treated the Uinta Basin specimens of *L. polyphyllus* (i.e., those from Duchesne and Uinta cos.) as belonging to var. *humicola* (E. Greene) Barneby.

Machaeranthera bigelovii (A. Gray) E. Greene var. commixta (E. Greene) B.L. Turner

“Markagunt desert-aster”

Asteraceae

Federal Status: None

UTNHP Rank: G4G5T3T4/S3?

Distribution: GAR, IRO, KAN, PIU, MIL, WAY, WSH

Notes: For current treatment see Phytologia 60: 77. 1986. Type from Garfield Co., Henry Mtns., Bromide Pass (*Jones 5695y*; holotype US, isotype POM). Var. *commixta* is endemic to southern Utah in montane meadows and openings in subalpine spruce-fir forest (Turner 1987, Cronquist 1994). The distribution was cited by Cronquist (1994) as “Utah Plateaus, from Millard Co. to Washington Co., and [disjunct] in the Henry Mts.” Neese (1981) cited the following collections from the Henry Mtns. (all at BRY?): Garfield Co.: east side of The Horn (*Neese 2431*), Crescent Creek near Eagle City (*Neese 2584*), 1 mile south of Wickiup Pass (*Neese & White 4115*), Mt. Ellen (*Hardy 40*); Wayne Co., between Fairview Ranch and Bull Mtn. (*Neese et al. 2351*).

Machaeranthera grindelioides (Nutt.) Shinn. var. depressa (Maguire) Cronquist & Keck

“Maguire’s rayless desert-aster”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G5T3/S3

Distribution: BEA, JUA, MIL; AZ?, NV

Notes: For original description see Amer. Midl. Nat. 37: 144. 1947. For current treatment see Brittonia 9: 237. 1957. Type from Millard Co., 5 miles southwest of Desert Range Experiment Station headquarters, Warm Point (*Maguire 20859*; holotype NY, isotypes US, UTC). Cronquist (1994) cited the overall distribution of var. *depressa* as “e. Nev. (n. to White Pine Co., and as far w. as Eureka Co.), e. to wc. and sw. Utah (Millard and Beaver cos.) and nw. Ariz. (n. Coconino Co.)” Questionable Arizona record based on a collection from House Rock Canyon (*Kearney & Peebles 13632, ARIZ?*), interpreted by Maguire (1947a) as intermediate between var. *depressa* and var. *grindelioides*. Rare in Nevada with localities reported from Lincoln, Nye, and White Pine cos. (Kartesz 1987).

Machaeranthera pinnatifida (Hook.) Shinn. var. paradoxa Turner & Hartman

“Paradox goldenweed”

Asteraceae

Federal Status: None

UTNHP Rank: G5T3?/S2

Distribution: EME, SNJ; AZ, CO

Notes: For original description see Wrightia 5: 314. 1976. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus spinulosus* var. *paradoxus* (Turner & Hartman) Cronquist, Intermt. Fl. 5: 199, 200.

Status Category: *Watch*

1994. Turner and Hartman (1976) reported the distribution as “centered in west-central Colorado about [the town of] Paradox” (Montrose Co.), and “largely restricted to dry gravelly foothills occurring in mostly bare clay soils at elevations of 5800-9000 feet.” The distribution map provided by these authors (p. 312) shows var. *paradoxa* extending into extreme northeastern Arizona, and they cited one specimen from that state (Turner 5844, TEX). Emery Co. record as reported in *AUF2*, which also noted the variety as “relatively common in the New Mexico saltbush community on the Morrison Formation adjacent to the Colorado boundary” (i.e., in San Juan Co.).

Mentzelia argillosa Darlington

“Arapien stick-leaf”

Loasaceae

Federal Status: (C2), BLM**UTNHP Rank:** G3/S1**Distribution:** SNP, SEV; CO?

Notes: For alternative treatment as *Nuttallia a.* (Darlington) W.A. Weber, see *Phytologia* 58: 384. 1985. Type from Sevier Co., Vermillion (*Jones 5631*; holotype MO, isotypes POM, RM, US). Gypsophile, in Utah restricted to foothills of Arapien Shale along the eastern edge of the middle Sevier River valley, Sanpete and Sevier cos. Field work by Utah Natural Heritage Program botanists in 1997 indicated that *M. argillosa* is widespread, even locally common, on semi-barren, whitish outcrops of this formation. Otherwise known from a widely disjunct population in Garfield Co., Colorado (Weber and Wittmann 1983, Thorne and Welsh in Welsh et al. 1993); “[l]ocal on steep shale slopes, Parachute Creek drainage” (Weber and Wittmann 1996a). Are the Utah and Colorado populations taxonomically distinct?

Mentzelia marginata (Osterh.) Thompson & Prigge

“Gunnison stick-leaf”

Loasaceae

Federal Status: None**UTNHP Rank:** G3?/S1**Distribution:** GRA, ?; CO

Notes: For original description see *Great Basin Nat.* 46: 549. 1986. Thompson and Prigge (1986) cited the overall distribution as “eastern Utah and western Colorado in open habitats in juniper woodland at elevations between 1,400 and 1,800 m...[;] restricted to grey clay soils.” The Utah specimens cited by these authors are all from the Cisco Desert region of Grand Co.: 2 miles east of Thompson (*Ripley & Barneby 8659*; CAS, NY); 1 mile west of Cisco (*Ripley & Barneby 9209*, CAS); Cisco (*Thompson 3518*, LA, chromosome voucher $n = 10$; *Thompson 3532*, LA). In Colorado, the species is found in the Colorado and Gunnison river valleys of Mesa, Delta, Montrose, and Ouray cos. (Thompson and Prigge 1986, Weber and Wittmann 1996a). *AUF2* (Thorne and Welsh in Welsh et al. 1993) treated *M. cronquistii* Thompson & Prigge as a synonym and therefore reported a wider range for *M. marginata* including Emery, Garfield, Grand, Kane, San Juan, Sevier, and Wayne cos. Thompson and Prigge (1986) cited differences in petal number and leaf shape between the two species and further noted that “[artificial] hybrids of *marginata* [female] x *cronquistii* [male] and reciprocals are vigorous but sterile, producing less than 10% good pollen and forming no viable seed in both backcrosses and sibling crosses.”

Status Category: *Watch*

Mentzelia thompsonii Glad

“Thompson’s stick-leaf”

Loasaceae

Federal Status: None

UTNHP Rank: G4/S2

Distribution: GRA, UIN; CO, NM

Notes: For original description see Madroño 23: 289. 1976. For alternative treatment as *Acrolasia t.* (Glad) W.A. Weber, see *Phytologia* 55: 8. 1984. Acc. *AUF2* (Thorne and Welsh in Welsh et al. 1993), *M. thompsonii* inhabits salt desert scrub communities, mostly on the Mancos Shale. In Utah this annual occurs in the Cisco Desert region of Grand Co. (e.g., *Stone* 2265, UT) and the Uinta Basin (Uintah Co.) “from Red Fleet Dam to Dinosaur National Monument” (Goodrich and Neese 1986). In western Colorado, *M. thompsonii* is found in “[h]eavy clay soils, Colorado, Gunnison and San Juan River valleys, abundant but flowering only in very early spring” (Weber and Wittmann 1996a). New Mexico record acc. Soreng (1984), based on a collection from San Juan Co. (*Spellenberg & Soreng* 7090; COLO, LA, NMC, NY, UNM).

Mimulus parryi A. Gray

“Parry’s monkey-flower”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G3G4/S2

Distribution: WSH; AZ, NV +

Notes: Type from Washington Co., “[v]alley of the Virgen, gravelly hills, near St. George” (*Parry* 147; holotype GH, isotypes ISC, NDG, NY, US). Acc. *AUF2* (Welsh et al. 1993), “[t]his species is especially common in years of adequate moisture on the gypsiferous Moenkopi and Muddy Creek formations.” N. Holmgren (in Cronquist et al. 1984) cited the overall distribution as “sw. Utah (Washington Co.), extreme nw. corner of Ariz. (Mohave Co.), and s. Nev. (n. Clark and Lincoln cos.)” Acc. Thompson (in Hickman 1993), the range extends westward to the Inyo and White mtns. of eastern Calif. where reported as “very uncommon” and with magenta flowers (rather than the usual yellow).

Musineon lineare (Rydb.) Mathias

No common name

Apiaceae

Federal Status: (3C)

UTNHP Rank: G2G3/S2S3

Distribution: BOX, CAC; ID

Notes: Type from Cache Co., near Logan (*Rydberg s.n.* in 1895; holotype NY, isotypes RM, US). Cronquist et al. (1997) cited the distribution as “Bear River and Wellsville ranges in Cache and Box Elder cos., Utah.” The range of *M. lineare* also extends into adjacent Franklin Co., Idaho (Moseley and Mancuso 1990). It is evidently the most frequently encountered among several endemics of calcareous rock outcrops in Logan Canyon and vicinity (see Franklin 1990c).

Nama retrorsum J.T. Howell

No common name

Hydrophyllaceae

Federal Status: (3C)

UTNHP Rank: G3Q/S2

Distribution: GAR, GRA, KAN, SNJ; AZ, NM

Status Category: *Watch*

Notes: For original description see Leaflet. West. Bot. 5: 149. 1949. The overall distribution of this small-fl. annual was cited by Cronquist et al. (1984) as “[s]and-dunes and very sandy soil; Grand Co., Utah, to Coconino and Navajo cos., Ariz.; seldom collected.” New Mexico record as reported by Spellenberg et al. (1986, p. 467), without locality data.

***Oenothera deltoidea* Torrey & Frémont var. *decumbens* (S. Watson) Munz**

“Parry’s evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T3?/S1?

Distribution: WSH; AZ, NV

Notes: Type from Washington Co., near St. George (*Parry 63*, accession?). For alternative treatment as *O. deltoidea* ssp. *ambigua* (S. Watson) W. Klein, see *Aliso* 5: 179. 1962 [type from Washington Co., near St. George (*Palmer 162*; holotype GH, isotypes ISC, US)]. The overall distribution of var. *decumbens* was cited by Cronquist et al. (1997) as “sw. Utah (Washington Co.), s. Nev. (most notably Clark Co.), and adjacent nw. Ariz., mostly [at elevations] less than 850 m.” Common in southern Nevada (Kartesz 1987).

***Oenothera flava* (A. Nelson) Garrett var. *acutissima* (W.L. Wagner) Welsh**

“Flaming Gorge evening-primrose” Onagraceae

Federal Status: (3C) **UTNHP Rank:** G5T3/S2

Distribution: DAG, UIN; CO

Notes: For original description see *Syst. Bot.* 6: 153. 1981. For current treatment see *Great Basin Nat.* 46: 259. 1986. Type from Daggett Co., Flaming Gorge vicinity, Greendale Campground (*Neese & Peterson 5428*; holotype MO, isotypes BRY, CS). Acc. Franklin (1988e), “*O. acutissima* is endemic to Uintah and Daggett Counties, Utah and Moffat County, Colorado. It occurs on the [Ashley Natl. Forest] from Sheep Creek Park across the north flank of the Uintah Mountains to the vicinity of Greendale Junction. On BLM lands it occurs from the vicinity of Diamond Mountain and east into Moffat County.” The same author reported that *O. acutissima* is abundant within its narrow range and described the habitat as “along drainage bottoms and in shallow basins in openings or through grass-forb meadows associated with lodgepole pine, ponderosa pine, and Rocky Mountain juniper-mountain sagebrush communities. These are habitats that are ephemerally moist in spring and early summer.”

***Opuntia aurea* McCabe ex Baxter**

“McCabe’s prickly-pear” Cactaceae

Federal Status: None **UTNHP Rank:** G2G3/S1

Distribution: KAN, WSH; AZ

Notes: Treated by Benson (1982) as *O. basilaris* var. *a.* (Baxter) W.T. Marshall, *Arizona’s Cactuses* ed. 2. 28. 1950. Treated in *AUF2* (Welsh et al. 1993) as *O. erinacea* var. *a.* (Baxter) Welsh, *Great Basin Nat.* 46: 255. 1986. Benson (1982, p. 421) cited the overall distribution as “Utah in SE Washington Co. and in S Kane Co.; Arizona along Utah border N of Pipe Spring, Mohave Co.” Acc. *AUF2*, the range of this taxon in Utah is mainly restricted to Kane Co. where it is “common” (Welsh

Status Category: *Watch*

and Eliason 1995); most of the Washington Co. collections cited by Benson (1982, p. 922) are from Zion Canyon and vicinity. The habitat was described by Parfitt (1997) as “deep sand in pinyon-juniper woodlands.” *O. aurea* possesses a unique combination of distinguishing characteristics, i.e., sprawling habit, stem segments usually without spines, and yellow flowers. Parfitt (1997) has also pointed out differences in chromosome number between *O. basilaris* Engelm. & Bigelow (diploid), *O. erinacea* Engelm. & Bigelow (tetraploid), and *O. aurea* (hexaploid, $2n = 66$). Additional distribution and status information needed.

Opuntia nicholii L. Benson

“Navajo Bridge prickly-pear”

Cactaceae

Federal Status: None**UTNHP Rank:** G4Q/S1S2**Distribution:** GAR, KAN, SNJ; AZ

Notes: For original description see Cacti Ariz. ed. 2. 48. 1950. The overall distribution was cited by Benson (1982) as “Utah in San Juan Co. along and near Glen Canyon of Colorado R. from Ticaboo Canyon to Bridge Canyon; Arizona in Coconino Co. from Utah border near Colorado R. to the broad shelves between Vermilion Cliffs and Echo Cliffs.” The same author questioned the taxonomic validity of *O. nicholii*, suggesting that it represents a partially stabilized hybrid between *O. phaeacantha* var. *major* Engelm. and *O. erinacea* Engelm. & Bigelow. Cytological data do not support Benson’s hypothesis since *O. nicholii* is a hexaploid ($2n = 66$) throughout most of its geographic range (Parfitt 1997; see also Pinkava et al. 1977) while *O. phaeacantha* var. *major* is also hexaploid ($2n = 66$; see Parfitt 1980) and *O. erinacea* is reportedly tetraploid ($2n = 44$; see Parfitt 1997).

Opuntia pinkavae Parfitt

“Pinkava’s prickly-pear”

Cactaceae

Federal Status: None**UTNHP Rank:** G3?/S1S2**Distribution:** WSH; AZ

Notes: For original description see Rhodora 99: 223. 1997. Acc. Parfitt (1997), “*Opuntia pinkavae* is not uncommon in northwestern Arizona [Coconino and Mohave cos.] and extreme southwestern Utah at elevations of 1370-1560 m. The species occurs from the arid grasslands to the margins of pinyon-juniper woodlands. It is also found to persist in grasslands that have been damaged by excessive grazing and subsequent [soil] erosion. The substrate is usually fine, red sand.” Utah specimens cited: Washington Co., Warner Valley (*Gierisch 5049*, BRY), 16 miles south-southwest of Hurricane on Fort Pierce [sic] Wash (*Earle s.n.* in year?, ASU; syntype of *O. basilaris* var. *woodburyi* Earle). As discussed by Parfitt (1997), *O. pinkavae* is a pink-flowered, dry-fruited prickly-pear with an octoploid chromosome number ($2n = 88$); it is most closely related to *O. aurea* McCabe ex Baxter, another Arizona-Utah endemic which differs in having yellow flowers, stem segments usually without spines, and a hexaploid chromosome number ($2n = 66$). The same author noted that *O. pinkavae* superficially resembles *O. macrorhiza* Engelm., a fleshy-fruited species with perianth yellow (bases red), tuberous roots, and a tetraploid chromosome number ($2n = 44$). The Washington Co. plants of *O. pinkavae* were earlier named by Earle (1980) as *O. basilaris* var. *woodburyi*, but

Status Category: Watch

Parfitt (1997) has observed that, in addition to morphological differences, *O. basilaris* is diploid ($2n = 22$).

Opuntia pulchella Engelm.

“sand cholla”

Cactaceae

Federal Status: (3C)

UTNHP Rank: G4/S2

Distribution: BOX, JUA, MIL, TOO, WSH?; AZ?, NV +

Notes: The overall distribution was cited by Benson (1982) as “Nevada from E central Washoe, Lyon, and Esmeralda Cos. to Lander, Nye, and SE White Pine Cos.; W Utah in Tooele and Millard Cos.; in NW Arizona in (perhaps) Mohave Co. and (according to A.A. Nichol) W edge of Yavapai Co., but occurrence in Arizona is now uncertain.” Infrequent and locally common in Nevada (Kartesz 1987). Rare in the eastern Sierra Nevada region of Calif. (Parfitt and Baker in Hickman 1993).

Oreoxis bakeri Coulter & Rose

“Baker’s spring-parsley”

Apiaceae

Federal Status: None

UTNHP Rank: G3?/S1

Distribution: GRA, SNJ; CO, NM

Notes: Cronquist et al. (1997) cited the overall distribution as “[o]pen, rocky slopes and ridges at upper elev. in the mts., commonly above timberline; mts. of Colo. and n. N.M.; [in Utah] known from the La Sal Mts.” Additional data needed on distribution and status in Colorado.

Orthocarpus tolmiei Hook. & Arn. ssp. holmgreniorum Chuang & Heckard

“Cache owl’s-clover”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G4T3?/S2S3

Distribution: BOX, CAC, MOR, RIC, WEB; ID

Notes: For original description see Syst. Bot. 17: 565. 1992. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Type from Cache Co., along Tony Grove Lake road ca. 2 miles from U.S. Hwy. 89 in Logan Canyon (*Heckard 6169*; holotype JEPS, isotypes F, GH, MO, NY, US). Chuang and Heckard (1992) reported the overall distribution of ssp. *holmgreniorum* as “[o]pen rocky flats and slopes in sagebrush scrub; SE border of Idaho south to N-central Utah; [elev.] 1700-2800 m.” The same authors cited additional Utah collections from Box Elder, Cache, Morgan, Rich, and Weber cos. The typical subspecies has yellow flowers, and ssp. *holmgreniorum* differs in its rosy-lavender flowers and glandular-puberulent herbage (leading it to be confused with *O. purpureo-albus* A. Gray ex S. Watson); although the ranges of the two subspecies overlap, there is some indication that ssp. *holmgreniorum* occurs on warmer, drier sites at lower elevations when compared with ssp. *tolmiei* (Chuang and Heckard 1992).

Status Category: *Watch*

Ostrya knowltonii Cov.

“southwestern hop-hornbeam” Betulaceae

Federal Status: None **UTNHP Rank:** G4/S2

Distribution: GAR, GRA, KAN, SNJ; AZ, NM +

Notes: This small tree occurs in two disjunct populations, one in southeastern Utah and northeastern Arizona, and the other in southeastern New Mexico and western Texas (Furlow in Morin 1997). In Utah it occurs sporadically in the Colorado River drainage, where it inhabits hanging gardens, alcoves, and narrow “slot” canyons on sandstone (Utah Natural Heritage Program, unpubl. data).

Oxytropis besseyi (Rydb.) Blank. var. ventosa (E. Greene) Barneby

“Wind River loco-weed” Fabaceae

Federal Status: None **UTNHP Rank:** G5T3?/S1?

Distribution: DAG; WY

Notes: For current treatment see Leaflet. West. Bot. 6: 111. 1951. For alternative treatment as *O. nana* var. *v.* (Greene) Isely, see Syst. Bot. 8: 425. 1983. Barneby (1952) cited the overall range of var. *ventosa* as “[a]rid stony hilltops, sandy banks, or cobblestone bluffs in the drainage of the Wind, Platte, and Green rivers of central and southern Wyoming.” The distribution also extends into extreme northeastern Utah along the Green River in Daggett Co. (Barneby 1989).

Oxytropis oreophila A. Gray var. jonesii (Barneby) Barneby

“Jones’ loco-weed” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G4T3/S3

Distribution: EME, GAR, GRA, IRO, SNP, UIN

Notes: For original description see Proc. Calif. Acad. Sci. IV. 27: 215. 1952. For current treatment see Intermt. Fl. 3B: 183. 1989. Type from Garfield Co., Red Canyon (*Ripley & Barneby 8550*; holotype CAS, isotypes GH, NY, RM). A Utah endemic, var. *jonesii* is locally common but disjunct in four restricted regions (Barneby 1989, Welsh et al. 1993): on Claron Formation limestone on the Markagunt, Paunsaugunt, and Table Cliff plateaus (Iron and western Garfield cos.); shale knolls and gravelly draws on forks of the Escalante River (central Garfield Co.); on Flagstaff Limestone of the Wasatch Plateau (Emery and Sanpete cos.); and semi-barren knolls of Green River shale on the East Tavaputs Plateau (Grand and Uintah cos.).

Pediomelum mephiticum (S. Watson) Rydb.

“skunk bread-root” Fabaceae

Federal Status: None **UTNHP Rank:** G3?/S1

Distribution: WSH; AZ

Notes: Lectotype from “Utah near Beaver City” and “SE St. George, Utah” (*Palmer 97*, GH; isolectotypes DS [fragment], MO, NY, US), designated by Ockendon, 1965. The actual type locality was suspected by Grimes (1990) to be Beaver Dam, Mohave Co., Arizona (not Beaver City, Beaver Co., Utah). Barneby (1989) cited the distribution as “localized in the Virgin River valley, w. of the Hurricane Cliffs, and in the foothills of the Pine Valley, Beaver Dam, and Virgin mts., in

Status Category: Watch

Washington Co., Utah and Mohave Co., Ariz.” The same overall range was described by Grimes (1990), who also noted that the plants from southern Nevada and adjacent Calif. [?!], previously treated as part of *P. mephiticum*, are now regarded as *P. megalanthum* var. *retrorsum* (Rydb.) Grimes. Acc. Grimes (1990), “[t]he taxonomy of this group [traditionally] depended in large part on pubescence of the peduncle.... The circumscription I propose is based on floral measurements and admits less variability in both *P. mephiticum* and *P. megalanthum* than any ... prior classification.” Current distribution and status information needed; move to rare list?

Pediomelum pariense (Welsh & Atwood) Grimes

“Paria bread-root”

Fabaceae

Federal Status: (C2), FS

UTNHP Rank: G2G3/S2S3

Distribution: GAR, KAN

Notes: For original description see Great Basin Nat. 35: 353. 1975. For current treatment see Brittonia 38: 185. 1986 [not Great Basin Nat. 46: 257. 1986]. Type from Garfield Co., Bryce Canyon Natl. Park (*Welsh & Murdock 12859*; holotype BRY, isotypes BRY, ISC, NY, US, UT, UTC). The extensive population at Paria View in Bryce Canyon was documented in detail by Hallsten and Roberts (no date). Acc. *AUF2* (Welsh et al. 1993), the “[m]ain populations of this species are not those at higher elevations on the Claron Formation at Bryce, but occur on the Carmel Limestone west of Mt. Carmel, Kane Co., and on scattered sites eastward.” The Kane Co. localities have been documented by B. Lunceford (see Noel 1990) and summarized by Welsh and Eliason (1995). A Washington Co. record (reported in Atwood et al. 1991) is presumably in error.

Penstemon angustifolius Pursh var. vernalensis N. Holmgren

“Vernal beard-tongue”

Scrophulariaceae

Federal Status: (3C)

UTNHP Rank: G5T3/S3

Distribution: DAG, UIN; CO

Notes: For original description see Brittonia 31: 229. 1979. Type from Uintah Co., 3.1 miles north of Maeser on Red Cloud Loop Road (*N. Holmgren et al. 8748*; holotype NY, isotypes BRY, UT, UTC). Acc. Neese and Smith (1982), “*Penstemon angustifolius* var. *vernalensis* is narrowly restricted in its distribution to the eastern Uinta Basin. It occurs near Vernal, in eastern Daggett County, Utah, and in Moffat County and the northwestern portion of Rio Blanco County, Colorado.... It grows in deep sand of stabilized sand dunes in Indian ricegrass - rabbitbrush - sagebrush communities, usually with scattered juniper.... Its habitat type is not common ... but where it occurs the taxon is predictably present and not uncommon. Plants are also fairly common in the area north of Dinosaur, Colorado.” The report of *P. arenicola* A. Nelson from Daggett and Uintah cos. (N. Holmgren in Cronquist et al. 1984) is apparently based on depauperate specimens of *P. angustifolius* var. *vernalensis* (see Goodrich and Neese 1986, Neese in Welsh et al. 1993).

Status Category: *Watch*

Penstemon atwoodii Welsh

“Atwood’s beard-tongue”

Scrophulariaceae

Federal Status: (3C)

UTNHP Rank: G2G3/S2S3

Distribution: GAR, KAN

Notes: For original description see Great Basin Nat. 35: 378. 1975 [1976]. Type from Kane Co., southern end of Horse Mtn. (*S. & S. Welsh 12820*; holotype BRY, isotypes NY, UT, UTC). N. Holmgren (in Cronquist et al. 1984) cited the distribution as “endemic to the Kaiparowits Plateau and Smoky Mt. in adj. parts of Garfield and Kane cos., Utah.” Acc. Franklin (1990g), “Atwood penstemon ranges from west of Escalante [Garfield Co.] southeastward to Collet Top and southwestward to Grosvenor Arch [Kane Co.]” The same author generally described the habitat as sandy soils and sandstone outcrops in pinyon-juniper woodland; he further noted that *P. atwoodii* “was found to be abundant on the Wahweap Sandstone locations that were surveyed and is also, as [indicated by previous collections], abundant on Straight Cliffs Sandstone. Occurrences on the Kaiparowits Formation appear to be restricted to the periphery of the formation where it adjoins Wahweap Sandstone. No occurrences were located on the main body of the Kaiparowits Formation.”

Penstemon barbatus (Cav.) Roth var. trichander A. Gray

No common name

Scrophulariaceae

Federal Status: None

UTNHP Rank: G5T3Q/S1

Distribution: SNJ; AZ, CO, NM

Notes: An endemic of the Four Corners region (N. Holmgren in Cronquist et al. 1984), var. *trichander* in Utah is known only from San Juan Co., i.e., from sandstone near Church Rock (*Cottam & Hutchings 2331*, BRY?) and the Abajo Mtns. (Neese in Welsh et al. 1993). Var. *trichander* differs from the other varieties of *P. barbatus* by the presence of long white hairs on the anthers. Acc. Crosswhite (1965), “[i]t seems significant that the range of *P. barbatus* ssp. *trichander* (A. Gray) Keck is very similar to the region of overlap between *P. barbatus* ssp. *torreyi* (Benth.) Keck and *P. strictus* Benth. The similarity of the *P. barbatus* X *P. strictus* plant with *P. barbatus* ssp. *trichander* (except for flower color) is striking. I suspect, therefore, that ssp. *trichander* may be nothing more than a race of *P. barbatus* that has acquired anther-sac hairs through hybridization with *P. strictus*.”

Penstemon breviculus (Keck) Nisbet & R. Jackson

“Mancos beard-tongue”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G3/S1?

Distribution: GRA, SNJ; AZ, CO, NM

Notes: For current treatment see Univ. Kansas Sci. Bull. 41: 734. 1960. N. Holmgren (in Cronquist et al. 1984) cited the overall range as “s. Grand Co. and San Juan Co., Utah, Montezuma Co., Colo., and San Juan Co., N.M.” Weber and Wittmann (1996a) reported a somewhat wider distribution in Colorado (adobe hills, Montrose Co. south to Montezuma Co.), and Martin and Hutchins (1981) did

Status Category: Watch

the same for New Mexico (mapped in San Juan, Valencia, and Bernalillo cos.). Arizona record from the Carrizo Mtns., Apache Co. (Ecosphere 1996).

Penstemon caespitosus Nutt. ex A. Gray var. desertipicti (A. Nelson) N. Holmgren

“Painted Desert beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5T3?/S2?

Distribution: BEA?, GAR, KAN, PIU?, WAY?; AZ

Notes: For current treatment see Brittonia 31: 104. 1979. The overall distribution of var. *desertipicti* cited by N. Holmgren (in Cronquist et al. 1984) as “Paunsaugunt Plateau (Red and Bryce canyon area), Utah, s. to Painted Desert and Grand Canyon regions, n. Ariz.” Questionable Beaver, Piute, and Wayne county records as reported in *AUF2* (Neese in Welsh et al. 1993), based on collections morphologically transitional to var. *suffruticosus* A. Gray [= *P. tusharensis* N. Holmgren] in the region south and east of the Tushar Mtns., and to var. *perbrevis* (Pennell) N. Holmgren on the Aquarius Plateau. Acc. Keck (1937), ssp. *desertipicti* (A. Nelson) Keck “approaches very closely to subspp. *perbrevis* Pennell and *suffruticosus* (A. Gray) Keck in morphological characters in the northern part of its range[,] and the Bryce Canyon material is largely intermediate in character between this and [ssp. *suffruticosus*].”

Penstemon caespitosus Nutt. ex A. Gray var. suffruticosus A. Gray

“Tushar Mtns. beard-tongue” Scrophulariaceae

Federal Status: (3B) **UTNHP Rank:** G5T3?/S3?

Distribution: BEA, GAR, IRO, KAN?, PIU

Notes: For alternative treatment as *P. tusharensis* N. Holmgren, see Brittonia 31: 106. 1979. Type from Beaver Co., Tushar Mtns. (*Palmer s.n.* in 1877; holotype GH, isotype ISC). Var. *suffruticosus* is endemic to south-central Utah, at high elevations on the Tushar, Sevier, and Markagunt plateaus (N. Holmgren in Cronquist et al. 1984, Neese in Welsh et al. 1993). Questionable Kane Co. record as reported in *AUF2* (Neese in Welsh et al. 1993).

Penstemon cleburnei M.E. Jones

“Cleburne’s beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G3?/S1

Distribution: DAG, SUM; WY

Notes: For alternative treatment as *P. eriantherus* var. *c.* (M.E. Jones) Dorn, see. Vasc. Pls. Wyoming 300. 1988. Acc. Goodrich and Neese (1986), *P. cleburnei* in Utah is “[u]ncommon in the vicinity of Manila and Dutch John, Daggett Co.” Summit Co. record as reported in *AUF2* (Neese in Welsh et al. 1993). The taxon otherwise ranges rather widely through central, south-central, and southwestern Wyoming (Dorn 1992).

Status Category: *Watch*

Penstemon concinnus Keck

“Tunnel Spring beard-tongue” Scrophulariaceae

Federal Status: (C2), FS, BLM **UTNHP Rank:** G3/S3

Distribution: BEA, IRO, MIL; NV

Notes: For original description see Amer. Midl. Nat. 23: 608. 1940. Type from Millard Co., ca. 10 miles southeast of Garrison, northwest corner of Desert Range Experiment Station, near Tunnel Spring (*Cottam 5635*; holotype DS, isotypes DS, NY, US, UT). N. Holmgren (in Cronquist et al. 1984) cited the overall distribution as “w. Utah in the Burbank Hills, Wah Wah Mts., and Needle Range, Millard and Beaver cos. and adj. Nev. in Snake Creek, Snake Range, White Pine Co.” Iron Co. record as reported in *AUF2* (Neese in Welsh et al. 1993). A report from Washington Co. (mapped in Albee et al. 1988) is assumed to be in error, perhaps based on a misidentified specimen(s) of *P. pinorum* L. & J. Shultz. Field inventory completed in 1997 by Utah Natural Heritage Program botanist M.A. (Ben) Franklin.

Penstemon crandallii A. Nelson var. atratus (Keck) N. Holmgren

“La Sal Mtns. beard-tongue” Scrophulariaceae

Federal Status: (C2) **UTNHP Rank:** G4T2T3/S2S3

Distribution: GRA, SNJ; CO

Notes: For current treatment see Brittonia 31: 105. 1979. Var. *atratus* is endemic to the La Sal Mtns. (Keck 1937, N. Holmgren in Cronquist et al. 1984, Neese in Welsh et al. 1993), the type locality (*Jones s.n.* in 1914; holotype DS, isotypes BRY, CAS, DS, F, GH, NY, PH, POM, UC, US). Acc. R. Thompson (1993, pers. comm. to B. Franklin), var. *atratus* “is wide spread across the south and east lower slopes and bench lands of the LaSal Mtns. within the Manti LaSal National Forest. Populations have been observed from [a] site near Coyote Springs on the south end of the LaSal Mtns. and to the north and east to Carpenter Ridge in Colorado’s part of the Forest.” Keck (1937) also cited a specimen from Naturita, Montrose Co., Colorado (*Payson 361*, RM) but noted that “in the color of its foliage and habit it approaches [var. *crandallii*].”

Penstemon cyananthus Hook. var. subglaber (A. Gray) N. Holmgren

“Fort Hall beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4T3?/S2?

Distribution: BOX; ID, WY

Notes: For current treatment see Brittonia 31: 105. 1979. For alternative treatment as *P. holmgrenii* S. Clark, see Great Basin Nat. 37: 100, 258. 1977. Acc. *AUF2* (Neese in Welsh et al. 1993), var. *subglaber* in Utah is known only from Box Elder Co. The extralimital distribution was cited by N. Holmgren (in Cronquist et al. 1984) as “mtns. se. of the Snake River Plains from ... Cassia Co., Idaho to Fremont Co., Idaho; also in w. Wyo. (Teton, Lincoln, and Uinta cos.).” The same author also reported disjunct populations of var. *subglaber* from central Utah, specifically the Oquirrh and Tintic mtns. and the foothills of Mt. Nebo (Juab and Utah cos.); *AUF2* noted the morphologically transitional nature of these populations but assigned them to var. *longiflorus* (Pennell) Neese and var. *cyananthus*, respectively.

Status Category: *Watch*

Penstemon humilis Nutt. ex A. Gray var. obtusifolius (Pennell) Reveal

“Zion beard-tongue” Scrophulariaceae

Federal Status: (3C) **UTNHP Rank:** G5T2T3/S2S3

Distribution: BEA?, WSH

Notes: For current treatment see Great Basin Nat. 35: 369. 1975 [1976]. For alternative treatment as ssp. *obtusifolius* (Pennell) Keck, see Amer. Midl. Nat. 33: 184. 1945. Type from Washington Co., Springdale (*Jones 5249am*; holotype US, isotypes NY, POM). Acc. Welsh (1989b), var. *obtusifolius* “is endemic to [Zion Natl.] Park and closely adjacent regions.” The same author reported that the plants inhabit “sandy depressions and crevices on sandstone through much of the Park. The plants are evidently mesophytes, which gain extra moisture through the funneling of water into crevices or sandy detrital accumulations from the slickrock adjacent to them.... Numerous new localities were recorded for this taxon during the 1988-89 studies.” Questionable Beaver Co. record based on a collection from Pine Grove, Wah Wah Mtns. (*Cottam 8079*, DS; cited by Keck 1945); this specimen would evidently be assigned by Welsh (1993) to his recently described var. *desereticus*.

Penstemon laevis Pennell

“hairless beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G3/S2S3

Distribution: GAR, KAN, WSH; AZ

Notes: Type from Washington Co., Springdale, red sand (*Jones 5250*, in part; holotype US, isotypes MO, POM). N. Holmgren (in Cronquist et al. 1984) cited the overall distribution as “e. Washington Co. in the Zion Natl. Park region and w. Kane Co. from Orderville to Kanab and on the Kaibab Plateau, Coconino Co., Ariz.” Garfield Co. record apparently based on a collection from near Bryce Canyon (*Burkey 165*, BRY) that has distinctly puberulent lower stems and petioles; as noted in *AUF2* (Neese in Welsh et al. 1993), this specimen is intermediate with the similar but disjunct *P. speciosus* Douglas ex Lindley.

Penstemon lentus Pennell var. albiflorus (Keck) Reveal

“Bear’s Ears beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4T2T3/S2S3

Distribution: SNJ

Notes: For original description see Amer. Midl. Nat. 23: 616. 1940. For current treatment see Great Basin Nat. 35: 370. 1975 [1976]. Type from San Juan Co., Abajo Mts., ca. 8 miles west of Blanding, near the Bear’s Ears, elev. 8000 ft. (*Porter 1801*; holotype RM, isotypes DS, NY, UTC). Acc. *AUF2* (Neese in Welsh et al. 1993), var. *albiflorus* is endemic to San Juan Co. from the vicinity of Natural Bridges Natl. Monument to the western side of the Abajo Mtns. Acc. Keck (1940), this taxon “was noted by Dr. C.L. Porter ... to be widespread on Elk Ridge near the ‘Bear’s Ears,’ on the road west of Blanding. He saw much of this white-flowered plant but no blue-flowered material in the whole region.”

Status Category: *Watch*

Penstemon lentus Pennell var. lentus

“thick-lvd. beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4T3?/S2?

Distribution: SNJ; AZ, CO, NM

Notes: N. Holmgren (in Cronquist et al. 1984) cited the overall distribution of var. *lentus* as “e. side of the Abajo Mts., e. to sw. Colo. and s. to ne. Ariz.” The Arizona distribution was cited as “Apache County, in the Lukachukai Mountains and at Fort Defiance, ... very rare” (Kearney and Peebles 1951). Colorado distribution cited as “Montrose to Montezuma Counties, in dry, clayey, or adobe soils of hills and mesas; 5800-7800 feet” (Harrington 1964). New Mexico record based on reports by Sivinski and Lightfoot (1994, cited in Roalson and Allred 1995a) and Ecosphere (1996).

Penstemon leonardii Rydb. var. higginsii Neese

“Higgins’ penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4G5T3?/S3?

Distribution: IRO, WSH

Notes: For original description see Great Basin Nat. 46: 459. 1986. Type from Washington Co., eastern side of Pine Valley Mtns., along road to Browse Guard Station (*Higgins 13578*; holotype BRY). Acc. Welsh (1989b), “[t]his plant has been collected adjacent to and within [Zion Natl.] Park near Lava Point, in Lee Valley, and in the Taylor Creek portion of the Kolob Canyons Section. It is otherwise known from the Pine Valley, Bull Valley, and Beaver Dam mountains. It is rare only within the Park.” Iron Co. record as reported in Franklin (1994a).

Penstemon nanus Keck

“dwarf beard-tongue” Scrophulariaceae

Federal Status: (C2) **UTNHP Rank:** G3/S3

Distribution: BEA, IRO?, MIL

Notes: For original description see Amer. Midl. Nat. 23: 607. 1940. Type from Millard Co., Desert Range Experiment Station, ca. 10 miles east of Garrison (*Plummer 7313*; holotype DS, isotypes BRY, DS, NY, UT, UTC). Endemic to western Utah, the distribution cited by N. Holmgren (in Cronquist et al. 1984) as “dry limestone-gravelly alluvial soils ...; ... edges of Pine Valley and foothills of adjacent Confusion Range and Wah Wah Mts. and the Burbank Hills of Millard and Beaver cos.” Questionable Iron Co. record as reported in *AUF2* (Neese in Welsh et al. 1993). *P. nanus* occurs very near the Nevada border and may eventually be found in that state (B. Franklin 1996, pers. comm.). In the field, this species is easily confused with *P. dolius* M.E. Jones ex Pennell which is at least partially sympatric; apparently the horseshoe-shaped (not divaricate) anthers of *P. nanus* are diagnostic (Neese in Welsh et al. 1993).

Penstemon petiolatus Brandegee

“limestone beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G2/S1S2

Distribution: WSH; AZ, NV

Status Category: *Watch*

Notes: An endemic of calcareous rock outcrops, in Utah known only from the Beaver Dam Mtns., Washington Co. (Neese in Welsh et al. 1993). In southern Nevada, the distribution extends from the Sheep Range and Tule Desert, Lincoln Co.; to Mercury Valley and the southwestern end of the Ranger Mtns., Nye Co.; to the Spring (Charleston) Mtns. and the Spotted Range, Clark Co. (Kartesz 1987). Arizona record as reported in *AUF2* (Neese in Welsh et al. 1993).

***Penstemon platyphyllus* Rydb.**

“broad-lvd. penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G2G3/S2S3

Distribution: DAV, DUC, SAL, TOO, UTA, WEB

Notes: Type from Salt Lake Co., “Cottonwood Cañon,” elev. 5000 ft. (*Watson 787*; holotype GH, isotypes NY, US). Endemic to northern Utah, the distribution cited by N. Holmgren (in Cronquist et al. 1984) as “[r]ocky places in the canyons and foothills ...; ... Wasatch Range from Ogden Canyon, Weber Co., s. to American Fork Canyon in Utah Co.” Field work in 1997 indicated that *P. platyphyllus* is at least locally common in the lower elevations of Ogden, Big Cottonwood, and American Fork canyons (R.D. Stone, unpubl. data). A disjunct occurrence in Indian Canyon (Duchesne Co.) is represented by a single collection (*Harrison 406*, BRY), cited in *AUF2* (Neese in Welsh et al. 1993). Tooele Co. record based on a [year?] collection from the crest of the northern Oquirrh Mtns. (*Kass 4703*, BRY), cited in TNC (1997).

***Penstemon pseudoputus* (Crosswhite) N. Holmgren**

“Kaibab penstemon” Scrophulariaceae

Federal Status: (3C) **UTNHP Rank:** G3?/S1

Distribution: GAR; AZ

Notes: For original description see Amer. Midl. Nat. 77: 35. 1967. For current treatment see Brittonia 31: 106. 1979. Known in Utah by a [year?] collection from the Markagunt Plateau, 0.25 mile southeast of Panguitch Lake, Garfield Co. (*Foster & Foster 4489*, BRY). The distribution was otherwise cited by N. Holmgren (in Cronquist et al. 1984) as “subalpine meadows and openings in aspen-spruce forests, 2400-2700 m elev.; Kaibab Plateau, Coconino Co., Ariz.” Additional data needed on occurrence and status in Utah.

Penstemon scariosus* Pennell var. *scariosus

“plateau penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4T3T4/S3S4

Distribution: CAR, DUC, EME, GAR?, GRA, JUA, PIU, SNP, SEV, UIN, WAY

Notes: Type from “aspen slopes, east of Musinia Peak [= Mary’s Nipple], Wasatch Mountains [= Wasatch Plateau], headwaters of Muddy Creek, Utah, altitude 2,700 meters” (*Tidestrom 568*; holotype US). Var. *scariosus* is a Utah endemic, the distribution cited by N. Holmgren (in Cronquist et al. 1984) as “Wasatch, Fish Lake, and northern Aquarius plateaus.” Acc. *AUF2* (Neese in Welsh et al. 1993), the range of var. *scariosus* extends to the Tavaputs Plateau (Duchesne, Grand, and

Status Category: *Watch*

Uintah cos.) where the plants are transitional to var. *garrettii* (Pennell) N. Holmgren. Questionable Garfield Co. record as mapped in Albee et al. (1988).

***Penstemon sepalulus* A. Nelson**

“Provo Canyon penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G2G3/S2S3

Distribution: JUA, UTA, SEV, WAS, WSH?

Notes: Type from Utah Co., Provo Canyon, elev. 6000 ft. (*Watson 786*; holotype GH, isotypes NY, US). Endemic to Utah, the distribution cited by N. Holmgren (in Cronquist et al. 1984) as “s. Wasatch Range in American Fork, Provo, Hobbie Creek, and Spanish Fork canyons, Utah Co. and slopes of Mt. Nebo, Juab Co. and some disjuncts in Fish Lake, Sevier Co. and Zion Natl. Park, Washington Co.” Acc. *AUF2* (Neese in Welsh et al. 1993), the single collection from Washington Co. (*Woodbury s.n.* in 1925, BRY) may represent an introduction or a mislabeled specimen.

***Penstemon strictiformis* Rydb.**

“Four Corners penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G3?Q/S1S2

Distribution: SNJ; AZ, CO, NM

Notes: An endemic of juniper and pinyon-juniper woodlands in the Four Corners region, *P. strictiformis* in Utah is known only from San Juan Co. (N. Holmgren in Cronquist et al. 1984, Neese in Welsh et al. 1993). Arizona distribution reported by Kearney and Peebles (1951) as including Canyon de Chelly Natl. Monument (Apache Co.) and from north of Flagstaff (Coconino Co.) The type locality is in southwestern Colorado (near Mancos, Montezuma Co.), but Weber and Wittmann (1992) did not recognize *P. strictiformis* as a distinct taxon, treating it instead as a synonym of *P. strictus* Benth. The New Mexico distribution includes San Juan, Rio Arriba, Taos, McKinley, Santa Fe, and Bernalillo cos. (Martin and Hutchins 1981).

***Penstemon tdestromii* Pennell**

“Tidestrom’s beard-tongue” Scrophulariaceae

Federal Status: (C2) **UTNHP Rank:** G2G3/S2S3

Distribution: JUA, MIL, SEV?, SNP, UTA?

Notes: Type from Sanpete Co., “collected in the oak zone, ‘XL’ Canyon, San Pitch mountains, central Utah, altitude 1,650 meters” (*Tidestrom 1296*; holotype US). Acc. Bob Thompson (1993, pers. comm.), the name “XL Canyon” is used by local residents in reference to Axhandle Canyon which drains the eastern slope of the San Pitch Mtns. northwest of Ephraim. *P. tdestromii* is endemic to central Utah, with most occurrences in or adjacent to the San Pitch Mtns. (Sanpete and Juab cos.) and the remaining localities on the western base of the Wasatch Plateau (Sanpete Co.). Millard Co. record based on a 1993 collection from the Valley Mtns. (*Franklin 7752*, BRY). Questionable Sevier Co. record based on *P. leptanthus* Pennell, which N. Holmgren (in Cronquist et al. 1984) maintained as a distinct species but *AUF2* (Neese in Welsh et al. 1993) treated as a synonym of *P. tdestromii*. As discussed by N. Holmgren (in Cronquist et al. 1984), *P. leptanthus*

Status Category: *Watch*

is known only by the type collection (*Ward 280*; holotype US, isotype GH) which was possibly made near Glenwood (Sevier Co.) but more likely in Twelvemile Creek canyon (Sanpete Co.). Questionable Utah Co. record as reported by Atwood et al. (1991) and *AUF2*, but regarded by Dr. Elizabeth Neese (1994, pers. comm.) as “an unverified and doubtful report.” Based on 1993 field work, Stone and Franklin (1994) conservatively estimated the total population of *P. tidesstromii* at 10,000 to 30,000 plants. The same authors noted that “[t]he known occurrences ... cover a wide elevational range, from 5,400 to 8,100 feet. The species is also found in a variety of habitats including pinyon-juniper woodland, oak brush, and sagebrush-grass.... [I]t seems to occur in greatest abundance on the series of gently sloping spur ridges and mid-elevation benches (6,500-7,900 ft.) on the southeast and southwest flanks of the San Pitch Mountains.” Acc. *AUF2*, one specimen from near Nephi (Juab Co.) is unusual in having hispid anthers (*Collins & Harper 146*, BRY).

***Penstemon uintahensis* Pennell**

“Uinta Mtns. beard-tongue”

Scrophulariaceae

Federal Status: (3C)

UTNHP Rank: G3/S3

Distribution: DAG, DUC, SUM, UIN

Notes: A Uinta Mtns. endemic (N. Holmgren in Cronquist et al. 1984, Franklin 1989d, Neese in Welsh et al. 1993), the type from Dyer Mine, Uintah Co. (*Goodding 1221*; holotype NY, isotypes BRY, F, RM, US). Acc. Franklin (1991c), “*P. uintahensis* ... is presently known from various locations along the central crest and across the north and south slopes of the range: from the Bald Mountain-Red Castle Lakes area on the west to Dyer Mountain on the east.” The same author reported that the “lowest-elevation occurrences, are less frequently, in the understory of upper elevation spruce-fir forests and, often, in the scattered, rocky dry-meadow openings that begin the transition zone from spruce-fir forest to above-tree-line plant communities. Higher up, it occurs on upper-canyon glacial plains above tree-line, where it grows on rocky, well-drained, grass-forb covered tracts that alternate with waist-high *Salix* thickets. Its highest occurrences are the gently sloping tablelands of the central crest and lateral ridges of the range, where it grows in alpine tundra communities.”

***Penstemon wardii* A. Gray**

“Sevier penstemon”

Scrophulariaceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G2G3/S2S3

Distribution: MIL, SNP, SEV

Notes: Type from Sevier Co., “near Glenwood, at 5,300 feet” (*Ward 162*; holotype GH, isotypes NY, US). A central Utah endemic, the distribution cited by Thorne and Zupan (1992?) as “[p]inyon-juniper woodlands in clayey soils ... in the foothills surrounding Sevier Valley from Manti to Richfield and Clear Creek Canyon, San Pete and Sevier Counties.” Collections from the Valley Mtns. (Millard Co.) need to be critically re-examined. A report from Piute Co. (Neese in Welsh et al. 1993) is in error, based on mislabeled specimens. Thorne and Zupan (1992?) also reported that “*Penstemon wardii* was found on the Green River, Sevier River, Flagstaff Limestone and Arapien Shale Formations. These are predominantly gray or whitish (occasionally red, white and gray

Status Category: *Watch*

variegated), clayey substrate[s].... *Penstemon wardii* appears to be endemic to the evaporite bearing shales, but is not strictly found on any one of the four formations located within the Sevier Valley.”

***Perityle tenella* (M.E. Jones) J.F. Macbr.**

“Dixie rock-daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G3?/S2?

Distribution: KAN, WSH; AZ, NV

Notes: Type from Washington Co., Springdale (*Jones 5249a*; holotype? US, isotypes? BRY, NY, POM). The overall distribution was cited by Cronquist (1994) as “[r]ocky slopes and cliff-crevices, on sandstone or limestone ...; sw. Utah (Washington Co.) and adj. Kane Co., s. nearly to the Grand Canyon in the Arizona Strip, and w. to the Virgin Mts. in Clark Co., Nev., where intergradient with *P. gracilis* (M.E. Jones) Rydb.”

***Petalonyx parryi* A. Gray**

“Parry’s sandpaper-plant” Loasaceae

Federal Status: None **UTNHP Rank:** G3G4/S1S2

Distribution: WSH; AZ, NV

Notes: Type from Washington Co., St. George, “within a stone’s throw of the great Mormon Temple” (*Parry 75*; holotype GH, isotypes BRY, ISC, NY). *P. parryi* is a gypsophilous shrub (Meyer 1986) that acc. *AUF2* (Thorne and Welsh in Welsh et al. 1993) “is locally common on Chinle and Moenkopi outcrops, where it sometimes forms a principal component of the vegetation.” It is otherwise known from western Coconino and northern Mohave cos., Arizona (Kearney and Peebles 1951), and from Clark Co. in extreme southern Nevada where reportedly “[c]ommon and widespread” (Kartesz 1987).

***Phacelia cephalotes* A. Gray**

“badlands phacelia” Hydrophyllaceae

Federal Status: (3C) **UTNHP Rank:** G4/S2

Distribution: KAN, SNJ, WSH; AZ, NM

Notes: Lectotype from Washington Co., valley of the Virgin River (*Parry 179*, GH; isolectotypes F, MO, NY), designated by Howell (1943). Cronquist et al. (1984) cited the overall distribution as “[b]arren clay slopes and badlands; s. Utah (Washington, Kane, and San Juan cos.) and n. Ariz. (Apache, Mohave, Coconino, and Navajo cos.)” Acc. *AUF2* (Atwood in Welsh et al. 1993), this annual is locally abundant on the fine-textured, saline substrates of the Chinle Formation. New Mexico record acc. Sivinski (1993), based on a collection from McKinley Co. (*Sivinski 1871*; NMC, UNM).

***Phacelia constancei* Atwood**

“Moenkopi phacelia” Hydrophyllaceae

Federal Status: (3C) **UTNHP Rank:** G4/S2S3

Distribution: EME, GAR, IRO?, KAN, SNJ, WAY; AZ, CO, NM

Status Category: *Watch*

***Phlox gladiformis* (M.E. Jones) E. Nelson**

“dagger-lvd. phlox” Polemoniaceae

Federal Status: (3C) **UTNHP Rank:** G3?/S2S3

Distribution: GAR, IRO, KAN, WSH; AZ?, NV

Notes: Type from Iron Co., east of Cedar City, mouth of Cedar Canyon (*Jones 5208c*; holotype POM, isotype US). Cronquist et al. (1984) cited the overall distribution as “mts. of sw. Utah (Iron, Garfield, Washington, and Kane cos.) to se. Nev. (Pahroc and Mormon mts. in Lincoln Co.)” Rare in Nevada (Kartesz 1987). Not known but expected in Arizona (Wherry in Kearney and Peebles 1951).

***Phlox griseola* Wherry**

“gray-lvd. phlox” Polemoniaceae

Federal Status: None **UTNHP Rank:** G3/S2?

Distribution: BEA, IRO, WSH; AZ, NV

Notes: For original description see Notul. Nat. Acad. Nat. Sci. Philadelphia 113: 10. 1942. Cronquist et al. (1984) cited the overall distribution as “sw. Utah (Beaver, Iron, and Washington cos.) to the nw. corner of Ariz. (Beaverdam, Mohave Co.) and w. to w. Lincoln Co., Nev., adjoining and somewhat overlapping the range of *P. tumulosa* Wherry near Pioche.” The range in Nevada extends to the Virgin Mtns., Clark Co. (Kartesz 1987).

***Phlox opalensis* Dorn**

“Bridger Basin phlox” Polemoniaceae

Federal Status: (C2) **UTNHP Rank:** G3/S1

Distribution: DAG; WY

Notes: For original description see Vasc. Pls. Wyoming 2, 304. 1992. Utah state record based on three 1995 collections (*Refsdal et al. 3237*, RM; *Refsdal & Goodrich 3650*, RM; *Fertig & Struttmann 15727*, BRY, RM), all from Daggett Co. (see also Refsdal 1996). A 1932 collection from Daggett Co. has also been found (*Williams 440*, RM; earlier misidentified as *P. hoodii* Richardson). Acc. Fertig (1996), “*Phlox opalensis* is a regional endemic of the lower Green River and Bridger basins and the adjacent foothills of the Uinta Mountains in southwestern Wyoming (Lincoln, Sublette, Sweetwater, and Uinta counties) and northeastern Utah (Daggett County).” The same author conservatively estimated the total number of plants at 1.3 to 1.5 million rosettes (based on survey data from 18 of 33 known occurrences) and noted that the species is “found primarily on fine-textured, light colored clays and shales derived from the Bridger or Green River Formations (Love and Christiansen 1985)... The abundance of *Atriplex gardneri* ... suggests that these soils are also relatively saline (Knight 1994). Some colonies of *P. opalensis* have been found on seleniferous soils.”

Status Category: *Watch*

***Phlox tumulosa* Wherry**

“mound phlox”

Polemoniaceae

Federal Status: None

UTNHP Rank: G3?/S1S2

Distribution: BEA, IRO; NV

Notes: For original description see Notul. Nat. Acad. Nat. Sci. Philadelphia 113: 9. 1942. For alternative treatment as *P. griseola* ssp. *t.* (Wherry) Wherry, see Morris Arbor. Monogr. 3: 140. 1955. Cronquist et al. (1984) cited the overall distribution as “n. Nye Co. (Monitor Valley) and c. White Pine Co. (Ruth) to n. Lincoln Co. (Pioche), Nev., and e. to Beaver Co. (Wah Wah Mts.) and reputedly Iron Co. (Iron Mt.), Utah.” Acc. Wherry (1955), “[f]ield and herbarium study of [*P. tumulosa*] and [*P. griseola* Wherry] have shown them to intergrade to such an extent that only subspecies segregation seems justified.”

***Platyschkuhria integrifolia* (A. Gray) Rydb. var. *ourolepis* (S.F. Blake) Ellison**

No common name

Asteraceae

Federal Status: None

UTNHP Rank: G5T3?/S3?

Distribution: DUC, EME, GRA, UIN; CO

Notes: For current treatment see Brittonia 23: 276. 1971. For alternative treatment as *Bahia nudicaulis* var. *o.* (S.F. Blake) Cronquist, see Intermt. Fl. 5: 114. 1994. Type from Emery Co.?, “Green River, Utah” (*Jones 5482l*; holotype US, isotype POM). Cronquist (1994) cited the distribution of var. *ourolepis* as “Uinta Basin, s. rarely to Emery and Grand cos., Utah.” Acc. Goodrich and Neese (1986), the variety is “[c]ommon in Uintah Co., apparently limited and localized in Rio Blanco Co. [Colorado]; ... 4,700-6,000 ft.” *AUF2* (Welsh et al. 1993) also reported that the distributional center of var. *ourolepis* is in Uintah Co. Monotypic genus.

***Podistera eastwoodiae* (Coulter & Rose) Mathias & Constance**

No common name

Apiaceae

Federal Status: None

UTNHP Rank: G3?/S1

Distribution: GRA?, SNJ; CO, NM

Notes: For current treatment see Bull. Torrey Bot. Club 69: 247. 1942. *P. eastwoodiae* is known in Utah by two collections from alpine forb-grass communities in the La Sal Mtns. (*Rydberg & Garrett 8839*, RM, UT; *Franklin 4095*, BRY). Acc. Franklin (1992g), the species “is known in Colorado from approximately twenty collection sites ranging over ten counties. Many of these sites were observed to possess extensive populations.... In New Mexico it is known from three specimens of relatively close proximity in the north central portion of the state [R. Hartman 1991, pers. comm.; T. Naumann 1991, pers. comm.]”

***Potentilla multisecta* (S. Watson) Rydb.**

“sky-island cinquefoil”

Rosaceae

Federal Status: None

UTNHP Rank: G3G4Q/S2

Distribution: BOX, JUA, TOO; NV

Status Category: *Watch*

Notes: Treated in *AUF2* (Welsh et al. 1993) as *P. diversifolia* var. *m.* S. Watson. Acc. N. Holmgren (in Cronquist et al. 1997), *P. multisecta* is endemic to the Great Basin on rocky subalpine and alpine slopes, in Utah known from the Pilot Range and Raft River Mtns. (Box Elder Co.) and the Deep Creek Mtns. (Juab and Tooele cos.). The species is otherwise restricted to “c. and e. Nev. (Jarbidge and Ruby mts. and East Humboldt Range of Elko Co.; White Pine and Schell Creek ranges, Kern Mts., and Spruce Mt. of White Pine Co.; disjuncts on the Monitor and Toiyabe ranges of Nye and Lander cos.)” Earlier reports of *P. multisecta* from north of the Intermountain region (Idaho, Montana, etc.) are evidently based on misidentified specimens of *P. diversifolia* var. *perdissecta* (Rydb.) C. Hitchc.

***Primula specuicola* Rydb.**

“alcove primrose”

Primulaceae

Federal Status: (3C)

UTNHP Rank: G4Q/S3

Distribution: GAR, GRA, KAN, SNJ, WAY; AZ, CO?

Notes: Type from San Juan Co., along the San Juan River near Bluff (*Rydberg 9882*; holotype NY, isotypes US, UT). Acc. *AUF2* (Welsh et al. 1993), *P. specuicola* is an endemic of hanging gardens in the sandstone canyons of the Colorado River drainage. In Arizona it has been found on the north side of the Grand Canyon in Coconino Co. (Kearney and Peebles 1951). Not yet known from Colorado (Weber and Wittmann 1992), but to be looked for in the canyons of the Dolores and Colorado rivers (Weber and Wittmann 1996a).

***Proatriplex pleiantha* (W.A. Weber) Stutz & Chu**

“Navajo saltwort”

Chenopodiaceae

Federal Status: (3C)

UTNHP Rank: G3/S1

Distribution: SNJ; CO, NM

Notes: For current treatment see *Amer. J. Bot.* 77: 366. 1990. Treated in *AUF2* (Welsh et al. 1993) as *Atriplex p.* W.A. Weber, *Madroño* 10: 189. 1950. This succulent annual occurs on the Morrison Formation in southeastern San Juan Co., near the Colorado border (Welsh et al. 1993). Acc. Stutz (1990), “*Proatriplex pleiantha* is abundant, in favorable years, on many of the ‘badland’ landscapes of southwestern Colorado and northwestern New Mexico.” The same author reported that “[t]he most extensive populations yet found are in SW Montezuma County, Colorado and in NW San Juan County, New Mexico. In Colorado they are particularly abundant on both sides of Aztec Creek, on the lower slopes of the badland landscapes. In New Mexico they are most abundant in the badlands south of Fruitland.” Monotypic genus.

***Psoralidium junceum* (Eastw.) Rydb.**

“rush-like scurf-pea”

Fabaceae

Federal Status: None

UTNHP Rank: G3/S3

Distribution: GAR, KAN, SNJ; AZ

Notes: Type from San Juan Co., Epsom Creek (*Eastwood 21*; holotype CAS, isotypes CAS, GH, MO, NY, US). The distribution was cited by Grimes (1990) as “[l]ocalized along the Paria, San Juan

Status Category: *Watch*

and Colorado rivers in southeastern Kane and southern San Juan counties, Utah and northern Coconino County, Arizona. Apparently isolated in eastern Garfield Co., Utah.” The habitat was described as “open sand dunes, on semistabilized sands among desert shrub, on rocky slopes or on salt encrusted mud at 1000-1750 m, often the dominant member of the community.”

Psorothamnus thompsoniae* (Vail) Welsh & Atwood var. *thompsoniae

“Ellen’s indigo-bush” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G3T3?/S3?

Distribution: EME, GAR, KAN?, SNJ, WAY; AZ?

Notes: For current treatment see Great Basin Nat. 35: 354. 1975. The type collection (*Thompson s.n.* in 1872; holotype US, isotype NY) is from “Northern Arizona” acc. Barneby (1989), possibly from near Kanab (Kane Co.) acc. *AUF2* (Welsh et al. 1993), but more likely from the canyons of the Colorado River in southeastern Utah (Barneby 1989, Welsh et al. 1993). The known distribution of var. *thompsoniae* was cited by Barneby (1989) “drainages of Muddy, Fremont, and White rivers in sw. Emery, c. Wayne, e. Garfield, and w. San Juan cos., Utah.”

***Ptelea trifoliata* L. var. *lutescens* (E. Greene) V. Bailey**

“Grand Canyon hop-tree” Rutaceae

Federal Status: None **UTNHP Rank:** G5T3?/SH

Distribution: GAR?, KAN, SNJ?, WSH?; AZ

Notes: For current treatment see Brittonia 14: 25. 1962. The overall distribution of var. *lutescens* was cited by Bailey (1962) as “limited to canyons tributary to the Grand Canyon of the Colorado River in northwestern Arizona and southern Utah; steep rocky canyon walls below the top of the plateau or (infrequently) in moist situations near springs.” The Kane Co. record is based on a collection from near Kanab that formed the type of *P. neglecta* E. Greene (*Wetherill s.n.* in 1897; holotype CAS), reported by Bailey (1962) as “intermediate toward ssp. *polyadenia* (E. Greene) V.L. Bailey.” Acc. *AUF2* (Higgins and Welsh in Welsh et al. 1993), “[r]eports of this species from Garfield County [*Baxter & Kraus s.n.* in 1926, MICH; *Siler 1552h*, MO] are likely from Kane County.... The plant should be sought near Kanab, and possibly it persists still in Glen Canyon along the shores of Lake Powell.” Based on distributional information presented in Bailey (1962), it seems likely that the collection from Washington Co. (cited in *AUF2*) represents a different taxon, var. *pallida* (E. Greene) V. Bailey.

***Salicornia utahensis* Tidestrom**

“Utah pickleweed” Chenopodiaceae

Federal Status: None **UTNHP Rank:** G3?/S3?

Distribution: BOX, DAV, JUA?, MIL, SAL, TOO, UTA, WEB; +?

Notes: For alternative treatment as *Sarcocornia u.* (Tidestrom) A.J. Scott, see Bot. J. Linn. Soc. 75: 369. 1977 [1978]. Type from Tooele Co., “three miles northwest of Grantsville, ... near the shore of the Great Salt Lake in strongly saline soil, moist to the surface” (*Kearney & Shantz 3249*; holotype US). Flowers (1932) reported the perennial *Salicornia utahensis*, along with the annual *S. rubra*

Status Category: Watch

A. Nelson and the low shrub *Allenrolfea occidentalis* (S. Watson) Kuntze, as important components of the pioneer plant community on the salt flats around the margin of the Great Salt Lake and in saline playas of the surrounding valleys. Hansen and Weber (1975) also noted *S. pacifica* var. *u.* (Tidestrom) Munz as “a halophyte common to inland salt playas of northern Utah.” *S. utahensis* has been reported from the Death Valley region in eastern Calif. (Jepson 1925, Hunt 1966, Munz 1974), but acc. Wilken (in Hickman 1993) the differences between Calif. and Utah plants need additional study. If the Calif. population indeed belongs to a different taxon, then *S. utahensis* is a northwestern Utah endemic.

Saxifraga serpyllifolia Pursh var. chrysantha (A. Gray) Dorn

“golden-fld. saxifrage” Saxifragaceae

Federal Status: None **UTNHP Rank:** G5T4/S1

Distribution: DUC, SUM; CO, NM, WY +

Notes: For current treatment see Vasc. Pls. Wyoming 300, 1988. For alternative treatment as ssp. *chrysantha* (A. Gray) W.A. Weber, see Phytologia 33: 105. 1976. Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *S. chrysantha* A. Gray. For alternative treatment as *Hirculus serpyllifolius* ssp. *chrysanthus* (A. Gray) W.A. Weber, see Phytologia 53: 188. 1983. An alpine plant of rocky areas and tundra, in Utah known only from the Uinta Mtns. (Goodrich in Welsh et al. 1993, Holmgren and Holmgren in Cronquist et al. 1997). Var. *chrysantha* otherwise occurs in the Rocky Mtns. from southern Montana (Beartooth Mtns.) and Wyoming (Park, Albany, and Fremont cos.) south to Colorado and northern New Mexico (Lesica and Shelly 1991, Dorn 1992, Holmgren and Holmgren in Cronquist et al. 1997). Move to peripherals list?

Sclerocactus johnsonii (Parry ex Engelm.) N.P. Taylor

No common name Cactaceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: WSH; AZ, NV +

Notes: For current treatment see Bradleya 5: 94. 1987. Treated in *AUF2* (Welsh et al. 1993) as *Neolloydia j.* (Engelm.) L. Benson, Cacti Ariz. ed. 3. 25, 192. 1969. Lectotype from Washington Co., near St. George (*Johnson s.n.* in 1870, MO), designated by Benson (1969). Acc. *AUF2* (Welsh et al. 1993), the distribution of this cactus in Utah is limited to the Beaver Dam Mtns. (Washington Co.). It otherwise ranges across the “Mojavean Desert and edge of Colorado Desert. California in Death Valley region, Inyo Co.; Nevada in Clark Co.; ... Arizona in Mohave, W Yavapai, and N Yuma Cos.” (Benson 1982). Locally common in southern Nevada (Kartesz 1987).

Sclerocactus pubispinus (Engelm.) L. Benson

“Great Basin fishhook-cactus” Cactaceae

Federal Status: (3C) **UTNHP Rank:** G4/S2S3

Distribution: BEA, BOX, IRO, JUA, MIL, TOO; NV

Notes: For current treatment see Cactus & Succ. J. 38: 103. 1966. Type from “Pleasant Valley near Salt Lake Desert” (*Engelmann s.n.* in 1859; holotype MO), said by Benson (1982) to be from the

Status Category: *Watch*

Goshute Range, White Pine Co., Nevada, but possibly from Juab Co., Utah (see Welsh 1984b). The overall distribution was reported by Heil and Porter (1994) as “[w]estern Utah and the northeastern edge of Nevada,” the Utah specimens cited from Beaver, Box Elder, Iron, Juab, Millard, and Tooele cos. A report from Sevier Co. (Atwood et al. 1991) was presumably based on misidentified specimens of *S. spinosior* (Engelm.) Woodruff & Benson. Heil and Porter (1994) also noted that “*Sclerocactus pubispinus* grows on light-colored soils of limestone or dolostone origin and is very difficult to locate in the field. It is mostly at 6000-6800’ (1800-2000 m) growing with sagebrush, shadscale, pinyon, and juniper.”

***Sclerocactus spinosior* (Engelm.) Woodruff & Benson**

“Utah fishhook-cactus” Cactaceae

Federal Status: (3C) **UTNHP Rank:** G2G3/S2S3

Distribution: BEA, EME?, IRO, JUA, MIL, SEV

Notes: For current treatment see Cactus & Succ. J. 48: 131. 1976. Treated in *AUF2* (Welsh et al. 1993) as *S. pubispinus* var. *s.* (Engelm.) Welsh, Great Basin Nat. 44: 67. 1984. Lectotype designated by Benson (1966), from “Desert Valley, west of Camp Floyd, Utah” (*H. Engelmann s.n.* in 1859, MO), said by Welsh (1984b) to be from the Dugway or Thomas ranges (Juab Co.). Heil and Porter (1994) reported *S. spinosior* as endemic to west-central Utah, with specimens cited from Beaver, Iron, Millard, Juab, and Sevier cos. Questionable Emery Co. record based on a collection cited by the same authors from 2 miles south of Hwy. I-70, 0.8 mile east of Sevier Co. line (*Neese et al.* [coll. # ??], BRY), possibly misidentified or mislabeled. Plants from northern Coconino Co., Arizona (and possibly near Kanab in adjacent Kane Co., Utah) were described as *S. pubispinus* var. *sileri* L. Benson and later treated by Benson (1982) as a synonym of *S. spinosior*; this population was elevated to species status by Heil and Porter (1994). These authors further noted that *S. spinosior* “grows on igneous or calcareous gravels and is usually associated with pinyon-juniper woodland, shadscale, or sagebrush communities at 5000-6600’ (1525-2000 m).”

***Sclerocactus whipplei* (Engelm. & Bigelow) Britton & Rose**

“Whipple’s fishhook-cactus” Cactaceae

Federal Status: None **UTNHP Rank:** G3?/S1

Distribution: SNJ; AZ

Notes: Heil and Porter (1994) regarded *S. whipplei* as restricted to the Little Colorado River drainage in northeastern Arizona (Apache, Navajo, and Coconino cos.) and adjacent Utah (San Juan Co.). The single Utah specimen cited is from gravelly hills ca. 0.5 mile north of Bluff (*Heil* [coll. # ??], SJNM). *AUF2* (Welsh et al. 1993) treated *S. parviflorus* Clover & Jotter and other taxa as synonyms and therefore reported a wider range for *S. whipplei* including Carbon, Duchesne, Emery, Garfield, Grand, Kane, San Juan, Sevier, Uintah, and Wayne cos. For detailed taxonomic discussion, see Heil and Porter (1994). The same authors described the habitat of *S. whipplei* as “gravel[l]y and sandy hills, canyon rims and mesas at 5000-6000’ (1500-1800 m) in desert and pinyon-juniper communities.”

Status Category: *Watch*

Scutellaria nana A. Gray var. sapphirina Barneby

“Barneby’s skull-cap”

Lamiaceae

Federal Status: None

UTNHP Rank: G4T3?/S1S2

Distribution: IRO, WSH; NV

Notes: For original description see Leaflet. West. Bot. 5: 65. 1947. For alternative treatment as *S. sapphirina* (Barneby) Olmsted, see Contr. Univ. Michigan Herb. 17: 256. 1990. County distribution in Utah as reported in *AUF2* (Higgins in Welsh et al. 1993). Cronquist and Reveal (in Cronquist et al. 1984) regarded var. *sapphirina* as an eastern and central Nevada endemic, with distribution on “calcareous soils in and about the White Pine, Schell Creek, Egan, and Quinn Canyon ranges, in White Pine and ne. Nye cos.” The range in Nevada extends northward to Elko Co. (Kartesz 1987).

Selaginella utahensis Flowers

“Utah spike-moss”

Selaginellaceae

Federal Status: (3C)

UTNHP Rank: G2G3/S2S3

Distribution: KAN, WSH; NV

Notes: For original description see Amer. Fern J. 39: 83. 1949. Type from Washington Co., Zion Natl. Park, dry face of Lady Mtn. (*Cottam 5644*; holotype UT, isotype BRY). *S. utahensis* is restricted to sandstone outcrops (Valdespino in Morin 1993), and acc. Welsh and Eliason (1995) it “is locally common, even abundant, in crevices in the Zion Canyon vicinity.” The distribution in Washington Co. extends west to Snow Canyon (M. Windham 1992, pers. comm.) and the southern flank of the Pine Valley Mtns. where “[f]requent ... in shaded cracks and ledges at lower elevations” (Warrick 1987). Kane Co. record as reported by Welsh (1989b) and *AUF2* (Higgins in Welsh et al. 1993). The species is otherwise known only from the Spring (Charleston) Mtns. of southern Nevada, where reportedly rare (Kartesz 1987). “[O]f conservation concern” acc. Valdespino (in Morin 1993), who also noted that *S. utahensis* is very closely related to, and easily confused with, *S. leucobryoides* Maxon of Arizona, Calif., and Nevada; treated as separate species by that author pending the results of additional studies.

Selinocarpus nevadensis (Standley) Fowler & Turner

“desert moon-pod”

Nyctaginaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: SNJ?, WSH; AZ, NV +

Notes: For current treatment see Phytologia 37: 201. 1977. Treated in *AUF2* (Welsh et al. 1993) as *S. diffusus* ssp. n. Standley. The overall distribution was cited by Fowler and Turner (1977) as “[r]estricted to a small area encompassing Clark County, Nevada, Washington County, Utah, and the northwestern tip of Mohave County, Arizona.” A San Juan Co. collection (cited in *AUF2*) may be typical *S. diffusus* A. Gray; the specimen needs to be critically reexamined. Infrequent in southern Nevada, where found in Clark, Lincoln, and Nye cos. (Kartesz 1987). Also in Calif. acc. Castagnoli et al. (1983), based on a 1980 collection from the Kingston Range, Inyo Co. (*de Nevers & Stone 358*; CAS, RSA).

Status Category: *Watch*

***Silene petersonii* Maguire**

“Maguire’s campion”

Caryophyllaceae

Federal Status: (C2), FS

UTNHP Rank: G2G3/S2S3

Distribution: GAR, IRO, KAN, SNP, SEV

Notes: For original description see Madroño 6: 24. 1941. Type from Sanpete Co., “[c]ommon on steep, loose, bare, calcareous slopes at 10,900 feet, Skyline Drive, one mile above Baldy Ranger Station, Manti National Forest” (*Maguire 20000*; holotype UTC, isotypes BRY, NY). For original description of var. *minor* C. Hitchc. & Maguire, see Univ. Wash. Publ. Biol. 13: 38. 1947 (type from Garfield Co., “[f]requent on bare gravelly clay, rapidly eroding slopes, Red Canyon, five miles [east of] U.S. [Hwy.] 89 junction,” *Maguire 19550*; holotype UTC, isotype NY). Acc. Stone (1993c), *S. petersonii* grows on the eroding margins of the high Wasatch Plateau (Sanpete and Sevier cos.) and in the Southern High Plateaus region where it is known from the Escalante Mtns. and the Table Cliff, Paunsaugunt, and Markagunt plateaus (primarily in Garfield Co.). The occurrences on the Markagunt Plateau extend into Iron Co. where there are several records from the rim of Cedar Breaks. Kane Co. record based on a 1990 collection from the East Fork Sevier River drainage, southern end of Paunsaugunt Plateau (*Kieffer 42*, UT). Although there are 40 known occurrences of *S. petersonii*, the available information suggests that the individual populations are rather small, consisting at most of no more than a few hundred plants (Stone 1993c). From this information, the overall population size is estimated at fewer than 10,000 plants. Var. *minor* was distinguished from typical *S. petersonii* on the basis of (1) lower stature; (2) denser, harsher, less glandular pubescence; (3) smaller flowers; and (4) mostly not lobed but variously toothed petals (Hitchcock and Maguire 1947). *AUF2* (Welsh et al. 1993) did not recognize var. *minor*, citing (1) the lack of a consistent geographic basis for the observed morphological variation; and (2) the existence of numerous intermediates.

***Sphaeralcea grossulariifolia* (Hook. & Arn.) Rydb. var. *moorei* Welsh**

“Moore’s globe-mallow”

Malvaceae

Federal Status: None

UTNHP Rank: G5T2T3Q/S2S3

Distribution: GAR, KAN, SNJ

Notes: For original description see Great Basin Nat. 40: 35. 1980. Type from Kane Co., Lake Powell, east side of Last Chance Bay (*Welsh & Atwood 11597*; holotype BRY). Acc. *AUF2* (Welsh et al. 1993), var. *moorei* is characterized by bright green herbage and thin-textured leaves and occurs in sandy tracts at lower elevations along Glen Canyon and the San Juan River. It “is transitional to ... typical [*S. grossulariifolia*], but not more so than for taxa as a whole in this genus and the plants could reasonably be treated at specific rank.”

***Stachys rothrockii* A. Gray**

“Zuni hedge-nettle”

Lamiaceae

Federal Status: None

UTNHP Rank: G3?/S1

Distribution: KAN; AZ, NM

Status Category: *Watch*

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *S. rothrockii* is known in Utah from Tropic Shale outcrops in Kane Co. The species otherwise ranges across northern Arizona (Kearney and Peebles 1951) to northwestern New Mexico (McKinley and Valencia cos.; see Martin and Hutchins 1981), in “[a]lkaline clay soils that are moist in the spring” (Cronquist and Reveal in Cronquist et al. 1984).

***Stenotus armerioides* Nutt. var. *gramineus* (Welsh & F. Smith) Kartesz & Gandhi**

“grass-lvd. goldenweed”

Asteraceae

Federal Status: None

UTNHP Rank: G4G5T2T3/S2S3

Distribution: DUC, UIN; CO

Notes: For current treatment see *Phytologia* 71: 61. 1991. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus a.* var. *g.* Welsh & F. Smith, *Great Basin Nat.* 43: 371. 1983. Type from Uintah Co., Atchee Ridge road ca. 1 mile north of Boulevard Ridge (*Thorne & Neely 1836*; holotype BRY, isotypes CAS, NY). Var. *gramineus* is endemic to the southern rim of the Uinta Basin, on shale barrens of the Green River Formation in Uintah and (rarely) eastern Duchesne cos., elev. 5600 to 6600 (7600) ft. (Goodrich and Neese 1986, Welsh et al. 1993, Cronquist 1994). The distribution also extends barely into northwestern Colorado near Mormon Gap in Rio Blanco Co. (*Windham 93-11*, UT).

***Thelypodopsis aurea* (Eastw.) Rydb.**

No common name

Brassicaceae

Federal Status: None

UTNHP Rank: G4/S2

Distribution: SNJ; CO, NM

Notes: In Utah known only from San Juan Co. (Rollins 1982b, Welsh et al. 1993). The species otherwise ranges to western Colorado, where “[f]requent on clay and shale of desert-steppe in southwestern counties” (Weber and Wittmann 1996a), and northwestern New Mexico (Sandoval and San Juan cos.; see Rollins 1982b).

***Thelypodium laxiflorum* Al-Shehbaz**

No common name

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G4/S2S3

Distribution: BEA, CAR, DUC, GAR?, GRA, IRO, KAN, PIU, SNJ, UTA, WSH; CO, NV

Notes: For original description see *Contr. Gray Herb.* 204: 129. 1973. A plant of slightly moist, partly shaded areas in lower to upper montane habitats (Al-Shehbaz 1973, Rollins 1993, Welsh et al. 1993); evidently of wide but sporadic distribution from western Colorado to Utah and southern Nevada (Al-Shehbaz 1973, Kartesz 1987, Rollins 1993, Welsh et al. 1993, Weber and Wittmann 1996a). Questionable Garfield Co. record as mapped in Albee et al. (1988).

***Thelypodium rollinsii* Al-Shehbaz**

No common name

Brassicaceae

Federal Status: None

UTNHP Rank: G2G3/S2S3

Distribution: BEA, CAR, JUA, MIL, PIU, SNP, SEV

Status Category: *Watch*

Notes: For original description see Contr. Gray Herb. 204: 97. 1973. Type from Juab Co., ca. 12 miles north of Scipio on U.S. Hwy. 91, alkaline soil in the vicinity of Sevier River (*I. & M. Al-Shehbaz 6913*; holotype GH). A central Utah endemic, the distribution cited by Rollins (1993) as “moist saline bottom land, alkaline flats, silty clay, often with *Sarcobatus*; ... abundant in the valley of the Sevier River.” Carbon Co. record based on a collection from 15 miles east of Wellington (*Malburtt s.n.* in 1959; UT, UTC), cited by Al-Shehbaz (1973).

Tonestus kingii* (D.C. Eaton) Nesom var. *kingii

“King’s rock-aster”

Asteraceae

Federal Status: (3C)**UTNHP Rank:** G3T3/S3**Distribution:** BOX, CAC, JUA, SAL, UTA, WAS, WEB

Notes: For current treatment see Phytologia 71: 125. 1991. Treated in *AUF2* (Welsh et al. 1993) as *Aster k.* D.C. Eaton var. *k.* For alternative treatment as *Machaeranthera k.* (D.C. Eaton) Cronquist & Keck, see Brittonia 9: 239. 1957. Type from Salt Lake Co., Wasatch Mtns., Cottonwood Canyon (*Watson 507*; holotype YU, isotypes NY, US). As a result of field work in 1991, the known distribution of var. *kingii* has been extended to encompass nearly the entire length of the Wasatch Range, from Mt. Nebo northward to the Wellsville Mtns. and Logan Canyon (Tuhy 1991b). The same author noted the habitat as “confined strictly to rock outcrops, where the plants grow in crevices and on ledges ... at elevations ranging from 4,960 feet in Logan Canyon to 11,000 feet on North Peak, north of Mt. Nebo[,] ... on a variety of rock types including limestone, dolomite, shale, quartzite and tillite. It was even seen on granitic rocks (granodiorite and quartz monzonite).”

***Townsendia alpigena* Piper var. *caelilimensis* (Welsh) Kartesz & Gandhi**

“skyline ground-daisy”

Asteraceae

Federal Status: None**UTNHP Rank:** G4T2T3/S2S3**Distribution:** CAR?, DUC, WAS, SEV, SNP

Notes: For original description see Great Basin Nat. 43: 370. 1983. For current treatment see Phytologia 71: 273. 1991. Type from Sanpete Co., ca. 24 km west of Ferron, elev. 3050 m (*Welsh & Clark 15385*; holotype BRY). Var. *caelilimensis* is an endemic of subalpine habitats on the Wasatch Plateau (Sanpete Co.); it also occurs at somewhat lower elevations on the West Tavaputs Plateau (Duchesne and Wasatch cos.). Questionable Carbon Co. record as mapped in Albee et al. (1988). Sevier Co. record based on collections from White Mtn., Wasatch Plateau (*Albee 4706*, UT; *Tuhy 1032*, UTC). Welsh (1983a) reported that “[t]he substrate occupied by var. *caelilimensis* on the Wasatch Plateau is composed of weathered Flagstaff Limestone. The Duchesne Co. populations occur on calciferous members of the Green River Formation.” Reveal (1970a) noted that the plants of *T. montana* M.E. Jones [= *T. alpigena*] from the Wasatch Plateau have white to pink or light blue rays, and acc. Welsh (1983a) the broadly rounded spatulate leaves further distinguish this variety from the typical one.

Status Category: *Watch*

Townsendia mensana M.E. Jones

“Uinta Basin ground-daisy”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G3/S3

Distribution: DUC, UIN

Notes: Type from Duchesne Co., near Theodore [= Duchesne], benches of the Uinta Mtns. (*Jones s.n.* in 1908; holotype POM, isotype BRY). Endemic to the Uinta Basin (Reveal 1970a, Goodrich and Neese 1986), the distribution cited by the latter authors as “Tavaputs Plateau and adjacent in the Basin in Duchesne Co., occasional to McCook Ridge, Uintah Co., and perhaps in Colorado; ... often on bare shale or marl limestone slopes and ridges.” Not yet known from Colorado (Weber and Wittmann 1992, 1996a).

Townsendia minima Eastw.

“least ground-daisy”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G3/S3

Distribution: GAR, IRO, KAN

Notes: Treated in *AUF2* (Welsh et al. 1993) as *T. montana* var. *minima* (Eastw.) Beaman, Contr. Gray Herb. 183: 85. 1957. For alternative treatment as *T. alpigena* var. *minima* (Eastw.) Dorn, see Madroño 22: 401. 1974. Type from Garfield Co., rim of Bryce Canyon (*Eastwood & Howell 727*; holotype CAS). *T. minima* is endemic to southwestern Utah on the Markagunt, Paunsaugunt, and Table Cliff plateaus, where it is evidently one of the more widespread and frequently encountered endemics on the Claron Formation limestone [along with *Draba subalpina* Goodman & Hitchc., *Lesquerella rubicundula* Rollins, and *Lomatium minimum* (Mathias) Mathias].

Townsendia nuttallii Dorn

“Nuttall’s ground-daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: DAG; WY +?

Notes: For original description see Rare Endang. Vasc. Pls. & Vertebr. Wyoming, 15. 1979. Utah state record as reported by Refsdal (1996), based on a 1994 collection from Daggett Co., ca. 2 airmiles southeast of Dutch John, Dripping Spring, elev. 6,000-6,200 ft. (*Hartman et al. 45341*, RM). Acc. W. Fertig (1997, pers. comm.), *T. nuttallii* has proven to be relatively widespread in the high basins of central Wyoming and in the foothills of the Wind River, Teton, Absaroka, and Bighorn mtns. The same author cited a possible occurrence in Montana and reported that “there are probably about 35-40 extant occurrences in [Wyoming]... [S]parse to locally abundant.” Fertig (1992) earlier provided a map of the Wyoming distribution and described the habitat of *T. nuttallii* as “rocky calcareous banks, rocky rims, edge of bluffs, grassy hilltops, [and] limestone outcrops.” Acc. Dorn (in Clark and Dorn 1979), *T. nuttallii* “seems to be closely related to *T. hookeri* Beaman but the achenes are nearly glabrous in age, the ray pappus is always very short, the involucre bracts are usually in fewer series, the rays are usually fewer in number, and the leaves are conspicuously broadened above midlength.” Cronquist (1994) did not recognize *T. nuttallii*, treating it instead as a synonym of the widespread northern plains species, *T. hookeri*.

Status Category: *Watch*

et al. 1977). Webber (1953) considered that the Kanab yucca may represent an intergradient form between typical *Y. angustissima* and *Y. elata* Engelm., noting that similar plants occur elsewhere in zones of geographic transition between *Y. elata* and species of the *Y. glauca* Nutt. alliance.

***Yucca angustissima* Engelm. ex Trel. var. *toftiae* (Welsh) Reveal**

“Toft’s yucca”

Liliaceae

Federal Status: (3C)**UTNHP Rank:** G5T2T3/S2S3**Distribution:** GAR, KAN, SNJ

Notes: For current treatment see Intermt. Fl. 6: 534. 1977. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Y. toftiae* Welsh, Great Basin Nat. 34: 308. 1975. Type from San Juan Co., Lake Powell, 1 mile north of the confluence of the San Juan and Colorado rivers, Three Gardens (*Welsh 11935a*; holotype BRV, isotypes NY, US). Var. *toftiae* is endemic to southeastern Utah, on sandstone outcrops and mesas along Glen Canyon and the San Juan River arm of Lake Powell, west to the southern portion of the Kaiparowits Plateau and east to the lower foothills of the Abajo Mtns. (Reveal in Cronquist et al. 1977, Higgins in Welsh et al. 1993). Acc. Welsh et al. (1975), “much of the known range ... has been inundated by the water of Lake Powell.”

***Yucca elata* Engelm. var. *utahensis* (McKelvey) Reveal**

“Utah yucca”

Liliaceae

Federal Status: None**UTNHP Rank:** G5T3?/S2?**Distribution:** IRO?, KAN?, WSH; AZ, NV

Notes: For current treatment see Intermt. Fl. 6: 533. 1977. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Y. utahensis* McKelvey, *Yuccas Southwest*. U.S. 2: 94. 1947. Type from Washington Co., Santa Clara Valley, 7-9 miles northwest of St. George (*McKelvey 4167*; holotype A). This yucca inhabits sandy soils and in Utah is known definitely only from Washington Co. (Reveal in Cronquist et al. 1977, Higgins in Welsh et al. 1993). Questionable record from southeastern Iron Co. as reported by Webber (1953, p. 61). Questionable Kane Co. record as mapped in Albee et al. (1988). Var. *utahensis* otherwise ranges into northwestern Arizona as far south as the Grand Canyon (Kearney and Peebles 1951, Reveal in Cronquist et al. 1977) and is rare in southern Nevada from the Panaca area (Lincoln Co.) south to several localities in Clark Co. (Kartesz 1987).

Status Category:

Peripheral

Plants rare or uncommon in Utah but more common and widespread outside the state.

Status Category: *Peripheral*

***Abronia mellifera* Douglas ex Hook.**

“honey-scented sand-verbena” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: CAC; ID, WY +

Notes: Known in Utah by a single collection from Cache Co., Logan, Providence Bench (*Smith* 2252, UTC), cited by Galloway (1975). The same author reported the distribution outside the state as “dunes and sandy soils, ... extreme western Wyoming westward through Idaho, eastern Washington, and eastern Oregon.”

***Abronia villosa* S. Watson**

“sticky sand-verbena” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *A. villosa* is locally common in sandy sites in the lower reaches of Beaver Dam Wash, Washington Co. Outside of Utah, the species ranges through the “deserts of southwestern Arizona, southern Nevada, and southern California to northern Baja California and northern Sonora, Mexico” (Galloway 1975).

***Abutilon parvulum* A. Gray**

No common name Malvaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, CO, NM, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *A. parvulum* is known in Utah by a single collection from Veyo, Washington Co. (*Meyer 4111*, BRY), where apparently growing in a riparian woodland along the upper Santa Clara River. Otherwise the species is rare in southern Nevada (Kartesz 1987), uncommon in southeastern Calif. (Hill in Hickman 1993), common in Arizona (Kearney and Peebles 1951), to western Texas and northern Mexico (Kearney and Peebles 1951, Martin and Hutchins 1980, Hill in Hickman 1993).

***Acacia greggii* A. Gray**

“catclaw” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: WSH; AZ, NM, NV +

Notes: In Utah this small, spiny tree is known only from Beaver Dam Wash in the southwestern corner of Washington Co. (Albee et al. 1988, Welsh et al. 1993). Barneby (1989) cited the overall distribution as “common over much of the n. Chihuahuan, Sonoran, and s. Mojave deserts, from c. and s. Texas, Tamaulipas, and Coahuila w. to s. Calif. and n. Baja Calif.”

***Achnatherum lemmonii* (Vasey) Barkworth**

“Lemmon’s needlegrass” Poaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, SAL?, UTA?; ID, NV +

Notes: For current treatment see Phytologia 74: 8. 1993. Treated in *AUF2* (Arnow in Welsh et al. 1993) as *Stipa l.* (Vasey) Scribner. Acc. Barkworth and Linman (1984), *A. lemmonii* is known in Utah by the following collections: Cache Co., 12 miles east of Logan, Jardine Juniper Trail (Barkworth et al. 4233, UTC?); 14 miles east of Logan, Cottonwood Canyon trail (Barkworth et al. 4234, UTC?); 17 miles east of Logan, Temple Fork turnoff from Logan Canyon hwy. (Barkworth 4240, UTC?); “Wasatch Mts.”, Salt Lake Co.? (Jones s.n. in July 1880; accession?). Acc. S. Welsh (cited in Barkworth and Linman 1984), Jones collected in both City Creek Canyon (Salt Lake Co.) and American Fork Canyon (Utah Co.) during that month. Outside of Utah, the main distribution of *A. lemmonii* is in the mtns. of the Pacific states from British Columbia south to Calif., with isolated populations in Idaho and northern Nevada (Barkworth and Linman 1984).

***Achnatherum thurberianum* (Piper) Barkworth**

“Thurber’s needlegrass” Poaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, JUA; CO?, ID, NV, WY? +

Notes: For current treatment see Phytologia 74: 14. 1993. Treated in *AUF2* (Arnow in Welsh et al. 1993) as *Stipa thurberiana* Piper. A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution of *S. thurberiana* as “e. parts of Wash., Oregon and Calif., across n. Nev. to s. Idaho, sw. Mont. and ne. Wyo. ... Thurber needlegrass is often abundant enough in parts of northern Nevada and southeastern Oregon to be an important range grass.” Questionable Colorado record as reported by Barkworth (in Hickman 1993; cf. Weber and Wittmann 1992, 1996a,b).

***Achyronychia cooperi* Torrey & Gray**

“onyx flower” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), this desert annual is known in Utah by a single collection from Washington Co. (Atwood s.n. in year?; missing at BRY). *A. cooperi* otherwise ranges across western Arizona, southern Nevada, and southern Calif. to Baja Calif., Mexico (Kearney and Peebles 1951, Kartesz 1987, Hartman in Hickman 1993). Monotypic genus.

***Acourtia wrightii* (A. Gray) Reveal & King**

No common name Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1?

Distribution: KAN, SNJ, WSH; AZ, NM, NV +

Notes: For current treatment see Phytologia 27: 232. 1973. Treated in *AUF2* (Welsh et al. 1993) as *Perezia w.* A. Gray. Cronquist (1994) cited the overall distribution of *A. wrightii* as “c. and n.

Status Category: *Peripheral*

Mex. to w. Texas, N.M., Ariz., s. Utah (San Juan and Washington cos.), and s. Nev. (Clark Co.)” Kane Co. record as reported in *AUF2* (Welsh et al. 1993). Warrick (1987) cited a single collection from the southern base of the Pine Valley Mtns. (Washington Co.), between Bitter Creek and the Cottonwood Wash road, ruderal in pinyon-juniper community (*Warrick 2902*, BRY).

***Adenophyllum cooperi* (A. Gray) Strother**

“Cooper’s glandweed” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WSH; AZ, NV +

Notes: For current treatment see *Sida* 11: 376. 1986. Treated in *AUF2* (Welsh et al. 1993) as *Dyssodia c.* A. Gray. Acc. *AUF2* (Welsh et al. 1993), this species occurs in Beaver Dam Wash and less commonly elsewhere in Washington Co. Outside of Utah, it ranges across the Mojave Desert region from northwestern Arizona and southern Nevada to southern Calif. (Keil in Hickman 1993, Cronquist 1994).

***Adiantum aleuticum* (Ruprecht) Paris**

“western maiden-hair fern” Pteridaceae

Federal Status: None **UTNHP Rank:** G5?/S2

Distribution: GAR, SAL, WSH; AZ, CO, ID, NV, WY ++

Notes: For current treatment see *Rhodora* 93: 112. 1991. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *A. pedatum* var. *a.* Ruprecht. In Utah occurs in the central Wasatch Mtns. (Salt Lake Co.), Zion Canyon (Washington Co.), and Sand Creek, Garfield Co. (Flowers 1944, Cronquist et al. 1972, Higgins in Welsh et al. 1993; B. Franklin 1997, pers. comm.). Outside of Utah, *A. aleuticum* ranges through the Pacific states and provinces and (interruptedly) through the Intermountain and Rocky Mtn. regions, from Alaska south to Chihuahua, Mexico; the related *A. pedatum* is restricted to deciduous woodlands in eastern North America (Paris in Morin 1993).

***Adoxa moschatellina* L.**

“moschatel” Adoxaceae

Federal Status: None **UTNHP Rank:** G5/SH

Distribution: SNJ, ?; CO, NM, WY ++

Notes: A circumboreal species extending southward in the Rocky Mtn. cordillera to New Mexico (Cronquist et al. 1984; Roalson and Allred, no date); in Utah known definitely from the Abajo Mtns. (San Juan Co.) and reported from the Uinta Mtns. (Cronquist et al. 1984, Welsh et al. 1993). Ditypic genus.

***Ageratina occidentalis* (Hook.) King & Robinson**

No common name Asteraceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: BOX, CAC, TOO; ID, NV +

Status Category: *Peripheral*

Notes: For current treatment see *Phytologia* 19: 224. 1970. Treated in *AUF2* (Welsh et al. 1993) as *Eupatorium occidentale* Hook. A plant of rock crevices and talus slopes, known in northern Utah from isolated populations in the Bear River, Raft River, and Stansbury mtns. (Cronquist 1994). The distribution outside of Utah was reported by Cronquist (1994) as central Washington to western Montana, south to Calif. and Nevada.

***Agoseris grandiflora* (Nutt.) E. Greene**

“large-flowered agoseris” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, RIC, SAL; ID, NV +

Notes: Cronquist (1994) cited the distribution as “B.C. to Calif., e. to n. and c. Idaho, sw. Idaho (Ada, Elmore, and Owyhee cos.), and w. Nev. (Douglas, Humboldt, Ormsby, Storey, and Washoe cos.); disjunct (apparently) in Utah (Cache and Salt Lake cos.)” Rich Co. record as cited by Allen and Curto (1995), based on a 1993 collection from Utah Hwy. 30 ca. 5.6 miles south of its intersection with U.S. Hwy. 89 (*Curto & Allen 872, UTC*).

***Agoseris retrorsa* (Benth.) E. Greene**

“spear-lvd. agoseris” Asteraceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: IRO, JUA, TOO, WSH; ID, NV +

Notes: Cronquist (1994) cited the distribution as “Calif. and adj. Nev. (Douglas and Washoe cos.), n. to sw. Idaho and occasionally to Chelan Co., Wash; disjunct (apparently) in the Deep Creek Range, Pine Valley Mtns., and Zion Natl. Park, Utah.” Several collections from the Pine Valley Mtns. (Iron and Washington cos.) that were reported by Warrick (1987) as *A. grandiflora* (Nutt.) E. Greene apparently belong to this species.

Allium atrorubens* S. Watson var. *atrorubens

“purple-fld. onion” Liliaceae

Federal Status: None **UTNHP Rank:** G3/S2

Distribution: BEA, KAN, MIL; AZ, NV +

Notes: Outside of Utah, var. *atrorubens* is reportedly common in the Great Basin of Nevada and eastern Calif. (Kartesz 1987, McNeal 1992, McNeal in Hickman 1993). Acc. McNeal (1992), var. *atrorubens* occurs with two closely related taxa, var. *cristatum* (S. Watson) McNeal and *A. nevadense* S. Watson, in a small area near Kanab, Kane Co. Arizona record for var. *atrorubens* based on a locality mapped by McNeal (1992) in northernmost Coconino Co. (near Fredonia?).

***Allium lemmonii* S. Watson**

“Lemmon’s onion” Liliaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WSH; ID, NV +

Status Category: *Peripheral*

Notes: Cronquist and Ownbey (in Cronquist et al. 1977) cited the distribution as “[h]eavy soils; n. Sierra Nevada of Calif., n. and e. to se. Oregon, sw. Idaho, and ne. Nev.” Reportedly common in the central and northern Sierra Nevada and Modoc Plateau regions of Calif. (McNeal in Hickman 1993). In Utah known only from a disjunct population in the Pine Valley Mtns., Washington Co., where “[l]ocally abundant in subalpine meadows and in sandy washes” (Warrick 1987). The same author noted that “[t]hese collections were first identified as *A. brandegei* S. Watson and sent to Dale W. McNeal on exchange. He identified them as *A. lemmonii* and indicated they represented a new record for the state of Utah. A [1976] collection from north of New Harmony (*Welsh et al. 13202*, BRY) appears to be this same taxon and would represent the true state record.”

Allium parvum Kellogg

“dwarf onion”

Liliaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: JUA, MIL, TOO?; ID, NV +

Notes: Tooele Co. record as reported by Cronquist and Ownbey (in Cronquist et al. 1977); needs verification. Outside of Utah, *A. parvum* is reportedly common in western and northwestern Nevada and the mtns. of northern Calif. (Kartesz 1987, McNeal in Hickman 1993); it also ranges northward on gravelly and stony clay slopes throughout most of eastern Oregon to western Idaho (Cronquist and Ownbey in Cronquist et al. 1977).

Alopecurus alpinus J.E. Smith

“alpine foxtail”

Poaceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: DAG, SUM, UIN; CO, ID, WY ++

Notes: A circumboreal grass extending southward in the Rocky Mtn. cordillera to Idaho, Wyoming, and Colorado (Davis 1952, A. and N. Holmgren in Cronquist et al. 1977, Dorn 1992). In Utah known only from the Uinta Mtns. (A. and N. Holmgren in Cronquist et al. 1977, Arnow in Welsh et al. 1993).

Aloysia wrightii Heller ex Abrams

“oreganillo”

Verbenaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NM, NV +

Notes: For current treatment see Ill. Fl. Pacific States 3: 613. 1951. In Utah, this sweet-scented shrub is known only from limestone rock outcrops in the Beaver Dam Mtns., Washington Co. (Cronquist et al. 1984, Higgins and Welsh in Welsh et al. 1993). The first Utah collection was cited by Higgins (1972) as Beaver Dam Mtns., about 5 miles west of Castle Cliffs along the road to Terry’s Ranch, rare in association with *Ferocactus*, *Coleogyne*, and *Larrea* (*Higgins 615*, BRY). The species otherwise ranges from Texas and northern Mexico to southern Nevada and southern Calif. (Cronquist et al. 1984).

***Amaranthus acanthochiton* (Torrey) J. Sauer**

“green-stripe” Amaranthaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: KAN; AZ, NM +

Notes: For current treatment see Madroño 13: 44. 1955. Treated in *AUF2* (Welsh et al. 1993) as *Acanthochiton wrightii* Torrey. Known in Utah by two collections (*Atwood & Kaneko 3360, 3360a*; both BRY) from 2 miles west of Glen Canyon City [= Big Water], Kane Co. (Welsh et al. 1993, Welsh and Eliason 1995). A late summer- and fall-flowering annual of sandy soils, the distribution mapped by Sauer (1955) as including eastern Arizona, western New Mexico, western Texas, and adjacent Chihuahua, Mexico.

***Amaranthus californicus* (Moq.) S. Watson**

“California amaranth” Amaranthaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: CAC; ID, NV, WY +

Notes: This mat-forming annual is known in Utah only from mud flats of Dry Lake, Cache Co. (Albee et al. 1988, Welsh et al. 1993). The overall distribution was cited by Hitchcock and Cronquist (1964) as “e. Wash. to s. Calif., e. to Alta., Mont., and Nev.” Occurs in Crook and Laramie cos., Wyoming (Dorn 1992). Reported also as occurring (disjunctly?) in western Texas (see Henrickson in Hickman 1993).

***Amaranthus fimbriatus* (Torrey) Benth.**

“fringed amaranth” Amaranthaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NM, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), this desert annual in Utah is known only from Washington Co. Outside the state, it ranges from western Texas to southern Calif. and northwestern Mexico (Kearney and Peebles 1951, Martin and Hutchins 1980, Kartesz 1987).

***Ambrosia eriocentra* (A. Gray) Payne**

“woolly-fruited bur-sage” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: WSH; AZ, NV +

Notes: For current treatment see J. Arnold *Arbor.* 45: 423. 1964. In Utah, this shrub is known only from Washington Co. (Welsh et al. 1993, Cronquist 1994). It otherwise ranges through the eastern Mojave Desert region of southern Nevada to northwestern Arizona and southeastern Calif. (Payne in Hickman 1993, Cronquist 1994). Locally abundant in southern Nevada (Kartesz 1987).

Status Category: *Peripheral*

***Amelanchier alnifolia* (Nutt.) Nutt. ex M. Roem. var. *cusickii* (Fern.) C.L. Hitchc.**

“Cusick’s serviceberry” Rosaceae

Federal Status: None **UTNHP Rank:** G5T5/S2?

Distribution: BOX, CAC?, RIC?; ID, NV +

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(3): 94. 1961. For alternative treatment as *A. florida* var. *c.* (Fern.) B. Boivin, see Naturaliste Canad. 93: 432. 1966. *AUF2* (Welsh et al. 1993) did not recognize infraspecific taxa in *A. alnifolia*. N. Holmgren (in Cronquist et al. 1997) cited the distribution of var. *cusickii* as “e. Wash., e. Oregon, c. and s. Idaho, and sw. Mont., s. to ne. Nev. and n. Utah (Raft River and Bear River ranges).” Acc. Hitchcock and Cronquist (1961), var. *cusickii* is “most common in s.e. Wash., n.e. Oreg., and adj. w. Ida.” and is “the largest flowered of the varieties, rather clearly marked but completely transitional to the other vars.” Acc. N. Holmgren (in Cronquist et al. 1997), “[s]ome of the plants that key to var. *cusickii* may be forms of var. *alnifolia* growing in moist, protected places.”

***Amphipappus fremontii* Torrey & Gray var. *spinosus* (A. Nelson) C.L. Porter**

“chaff-bush” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?/S3?

Distribution: WSH; AZ, NV +

Notes: For current treatment see Amer. J. Bot. 30: 483. 1943. For alternative treatment as ssp. *spinosus* (A. Nelson) Keck, see Aliso 4: 102. 1958. In Utah, this shrub is known only from Washington Co. (Welsh et al. 1993, Cronquist 1994). Reported by Warrick (1987) as “[s]omewhat common” at the southern base of the Pine Valley Mtns. Var. *spinosus* is otherwise found on rocky slopes and in dry washes through the eastern Mojave Desert region of northwestern Arizona, southern Nevada, and southeastern Calif. (Kartesz 1987, Lane in Hickman 1993, Cronquist 1994). Monotypic genus.

***Andropogon glomeratus* (Walter) Britton, Sterns & Pogg. var. *scabriglumis* C.S. Campbell**

“southwestern bushy beard-grass” Poaceae

Federal Status: None **UTNHP Rank:** G5T?/S2

Distribution: GAR, KAN, SNJ; AZ, NM, NV +

Notes: For original description see Syst. Bot. 11: 291. 1986. For recent taxonomic treatment see Campbell (1983). Acc. *AUF2* (Arnou in Welsh et al. 1993), *A. glomeratus* is known in Utah only from moist soils of hanging gardens and riparian habitats in the canyonlands along Lake Powell. Acc. Campbell (1983, 1986), the overall range of var. *scabriglumis* is from New Mexico, southern Utah, and Arizona to southern Nevada, southern Calif., and Baja Calif., Mexico.

***Androsace chamaejasme* Host var. *carinata* (Torrey) Knuth**

“Rocky Mtn. rock-jasmine” Primulaceae

Federal Status: None **UTNHP Rank:** G5T4/S1

Distribution: GRA, SNJ; CO, NM, WY +

Status Category: *Peripheral*

Notes: For alternative treatment as ssp. *carinata* (Torrey) Hultén, see Fl. Alaska & Yukon 8: 1282. 1948. In Utah, this alpine perennial is restricted to the La Sal Mtns. (Robbins 1944, Welsh et al. 1993). Grand Co. record based on a collection from Mt. Waas (*Purpus 6557*, cited in Robbins 1944). Fertig (1994) cited the overall distribution of var. *carinata* as “Alaska and W Canada south to Colorado.” The taxon also occurs in the mtns. of northern New Mexico (Martin and Hutchins 1981; ! Roalson and Allred, no date).

Androsace filiformis Retz.

“thread-stemmed fairy-candelabra” Primulaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: CAC, DUC, EME, SAL, WAS; CO, ID, WY ++

Notes: Annual or short-lived perennial, of sporadic occurrence (or perhaps just rarely collected?) in montane meadows of northern and central Utah (Albee et al. 1988, Welsh et al. 1993). Outside the state, *A. filiformis* ranges north in the Rocky Mtns. to Montana and west to southwestern Washington and Oregon; it also occurs (disjunctly) in northern Eurasia (Robbins 1944).

Androsace occidentalis Pursh

“western fairy-candelabra” Primulaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BEA, DAV, KAN, SAL, UTA; AZ, CO, ID?, NM, WY +

Notes: Small annual, of sporadic occurrence (or perhaps just rarely collected?) at lower elevations along the Wasatch Front and in southern Utah (Albee et al. 1988, Welsh et al. 1993). Outside the state, *A. occidentalis* is widespread across the Great Plains from Alberta and Manitoba to northeastern Texas, with disjunct populations in the western foothills of the Rocky Mtns. from British Columbia to Colorado and the mtns. of southwestern New Mexico and southeastern Arizona; another isolated occurrence in the Sierra Nevada mtns. of Calif. (Robbins 1944). Smaller plants from the Rocky Mtns. and Great Basin region have been distinguished as var. *simplex* (Rydb.) St. John, and acc. Robbins (1944) “it may represent an ecologic adaptation to drier habitats.”

Anemone parviflora Michaux

“northern wind-flower” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DUC, SAL; CO, ID, WY ++

Notes: In Utah, *A. parviflora* was mapped in the western Uinta and central Wasatch Mtns. (Albee et al. 1988). A plant of streamsides, meadows, and rocky slopes (Dutton et al. in Morin 1997), the overall distribution cited as “Alas. to the Cascade Mts. in n. Wash., e. to the Atlantic coast, s. to n.e. Oreg., c. Ida., Mont., and Colo.; Asia” (Hitchcock and Cronquist 1964). The species also occurs in the mtns. of western Wyoming (Dorn 1992).

Status Category: *Peripheral*

***Anemone patens* L. var. *multifida* Pritzl**

“pasque-flower” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: DAG, DUC, SUM, UIN; CO, ID, NM, WY ++

Notes: For alternative treatment as *Pulsatilla patens* ssp. *multifida* (Pritzl) Zamelis, see Acta Horti Bot. Univ. Latv. 1: 98. 1926. In Utah, this taxon was mapped in the Uinta Mtns. and on the East Tavaputs Plateau (Albee et al. 1988); it is also known from the eastern slope of the La Sal Mtns. in adjacent Colorado (Ben Franklin 1997, pers. comm.). A plant of prairies to mountain slopes, the overall distribution from Alaska south to the northern Great Plains and in the Rocky Mtns. to New Mexico; also Siberia (Hitchcock and Cronquist 1964, Dutton et al. in Morin 1997).

***Anemopsis californica* Hook. & Arn.**

“yerba mansa” Saururaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: UTA, WSH; AZ, CO?, NM, NV +

Notes: Adventive in Utah Co.? A plant of wet places in saline or alkaline soils, the overall range from western Texas to southern Calif. and northern Mexico (McClintock in Hickman 1993, Buddell and Thieret in Morin 1997). Adventive in Colorado (Weber and Wittmann 1992, 1996b). Monotypic genus.

***Angelica kingii* (S. Watson) Coulter & Rose**

“Nevada angelica” Apiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: JUA; ID, NV +

Notes: A plant of streambanks, wet meadows, and moist aspen woods, in Utah known only from the Deep Creek Mtns., Juab Co. (Goodrich in Welsh et al. 1993, Cronquist et al. 1997). Otherwise scattered throughout the mtns. of Nevada to the White Mtns. of eastern Calif. (Kartesz 1987, Constance in Hickman 1993, Cronquist et al. 1997); also in the mtns. of southern Idaho (Davis 1952).

***Antennaria pulcherrima* (Hook.) E. Greene**

“swamp pussytoes” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: DAG, DUC, GAR, SUM; CO, ID, WY ++

Notes: A plant of streambanks, wet meadows, and bogs, in Utah known from the Uinta Mtns. and a disjunct occurrence on the Paunsaugunt Plateau, Garfield Co. (Albee et al. 1988, Cronquist 1994). The species otherwise ranges from Alaska and Yukon eastward across Canada to Quebec and south in the Rocky Mtn. cordillera to Colorado (Cronquist 1994).

Status Category: *Peripheral*

***Antirrhinum filipes* A. Gray**

“yellow twining snapdragon”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G3?/S1

Distribution: WSH; AZ, NV +

Notes: For alternative treatment in the ditypic genus *Neogaerrhinum*, see Feddes Repert. Spec. Nov. Regni Veg. 52: 31. 1943. In Utah this twining annual is known only from Washington Co., the distribution otherwise across the deserts from western Arizona and southern Nevada to southern Calif. and northwestern Mexico (N. Holmgren in Cronquist et al. 1984, Thompson in Hickman 1993).

***Apocynum cannabinum* L. var. *angustifolium* (Wootton) N. Holmgren**

“narrow-lvd. dogbane”

Apocynaceae

Federal Status: None

UTNHP Rank: G5T?Q/S1?

Distribution: SNJ, ?; AZ, CO?, NM

Notes: For current treatment see Intermt. Fl. 4: 28. 1984. Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). N. Holmgren (in Cronquist et al. 1984) cited the distribution of var. *angustifolium* as “w. N.M. and se. Utah.” San Juan Co. record based on an 1895 collection from “San Juan River” (*Eastwood 71*, GH), cited by Woodson (1930). Outside of Utah, var. *angustifolium* is reportedly widespread in New Mexico (Martin and Hutchins 1981) and more common than typical *cannabinum* in Arizona (Kearney and Peebles 1951). There are no reports of this variety from Colorado, but it is perhaps to be expected in the southwestern portion of that state.

***Aquilegia chrysantha* A. Gray**

“golden columbine”

Ranunculaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: WSH; AZ, CO, NM, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *A. chrysantha* in Utah is restricted to moist soils of hanging gardens and riparian habitats in Zion and Kolob canyons, Washington Co. Acc. Kearney and Peebles (1951), it is “by far the most abundant and widely distributed of the Arizona columbines and ... exceptional in its wide altitudinal range.” Occasional to rare in southern Nevada (Kartesz 1987). The species also ranges to northwestern Mexico and through New Mexico to western? Texas and southeastern Colorado (Weber and Wittmann 1996b, Whittemore in Morin 1997). Treated by Weber and Wittmann (1992) in the family Helleboraceae.

***Aquilegia desertorum* (M.E. Jones) Heller**

“desert columbine”

Ranunculaceae

Federal Status: None

UTNHP Rank: G4/S1S2

Distribution: WSH?, ?; AZ, NM

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). A plant of open, rocky places, reported by Whittemore (in Morin 1997) as occurring in Utah, specifically from the “Zion National Park area” (Washington Co.?). *A. desertorum* includes those plants from the mtns. of

Status Category: *Peripheral*

eastern Arizona and western New Mexico that have been called *A. triternata* Payson (see Whittimore in Morin 1997). The same author noted that *A. desertorum* is very similar to *A. canadensis* L., a widespread species of the eastern U.S. and Canada. Additional information needed on occurrence and status in Utah.

***Arabis exilis* A. Nelson**

“slender rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T5?/S1?

Distribution: BOX, DAG, RIC, UIN; CO, ID, NV, WY +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *A. holboellii* var. *pendulocarpa* (A. Nelson) Rollins, *Rhodora* 43: 446. 1941. Mulligan (1995) treated *A. pendulocarpa* A. Nelson [1900] as a synonym of *A. exilis* [1899]. Uintah Co. record based on a 1988 collection from the Diamond Mtn. Plateau ca. 15 miles northeast of Vernal (*Thorne & Zupan 6245b*, BRY; earlier misidentified as *A. demissa* E. Greene). Outside of Utah, the species ranges from southern Yukon southward, mainly in the mtns., to Calif., Nevada, and Colorado (Rollins 1941, 1993; Mulligan 1995).

***Arabis hirsuta* (L.) Scop. var. *glabrata* Torrey & Gray**

“Oregon rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T?/S1?

Distribution: JUA, ?; CO, ID, NV, WY +

Notes: Acc. Rollins (1993), “[t]his variety is recognizable especially by the larger flowers and more glabrate condition than is to be found in var. *pyncocarpa* (Hopkins) Rollins. *AUF2* (Welsh et al. 1993) did not recognize infraspecific taxa under *A. hirsuta*, noting that the varieties are completely transitional in Utah. Rollins (1941) evidently referred most Utah plants to var. *pyncocarpa*, and he cited only two specimens of var. *glabrata* from the state: Deep Creek Mtns. (*Maguire & Becraft 2627*; RM, UTC, Rollins herbarium); Juab Co., Trout Creek (*Maguire & Becraft 2628a*; GH, RM, UTC). Additional data needed on distribution and status in Utah. Var. *glabrata* otherwise ranges through the mtns. from Colorado to Calif., north to Alberta and British Columbia (Rollins 1941, 1993).

***Arabis nuttallii* B. Robinson**

“Nuttall’s rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: BOX, CAC, DAG, JUA, RIC, SUM, WAS; ID, NV?, WY +

Notes: A plant of rock outcrops and meadows, of sporadic occurrence (or perhaps just rarely collected?) in the mtns. of northern Utah (Albee et al. 1988, Welsh et al. 1993). Outside the state, the species ranges from Yukon southward to eastern Washington, Idaho, and Wyoming (Rollins 1941, 1993; Mulligan 1995). Rollins (1941) discussed the questionable Nevada record and indicated that the specimen (*Watson 67*, GH) might be mislabeled.

Status Category: *Peripheral*

***Arabis puberula* Nutt. ex Torrey & Gray**

“Blue Mtns. rock-cress” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, JUA?; ID, NV +

Notes: A plant of rocky areas in sagebrush scrub and juniper woodland communities, in Utah known definitely only from Box Elder Co. (Albee et al. 1988, Welsh et al. 1993). Questionable Juab Co. record as reported in *AUF2* (Welsh et al. 1993), based on a misidentified specimen of *A. beckwithii* S. Watson???. Outside of Utah, the species is common to abundant in northern Nevada (Kartesz 1987, Rollins 1993) and also ranges to eastern Calif., north to eastern Washington and central Idaho (Rollins 1941, Hitchcock and Cronquist 1964, Rollins 1993).

***Arceuthobium abietinum* Engelm. ex Munz f. sp. *concoloris* Hawksworth & Wiens**

“white fir dwarf-mistletoe” Viscaceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: KAN; AZ, NM?, NV +

Notes: The plants in Utah are parasitic on white fir, *Abies concolor* (Gordon & Glend.) Lindley. “f. sp.” = special form. For current treatment see *Brittonia* 22: 267. 1970. Acc. Hawksworth and Wiens (1996), f. sp. *concoloris* is “widely distributed from southern Washington south through the Cascade Range and Sierra Nevada to the San Bernardino Mountains of southern California.... It also occurs along the coast ranges from Mendocino County, California, to Curry County, Oregon. Three isolated populations are known in Nevada (Spring, Sheep, and Groom Mountains) and two in southwestern Utah (northwestern Kane County). The parasite has long been known in the Grand Canyon area of northern Arizona, and small populations have since been found some 400 km to the south in the Chiricahua Mountains (Cochise County) and in the Santa Catalina Mountains (Pima County). This dwarf mistletoe was recently found on *Abies durangensis* in two localities in Chihuahua [northwestern Mexico].” The Kane Co. record is partly based on a 1966 collection from 8 miles south of Navajo Lake on the Zion Park road (*Weins 4122*, UT). Questionable New Mexico record as reported in Cronquist et al. (1997), possibly based on misidentified specimens of *Arceuthobium douglasii* Engelm. (see Hawksworth and Wiens 1966).

Arctostaphylos pringlei* Parry ssp. *pringlei

“pink-bracted manzanita” Ericaceae

Federal Status: None **UTNHP Rank:** G4?Q/S1

Distribution: WSH; AZ, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *A. pringlei* in Utah is known only from the Beaver Dam Mtns., Washington Co. The first Utah collections of this sclerophyllous, evergreen shrub were made near the television relay tower at the summit of the Beaver Dam Mtns., in limestone soil, associated with *Quercus*, *Pinus*, and *Juniperus* (*Higgins 665, 3414*; both at BRY), cited by Higgins (1972). Ssp. *pringlei* also reported as common in Arizona (Kearney and Peebles 1951), rare in southern Nevada (Kartesz 1987), and extending (disjunctly) to northern Baja Calif. (Wells 1972, Wells in Hickman 1993); replaced in the mtns. of southern Calif. by ssp. *drupacea* (Parry) Wells.

Status Category: *Peripheral*

***Arenaria aculeata* S. Watson**

“spiny-lvd. sandwort”

Caryophyllaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BOX; ID, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *A. fendleri* var. *a.* (S. Watson) Welsh, Great Basin Nat. 46: 255. 1986. In Utah known only from Box Elder Co. (*AUF2*), there apparently restricted to the Raft River Mtns. where reported as “[f]requent in rocky areas at medium elevations” (Preece 1950); specimens from Dunn Canyon (*Maguire & Holmgren 22198*, UTC?) and Pine Canyon (*Preece 610*, UT?). A plant of dry, gravelly slopes from 6000 to 10,000 feet elevation, *A. aculeata* otherwise ranges across northern Nevada to northeastern Calif., northeastern Oregon, central Idaho, and Beaverhead County, Montana (*Maguire 1947b*, 1951; *Davis 1952*; *Hitchcock and Cronquist 1964*).

***Arenaria congesta* Nutt. ex Torrey & Gray var. *subcongesta* (S. Watson) S. Watson**

“Ruby Mtns. sandwort”

Caryophyllaceae

Federal Status: None

UTNHP Rank: G5T4/S1

Distribution: BEA, MIL, WSH; AZ?, ID, NV +

Notes: *Maguire (1947b)* cited the overall distribution of var. *subcongesta* as “inhospitable habitats, Great Basin from northern Nevada and adjacent California to Millard County, Utah, and Nye County, Nevada.” The single Utah specimen cited is from Cisco, Millard Co. (*Jones s.n.* in 1890; accession?).

Reported by *Warrick (1987)* as rare in sandy areas in the Pine Valley Mtns., Washington Co. (canyon southeast of Chimney Hill, *Warrick 2387*; South Ash Creek, *Warrick 2714*; both at BRY). Questionable Arizona record as discussed by *Kearney and Peebles (1951)*. Also reported from central Idaho (*Davis 1952*). Acc. *Maguire (1947b)*, var. *subcongesta* is “[a] weak variant representing transitional forms between *A. congesta* and *A. kingii* var. *glabrescens* (S. Watson) *Maguire*, and/or, perhaps *A. capillaris* ssp. *americana* *Maguire*.”

***Arenaria fendleri* A. Gray**

“Fendler’s sandwort”

Caryophyllaceae

Federal Status: None

UTNHP Rank: G5/S3?

Distribution: GAR?, GRA, SNJ; AZ, CO, NM, NV?, WY +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *A. fendleri* var. *f.* [For alternative treatment as *Eremogone f.* (A. Gray) *Ikonnikov*, see....] Acc. *AUF2*, *A. fendleri* in Utah occurs in the Henry, La Sal, and Abajo Mtns. Common in Arizona and Colorado (*Kearney and Peebles 1951*, *Weber and Wittmann 1966a*), the species otherwise ranging to New Mexico, western Texas, and (possibly) northern Mexico. Also reported from south-central and southeastern Wyoming (*Dorn 1992*). Questionable record from southern Nevada as discussed by *Kartesz (1987)*. The Utah plants have been treated as belonging to var. *brevifolia* (*Maguire*) *Maguire* and var. *tweedyi* (*Rydb.*) *Maguire* (see *Maguire 1941, 1947b, 1951*), but these varieties have not been recognized by more recent authors (*Weber and Wittmann 1992, Welsh et al. 1993*).

Status Category: *Peripheral*

Arenaria macradenia* S. Watson var. *macradenia

“desert sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5T?/S1?

Distribution: KAN?, WSH; AZ, NV +

Notes: *AUF2* (Welsh et al. 1993) did not recognize infraspecific taxa in *A. macradenia*. Acc. Maguire (1947b, 1951), ssp. *macradenia* is a Mojave Desert plant that enters Utah in Washington Co. The single Utah specimen cited is from St. George (*Palmer 53*; accession?). Questionable Kane Co. record as mapped in Albee et al. (1988). Other Utah plants were regarded by Maguire (1947b, 1951) as belonging to ssp. *ferrisiae* Abrams. Additional data needed on distribution and status in Utah.

***Argyrosma jonesii* (Maxon) Windham**

“Jones’ cloak-fern” Pteridaceae

Federal Status: None **UTNHP Rank:** G4?/S1

Distribution: KAN, WSH; AZ, NV +

Notes: For current treatment see Amer. Fern J. 77: 40. 1987. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Pellaea j.* (Maxon) Morton, Amer. Fern J. 40: 251. 1950. In Utah known only from Washington Co. (Flowers 1944, Higgins in Welsh et al. 1993) and by a 1993 collection from Buckskin Gulch, Kane Co. (*Franklin 7631*, to be accessioned). A denizen of crevices in calcareous rock outcrops, otherwise known from southern Calif. to southern Nevada, western Arizona, and Sonora, Mexico (Windham in Morin 1993).

Argyrosma limitanea* (Maxon) Windham ssp. *limitanea

“border cloak-fern” Pteridaceae

Federal Status: None **UTNHP Rank:** G4G5T3T4/S1

Distribution: GAR, GRA, SNJ; AZ, NM +

Notes: For current treatment see Amer. Fern J. 77: 40. 1987. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Pellaea l.* (Maxon) Morton, Amer. Fern J. 40: 251. 1950. A denizen of rock crevices, in Utah occurring sporadically in side canyons of the Colorado River drainage (Albee et al. 1988). Flowers (1944) cited collections from White Canyon (*Garrett 9386*, UT?) and near the mouth of the Dirty Devil River (*Clover and Jotter 2183*, accession?). Also reported by Flowers (1965) from Canyonlands Natl. Park. Otherwise known from Arizona, southeastern Calif., and western New Mexico to Chihuahua and Sonora, Mexico (Windham in Morin 1993).

***Aristida arizonica* Vasey**

“Arizona three-awn” Poaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: KAN, SNJ; AZ, CO, NM, NV +

Notes: Acc. *AUF2* (Arnou in Welsh et al. 1993), *A. arizonica* is known in Utah only from Kane and San Juan cos. A perennial grass of dry, rocky slopes at 4500 to 8000 feet, the overall distribution

Status Category: *Peripheral*

cited by Gould (1951) as “Colorado to western Texas, Arizona, and Mexico. A distinct but rather infrequent species.” Also reported from southern Nevada (Kartesz 1987).

***Arnica amplexicaulis* Nutt.**

“clasping-lvd. arnica”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: DUC; ID, NV, WY +

Notes: In Utah known by a single collection from the Uinta Mtns.?, Duchesne Co. (*Goodrich 15101*, BRY). Cronquist (1994) cited the overall distribution as “[s]treambanks and moist woods ...; s. Alaska to w. Oregon and the Sierra Nevada and Sweetwater Mts. of Calif., e. to w. Alta. and nw. Mont., and irregularly to c. Oregon, c. and se. Idaho (Bear River Range), the Teton Mts. of Wyo., and c. and ne. Nev. (Monitor and Ruby ranges).”

***Arnica fulgens* Pursh**

“foothill arnica”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DAG, DUC, UIN; CO, NV, ID, WY +

Notes: Goodrich and Neese (1986) cited the Utah distribution as “[l]ocally common at Greendale area, Daggett Co., Diamond Mt., Uintah Co., ... and Uinta Canyon, Duchesne Co.; sagebrush communities.” Outside of Utah, *A. fulgens* ranges from “se. Man. to c. Alta. and s. B.C., s. to c. Colo., ... n. Nev. (Elko Co.), and ne. Calif., mostly e. of the Cascade-Sierran axis” (Cronquist 1994).

***Arnica latifolia* Bong. var. *gracilis* (Rydb.) Cronquist**

“slender arnica”

Asteraceae

Federal Status: None

UTNHP Rank: G5T5?/S2?

Distribution: CAC?, SAL?, UTA?; CO?, ID, WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(5): 51. 1955. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. latifolia* (sensu lato). Var. *gracilis* applies mostly to higher-elevation plants, in Utah reported by Cronquist (1994) as “apparently confined to the Bear River Range and Wasatch Mts.” [the type of *A. jonesii* Rydb. from Alta, Salt Lake Co. (?)]. Overall distribution of *A. gracilis* Rydb. cited by Davis (1952) as [r]ocky places at moderate and high elevations in the mts.; Alta. and B.C. to Wyo., Utah, and Oreg.” Not yet known from Colorado but perhaps to be expected in that state [check Weber and Wittmann 1992, 1996b].

***Arnica sororia* E. Greene**

“sister arnica”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, RIC; ID, NV, WY +

Notes: For alternative treatment as *A. fulgens* var. *s.* (E. Greene) Douglas & Ruyle-Douglas, see Canad. J. Bot. 56: 185. 1978. A plant of open places at low to moderate elevations, known in Utah from the Bear River Range (Cache Co.) and from southern Rich Co. (Cronquist 1994). Outside of

Status Category: *Peripheral*

Utah, *A. fulgens* ranges from “s. B.C. and Alta., s. to Wyo., ... the n. tier of cos. in Nev., and nearly to Donner Pass in the Sierra Nevada, Calif.” (Cronquist 1994).

Artemisia longiloba (Osterh.) Beetle

“alkali sagebrush”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S2?

Distribution: RIC, SUM; CO, ID, NV, WY +

Notes: For current treatment see Rhodora 61: 84. 1959. For alternative treatment as *Serphidium arbusculum* ssp. *longilobum* (Osterh.) W.A. Weber, see Phytologia 55: 7. 1984. For alternative treatment as *A. arbuscula* var. *longiloba* (Osterh.) Dorn, see Vasc. Pls. Wyoming 295. 1988. Acc. *AUF2* (Welsh et al. 1993), this low shrub is known in Utah only from Rich and Summit cos. Outside the state, it ranges from north-central Colorado and western Wyoming across southern Idaho to southwestern Montana, eastern Oregon, and northern Nevada (Kartesz 1987; Dorn 1984, 1992; Weber and Wittmann 1996b). Acc. Beetle (1959), “[w]hile this plant has usually been treated as a part of *A. arbuscula* Nutt., it occurs on different sites, preferring the most strongly alkaline and highly impermeable soils. It also blooms approximately a month earlier and morphologically is distinguished by its larger, many-flowered heads.”

Artemisia ludoviciana Nutt. var. latiloba Nutt.

“western mugwort”

Asteraceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: BOX, CAC, DAG, GAR?, SEV?, SNP?, UTA; ID, NV, WY +

Notes: Cronquist (1994) cited the range of var. *latiloba* as “northwestern; best developed from e. Wash. and e. Oregon to w. Mont. and w. Wyo., but extending s. occasionally to Pershing, White Pine, and Nye cos. in Nev., and to San Pete and Sevier cos. in Utah (Utah Plateaus), and to the Henry Mts.” The records from Box Elder, Cache, Daggett, and Utah cos. are as reported in *AUF2* (Welsh et al. 1993). This variety is evidently of sporadic occurrence (or perhaps just rarely collected?) in the mtns. of northern and central Utah. Taxonomic problem? (four other vars. in the state).

Artemisia norvegica Fries

“spruce sagewort”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, SUM; CO, ID?, WY ++

Notes: For original description of var. *piceetorum* Welsh & Goodrich, see Brittonia 33: 295. 1981. Type from Duchesne Co., Uinta Mtns., Lake Atwood (Welsh et al. 18994; holotype BRY, isotype NY). Acc. Welsh and Goodrich (in Welsh 1981), var. *piceetorum* “is the high elevation phase of *A. norvegica* which occurs in the mountains of northern Utah, Colorado, and Wyoming.... In Utah it is known from a relatively small region in the central portion of the Uinta Mountains.” Cronquist (1994) treated var. *piceetorum* in synonymy under the widespread North American and Siberian var. *saxatilis* (Besser) Jepson. Acc. Davis (1952), ssp. *saxatilis* (Besser) Hall & Clements is not yet known but expected in Idaho.

Status Category: *Peripheral*

***Artemisia tripartita* Rydb.**

“cutleaf sagebrush”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BOX, CAC; CO, ID, NV, WY +

Notes: For alternative treatment as *Seriphidium tripartitum* (Rydb.) W.A. Weber, see Phytologia 55: 8. 1984. In Utah, this aromatic shrub is known only from Box Elder and Cache cos. (Welsh et al. 1993, Cronquist 1994). Outside the state, it ranges across dry plains and lower mtn. slopes from “c. and e. Wash. and adj. s. B.C. to w. Mont., s. to se. Oregon, ne. Nev. (Elko Co.), ... s. Wyo., and n. Colo.” (Cronquist 1994).

***Asclepias erosa* Torrey**

“desert milkweed”

Asclepiadaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: WSH; AZ, NV +

Notes: In Utah this tall perennial is known only from Washington Co. (P. and N. Holmgren in Cronquist et al. 1984, Higgins in Welsh et al. 1993). It otherwise ranges from western Arizona across central and southern Nevada to southern Calif. and northwestern Mexico (Kearney and Peebles 1951, P. and N. Holmgren in Cronquist et al. 1984).

***Aspidotis densa* (Brackenridge) Lellinger**

No common name

Pteridaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SAL, UTA; ID, NV, WY +

Notes: For current treatment see Amer. Fern J. 58: 141. 1968. A fern of crevices and moist, rocky slopes, in Utah known only from the Wasatch Mtns. (Cronquist et al. 1972). Flowers (1944) cited collections from Mt. Timpanogos, Utah Co. (*Flowers* 3095, UT?) and Lake Blanche, Big Cottonwood Canyon, Salt Lake Co. (*Garrett* 2663, UT?). Otherwise known from southern British Columbia to Calif. and adjacent Nevada, east to western Montana and northwestern Wyoming, and widely disjunct in southern Ontario and the Gaspé peninsula of Quebec (Cronquist et al. 1972, Kartesz 1987, Dorn 1992, Smith in Morin 1993).

***Asplenium adiantum-nigrum* L.**

“black spleenwort”

Aspleniaceae

Federal Status: (3B)

UTNHP Rank: G5/S1

Distribution: WSH; AZ, CO ++

Notes: In Utah, this evergreen fern is known only from sandstone cliffs in Zion Natl. Park, Washington Co. (Flowers 1944, Cronquist et al. 1972, Welsh 1989b, Higgins in Welsh et al. 1993). *A. andrewsii* A. Nelson has been reduced to synonymy under *A. adiantum-nigrum* (see Ranker et al. 1993), and was most recently considered by USFWS (1990) as a Category 3B non-candidate. Acc. Wagner et al. (in Morin 1993), “*Asplenium adiantum-nigrum* is principally a Eurasian species and occurs extremely rarely in North America.” Additional American populations have been found in

Status Category: *Peripheral*

north-central Colorado (the type locality of *A. andrewsii*), north-central Arizona, and in Mexico in Chihuahua and Tamaulipas (Ranker et al. 1993, Wagner et al. in Morin 1993).

***Asplenium resiliens* Kunze**

“black-stemmed spleenwort”

Aspleniaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SNJ, WSH; AZ, CO, NM, NV ++

Notes: In Utah, this evergreen fern is known from sandstone outcrops in Canyonlands Natl. Park, San Juan Co. (Flowers 1965) and from Washington Co. (Higgins in Welsh et al. 1993). *A. resiliens* is reportedly a calciphile in most of its range, which extends from the southeastern U.S. west to Arizona and southern Mexico, with outlying populations in the Caribbean region (Hispaniola and Jamaica), Guatemala, and the Andes of South America (Cronquist et al. 1972, Wagner et al. in Morin 1993). Isolated populations also occur in southern Nevada (Kartesz 1987, Wagner et al. in Morin 1993) and southeastern Colorado (Weber and Wittmann 1992, 1996a).

***Aster ericoides* L. var. *commutatus* (Torrey & Gray) Boivin**

“plains aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5T5/S1?

Distribution: BOX?, KAN, SNJ?, UIN?, UTA, WSH; AZ, CO, ID, NM, WY ++

Notes: For current treatment see Naturaliste Canad. 89: 67. 1962. These are the plants that were treated in *AUF2* (Welsh et al. 1993) as *A. falcatus* Lindley with records from Kane, Utah, and Washington cos. Questionable Box Elder, San Juan, and Uintah county records as mapped in Albee et al. (1988). Acc. Cronquist (1994), *A. falcatus* “is best developed on the Great Plains, but it extends far northward, even to Mackenzie, Yukon, and eastern Alaska, and it also occurs in much of the Rocky Mountain region of the U.S., west to eastern Utah and northern Arizona.”

***Aster foliaceus* Lindley ex DC. var. *apricus* A. Gray**

“leafy aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5T4/S1

Distribution: GAR, SEV?, SNP, SUM; CO, ID, NV, WY +

Notes: A short-statured plant of alpine or subalpine habitats (Welsh et al. 1993, Cronquist 1994), var. *apricus* evidently has a sporadic distribution in the mtns. of Utah. Questionable Sevier Co. record as reported by Cronquist (1994), who also described the overall range as “s. B.C. to Mont., s. to Calif., Nev. (Elko and White Pine cos.), Utah, and Colo.”

***Aster laevis* L. var. *geyeri* A. Gray**

“Geyer’s aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: GRA, SNJ?, SNP?; CO, ID, NM, NV, WY +

Notes: Var. *geyeri* in Utah is “known only around the base and flanks of the La Sal Mts.” (Cronquist 1994). Questionable San Juan and Sanpete county records as mapped in Albee et al. (1988). Acc.

Status Category: *Peripheral*

Cronquist (1994), var. *geyeri* is “the characteristic western phase of [*A. laevis*], which also extends east across the Great Plains.”

***Aster meritus* A. Nelson**

“Yellowstone aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SUM; ID, WY +

Notes: For alternative treatment as *A. sibiricus* var. *m.* (A. Nelson) Raup, see Sargentia 6: 240. 1947. Acc. *AUF2* (Welsh et al. 1993), *A. sibiricus* L. is known in Utah by a single collection (*Goodrich 16211*, BRY?) from the Uinta Mtns., Summit Co. The overall range of *A. sibiricus* var. *m.* was cited by Cronquist (1994) as “mountains from British Columbia and Alberta southward.”

***Aster subulatus* Michaux var. *ligulatus* Shinn.**

“annual aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/S1

Distribution: KAN?, SNJ?; AZ, NM, NV +

Notes: For current treatment see Field & Lab. 21: 159. 1953. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). This annual *Aster* has been reported from southern Utah by Dr. John Spence (botanist at Glen Canyon Natl. Rec. Area). Var. *ligulatus* is also uncommon in southern Nevada (Kartesz 1987) and otherwise known from central and southern Calif. eastward to central and southeastern U.S. and México (Allen in Hickman 1993). Additional data needed on distribution and status in Utah.

***Astragalus alpinus* L.**

“alpine milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BOX, GRA, IRO?, SAL, UIN?; CO, ID, NM, NV, WY ++

Notes: Acc. *AUF2* (Welsh et al. 1993), *A. alpinus* in Utah occurs sporadically in the Raft River and Wasatch Mtns. and on the East Tavaputs Plateau (Welsh et al. 1993). Questionable Uintah Co. (East Tavaputs Plateau) locality as mapped by Albee et al. (1988). Questionable Iron Co. record based on a report of *A. leptaleus* A. Gray from Navajo Lake (Cottam et al. 1940). The overall distribution is circumboreal, extending southward (at increasing elevations) in western North America to New Mexico and northeastern Nevada (Barneby 1964, 1989).

***Astragalus aretioides* (M.E. Jones) Barneby**

“cushion milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: DAG; CO, WY +

Notes: For current treatment see Amer. Midl. Nat. 55: 505. 1956. In Utah known only from volcanic ash barrens in Browns Park, Daggett Co., extending into adjacent Moffat Co., Colorado (Goodrich and Neese 1986, Barneby 1989, Welsh et al. 1993, Weber and Wittmann 1996a).

Status Category: *Peripheral*

Otherwise the species is “discontinuously widespread in the basins of the Big Horn-Wind and North Platte rivers from extreme sc. Mont. through wc. to sc. Wyo., thence feebly w. across the divide into the Green River Basin and Red Desert in Wyo.” Move to Watch list?

***Astragalus beckwithii* Torrey & Gray var. *weiserensis* M.E. Jones**

“Weiser milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G4T?/S1

Distribution: BOX; ID, NV +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). In Utah known only from Box Elder Co., based on a 1981 collection from along Hwy. I-15 ca. 7 miles north of Plymouth (*Goodrich 15412*, BRY; det. S. Welsh?, year?). The distribution outside the state was cited by Barneby (1989) as “Snake River Plains and Owyhee Desert, Malheur Co., Oregon e. to Power Co., Idaho, n. interruptedly to e. Wash. and s. B.C. and isolated in the lower Humboldt valley in Pershing Co., Nev.”

***Astragalus bodinii* Sheldon**

“Bodin’s milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: PIU, SEV, WAY; CO, NM, WY ++

Notes: In Utah known only from wet meadows in Rabbit Valley, Wayne Co., and along Otter Creek in Piute and Sevier cos. (Barneby 1989, Welsh et al. 1993). The species is otherwise widely distributed at high latitudes from Alaska to Newfoundland and disjunct in the southern Rocky Mtns. of Wyoming and Colorado (Barneby 1989). New Mexico record as reported by Roalson and Allred (no date).

***Astragalus calycosus* Torrey ex S. Watson var. *scaposus* (A. Gray) M.E. Jones**

“Mokiak milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S4

Distribution: WSH, SNJ?; AZ, CO, NM, NV

Notes: Acc. *AUF2* (Welsh et al. 1993), var. *scaposus* in Utah is restricted to the Beaver Dam Mtns., Washington Co. The distribution outside the state was reported by Barneby (1989) as “abundant in n. and c. Ariz., extending n. to the Arizona plateaus and Dixie-Corridor sections ..., to Lincoln Co., Nev. and the San Juan valley in se. Utah and adj. states, interruptedly se. in N.M. to middle Rio Grande valley.” Questionable San Juan Co. record based on the report from “San Juan valley in se. Utah” (Barneby 1989).

***Astragalus canadensis* L. var. *brevidens* (Gand.) Barneby**

“Evanston milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: BOX, CAC, DAG, DUC?, RIC, SUM, WSH?; CO, ID, NV, WY +

Status Category: *Peripheral*

Notes: For current treatment see Leaflet. West. Bot. 4: 238. 1946. In Utah, var. *brevidens* is found locally in moist places around the northern edge of Bonneville Basin, in the Bear River valley, and on both slopes of the Uinta Mtns. (Barneby 1989). The questionable Duchesne Co. record and disjunct population in Virgin River valley, Washington Co., are as reported by Barneby (1989). Outside the state, this variety is widespread and common from eastern Calif. to eastern Washington and southern British Columbia, east to central Nevada, southwestern Montana, southern Wyoming, and northern Colorado (Barneby 1964, 1989).

Astragalus canadensis* L. var. *canadensis

“Canada milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: CAC, PIU, RIC, SAL, SEV?, UTA, WAS; CO, ID, NM, WY ++

Notes: In Utah, var. *canadensis* occurs locally in moist places “in intermontane valleys of the Wasatch Mts. southward from Cache Valley, and in middle Sevier valley” Barneby (1989). Questionable Sevier County record as mapped in Albee et al. (1988). Outside the state, this variety ranges widely across temperate Canada and the eastern and central U.S. (Barneby 1964, 1989). Possibly introduced in Idaho (Barneby 1964).

***Astragalus emoryanus* (Rydb.) Cory**

“Emory’s milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: KAN; AZ, NM +

Notes: The first Utah collection of this annual was made near The Cockscomb (*Atwood 4629*, BRY; cited by Welsh and Eliason 1995), and acc. *AUF2* (Welsh et al. 1993) its distribution in the state is restricted to Kane Co. along the eastern margin of the East Kaibab monocline. Elsewhere, *A. emoryanus* is “widely dispersed along the Rio Grande and tributaries from c. N.M. to s. Texas and Nuevo León, discontinuously nw. to the Grand Canyon Plateaus and Dixie-Corridor sections of the Colorado Plateau in Mohave and Coconino cos., Ariz.” (Barneby 1989).

***Astragalus eremiticus* Sheldon**

“hermit milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: IRO, KAN, WSH; AZ, ID, NM, NV +

Notes: Lectotype from Washington Co., Beaver Dam Mtns. (*Parry 45*, MIN; isoelectotypes GH, MO, NY, P), designated by Barneby (1964). The overall distribution was cited by Barneby (1989) as “scattered but forming populous colonies in the Owyhee Desert, nw. Snake River Plains, n. Central Great Basin, and Calcareous Mountains sections of the Great Basin in se. Oregon, sw. Idaho, and the ne. third of Nev., thence interruptedly s. through se. Nev. and closely adj. Utah to the Grand Canyon Plateaus Sect. in ... Ariz.; ... remotely disjunct on bluffs of the Gila River in sw. N.M.”

Status Category: *Peripheral*

Astragalus filipes Torrey ex A. Gray

“Okanagan milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX; ID, NV +

Notes: In Utah known only from Box Elder Co. (Barneby 1989, Welsh et al. 1993). Outside the state, *A. filipes* is “almost always in sagebrush ...; widespread and locally abundant throughout the Columbia Basin and the Great Basin westward from the w. margin of Bonneville Basin; ... n. to s. B.C. and s. to remotely disjunct localities in mountainous s. Calif. and adj. Baja Calif.” (Barneby 1989).

Astragalus flexuosus (Hook.) G. Don var. flexuosus

“prairie milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: GRA, SNJ; CO, NM, (NV), WY ++

Notes: In Utah restricted to the La Sal and Abajo Mtns. (Barneby 1989). Outside the state, var. *flexuosus* was reported by Barneby (1964) as common in the Rocky Mtns. from southeastern Wyoming to north-central New Mexico but relatively rare west of the Continental Divide in Colorado; also common in the eastern Rocky Mtn. foothills in Montana and Alberta, extending eastward onto the northern Great Plains to southern Manitoba, western Minnesota, and western Nebraska. Also reported by Barneby (1989) as adventive in Elko Co., Nevada.

Astragalus gilviflorus Sheldon

“plains milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAG, RIC, SUM, TOO; CO, ID, WY ++

Notes: Barneby (1989) cited the distribution of *A. gilviflorus* as “widespread and locally plentiful on the high plains from s. Alta. to sw. Man. s. to the North Canadian River in the Okla. Panhandle, w. to the foothills of the Rocky Mtns.; entering [the Intermountain region] in sw. Clark Co., Idaho, in Bear River valley and Echo Canyon in Rich and Summit cos., Utah, and on benches and talus under sandstone cliffs along Sheep Creek in Daggett Co., Utah.” Also known in Utah from a widely disjunct locality in extreme western Tooele Co., based on a 1996 collection (*Franklin 8136*, to be accessioned). Reported recently (as *Orophaca triphylla* Britton) from Kit Carson Co. in east-central Colorado (see Weber and Wittmann 1996b).

Astragalus hallii A. Gray var. fallax (S. Watson) Barneby

“Mogollon milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G4T4/S1

Distribution: GAR?, KAN; AZ, NM

Notes: For current treatment see Leaflet West. Bot. 9: 91. 1960. In Utah occurs disjunctly around the eastern and southern foothills of the Paunsaugunt Plateau, thus far known only from Kane Co. but possibly also in adjacent Garfield Co. (Barneby 1989, Welsh et al. 1993). The following Utah

Status Category: *Peripheral*

localities were cited by Welsh and Eliason (1995), based on collections at BRY: Buckskin Gulch (*Welsh 5309*), Riggs Creek canyon [= Jack Riggs Canyon?] (*Atwood 6130*). Var. *fallax* is otherwise “common and locally plentiful along the Mogollon Escarpment and ... related plateaus in n. and c. Ariz. and N.M.” (Barneby 1989).

***Astragalus iodanthus* S. Watson**

“Humboldt River milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G4?/S1

Distribution: BOX, TOO; NV +

Notes: In Utah known only from western Box Elder and Tooele cos. (Barneby 1989), otherwise widespread over much of central and northern Nevada and extending into adjacent areas of eastern Calif. and southeastern Oregon.

***Astragalus kentrophyta* A. Gray var. *jessiae* (Peck) Barneby**

“Owyhee prickly milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T4/S1

Distribution: DAG; ID, WY +

Notes: For original description see Leaflet. West. Bot. 4: 180. 1945. For current treatment see Leaflet. West. Bot. 6: 154. 1951. For alternative treatment as ssp. *jessiae* (Peck) W.A. Weber, see Phytologia 53: 187. 1983. In Utah known only from Daggett Co. (Goodrich and Neese 1986, Barneby 1989, Welsh et al. 1993). Otherwise scattered in the Green River Basin of southwestern Wyoming and locally plentiful in the Owyhee Desert region of southwestern Idaho and southeastern Oregon (Barneby 1964, 1989).

***Astragalus lentiginosus* Douglas ex Hook. var. *fremontii* (A. Gray ex Torrey) S. Watson**

“Fremont’s milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T?/S3?

Distribution: WSH; NV +

Notes: Var. *fremontii* in Utah is known only from Beaver Dam Wash and the Beaver Dam Slope, Washington Co. (Schoener 1974, Welsh et al. 1993). It is otherwise widespread and locally dominant following favorable rains in southern Nevada and adjacent Calif. (Barneby 1989).

Astragalus newberryi* A. Gray var. *newberryi

“Newberry’s milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T5?/S3?

Distribution: GAR, KAN; AZ, CO, NM

Notes: Acc. *AUF1* (Welsh et al. 1987, not 1993), var. *newberryi* in Utah is found from the vicinity of Escalante (Garfield Co.) and Kanab (Kane Co.) east to Glen Canyon. Welsh and Eliason (1995) cited several collections from Kane Co. Var. *newberryi* otherwise occurs on the “plateaus of n. and c. Ariz. and nw. N.M.” (Barneby 1989). Colorado record acc. Weber and Wittmann (1996a), “[k]nown from a single collection [*Anderson 90-81*] on Mancos shale, [Montezuma Co.]” The var.

Status Category: *Peripheral*

escalantinus Barneby was treated as a synonym of var. *newberryi* in *AUF2* (Welsh et al. 1993). Plants from western Utah belong to the widespread var. *castoreus* M.E. Jones.

***Astragalus platytropis* A. Gray**

“broad-keeled milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BEA, KAN, MIL, TOO; ID, NV +

Notes: In Utah restricted to calcareous substrates at high elevations in the western mountain ranges (e.g., Deep Creeks and Needle Range) and disjunct at the southern end of the Markagunt Plateau (Barneby 1989, Welsh et al. 1993). Rare and scattered throughout the higher mtns. of Nevada (Kartesz 1987). Rare in eastern Calif. (Spellenberg in Hickman 1993). The species otherwise ranges to southeastern Oregon and (disjunctly) to east-central Idaho and southwestern Montana (Barneby 1989).

***Astragalus purshii* Douglas ex Hook. var. *glareosus* (Douglas ex Hook.) Barneby**

“Klickitat milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5T4/S1

Distribution: BOX, DAG?, RIC; ID, NV +

Notes: For current treatment see Amer. Midl. Nat. 37: 503. 1947. Var. *glareosus* enters Utah in western Box Elder Co. (Albee et al. 1988) and the Bear River valley, Rich Co. (Barneby 1989). Questionable Daggett Co. record as reported in *AUF2* (Welsh et al. 1993); acc. Goodrich and Neese (1986) the Uinta Basin plants belong to var. *purshii*. A plant found nearly always in sagebrush habitats, var. *glareosus* also occurs in northeastern Nevada and is otherwise widespread and locally abundant in southern Idaho and eastern Oregon and Washington to southern British Columbia (Barneby 1964, 1989).

***Astragalus robbinsii* (Oakes) A. Gray var. *minor* (Hook.) Barneby**

“cordilleran milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: SUM; CO, ID, NM, WY ++

Notes: For current treatment see Mem. New York Bot. Gard. 13: 125. 1964. Acc. *AUF2* (Welsh et al. 1993), the range of *A. robbinsii* in Utah is restricted to the northern slope of the Uinta Mtns., Summit Co. The var. *minor* is otherwise widespread and common but of interrupted range in the Rocky Mtns. from Alberta and British Columbia southward to central Idaho, Wyoming, and central and southwestern Colorado; also disjunct in Alaska, Vermont, Maine, and Nova Scotia (Barneby 1964, 1989). New Mexico record as reported by Roalson and Allred (no date). In Nevada only the endemic var. *occidentalis* S. Watson occurs in the Ruby and East Humboldt Mtns., Elko Co. Previous reports of *A. eucosmus* B. Robinson from Utah (Barneby 1964, Welsh et al. 1975) belong here.

Status Category: *Peripheral*

***Astragalus toanus* M.E. Jones**

“Toano milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G4/S2?

Distribution: BOX, MIL; ID, NV +

Notes: Selenophyte, in Utah known from the western slope of the Bonneville Basin in Box Elder and Millard cos. (Barneby 1989, Welsh et al. 1993), otherwise interruptedly widespread across northern Nevada to southern Idaho and southwestern Oregon (Barneby 1989).

***Athyrium alpestre* (Hoppe) Clairville var. *americanum* Butters**

“alpine lady-fern” Dryopteridaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: CAC, WEB; CO, ID, NV, WY +

Notes: Treated by Windham (1993a) as *A. americanum* (Butters) Maxon. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *A. distentifolium* Tausch ex Opiz var. *a.* (Butters) Cronquist, Univ. Wash. Publ. Biol. 17(1): 63. 1969. In Utah known only from the Bear River Range and northern Wasatch Mtns. where inhabiting moist to wet rock crevices, talus slopes, and streamsides (Flowers 1944, Albee et al. 1988). Flowers (1944) cited collections from Tony Grove Canyon, Logan Canyon, Cache Co. (*Flowers 3072*, UT?) and upper Ogden Canyon, Weber Co. (*Flowers 3073*, UT?). Var. *americanum* is otherwise known from Alaska and Yukon southward in the mtns. to Calif., Nevada, and Colorado, and from widely disjunct populations in Newfoundland, Quebec, and southern Greenland (Cronquist et al. 1972, Kato in Morin 1993).

***Athysanus pusillus* (Hook.) E. Greene**

No common name Brassicaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: WSH; AZ, ID, NV +

Notes: In Utah this species is known by a single collection from a sandstone reef east of the Red Cliffs, Washington Co. (*Warrick 663*, BRY), first cited by Warrick (1987). Rare in northwestern Nevada acc. Kartesz (1987), otherwise widespread in the Pacific states from British Columbia south to Baja Calif. and eastward to western Montana, Idaho, and Arizona (Kearney and Peebles 1951, Rollins 1993). Acc. Rollins (1993), “*Athysanus pusillus* may well be the most abundant native member of the Cruciferae in the California flora.” Monotypic genus.

***Atrichoseris platyphylla* (A. Gray) A. Gray**

“gravel-ghost” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: WSH; AZ, NV +

Notes: This desert annual is known in Utah only from Washington Co. (Welsh et al. 1993, Cronquist 1994). Infrequent in southern Nevada acc. Kartesz (1987), otherwise known from western Arizona and the Mojave and Colorado deserts of southeastern Calif. (Kearney and Peebles 1951, Stebbins in Hickman 1993, Cronquist 1994). Monotypic genus.

Status Category: *Peripheral*

Notes: Acc. *AUF2* (Welsh et al. 1993), this large shrub is known in Utah only from Washington Co. It is principally a Nevada species (where common to dominant), extending into the Mojave Desert region of southeastern Calif. (Hall and Clements 1923, Kartesz 1987).

***Azolla mexicana* C. Presl**

“Mexican water-fern”

Azollaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: CAC, DAV, SAL, UTA, WEB; AZ, CO, ID?, NM, NV ++

Notes: A floatic aquatic plant of stagnant or slow-moving water (Lumpkin in Morin 1993). Acc. Flowers (1944), *A. caroliniana* Willd. [with *A. mexicana* given as a synonym] is “[u]ncommon in Utah but abundant locally. It occurs in ponds and ditches around Utah Lake and in Jordan Valley, in ponds west of Centerville, in Weber Canyon and Cache Valley.” The same author cited the following collections: Salt Lake City (*Flowers 3243*, UT?); West Centerville, Davis Co. (*Flowers 3244*, UT?); Stoddard, Weber Canyon, Weber Co. (*Flowers 3245*, UT?); ditches, Utah Lake at Geneva, Utah Co. (*Cottam 3919*, UT?); pools, ½ mile north of State [Fish] Hatchery, Cache Co. (collector not specified, UTC 20266). Questionable Idaho record acc. Davis (1952, as *A. caroliniana* Willd.); not reported for that state by Lumpkin (in Morin 1993). *A. mexicana* is found occasionally throughout the Intermountain region and is otherwise widespread in western and central North America from British Columbia to Wisconsin and south to Mexico; also in Central America and northern South America (Cronquist et al. 1972, Lumpkin in Morin 1993). Treated in *AUF2* (Higgins in Welsh et al. 1993) in the family Salviniaceae.

***Baccharis sergiloides* A. Gray**

“squaw waterweed”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: WSH; AZ, NV +

Notes: Broom-like shrub of desert streams and washes and about seeps and springs, known in Utah only from Washington Co. (Welsh et al. 1993, Cronquist 1994). Reported by Warrick (1987) as common at the southern base of the Pine Valley Mtns. Rare in southern Nevada (Kartesz 1987), otherwise ranging southward in Arizona and southeastern Calif. to northwestern Mexico in Sonora and northern Baja Calif. (Kearney and Peebles 1951, Wiggins 1980, Sundberg in Hickman 1993).

***Baccharis wrightii* A. Gray**

No common name

Asteraceae

Federal Status: None

UTNHP Rank: G4?/S1

Distribution: SNJ; AZ, CO, NM +

Notes: Acc. *AUF2* (Welsh et al. 1993), this low subshrub is known in Utah by a single collection from San Juan Co. (*Anderson 89-95*, BRY). The species is widespread in New Mexico (Martin and Hutchins 1981) and otherwise ranges to northern Arizona and eastward in southern Colorado, Kansas, Oklahoma, and western Texas, south to northern Mexico (Kearney and Peebles 1951,

Status Category: *Peripheral*

Cronquist 1994). Unlike other *Baccharis* species in Utah, *B. wrightii* is not associated with wet habitats (Welsh et al. 1993).

***Bebbia juncea* (Benth.) E. Greene var. *aspera* E. Greene**

“sweetbush”

Asteraceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: WSH; AZ, NM, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *B. juncea* in Utah is found only in Beaver Dam Wash and the Beaver Dam Mtns. A shrub of desert washes and rocky slopes (especially on limestone?), var. *aspera* ranges widely across the southwestern U.S. from southern Calif. to western Texas and southward into northwestern Mexico (Keil in Hickman 1993, Cronquist 1994). Ditypic genus.

***Besseyia alpina* (A. Gray) Rydb.**

“alpine kitten-tails”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: GRA, SNJ; CO, NM, WY

Notes: Perennial herb, in Utah known only from high elevations in the La Sal Mtns., Grand and San Juan cos. (N. Holmgren in Cronquist et al. 1984, Welsh et al. 1993). Common in Colorado (Weber and Wittmann 1996a,b), otherwise ranging to south-central Wyoming (Albany Co.) and northern New Mexico (N. Holmgren in Cronquist et al. 1984, Dorn 1992).

***Besseyia wyomingensis* (A. Nelson) Rydb.**

“Wyoming kitten-tails”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BOX, DUC, SNJ?; CO, ID, WY +

Notes: Perennial herb, in Utah known only from upper elevations in the Raft River and Uinta mtns., Box Elder and Duchesne cos. (N. Holmgren in Cronquist et al. 1984, Welsh et al. 1993). Questionable San Juan Co. record as mapped in Albee et al. (1988), probably based on a misidentified specimen(s) of *B. alpina* (A. Gray) Rydb. Outside of Utah, the species ranges through the “Rocky Mts. from se. B.C., s. Alta., and sw. Sask., through e. Idaho ..., nc. Colo., and in the Black Hills of S.D.” (N. Holmgren in Cronquist et al. 1984).

***Boerhavia torreyana* (S. Watson) Standley**

“Torrey’s spiderling”

Nyctaginaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: KAN, WSH; AZ, NM +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *B. spicata* Choisy, with *B. spicata* var. *torreyana* S. Watson and *B. torreyana* (S. Watson) Standley listed as synonyms. In Utah this desert annual has been collected on Cedar Mtn., south of Glen Canyon City (Big Water) in Kane Co. (*Atwood & Kaneko 3389*, BRY; cited in Welsh and Eliason 1995); it also was reported in *AUF2* (Welsh et al. 1993) as locally common in Parunuweap Canyon, eastern Washington Co. *B. torreyana* is otherwise

Status Category: *Peripheral*

reported as occurring in Arizona (Kearney and Peebles 1951) and New Mexico (Martin and Hutchins 1980; Spellenberg et al. 1986; Roalson and Allred, no date), with the overall range cited as “[w]estern Texas and Coahuila to southern California” (Kearney and Peebles 1951; cf. Spellenberg in Hickman 1993). *B. torreyana* was distinguished by Standley (1909, in key on p. 378) as having lanceolate bracts and flowers ca. 1 mm long with stamens included (vs. *B. spicata* with ovate bracts, flowers ca. 2 mm long, and stamens exserted). Regardless of whether *B. torreyana* is regarded as a distinct taxon or a synonym of *B. spicata*, the Utah plants occur at the periphery of the overall range.

***Bothriochloa laguroides* (DC.) Herter ssp. *torreyana* (Steudel) Allred & Gould**

“silver beard-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5T?/S1

Distribution: GRA, KAN, WSH; AZ, CO, NM, NV ++

Notes: For current treatment see Syst. Bot. 8: 179. 1983. County distribution acc. *AUF2* (Arnou in Welsh et al. 1993) which also noted the habitat as “[d]ry, usually sandy sites, often along roadsides.” Although widely distributed in Utah, *B. laguroides* is apparently rare (or at least very rarely collected). Allred and Gould (1983) mapped the distribution of ssp. *torreyana* as common in southeastern Colorado, southeastern Arizona, and much of New Mexico; they further cited the overall range as “throughout much of the central plains of the United States, ... south to northern Mexico, and Argentina, southern Brazil, and Uruguay.... Subspecies *torreyana* is the familiar ‘Silver Bluestem’ of the Great Plains and southwestern grasslands of the United States.” Also reported [as *B. saccharoides* (Swartz) Rydb.] as rare in southern Nevada, known only from Black Mtn., McCullough Range, Clark Co. (Kartesz 1987).

***Botrychium multifidum* (S. Gmelin) Ruprecht**

“leathery grape-fern”

Ophioglossaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, SUM; AZ, CO, ID, NV, WY ++

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *B. multifidum* is known in Utah only from Duchesne Co. (Uinta Mtns?) where it inhabits wet places in lodgepole pine and alder communities. Summit Co. record based on a 1992 collection from the western Uinta Mtns., along Utah Hwy. 150 ca. 2.4 road miles northeast of the Soapstone Basin turnoff, moist soil on low hummock in swampy area, partially shaded site in sedge-willow community (*M. & T. Windham 92-205*, UT). Outside the state this species ranges widely across temperate North America to Europe and northwestern Asia (W. and F. Wagner in Morin 1993).

***Botrychium pinnatum* H. St. John**

“northwestern moonwort”

Ophioglossaceae

Federal Status: None

UTNHP Rank: G4?/S1

Distribution: DUC, SUM; CO, ID, NV, WY +

Status Category: *Peripheral*

Notes: This elfin fern was treated in *AUF2* (Higgins in Welsh et al. 1993) as *B. boreale* J. Milde. Acc. W. and F. Wagner (in Morin 1993), the distribution of *B. boreale* in North America is limited to Greenland; they further noted that “specimens of *B. pinnatum* have been misidentified as *Botrychium boreale*.” Duchesne Co. record for *B. pinnatum* based on a collection from the Uinta Mtns., sloping open meadows southeast of Mirror Lake [*Snell s.n.? in year?, UTC; cited by Flowers (1944) as B. boreale var. obtusilobum (Rupr.) M. Braun and reported (erroneously) from Summit Co.*]. Summit Co. record based on 1991 collections from the western Uinta Mtns. (east-northeast of Big Elk Lake, in shale talus on steep northeast-facing slope, *Windham 91-194*; northwest of Trial Lake, partially shaded site in spruce-fir forest, *Windham 91-234*; both at UT). *B. pinnatum* is otherwise known from Alaska and Yukon southward in the mtns. to Calif., Nevada, and Colorado (W. and F. Wagner in Morin 1993).

***Botrychium simplex* E. Hitchc.**

“least moonwort”

Ophioglossaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: GAR, GRA, KAN, PIU, SAL, SUM, WSH; CO, ID, NV, WY ++

Notes: County distribution as reported in *AUF2* (Higgins in Welsh et al. 1993), evidently of sporadic occurrence (or perhaps just rarely collected?) in the Wasatch and Uinta Mtns. and Utah high plateaus (see Albee et al. 1988). Outside the state, this elfin fern ranges widely but discretely in the western and eastern portions of temperate North America and in Europe, but the plants from the Rocky Mtn. region are distinctive and may deserve subspecies or species status (Cronquist et al. 1972, W. and F. Wagner in Morin 1993).

***Botrychium virginianum* (L.) Swartz**

“grape-fern”

Ophioglossaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: ?; AZ, CO, ID, NM, NV, WY ++

Notes: Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). Not part of the Utah fern flora acc. Windham (1993a). Reported from Utah by W. and F. Wagner (in Morin 1993), who also noted that *B. virginianum* is found in all states except Calif. but is rare or absent in arid regions. Additional data needed on occurrence and status in Utah. The most widespread *Botrychium* in North America, *B. virginianum* also ranges to Central and South America and Eurasia (W. and F. Wagner in Morin 1993). Move to infrequent list?

***Bouteloua aristidoides* (Kunth) Griseb.**

“needle grama”

Poaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: GAR, KAN, WSH; AZ, NM, NV ++

Notes: County distribution as reported in *AUF2* (Arnow in Welsh et al. 1993), evidently of sporadic occurrence (or perhaps just rarely collected?) in southern Utah. Overall distribution of var. *aristidoides* cited by Gould (1979) as “[w]estern Texas to California and south through Mexico to

Status Category: *Peripheral*

Oaxaca; on the island of Aruba and with a few records from Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru; frequent in Argentina.” The var. *arizonica* M.E. Jones occurs in southwestern Arizona, southwestern New Mexico, and adjacent Sonora, Mexico.

***Bouteloua hirsuta* Lag.**

“hairy grama”

Poaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, CO, NM, NV, WY ++

Notes: Acc. *AUF2* (Arnow in Welsh et al. 1993), this perennial grass is known in Utah by a single collection (*Booth s.n.* in 1946, UTC) from Zion Natl. Park, Washington Co. Overall distribution of var. *aristidoides* cited by Gould (1979) as “Saskatchewan and Alberta, south throughout almost all of the U.S.A. east of the Rocky Mountains, to Florida, Louisiana, Texas, New Mexico, Arizona and southern California [cf. Columbus in Hickman 1993], and through most of Mexico.” Acc. Hitchcock and Chase (1951), the main distribution in the U.S. is on the Great Plains. The var. *glandulosa* (Cerv.) Gould is widespread in Mexico and enters the U.S. only in southeastern Arizona.

***Bouteloua simplex* Lag.**

“mat grama”

Poaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: BEA, GAR, IRO, PIU, SEV, WSH; AZ, CO?, NM, WY ?++

Notes: County distribution as reported in *AUF2* (Arnow in Welsh et al. 1993), evidently of sporadic occurrence (or perhaps just rarely collected?) in central and southwestern Utah (see Albee et al. 1988). The overall distribution of this annual grass was cited by Gould (1979) as “[i]n North America, southern Colorado and Utah, western Texas, New Mexico, Arizona, and south through Central America; in South America, at medium altitudes from Colombia, Ecuador and Peru through Bolivia to Chile and Argentina.... *Bouteloua simplex* is especially well represented in all of the countries on the western side of South America from Colombia to Argentina.” Adventive in Colorado acc. Weber and Wittmann (1996a,b), treated as *Chondrosium prostratum* (Lag.) Sweet.

***Bouteloua trifida* Thurber**

“red grama”

Poaceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: SNJ, WSH; AZ, NM, NV +

Notes: In Utah this perennial grass is known only from the Beaver Dam Mtns., Washington Co. (Cottam et al. 1940, Albee et al. 1988) and from southwestern San Juan Co. (Albee et al. 1988). A plant of dry, rocky, often calcareous slopes, its overall distribution is from “[s]outhern Utah, central and western Texas (reported from 47 counties), New Mexico, Arizona, Nevada (Clark Co.), southern California (Inyo Co.), [to] central Mexico” (Gould 1979).

Status Category: *Peripheral*

Brickellia eupatorioides (L.) Shinn. var. chlorolepis (Wooton & Standley) B.L. Turner

“false bone-set”

Asteraceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: UIN; AZ, CO, NM +

Notes: For current treatment see *Phytologia* 67: 129. 1989. For alternative treatment as *B. rosmarinifolia* ssp. *c.* (Wooton & Standley) W.A. Weber, see *Phytologia* 53: 187. 1983. Treated in *AUF2* (Welsh et al. 1993) as *Kuhnia c.* Wooton & Standley. For alternative treatment as *K. eupatorioides* var. *chlorolepis* (Wooton & Standley) Cronquist, see *Intermt. Fl.* 5: 384. 1994. In Utah restricted to Uintah Co. (Welsh et al. 1993, Cronquist 1994), specifically reported from the East Tavaputs Plateau, in wash bottoms of Sweetwater and Bull Canyons (Goodrich and Neese 1986). The overall distribution of var. *chlorolepis* was cited by Cronquist (1994) as “southern Rocky Mountains, south well into Mexico.” Most recent authors have placed *Kuhnia* in the larger genus *Brickellia* (see Shinn 1971, King and Robinson 1987, Turner 1989).

Bromus vulgaris (Hook.) Shear

“Columbia brome-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: SAL; ID, WY +

Notes: For alternative treatment as *Bromopsis v.* (Hook.) Holub, see *Folia Geobot. Phytotax.* 8: 169. 1973. In Utah this perennial grass is known only from aspen and spruce-fir communities in the central Wasatch Mtns., Salt Lake Co. (Albee et al. 1988, Arnou in Welsh et al. 1993). A collection from Red Butte Canyon (Arnou 2007, UT?) was cited by A. and N. Holmgren (in Cronquist et al. 1977) as the first record from the state. Outside of Utah, the distribution was described by Wagnon (1952) as “dense shade, open rocky woods, ravines and meadows from southwestern Alberta to northwestern Wyoming, west to British Columbia, Washington, Oregon, and in the Coast Ranges of California south to Monterey County.”

Buddleja utahensis Cov.

“Utah butterfly-bush”

Buddlejaceae

Federal Status: None

UTNHP Rank: G4/S2

Distribution: WSH; AZ, NV +

Notes: Type from Washington Co., near St. George (*Palmer 400*; holotype US, isotypes BRY, ISC, NY). In Utah this low, gray-woolly shrub is restricted to rocky, limestone slopes in the Beaver Dam Mtns., Washington Co. (Albee et al. 1988, Higgins in Welsh et al. 1993). It otherwise ranges through the mtns. of the eastern Mojave Desert region of northwestern Arizona, southern Nevada, and southeastern Calif. (Kearney and Peebles 1951, N. Holmgren in Cronquist et al. 1984, Kartesz 1987). Uncommon in Calif. (McClintock in Hickman 1993).

Status Category: *Peripheral*

Calamagrostis rubescens Buckley

“pine-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DAG, RIC, UIN; CO, ID, NV, WY +

Notes: In Utah known from Rich Co. and from the eastern Uinta Mtns., Daggett and Uintah cos. (Arnow in Welsh et al. 1993). Occasional to locally abundant in the latter area acc. Goodrich and Neese (1986). Rare in Nevada acc. Kartesz (1987), known only from Elko Co.

Calamovilfa gigantea (Nutt.) Scribner & Merrill

“big sand-reed”

Poaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: KAN, SNJ, WSH; AZ, CO, NM +

Notes: Acc. Arnow (in Welsh et al. 1993), known in Utah from Sand Mtn. in the Hurricane Dunes (Washington Co.), in the Coral Pink Sand Dunes and vicinity (Kane Co.), and in sandy sites near Comb Ridge and to the east (San Juan Co.).

Calochortus ambiguus (M.E. Jones) M. Ownbey

“Arizona mariposa-lily”

Liliaceae

Federal Status: None

UTNHP Rank: G4?/S1

Distribution: WSH; AZ, NM

Notes: For current treatment see Ann. Missouri Bot. Gard. 27: 505. 1940. In Utah known only from Washington Co. (Welsh et al. 1993), specifically from the Pine Valley Mtns. (Reveal in Cronquist et al. 1977). Acc. Kearney and Peebles (1951), the most widely distributed and generally the most abundant of the Arizona mariposas.”

Calochortus bruneaunis Nelson & Macbr.

“Nevada mariposa-lily”

Liliaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: BOX, JUA, RIC; ID, NV +

Notes: In Utah occurs in Box Elder, Juab, and Rich cos. (Welsh et al. 1993). The most common species of *Calochortus* in Nevada acc. Kartesz (1987).

Calochortus eurycarpus S. Watson

“broad-fruited mariposa-lily”

Liliaceae

Federal Status: None

UTNHP Rank: G4/S?

Distribution: BOX; ID, NV, WY +

Notes: First Utah state record from the Raft River Mtns., documented by Allen and Curto (1996). Box Elder Co., Raft River Mts, headwaters of George Creek (*M. Curto et al. 1639*, UTC #216695). Acc. Reveal (in Cronquist et al. 1997), “This is one of [the] more infrequently collected species of *Calochortus* [in the Intermtn. region] although it is not particularly rare.”

Status Category: *Peripheral*

***Calochortus kennedyi* T.C. Porter**

“orange-fl. mariposa-lily” Liliaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: KAN, WSH?; AZ, NV +

Notes: Acc. Welsh et al. (1993), *C. kennedyi* is known in Utah from two collections in “foothills” at Kanab, Kane Co. (*Snow s.n.* in 1925, BRY). Another specimen from Wire Mesa in Washington Co., tentatively identified as *C. aureus* S. Watson, approaches this species (Welsh et al. 1993).

***Calycoseris parryi* A. Gray**

“yellow-fl. tuckplant” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WSH; AZ, NV +

Notes: In Utah known only from Washington Co. (Welsh et al. 1993, Cronquist 1994). Nevada record acc. Cronquist (1994). Ditypic genus.

***Calycoseris wrightii* A. Gray**

“white-fl. tuckplant” Asteraceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: WSH; AZ, NM, NV +

Notes: In Utah known only from Washington Co. (Welsh et al. 1993, Cronquist 1994). New Mexico record acc. Martin and Hutchins (1981), Roalson and Allred (no date). Ditypic genus.

***Calyptridium monandrum* Nutt. in Torrey & Gray**

No common name Portulacaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: WSH; AZ, NV +

Notes: In Utah known only from Washington Co. (Higgins and Welsh in Welsh et al. 1993). Common in Arizona and along the western border of Nevada (Kearney and Peebles 1951, Kartesz 1987).

***Calystegia sepium* (L.) R. Brown var. *angulata* (Brummitt) N. Holmgren**

“hedge bindweed” Convolvulaceae

Federal Status: None **UTNHP Rank:** G5T5/S2?

Distribution: BOX, CAC, SAL, UIN, UTA, WEB; CO, ID, NM, NV, WY ++

Notes: For original description see Kew Bull. 35: 328. 1980. For current treatment see Intermt. Fl. 4: 77. 1984. Reported erroneously as an adventive species in *AUF2* (Higgins in Welsh et al. 1993). A twining perennial of moist sites at low elevations, occurring in Utah mostly along the Wasatch front (Albee et al. 1988) but with an outlier from the mouth of Ashley Creek, Uintah Co. (*Graham 9787*, CM; cited in Goodrich and Neese 1986). Acc. Brummitt (1980), ssp. *angulata* “is the commonest form of [*C. sepium*] from the northern Pacific States and British Columbia through the Rocky Mountains to the Great Plains and Prairies, extending more sparingly to the eastern States

Status Category: *Peripheral*

from Chesapeake Bay to New England and eastern Canada.” The same author cited a single Utah specimen, from Logan, Cache Co. (*A. Holmgren 3573*, NY). Apparently uncommon in the Intermountain region (N. Holmgren in Cronquist et al. 1984); rare in Nevada (Kartesz 1987).

***Camissonia andina* (Nutt. in Torrey & Gray) Raven**

“Columbia evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G4/S?

Distribution: BEA, CAC, WAS; CO, ID, NV, WY +

Notes: For current treatment see Brittonia 16: 285. 1964. County distribution in Utah as reported by Raven (1969). Colorado record acc. Weber and Wittmann (1996a). Common on and about the Snake River Plains in Idaho and in southeastern Oregon, northwestern Calif., and northern Nevada (Cronquist et al. 1997).

***Camissonia boothii* (Douglas ex Lehm.) Raven var. *condensata* (Munz) Cronquist**

“Dos Palmas evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S3?

Distribution: KAN, SNJ, WSH; AZ, NV +

Notes: For current treatment see Great Basin Nat. 46: 258. 1986. For alternative treatment as ssp. *condensata* (Munz) Raven, see Brittonia 16: 285. 1964. In Utah occurs in Kane and Washington cos. (Welsh et al. 1993, Cronquist et al. 1997). Also reported from Glen Canyon, San Juan Co. (Raven 1969).

Camissonia brevipes* (A. Gray) Raven var. *brevipes

“yellow cups” Onagraceae

Federal Status: None **UTNHP Rank:** G3G4T?/S1S2

Distribution: KAN?, WSH; AZ, NV +

Notes: For current treatment see Brittonia 16: 281. 1964. Raven (1969) reported that ssp. *brevipes* sometimes occurs in great abundance, entering Utah in southwestern Washington Co. The species is also reported from eastern Kane Co. (Welsh et al. 1993, Cronquist et al. 1997), based on a specimen from the Escalante Canyon vicinity (*Welsh and Neese 21002*, BRY). Acc. Welsh et al. (1993), “The specimen...was initially identified as *C. eastwoodiae* (Munz) Raven, but is immediately distinctive because of its copious long, slender hairs.” The specimen should be reexamined.

***Camissonia brevipes* (A. Gray) Raven ssp. *pallidula* (Munz) Raven**

“Las Vegas evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G3G4T?/S1S2

Distribution: WSH; AZ, NV +

Notes: For current treatment see Brittonia 16: 281. 1964. Ssp. *pallidula* treated in *AUF2* (Welsh et al. 1993) as a synonym of *C. brevipes* (sensu lato). In Utah known only from Washington Co. (Raven 1969). The same author noted that “*Camissonia brevipes* subsp. *pallidula* intergrades with *C. brevipes* subsp. *brevipes* over a wide area, and no evidence for reduction of fertility or for

Status Category: *Peripheral*

cytological abnormality has been found in the intermediate plants, in spite of the very different phenotypes of these two subspecies.”

Camissonia chamaenerioides (A. Gray) Raven

“El Paso evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5/S3?

Distribution: KAN, TOO, WSH; AZ, NM, NV +

Notes: For current treatment see Brittonia 16: 285. 1964. In Utah occurs in Kane, Tooele, and Washington cos. (Welsh et al. 1993, Cronquist et al. 1997). Acc. Raven (1969), the Tooele Co. record is based on a collection from Dugway (*Jones 1891*, POM).

Camissonia claviformis (Torrey & Frémont) Raven var. *aurantiaca* (Munz) Cronquist

“Fort Mohave evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: WSH; AZ, NV +

Notes: For current treatment see Great Basin Nat. 52: 76. 1992. For alternative treatment as ssp. *aurantiaca* (Munz) Raven, see Brittonia 16: 282. 1964. *AUF2* (Welsh et al. 1993) reported var. *claviformis* as entering Utah in Washington Co. Raven (1969), however, treated typical *claviformis* as a Calif. endemic and reported ssp. *aurantiaca* as common from Lincoln County, Nevada, southward across the desert. Inasmuch as all of the other white-flowered subspecies treated by Raven (1969) have more limited geographic ranges that do not approach southwestern Utah, it is most likely that the plants from Washington Co. are ssp. *aurantiaca*. Seemingly confirming this, Cronquist et al. (1997) cited the distribution of var. *aurantiaca* as including “sw. Utah.”

Camissonia claviformis (Torrey & Frémont) Raven var. *purpurascens* (S. Watson) Cronquist

“Palisade evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S2S3

Distribution: BEA, KAN?, MIL; NV +

Notes: For current treatment see Great Basin Nat. 46: 258. 1986. For alternative treatment as *C. c. ssp. integrrior* (Raven) Raven, see Brittonia 16: 282. 1964. In Utah occurs in Beaver and Millard cos. (Welsh et al. 1993, Cronquist et al. 1997). Questionable Kane Co. Record as reported by Cronquist et al. (1997). Raven (1969) gives the overall distribution as “Great Basin desert, ...often forming large colonies.”

Camissonia pterosperma (S. Watson) Raven

“wing-seeded evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: BEA?, IRO?, JUA?, KAN, MIL, TOO, UIN, WSH; AZ, ID, NV +

Notes: For current treatment see Brittonia 16: 282. 1964. Overall, “widely distributed but rare” (Raven 1969). Beaver, Iron, and Juab county localities as mapped in Albee et al. (1988), apparently based on a literature reference [source?]. Remaining Utah counties as reported in *AUF2* (Welsh et

Status Category: *Peripheral*

al. 1993). Uintah Co. record based on collections from “near Brush Creek and Doc’s Beach n. of Vernal and from Bitter Creek” (Goodrich and Neese 1986). Idaho record as reported in Cronquist et al. (1997).

***Camissonia pusilla* Raven**

“diminutive evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: BEA, IRO, PIU, WSH; ID, NV +

Notes: For original description see Contr. U.S. Natl. Herb. 37: 312. 1969. In Utah known from Beaver, Iron, Piute, and Washington cos. (Welsh et al. 1993, Cronquist et al. 1997). Sporadic in occurrence (or perhaps just rarely collected?).

***Camissonia refracta* (S. Watson) Raven**

“desert evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G4/S2?

Distribution: WSH; AZ, NM?, NV +

Notes: For current treatment see Brittonia 16: 285. 1964. In Utah known only from Washington Co. (Raven 1969, Cronquist et al. 1997), specifically from Beaver Dam Wash (Welsh et al. 1993). Raven (1969) also discusses a questionable New Mexico record.

***Campanula uniflora* L.**

“arctic harebell” Campanulaceae

Federal Status: None **UTNHP Rank:** G4/S2

Distribution: DAG, DUC, GRA, SNJ, SUM, UIN; CO, WY ++

Notes: In Utah occurs in the high La Sal and Uinta Mtns. (P. Holmgren in Cronquist et al. 1984, Welsh et al. 1993).

Cardamine breweri* S. Watson var. *breweri

“Brewer’s bitter-cress” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T?/S2S3

Distribution: MOR, SAL, SUM, TOO, UTA, WAS, WEB; CO, ID, NV, WY +

Notes: A plant of streamsides and other moist habitats at low to middle elevations in the mountains, occurring in Utah mostly in the Wasatch Range. Sporadic in occurrence (or perhaps just rarely collected?). Acc. *AUF2* (Welsh et al. 1993), the Utah plants are var. *breweri*, but it seems possible that both var. *breweri* and var. *leibergii* (Holzinger) C.L. Hitchcock are in the state, based on distributional information presented by Rollins (1993).

Cardamine oligosperma* Nutt. ex Torrey & Gray var. *oligosperma

“few-seeded bitter-cress” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T?/S2?

Distribution: BEA, DAG, DUC, SUM; CO, ID, NV, WY +

Status Category: *Peripheral*

Notes: These are the plants that were treated in *AUF2* (Welsh et al. 1993) as *C. parviflora* L., apparently in error. A plant of moist habitats at middle to high elevations, in Utah apparently mostly restricted to the Uinta Mtns.

Carex alma L. Bailey

“sturdy sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Notes: In Utah known from a single collection (*Baird 26127*, BRY?) from Bently Spring, Beaver Dam Wash, Washington Co. (Goodrich in Welsh et al. 1993). Not rare in Arizona acc. Kearney and Peebles (1951).

Carex atherodes Sprengel

“awn-scaled sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SEV, UTA; CO, ID, NM, NV, WY ++

Notes: In Utah known only from Sevier and Utah cos. (Goodrich in Welsh et al. 1993). Nevada record acc. Cronquist et al. (1977), Kartesz (1987); reported by the latter as frequent in the Ruby Valley, Elko Co. New Mexico record acc. Martin and Hutchins (1980), Roalson and Allred (no date).

Carex atosquama Mackenzie

“black-scaled sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5T4?/S2

Distribution: DUC; CO, ID +

Notes: For alternative treatment as *C. atrata* L. var. *atosquama* (Mackenzie) Cronquist, see Univ. Wash. Publ. Biol. 17(1): 243. 1969. In Utah known only from the Uinta Mtns., Duchesne Co. (Goodrich in Welsh et al. 1993). Infrequent and local in the Rocky Mtn. region acc. Hermann (1970). Considered but rejected for sensitive listing in Montana (Lesica and Shelly 1991).

Carex backii F. Boott

“Back’s sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: CAC, JUA, SAL, UTA; CO, ID, WY ++

Notes: County dsitribution in Utah reported in *AUF2* (Goodrich in Welsh et al. 1993), aparently restricted to lower montane situations along the Wasatch front. Hermann (1970) reports the abundance of *C. saimontana* as “Infrequent to rare in woods and thickets at middle elevations.” Hermann (1970) recognizes *C. backii* and *C. saximontana* Mackenzie as distinct species. *C. saximontana* treated as a synonym acc. Cronquist et al. (1977), Goodrich (in Welsh et al. 1993).

Status Category: *Peripheral*

Carex bebbii Olney ex Fern.

“Bebb’s sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: UIN; CO, ID, NV, WY ++

Notes: In Utah known only from the Whiterocks drainage, Uintah Co. (Goodrich and Neese 1986, Goodrich in Welsh et al. 1993). Rare in Nevada acc. Kartesz (1987), known only from Ruby Mtns., Elko Co.

Carex bipartita Bellardi ex All.

“Nederland sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC?, SUM; CO, WY ++

Notes: In Utah known only from the Uinta Mtns., Summit Co. (Goodrich in Welsh et al. 1993). Duchesne County record as mapped in Albee et al. (1988). For original description of *C. bipartita* var. *austromontana* F. Hermann, see Leaflet. West. Bot. 10: 15. 1963. Acc. Hermann (1970), *C. bipartita* var. *austromontana* “is known from Colorado and Utah and seems to be geographically restricted to the mountains south of the area of greatest development of the typical form.” *C. bipartita* treated by Weber and Wittmann (1992) as a synonym of *C. lachenalii* Schkuhr. Of *C. bipartita* var. *austromontana* F. Hermann they note: “Possibly this is a clear subspecies of the southern Rocky Mts., but a thorough study should be made.” Acc. Cronquist et al. (1977), var. *austromontana* represents “[t]he long-beaked extreme, represented by a collection from the Uinta Mts. of Utah (*Maguire 14497*) in addition to the type. More typical material of *C. bipartita* also occurs in Colo.”

Carex brunnescens (Pers.) Poir.

“brownish sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BEA?, DUC, PIU?, SUM, UIN; CO, ID, NV, WY ++

Notes: In Utah known only from the Uinta Mtns. of Duchesne, Summit, and Uintah cos. (Goodrich in Welsh et al. 1993). Acc. Cronquist et al. (1977), also reputed to occur in the Tushar Mtns. (Beaver or Piute co.?). Rare in Nevada acc. Kartesz (1987), known only from Ruby Mtns., Elko Co. Uncommon in Colorado acc. Weber and Wittmann (1996a, b).

Carex capitata L.

No common name

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC; CO, NM, NV, WY ++

Notes: In Utah known only from the Uinta Mtns., Duchesne Co. (Goodrich in Welsh et al. 1993). Rare in Nevada acc. Kartesz (1987), known only from the nw. portion of the state, Washoe Co. *C. capitata* ssp. *arctogena* (Smith) Böcher rare or local in Colorado acc. Weber and Wittmann (1996a,b).

Status Category: *Peripheral*

***Carex crawei* Dewey**

“marl sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: KAN; CO, WY ++

Notes: Known in Utah by a single collection from Kane Co., headwaters of Left Fork Virgin River, marl bog at base of the Pink Cliffs (*Maguire 18828*, UTC). Rare in Colorado, known from a single collection in the eastern part of the state, “[a]n eastern prairie relict” (Weber and Wittmann 1996b). Also in Goshen Co., Wyoming (Dorn 1992).

***Carex diandra* Schrank**

“lesser paniced sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, GAR; CO, NV?, WY ++

Notes: In Utah known from a single collection from Uinta Canyon, Uinta Mtns., Duchesne Co. (Goodrich and Neese 1986, Goodrich in Welsh et al. 1993); and another isolated station on the Aquarius Plateau, Garfield Co. (Cronquist et al. 1977, Albee et al. 1988). Questionable Nevada report acc. Cronquist et al. (1977; cf. Kartesz 1987). Infrequent or rare in Colorado acc. Weber and Wittmann (1992, 1996a), known only from the San Juan Mtns., San Juan Co.

***Carex foetida* All. var. *vernacula* (L. Bailey) Kükenthal**

“native sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: WAS; CO, NV, WY +

Notes: Cronquist et al. (1977) report this sedge as occurring “in some of the mountains of Utah.” Acc. Goodrich (in Welsh et al. 1993), however, only one specimen from the Uinta Mtns., Wasatch Co. (*Hayward 9948*, BRY) has been tentatively identified here, adding that “other reports of this species in the state are likely based on specimens of *C. jonesii* L. Bailey.” *C. vernacula* Bailey rare in Nevada acc. Kartesz (1987), known only from the Sierra Nevada Range at Mt. Rose, Washoe Co. Infrequent in Colorado acc. Weber and Wittmann (1996a, b).

***Carex jonesii* L. Bailey**

“Jones’ sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: BEA, JUA, SAL; CO, ID, NV, WY +

Notes: In Utah occurs in Salt Lake Co. (central Wasatch Mtns.?), the Deep Creek Mtns., Juab Co., and the Tushar Mtns., Beaver Co. (Cronquist et al. 1977, Albee et al. 1988, Goodrich in Welsh et al. 1993).

Status Category: *Peripheral*

Carex lasiocarpa Ehrhart

“slender sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DAG, UIN; CO, ID ++

Notes: In Utah known only from organic soils (peat bogs?) in the Uinta Mtns., Daggett and Uintah cos. (Goodrich in Welsh et al. 1993), specifically from the Ashley Creek, Sheep Creek, and probably Carter Creek drainages (Goodrich and Neese 1986). Not in Wyoming acc. Dorn (1992). Acc. Weber and Wittmann (1996b) “Recently discovered in subalpine fens on east side of Park Range,” Colorado.

Carex leporinella Mackenzie

“Sierra hare sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: DUC, SUM, WAS; ID, NV, WY +

Notes: In Utah known only from the central and western Uinta Mtns., Duchesne, Summit, and Wasatch cos. (Goodrich in Welsh et al. 1993). Wyoming record as reported by Hermann (1970) and Dorn (1992). Infrequent in Nevada acc. Kartesz (1987), known from the Carson and Sierra Nevada ranges, Washoe Co., and an isolated station on Mt. Grant, Wassuk Range, Mineral Co.

Carex leptalea Wahlenb.

“bristle-stalked sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, UIN; CO, ID, NM, WY ++

Notes: In Utah known only from Uinta and Whiterocks canyons, Uinta Mtns. (Goodrich in Welsh et al. 1993). New Mexico record acc. Martin and Hutchins (1980), Roalson and Allred (no date). Acc. Hermann (1970), “Occasional and local in the Rocky Mtn. Region, from low elevations up to at least 9,000 ft. It may be more frequent than the scarcity of collections would seem to indicate, because it is a very inconspicuous plant in the field.”

Carex limnophila F. Hermann

“pond sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DAG, DUC, EME, JUA, UIN; CO, ID?, NV, WY +

Notes: For original description see Leaflet. W. Bot. 8: 28. 1956. For alternative treatment as *C. microptera* var. *l.* (F. Hermann) Dorn, see Vasc. Pls. Wyoming 143, 296. 1988. In Utah occurs in the Uinta Mtns., Daggett, Duchesne, and Uintah cos.; the Wasatch Plateau, Emery Co.; and the Deep Creek Mtns., Juab Co. (Albee et al. 1988, Goodrich in Welsh et al. 1993). Rare in Nevada acc. Kartesz (1987), known only from the Ruby Mtns., Elko Co.

Status Category: *Peripheral*

Carex limosa L.

“strand sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S3?

Distribution: DUC, SUM, UIN; CO, ID, NM, NV, WY ++

Notes: In Utah known only from the Uinta Mtns., Duchesne, Summit, and Uintah cos. (Goodrich in Welsh et al. 1993). Rare in Nevada acc. Kartesz (1987), known only from the Jarbidge Mtns., and a few other locations in the mountains of Elko Co. Colorado acc. Weber and Wittmann (1996a, b). New Mexico record acc. Martin and Hutchins (1980), Roalson and Allred (no date).

Carex livida (Wahlenb.) Willd.

“ashen sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1S2

Distribution: ?; CO, ID, WY ++

Notes: Discovered in Utah (Uinta Mtns.?) in 1994 by Sherel Goodrich. Extirpated in Calif. acc. Mastrogioseppe (in Hickman 1993), last seen in 1866. In Park Co., Wyoming acc. Dorn (1992). Local in Colorado acc. Weber and Wittmann (1992, 1996b), known only from Lost Park, Park Co. Sensitive in Idaho. Endangered in Oregon.

Carex luzulina Olney

“woodrush-like sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BEA, PIU, SAL; ID, NV, WY +

Notes: In Utah occurs in the central Wasatch Mtns., Salt Lake Co., and the Tushar Mtns., Beaver and Piute cos. (Cronquist et al. 1977, Goodrich in Welsh et al. 1993). Rare in Nevada acc. Kartesz (1987), known only from the Jarbidge Mts., Elko Co. *AUF2* (Goodrich in Welsh et al. 1993) treated var. *ablata* (L. Bailey) F. Hermann as a synonym of *C. luzulina* (sensu lato).

Carex microglochin Wahlenb.

No common name

Cyperaceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: DAG, DUC, EME; CO, WY ++

Notes: In Utah occurs in the Uinta Mtns., Daggett and Duchesne cos. (Albee et al. 1988, Goodrich in Welsh et al. 1993); and in Scad Valley, Wasatch Plateau, Emery Co. (Mont E. Lewis Special Interest Botanical Area, Manti-La Sal Natl. Forest). In Park Co. and Yellowstone Natl. Park, Wyoming acc. Dorn (1992). Acc. Hermann (1970), “Rare and local (but inconspicuous and probably often overlooked) in moist, sunny, usually calcareous habitats in the alpine zone.”

Carex misandra R. Brown

“man-hating sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, SUM; CO, WY ++

Status Category: *Peripheral*

Notes: In Utah known only from the Uinta Mtns., Duchesne and Summit cos. (Goodrich in Welsh et al. 1993), and acc. Cronquist et al. (1977) reputedly in the Wasatch Mtns. In Park Co., Wyoming acc. Dorn (1992). Infrequent and local in the Rocky Mtn. region acc. Hermann (1970), on alpine tundra and in mtn. meadows.

Carex multicosata Mackenzie

“many-ribbed sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, DAG, SUM, UIN; ID, NV +

Notes: In Utah known from the Bear River Range, Cache co., and from the Uinta Mtns., Daggett, Duchesne, and Summit cos. (Goodrich in Welsh et al. 1993). Infrequent in Nevada acc. Kartesz (1987). Acc. Hermann (1970), *C. multicosata* is much more plentiful in the mountains of Oregon and Calif. than in the Rocky Mtn. Region, although he notes it is “frequent” in Idaho.

Carex nelsonii Mackenzie

“Aven Nelson’s sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G3/S2

Distribution: DUC, SUM?, UIN, WAS; CO, WY +

Notes: In Utah known only from the Uinta Mtns., Duchesne, Uintah, and Wasatch cos. (Goodrich in Welsh et al. 1993). Hermann (1970) cited the abundance and habitat as “[f]requent in mountain meadows and on rocky slopes at higher elevations (9,000-14,000 ft.). *C. nelsonii* in Ravalli Co., Montana acc. Dorn (1984). Summit County record as mapped in Albee et al. (1988). Goodrich (in Welsh et al. 1993) notes that “*Carex nelsonii* might better be considered as a variety of *C. nova*.”

Carex neurophora Mackenzie

“alpine nerved sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: BEA, CAC, EME, SAL, WAS; CO, ID, NV, WY +

Notes: The type of *C. vernacula* var. *hobsonii* Maguire is from White Pine Lake, Bear River Range, Cache Co. *C. neurophora* occurs near Puffer Lake, Tushar Mtns., Beaver Co. (*Lewis 495*, BRY). Otherwise in Utah known from the central Wasatch Mtns., Salt Lake Co.; the western Uinta Mtns., Wasatch Co.; and the Wasatch Plateau, Emery Co. (Albee et al. 1988, Goodrich in Welsh et al. 1993). Rare in Nevada acc. Kartesz (1987), known only from Elko Co. For original description of *C. vernacula* var. *hobsonii* Maguire, see Brittonia 5: 199. 1944. *AUF2* (Goodrich in Welsh et al. 1993) treated this as a synonym of *C. neurophora*.

Carex oederi Retz. var. viridula (Michaux) Kükenthal

“green sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5?/S2

Distribution: DUC, GAR, KAN, SUM, UIN; CO, ID, NM, NV, WY ++

Status Category: *Peripheral*

Notes: For alternative treatment as ssp. *viridula* (Michaux) Hultén, see Ark. Bot. II, 7(1): 30. 1968. For alternative treatment as *C. o.* var. *recterostrata* (L. Bailey) Dorn, see Vasc. Pls. Wyoming 146, 147, 296. 1988. Cronquist et al. (1977) cited the distribution of *C. oederi* as “circumboreal, extending s. in Amer. to N.J., Ind., n. N.M., s. Utah (Kane Co.), s. Nev., and nw. Calif. In western slope Colorado flora acc. Weber and Wittmann (1996a,b), *C. viridula* is “[r]are, borders of streams and ponds.”

Carex paysonis Clokey

“Payson’s sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G4/S2

Distribution: DUC, SUM; ID, NV, WY +

Notes: In Utah known only from the Uinta Mtns. (Goodrich in Welsh et al. 1993). Rare in Nevada acc. Kartesz (1987), known only from White Pine Co. Hermann (1970) treated *C. paysonis* as a synonym of *C. tolmiei* F. Boott in Hook. Acc. Cronquist et al. (1977) and Goodrich (in Welsh et al. 1993), the name *C. tolmiei* has been misapplied to plants of *C. paysonis*.

Carex pyrenaica Wahlenb.

“Pyrenees sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: DAG, DUC; CO, ID, NV?, WY ++

Notes: In Utah known only from the Uinta Mtns. (Goodrich in Welsh et al. 1993). Infrequent in nw. Nevada acc. Kartesz (1987).

Carex retrorsa Schwein.

“knot-sheathed sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: UTA, WAS, WEB; CO, ID, NV, WY ++

Notes: Cronquist et al. (1977) cited the distribution as “across s. Can. and n. U.S. ..., entering [the Intermountain region] on the northern part of the Snake River Plains, as at Idaho Falls, and reported from Weber Co., Utah; also known from Colo.” Cottam et al. (1940) cited a location in “Ogden Canyon, Weber Co.” [specimens at BRY]. Acc. Kartesz (1987), *C. retrorsa* is “[a]pparently rare” in Nevada. In western slope Colorado flora acc. Weber and Wittmann (1996a). “Infrequent in marshes, wet meadows or along river bottoms, montane.”

Carex scoparia Schkuhr ex Willd.

“broom sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: KAN; AZ, CO, ID, NM ++

Notes: Acc. *AUF2* (Goodrich in Welsh et al. 1993), *C. scoparia* is known in Utah by a single Kane Co. collection (*Thorne & Welsh 10581*, BRY), from an interdune swale in the Coral Pink Sand Dunes. Hermann (1970) cited the overall distribution as “Newfoundland to British Columbia,

Status Category: *Peripheral*

southward to South Carolina, Arkansas, New Mexico, and Oregon.” Rare in the mtns. of northern Calif. (Mastrogiuseppe in Hickman 1993). Arizona distribution restricted to McNary, Apache Co. (Kearney and Peebles 1951).

***Carex scopulorum* T.H. Holm**

“Holm’s Rocky Mtn. sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: BOX, DAG, JUA, UIN?; CO, ID, NV, WY +

Notes: In Utah known only from the Deep Creek, Raft River, and Uinta mtns. (Goodrich in Welsh et al. 1993).

***Carex subfusca* W. Boott**

“rusty sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: SEV, WSH, WAY; AZ, ID, NV +

Notes: Cronquist et al. (1977) include s. Utah (Wayne & Washington cos.) within the distribution. Hermann (1970) cited the distribution as “Locally common in dry meadows and forest borders, at 1,000-11,500 ft. British Columbia to southern California, eastward to Utah and Arizona.”

***Carex subnigricans* Stacey**

“awl-fruited sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DUC, GAR?, PIU, SEV, SUM, UIN, WAY; ID, NV, WY +

Notes: Cronquist et al. (1977) includes the Uinta and Tushar mts. of Utah in the distribution.

***Castilleja nana* Eastw.**

“dwarf paint-brush” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: JUA, TOO?; NV +

Notes: In Utah known only from the Deep Creek Mtns., Juab Co. (Atwood in Welsh et al. 1993).

***Castilleja occidentalis* Torrey**

“western paint-brush” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: GRA, SNJ; CO, NM +

Notes: In Utah known only from the La Sal Mtns. (Atwood in Welsh et al. 1993). In western slope Colorado flora acc. Weber and Wittmann (1996a), “Difficult to distinguish from *C. sulphurea* Rydb. except by size and habitat.”

Status Category: *Peripheral*

***Caulanthus cooperi* (S. Watson) Payson**

“desert jewel-flower” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV +

Notes: Occasional in southern Nevada (Nye and Clark cos.) acc. Kartesz (1987) and also in CA, NV, UT and AZ.

Caulanthus major* (M.E. Jones) Payson var. *major

“slender jewel-flower” Brassicaceae

Federal Status: None **UTNHP Rank:** G3?T?/S1S2

Distribution: GAR; +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *C. crassicaulis* var. *m.* M.E. Jones. In Utah known only from the Henry Mtns. (Garfield Co.), the type from Bromide Pass (*Jones 5685*; holotype POM, isotypes BRY, NY, US). Reported by Neese (1981) as “[l]ocal in the Henry Mountains in aspen-fir and aspen-mixed conifer communities, 2200-3200 m (7400-10,400 ft).” Additional collections cited (at BRY except where noted?): Garfield Co., Crescent Creek (*Stanton 5, Neese & White 3426*), 2.5 miles south of Mt. Ellen (*Neese & White 3423*), Lonesome Beaver Campground (*Neese & White 2045, 3408 & 6940*), 1 mile above Nasty Flat (*Neese et al. 2195*), between Dandelion Flat and Log Flat (*Neese et al. 2295*), east side of Mt. Ellen (*Stanton 402, UT*). Var. *major* is otherwise known from disjunct populations in the San Gabriel and San Bernardino mtns. and the eastern Mojave Desert ranges (Providence and New York mtns.) in southern Calif. (Buck in Hickman 1993, Rollins 1993).

***Caulanthus pilosus* S. Watson**

“chocolate-drops” Brassicaceae

Federal Status: None **UTNHP Rank:** G4/S2?

Distribution: BEA, MIL, TOO; ID, NV +

Notes: Rollins (1993) cited the distribution as “southern Idaho to Utah, west to eastern California and eastern Oregon.” Hitchcock and Cronquist (1964) cited the distribution as “Baker and Deschutes cos., Oreg., and Washington Co., Ida., s. to e. Calif. and w. Utah.”

***Ceanothus greggii* A. Gray var. *vestitus* (E. Greene) McMinn**

“Mojave buck-brush” Rhamnaceae

Federal Status: None **UTNHP Rank:** G5T?/S

Distribution: IRO, KAN, WSH; AZ, NV +

Notes: For alternative treatment as ssp. *vestitus* (E. Greene) Thorne, see *Aliso* 10: 163. 1981. Cronquist et al. (1997) cited the distribution as “mixed desert shrub to mountain brush and pinyon-juniper communities, 1200-2900 m; Iron and Washington cos., Utah, s. Lincoln and s. Nye cos., Nev., Mono Co., Calif., southward in and around the Mojave Desert, and n. of the Grand Canyon in Mohave Co., Ariz.” Kane Co. record based on a single collection near Escalante.

Status Category: *Peripheral*

***Centaurium calycosum* (Buckley) Fern.**

“southwestern centaury” Gentianaceae

Federal Status: None **UTNHP Rank:** G5/S3?

Distribution: GAR, SNJ, WSH; AZ, CO?, NM, NV +

Notes: Rangelike distribution cited by N. Holmgren (in Cronquist et al. 1984) as “s. Nev., se. Calif. (along the Colorado River), e. across s. Utah, Ariz., and n. Mex. to s. Colo., N.M., and Texas.” Rare in southern Nevada acc. Kartesz (1987). Uncommon in the eastern Sonoran Desert region of California acc. Hickman (1993).

***Centrostegia thurberi* A. Gray ex Benth.**

“Thurber’s spine-flower” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S3?

Distribution: GAR?, KAN, SNJ, WSH; AZ, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Chorizanthe t.* (Benth.) S. Watson. Questionable Garfield Co. record as mapped by Albee et al. (1988).

***Ceratoides lanata* (Pursh) J.T. Howell var. *subspinosa* (Rydb.) J.T. Howell**

“shrubby winter-fat” Chenopodiaceae

Federal Status: None **UTNHP Rank:** G5T?/S2?

Distribution: KAN, WSH; AZ, NM?, NV, ???

Notes: For current treatment see Wasmann J. Biol. 29: 105. 1971. Type from Washington Co., St. George (*Goodding 810*; holotype? US). The Utah distribution of var. *subspinosa* was cited in *AUF2* (Welsh et al. 1993) as “Washington County and to a lesser extent in Kane County (mainly along Lake Powell).” The variety has been reported from Nevada (Kartesz 1987) and as widespread in Arizona (Kearney and Peebles 1951), but additional data are needed to determine the overall geographic range. Acc. Kartesz (1987), var. *subspinosa* “has a more woody stem, more spreading branches and with few or no elongated hairs among the stellate ones. All of these characters seem to [intergrade,] however[,] and both [var. *lanata* and var. *subspinosa*] can be found growing together; thus, at least in [Nevada], taxonomic separation hardly seems meaningful.” *Krascheninnikovia* is apparently the correct generic name (see Mosyakin 1995), but the appropriate nomenclatural combination transferring this variety to that genus has not been published.

Cercocarpus ledifolius* Nutt. ex Torrey & Gray var. *ledifolius

“curl-leaf mountain-mahogany” Rosaceae

Federal Status: None **UTNHP Rank:** G5T5/S2?

Distribution: BOX, CAC, TOO, WEB, ?; ID, WY +

Notes: Acc. Holmgren (1987b), most of the Utah plants belong to var. *intermontanus* N. Holmgren. The same author cited the distribution of var. *ledifolius* as “[e]astern Oregon, central and southern Idaho, southwestern Montana, north-central Wyoming, and northern Utah (where it has been collected in scattered localities: Raft River Mountains, Box Elder Co.; Stansbury Island, Tooele Co.;

Status Category: *Peripheral*

Bear River Range, Cache Co.; and Wasatch Range, Weber Co.)” A 1997 collection (*Stone 2167*, UT) from the Newfoundland Mtns., Box Elder Co., is apparently this variety.

***Chaenactis carphoclinia* A. Gray**

“pebble pincushion”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: MIL, WSH; AZ, NV +

Notes: Cronquist (1994) cited the distribution as “s. Calif. (as far n. as the White Mts.) to c. Ariz., n. to the s. margin of [the Intermountain region] in Nev. and irregularly into Esmeralda, Mineral, and Churchill cos., and in sw. Utah (Washington Co.).”

***Chaenactis fremontii* A. Gray**

“Fremont’s pincushion”

Asteraceae

Federal Status: None

UTNHP Rank: G4G5/S2?

Distribution: KAN, WSH; AZ, NV +

Notes: County distribution as cited in *AUF2* (Welsh et al. 1993). Reported by Warrick (1987) as uncommon at the southern base of the Pine Valley Mtns., Washington Co. (east of Red Cliffs, *Warrick 836*, BRY). The species otherwise occurs in scattered populations across the deserts from western Arizona and southern Nevada to southeastern Calif. and northern Baja Calif. (Morefield in Hickman 1993, Cronquist 1994).

***Chamaerhodos erecta* (L.) Bunge var. *parviflora* (Nutt.) C.L. Hitchc.**

“little ground-rose”

Rosaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BEA, PIU, SEV, WAY?; CO, WY ++

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(3): 100. 1961. N. Holmgren (in Cronquist et al. 1997) states that “in Utah known only from the Tushar Mts. and the Fish Lake Plateau.”

***Chamaesaracha coronopus* (Dunal) A. Gray**

“false nightshade”

Solanaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: KAN, SNJ, WSH; AZ, CO, NM +

Notes: Distribution cited by Hitchcock and Cronquist (in Cronquist et al. 1984) as including “s. Utah (Kane and San Juan cos.).”

***Chamaesyce ocellata* (Dur. & Hilg.) Millsp. var. *arenicola* (Parish) N. & P. Holmgren**

“Mojave spurge”

Euphorbiaceae

Federal Status: None

UTNHP Rank: G3G4/S2

Distribution: MIL, TOO, UTA, WSH?; AZ, ID, NV +

Status Category: *Peripheral*

Notes: Acc. Flowers (1944), *C. covillei* occurs “[i]n dry crevices or on soil under rocks. Abundant in southern Utah in Washington and Kane Counties.” The same author cited the following collections: Kane Co., near Kanab, *Flowers 3108, 3110* (UT); Washington Co., various locations, *Flowers 3107, 3109, 3111, 3112* (UT); *Cottam 3893, 8773, 4103* (UT); collector not specified (UTC 17233). Reported by Warrick (1987) as infrequent at the southern base of the Pine Valley Mtns. (Navajo Sandstone ledges along Leeds Creek). The species otherwise ranges from Arizona and southern Nevada to southern Calif. and Baja Calif. (Cronquist et al. 1972, Windham and Rabe in Morin 1993).

***Cheilanthes gracillima* D.C. Eaton**

“lace fern”

Pteridaceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: CAC, WSH?; ID, NV +

Notes: *C. gracillima* is known in Utah by a single collection from Cache Co., Bear River Range, cliffs above Tony Grove Lake (*Flowers 3243*, UT), cited by Flowers (1944). Questionable Washington County record as mapped in Albee et al. (1988). The overall distribution is from southern British Columbia and Alberta to southern Calif., mainly along the Cascade-Sierran axis but extending to northeastern Oregon, central and northern Idaho, and northwestern Montana; also disjunct in the Grand Gulch district, Lincoln Co., Nevada (Cronquist et al. 1972, Windham and Rabe in Morin 1993).

***Cheilanthes parryi* (D.C. Eaton) Domin**

“Parry’s lip-fern”

Pteridaceae

Federal Status: None

UTNHP Rank: G4?/S2?

Distribution: KAN, WSH; AZ, NV +

Notes: Type from Washington Co., St. George (*Parry 263*; holotype? US, isotypes BRY, ISC). Flowers (1944) cited the following Utah collections: Kane Co., west of Kanab, *Flowers 3192* (UT); Washington Co., various locations, *Flowers 3193, 3194* (UT), *Cottam 8447, 10047* (UT); collector not specified (BRY 1140, 4235), collector not specified (UTC 35515, 49045). Reported by Warrick (1987) as rare in the Pine Valley Mtns. (one collection from basalt ledges near Twin Peak). The species otherwise ranges from Arizona and southern Nevada to southern Calif. and northwestern México in Baja Calif. and Sonora (Cronquist et al. 1972, Windham and Rabe in Morin 1993). Acc. Windham and Rabe (in Morin 1993), “[m]any authors assign *Cheilanthes parryi* to *Notholaena*, but it is distantly related (at best) to the type species of that genus.”

***Cheilanthes wootonii* Maxon**

“Wooton’s lip-fern”

Pteridaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, CO, NM, NV +

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *C. wootonii* is known in Utah by a single collection from Washington Co. (*Thorne & Franklin 5766*, BRY).

Status Category: *Peripheral*

Chenopodium graveolens Willd. var. neomexicanum (Aellen) Aellen

“New Mexico goosefoot” Chenopodiaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: WAY; AZ, CO?, NM +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). The Wayne Co. record is based on two specimens at BRY [cite!]. Kearney and Peebles (1951) cited *C. graveolens* as a synonym of *C. incisum* Poir., but the name *C. incisum* var. *neomexicanum* Aellen was later replaced by *C. graveolens* var. *neomexicanum* (Wahl 1954, Howell and McClintock 1960).

Chilopsis linearis (Cav.) Sweet ssp. arcuata (Fosb.) Henrickson

“desert-willow” Bignoniaceae

Federal Status: None **UTNHP Rank:** G5T5/S3?

Distribution: WSH; AZ, NM +

Notes: For current treatment see *Aliso* 11: 194. 1985. Fragrant-fl'd. large shrub or small tree, known in Utah from sandy washes in Washington Co. (Albee et al. 1988, Higgins in Welsh et al. 1993). *Ssp. arcuata* otherwise ranges from southeastern Calif. and southern Nevada to New Mexico and northern México (N. Holmgren in Cronquist et al. 1984, Heckard in Hickman 1993). Monotypic genus.

Chimaphila menziesii (R. Brown ex D. Don) Sprengel

“pipsissewa” Pyrolaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: IRO, WSH; ID, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *C. menziesii* in Utah is known only from Zion Canyon (Washington Co.) and Camp Creek Canyon (Iron Co.). Uncommon in northwestern Nevada (Kartesz 1987). *C. menziesii* otherwise ranges in montane coniferous forests from British Columbia to Montana and southern Calif. (Haber in Hickman 1993); the Utah plants are remarkably disjunct from the main distribution of the species. Treated by some authors in the family Ericaceae.

Chloracantha spinosa (Benth.) Nesom

“buena mujer” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: GAR, GRA, KAN, SNJ, WAY; AZ, NM, NV +

Notes: For current treatment see *Phytologia* 70: 378. 1991. Treated in *AUF2* (Welsh et al. 1993) as *Aster spinosus* Benth. Cronquist (1994) cited the distribution of *Chloracantha spinosa* as including “s. Utah (as far n. as Washington, Wayne, and Grand cos.), Okla., and La.” Rare in southern Nevada acc. Kartesz (1987).

***Chorizanthe rigida* (Torrey) Torrey & Gray**

“rigid spine-flower” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV +

Notes: Common in desert and eastern Sierra Nevada regions of Calif. acc. Hickman (1993), “to sw UT, w AZ, nw Mex.”

***Chrysothamnus nauseosus* (Pallas) Britton var. *bigelovii* (A. Gray) H.M. Hall**

“Bigelow’s rabbit-brush” Asteraceae

Federal Status: None **UTNHP Rank:** G5TU/S2

Distribution: EME, GAR, SNJ; AZ, CO, NM +

Notes: For alternative treatment as *Ericameria nauseosa* var. *b.* (A. Gray) Nesom & Baird, see Phytologia 75: 85. 1993. Cronquist (1994) cited the distribution of var. *bigelovii* as “mainly to the south of [the Intermountain region], in Ariz. and N.M., but extending north to s. Colo. and to San Juan Co., Utah; sandy soil.”

***Chrysothamnus nauseosus* (Pallas) Britton var. *mohavensis* (E. Greene) H.M. Hall**

“Mojave rabbit-brush” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?Q/S1?

Distribution: WSH?; AZ?, NV +

Notes: For alternative treatment as *Ericameria nauseosa* var. *m.* (E. Greene) Nesom & Baird, see Phytologia 75: 87. 1993. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Cronquist (1994) cited the distribution as “Mojavean, bordering [the Intermountain region] at the sw., and barely entering sw. Utah.” Ssp. *mohavensis* infrequent in the extreme southern portion of Nevada acc. Kartesz (1987), in Nye, Lincoln and Clark cos.

***Chrysothamnus paniculatus* (A. Gray) H.M. Hall**

“resin-dotted rabbitbrush” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: WSH; AZ, NV +

Notes: For recent treatment in the genus *Ericameria*, see Nesom and Baird (1993). Acc. *AUF2* (Welsh et al. 1993), *C. paniculatus* is known in Utah from the vicinity of the Beaver Dam Slope and Beaver Dam Wash, Washington Co. Reported by Warrick (1987) as uncommon in creosote bush scrub at the southern base of the Pine Valley Mtns. (Red Cliffs, *Warrick 1828*, BRY). The species otherwise ranges across the deserts of northwestern Arizona and southern Nevada to southern Calif. (Anderson in Hickman 1993, Cronquist 1994).

***Chrysothamnus pulchellus* (A. Gray) E. Greene var. *baileyi* (Wooton & Standley) S.F. Blake**

“Bailey’s rabbit-brush” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?/S2?

Distribution: EME, WAY, SNJ; AZ, CO, NM +

Status Category: *Peripheral*

Notes: For alternative treatment as *Ericameria pulchella* ssp. *b.* (Wooton & Standley) L.C. Anderson, see Great Basin Nat. 55: 86. 1995. Cronquist (1994) cited the distribution of *C. pulchellus* as “sw. Kansas to n. Nuevo Leon, w. to N.M., s. Colo., and the Canyonlands of Utah.”

***Cirsium centaureae* (Rydb.) K. Schumann**

“fringe-bracted thistle” Asteraceae

Federal Status: None **UTNHP Rank:** G5?/S1

Distribution: SNJ; CO, WY

Notes: Cronquist (1994) cited the distribution as “s. Rocky Mts. of Colo. and s. Wyo.; entering [the Intermountain region] in the Abajo Mts. of Utah.”

***Cirsium scopulorum* (E. Greene) Cockerell ex Daniels**

“Rocky Mtn. thistle” Asteraceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: GRA, SNJ, UIN; CO, NM, WY?

Notes: In Utah restricted to the East Tavaputs Plateau and the La Sal Mtns. (Welsh et al. 1993).

***Claytonia cordifolia* S. Watson**

“heart-lvd. claytonia” Portulacaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, SAL, TOO, WEB; ID, NV? +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Montia cordifolia* (S. Watson) Pax & Hoffmann in Engler & Prantl. Hitchcock and Cronquist (1964) cited the distribution of *Montia cordifolia* (S. Watson) Pax & Hoffmann as including “n. Utah.”

***Cleomella plocasperma* S. Watson**

No common name Capparaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: BEA, IRO, MIL; ID, NV +

Notes: Common in north-central Nevada but rare in the eastern and western counties (Kartesz 1987). Vars. *mojavensis* (Payson) Crum and *stricta* Crum of uncertain taxonomic status.

***Coeloglossum viride* (L.) C.J. Hartman ssp. *bracteatum* (Muhlenb. ex Willd.) Hultén**

“satyr rein-orchid” Orchidaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: DUC, SUM; CO, NM, WY ++

Notes: For current treatment see Fl. Alaska & Yukon 3: 472. 1943. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Habenaria viridis* var. *bracteata* (Muhlenb. ex Willd.) Reichenb. ex A. Gray. Known in Utah from only Duchesne and Summit cos. (Higgins in Welsh et al. 1993). Iron Co. (?) record, reported by Higgins (in Welsh et al. 1987), is apparently in error.

Status Category: *Peripheral*

***Collomia tenella* A. Gray**

No common name

Polemoniaceae

Federal Status: None

UTNHP Rank: G4?/S2?

Distribution: BEA, CAC, DAV, JUA, MIL, PIU, SAL, SUM, WEB; ID, NV, WY +

Notes: Type from Summit Co., Parley's Park (*Watson 900*; holotype GH, isotype NY). Distribution cited by Cronquist et al. (1984) as including "the Wasatch Mts. and Utah Plateaus sections of Utah." Beaver Co. record as mapped in Albee et al. (1988). Infrequent in northeastern to north-central Nevada acc. Kartesz (1987).

***Collomia tinctoria* Kellogg**

No common name

Polemoniaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SEV; ID, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *C. tinctoria* is known in Utah by a single collection from Fish Lake, Sevier Co. (*Thorne et al. 4171*, BRY).

***Convolvulus equitans* Benth.**

No common name

Convolvulaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, CO, NM +

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *C. equitans* is known in Utah from the Beaver Dam Mtns., Washington Co.

***Conyza coulteri* A. Gray**

"Coulter's horseweed"

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, CO, NM, NV +

Notes: In Utah, known from Beaver Dam Wash, Washington Co. (Welsh et al. 1993). In Colorado acc. Weber and Wittmann (1996a) "Infrequent in the foothills on the Eastern Slope, not yet seen but to be expected on the Western Slope, in pine forests."

***Crassula aquatica* (L.) Schönl.**

"water pygmy-weed"

Crassulaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DAG, UIN; CO, ID?, NV, WY ++

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Tillaea a. L.* The distribution was cited by N. Holmgren (in Cronquist et al. 1997) as including "n. Utah (Daggett and Uintah cos.)" Infrequent in northern Nevada acc. Kartesz (1987). In Colorado acc. Weber and Wittmann (1992). "One very old record, from Lake Co.: Twin Lakes (Rydberg, 1906)."

Status Category: *Peripheral*

***Crataegus erythropoda* Ashe**

“Rocky Mtn. hawthorn” Rosaceae

Federal Status: None **UTNHP Rank:** G5Q/S1

Distribution: SNJ; AZ, CO, NM, WY

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). In Utah occurs on La Sal Creek, La Sal Mtns., San Juan Co. (fide N. Holmgren, NY). Dorn (1988, p. ____) treated *C. erythropoda* as a synonym of *C. douglasii* var. *rivularis* (Nutt.) Sargent.

Crepis runcinata* (E. James) Torrey & Gray var. *runcinata

“meadow hawk’s-beard” Asteraceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: SAL, UTA; CO, ID, NM, NV?, WY +

Notes: For alternative treatment as *Psilochenia r.* (E.James) Á & D. Löve, see Taxon 31: 360. 1982. Var. *runcinata* “evidently uncommon in Utah” acc. Welsh et al. (1993). Cronquist (1994) cited the distribution of var. *runcinata* as including “Utah (Uinta and Wasatch mts. and Utah Plateaus).”

***Croton californicus* Muell.-Arg.**

No common name Euphorbiaceae

Federal Status: None **UTNHP Rank:** G3G4/S2

Distribution: IRO, WSH; AZ, NV +

Notes: Cronquist et al. (1997) cited the distribution as including “sw. Utah (Washington and Iron cos.)” Rare in southern Nevada acc. Kartesz (1987).

***Croton setigerus* Hook.**

“turkey-mullein” Euphorbiaceae

Federal Status: None **UTNHP Rank:** G5/S1S2

Distribution: WSH; AZ, NV, ID +

Notes: Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as *Eremocarpus s.* (Hook.) Benth. Densely gray-hairy annual, in Utah known only from Washington Co. (Higgins and Welsh in Welsh et al. 1993, Cronquist et al. 1997). The first Utah collection was made in the Beaver Dam Mtns., near the Arizona border along U.S. Hwy. 91 [road to Littlefield, Arizona], sandy soil, associated with *Hymenoclea*, *Franseria*, and *Larrea* (Higgins 1809, BRY; cited by Higgins 1972). The species otherwise ranges from “s. Wash. to n. Baja Calif., e. to n. and w. Idaho, nw. Nev., ... and nw. Ariz.” (Cronquist et al. 1997).

Croton texensis* (Klotzsch) Muell.-Arg. var. *texensis

No common name Euphorbiaceae

Federal Status: None **UTNHP Rank:** G5T5/S2S3

Distribution: SNJ; AZ, CO, NM, WY +

Notes: Acc. Cronquist (1992), most of the Utah plants belong to var. *utahensis* Cronquist. The distribution of var. *texensis* ... [TO BE ADDED].

Status Category: *Peripheral*

Notes: Annual, the overall distribution cited by Cronquist et al. (1984) as “s. Calif., e. across s. Nev. to w. Ariz. and extreme sw. Utah (Washington Co.)” Reported by Warrick (1987) as infrequent in creosote bush communities at the southern base of the Pine Valley Mtns. (southwest of Leeds, *Atwood 4758*, BRY).

***Cryptantha dumetorum* (E. Greene ex A. Gray) E. Greene**

“Katherine’s cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: WSH; AZ?, NV +

Notes: Desert annual, known in Utah only from Washington Co. (Cronquist et al. 1984, Higgins in Welsh et al. 1993), the first state record based on a collection from “black stationary sand dunes just southwest of Ivins Reservoir” (*Higgins 4130*; BRY, WTS), cited by Higgins (1972). The species otherwise ranges across southern Nevada (Nye and Clark cos.) to the Mojave and northern Sonoran deserts of Calif. (Kartesz 1987, Kelley and Wilken in Hickman 1993). Possibly also in Mohave Co., northwestern Arizona (Kearney and Peebles 1951).

***Cryptantha inaequata* I.M. Johnston**

“Panamint Mtns. cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: KAN, SNJ, WSH; AZ, NV +

Notes: In Utah known from only Kane, San Juan, and Washington cos. (Higgins in Welsh et al. 1993). Cited by Kartesz (1987) as occasional to rare in southern Nevada. Cronquist et al. (1984) and Kelley and Wilken (in Hickman 1993) treated *C. inaequata* as a synonym of *C. angustifolia* (Torrey) E. Greene. Higgins (in Welsh et al. 1993) replies: “I find no basis on which to combine them.”

***Cryptantha nevadensis* Nelson & Kennedy**

“Nevada cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: KAN, SNJ, WSH; AZ, NM, NV +

Notes: Annual, the overall distribution cited by Cronquist et al. (1984) as “commonly in the *Larrea* zone ... ; s. Calif. and n. Baja Calif., to Ariz., s. Nev. (and sometimes n. as far as Reno and to Churchill and Pershing cos.), and s. Utah (as far e. as San Juan Co.)” New Mexico record acc. Spellenberg et al. (1993), cited in Roalson et al. (no date).

***Cryptantha pterocarya* (Torrey) E. Greene var. *cycloptera* (E. Greene) J.F. Macbr.**

“wing-nut cryptantha” Boraginaceae

Federal Status: None **UTNHP Rank:** G5?T?/S2

Distribution: GAR?, KAN, SNJ, WSH; AZ, NM, NV +

Notes: Cronquist et al. (1984) describe the distribution of var. *cycloptera* as including “s. Utah (Kane and Garfield [?] cos.)”

Status Category: *Peripheral*

***Cryptantha racemosa* (S. Watson ex A. Gray) E. Greene**

“bushy annual cryptantha”

Boraginaceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: WSH; AZ, NV +

Notes: In Utah known only from Washington Co. (Higgins in Welsh et al. 1993).

***Cryptantha scoparia* A. Nelson**

“Minidoka cryptantha”

Boraginaceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: BOX, TOO, WEB; CO, ID, NV, WY +

Notes: Cronquist et al. (1984) cited the distribution as including “Box Elder Co., Utah ...”

***Cryptantha spiculifera* (Piper) Payson**

“Snake River Plains cryptantha”

Boraginaceae

Federal Status: None

UTNHP Rank: G4?/S1

Distribution: BOX; ID, NV, WY +

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *C. spiculifera* is known in Utah by a single collection from Box Elder Co. (*Holmgren & Holmgren 10331*, BRY).

***Cryptantha utahensis* (A. Gray) E. Greene**

“scented cryptantha”

Boraginaceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: KAN, WSH; AZ, NV +

Notes: Type from Washington Co., St. George (*Palmer 352*; holotype GH?, isotype NY). Cronquist et al. (1984) cited the distribution as including “Washington Co., Utah”

***Cryptogramma stelleri* (S. Gmelin) Prantl**

“fragile rock-brake”

Pteridaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: UTA; CO, NM?, NV, WY ++

Notes: Acc. Flowers (1944), *C. stelleri* is found “[i]n limestone crevices or in calcium bearing rocks, usually in moist shady places. Known in Utah only from Mt. Timpanogos,” Utah Co. The same author cited the following collections: *Flowers 3092* (UT); *Cottam 3813* (UT); *Garrett 5662* (UT?); collector not specified (BRY 15161).

***Cucurbita foetidissima* Kunth**

“calabazilla”

Cucurbitaceae

Federal Status: None

UTNHP Rank: G5/S3?

Distribution: IRO?, (KAN), SNJ, WSH; AZ, CO, NM, NV +

Notes: Known historically from Glen Canyon astride the Kane - San Juan county line, but thought not to have survived the filling of Lake Powell but persisting in the Needles section of Canyonlands

Status Category: *Peripheral*

Nat'l. Park, above The Jump in Salt Cyn. and common in Washington Co. and less so in other parts of Utah (Higgins in Welsh et al. 1993).

Cuscuta applanata Engelm.

No common name Cuscutaceae
Federal Status: None **UTNHP Rank:** G4/S1
Distribution: WSH; AZ, NM +

Notes: For alternative treatment as *Grammica a.* (Engelm.) Hadač & Chrtek, see Folia Geobot. Phytotax. 5: 444. 1970. Known in Utah from a single Washington Co. collection (Baird in Welsh et al. 1993).

Cuscuta cuspidata Engelm.

“midwestern dodder” Cuscutaceae
Federal Status: None **UTNHP Rank:** G5/S1
Distribution: SAL, UTA, WEB; CO, NM ++

Notes: For alternative treatment as *Grammica c.* (Engelm.) W.A. Weber, see Southwest. Nat. 18: 319. 1973. Reveal and Cronquist (in Cronquist et al. 1984) cited the distribution as including “Utah (‘Ogden Hot Springs,’ gathered in 1893).”

Cuscuta glabrior (Engelm.) Yuncker

No common name Cuscutaceae
Federal Status: None **UTNHP Rank:** G5/S1
Distribution: UIN; NM +

Notes: Known in Utah from near Ouray, Uintah Co. (Baird in Welsh et al. 1993).

Cuscuta megalocarpa Rydb.

“large-fruited dodder” Cuscutaceae
Federal Status: None **UTNHP Rank:** G5/S1
Distribution: CAC, SAL, UTA; CO, ID?, NM, WY +

Notes: Reveal and Cronquist (in Cronquist et al. 1984) cited the distribution as including “the Wasatch region of Utah.”

Cusickiella douglasii (A. Gray) Rollins

“Douglas’ draba” Brassicaceae
Federal Status: None **UTNHP Rank:** G4G5/S1
Distribution: BOX; ID, NV +

Notes: For current treatment in the ditypic genus *Cusickiella*, see J. Jap. Bot. 63: 95. 1988. Treated in *AUF2* (Welsh et al. 1993) as *Draba d.* A. Gray. Acc. *AUF2* (Welsh et al. 1993), this species is known in Utah by a single collection (*Goodrich and Atwood 17127*, BRY) from the Grouse Creek Mtns., Box Elder Co. Infrequent to rare in Nevada acc. Kartesz (1987).

Status Category: *Peripheral*

Cymopterus acaulis* (Pursh) Raf. var. *acaulis

“plains spring-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G5T?/S2?

Distribution: DAG, DUC, UIN; CO, ID, WY ++

Notes: In Utah known only from Daggett County and the Uinta Basin (Goodrich in Welsh et al. 1993).

***Cymopterus globosus* (S. Watson) S. Watson**

“golfball spring-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G3G4/S1S2

Distribution: BOX, JUA, MIL, TOO; NV +

Notes: Cronquist et al. (1997) cited the distribution as including “sw. Box Elder, Juab, and Tooele cos., Utah, and the vicinity of Hinckley, in Millard Co.”

***Cymopterus multinervatus* (Coulter & Rose) Tidestrom**

“purple-nerved spring-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G5?/S2

Distribution: KAN, WSH; AZ, CO, NM, NV +

Notes: Cronquist et al. (1997) cited the distribution as including “s. Utah (notably Kane and Washington cos.)” Cited by Kartesz (1987) as rare in Nevada. Cited by Constance (in Hickman 1993) as uncommon in the Mojave Desert portion of California.

***Cyperus rivularis* Kunth**

“shining annual nut-sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: UTA; CO, ID, WY ++

Notes: In Utah known only from a wet meadow near Utah Lake, Utah Co. (Goodrich in Welsh et al. 1993). Weber and Wittmann (1996b) comment: “Rare on gravel bars on streams on the piedmont valleys and plains.”

***Cyperus strigosus* L.**

“straw-colored nut-sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ?, ID, NV ++

Notes: In Utah known only from Beaver Dam Wash, Washington Co. (Goodrich in Welsh et al. 1993). Rare in Nevada acc. Kartesz (1987).

***Cypripedium calceolus* L. var. *pubescens* (Willd.) Correll**

“yellow fld. lady’s-slipper” Orchidaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, (GRA), SAL, (SUM), (UTA), (WEB); AZ, ID, CO, NM, WY ++

Status Category: *Peripheral*

Notes: In Utah, this orchid is still extant in the Cache Valley near Logan and was recently rediscovered along the Wasatch Front in Red Butte Canyon, Salt Lake Co. (Wallentine 1997). *C. calceolus* has also been found along river bottoms west of Provo, Utah Co. (A. Holmgren in Cronquist et al. 1977), but this population along with those based on historical records from Grand Summit, and Weber cos. (Higgins in Welsh et al. 1993) are now presumed to be extirpated. Acc. Luer (1975), “[i]n North America the most common variety is var. *pubescens*, ... which is distributed across the continent. It is common in the East, but rare in the mountains in the West.” A. Holmgren (in Cronquist et al. 1977) treated the Utah plants as belonging to var. *parviflorum* (Salisb.) Fern., *Rhodora* 48: 4. 1946 [= ssp. *parviflorum* (Salisb.) Hultén, *Ark. Bot.* II, 7(1): 34. 1968], but Luer (1975) regarded the range of that small-flowered variety as probably limited to the northeastern U.S. and adjacent Canada. Weber and Wittmann (1996a) placed the genus *Cypripedium* in the segregate family Cyripediaceae, noting that it has fundamental morphological differences when compared with the true orchids.

Cystopteris bulbifera (L.) Bernh.

“bulblet bladder-fern”

Dryopteridaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SAL, SNJ, WSH; AZ, NM ++

Notes: Acc. Flowers (1944), *C. bulbifera* is “[u]ncommon in Utah.” The same author cited the following collections: Salt Lake Co., Brighton (*Flowers 3040*, UT), Little Cottonwood Canyon (*Flowers 3041*, UT); San Juan Co., Elk Mtn. (*Garrett 9343*, UT?); Washington Co., Zion Natl. Park (*Woodbury s.n.* in year?, UT). Cronquist et al. (1972) cited the distribution as including “s. Utah (Elk Ridge, in San Juan Co.; Zion National Park).”

Cystopteris reevesiana Lellinger

“southwestern brittle-fern”

Dryopteridaceae

Federal Status: None

UTNHP Rank: G4?/S1

Distribution: KAN?, SNJ?, WSH?; AZ, CO, NM +

Notes: For original description see *Amer. Fern J.* 71: 92. 1981. Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). Reported by Dr. Michael Windham (1992, pers. comm.) as definitely occurring in Zion National Park (Kane or Washington co.?) and likely in southeastern Utah near Blanding (San Juan Co.).

Cystopteris tenuis (Michaux) Desvaux

“Mackay’s brittle-fern”

Dryopteridaceae

Federal Status: None

UTNHP Rank: G4G5/SR

Distribution: ?; AZ, NV ++

Notes: For recent taxonomic treatment see Moran (1983). Treated in *AUF2* (Higgins in Welsh et al. 1993) as a synonym of *C. fragilis* (L.) Bernh. Haufler et al. (in Morin 1993) include Utah within the distribution.

Status Category: *Peripheral*

Dalea lanata Sprengel var. terminalis (M.E. Jones) Barneby

“woolly spike-clover” Fabaceae

Federal Status: None **UTNHP Rank:** G5S3

Distribution: KAN, SNJ, WSH; AZ, CO, NM, NV +

Notes: For current treatment see Mem. New York Bot. Gard. 27: 283. 1977. Distribution cited by Barneby (1989) as including “the Four Corners into the Canyonlands of San Juan and Kane cos., Utah”

Delphinium geyeri E. Greene

“Geyer’s larkspur” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: DAG, SUM, UIN; CO, WY +

Notes: Harrington (1964) cited the distribution as “Open plains and slopes often among bushes. Wyoming south to Nebraska and Utah.” Treated by Weber and Wittmann (1992) in the family Helleboraceae.

Delphinium parishii A. Gray ssp. parishii

“desert larkspur” Ranunculaceae

Federal Status: None **UTNHP Rank:** G4T3T4/S?

Distribution: WSH?, ?; AZ, NV +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993), although *D. amabile* Tidestrom was listed as a synonym of *D. andersonii* var. *scaposum* (E. Greene) Welsh. Warnock (in Morin 1997) treated *D. amabile* as a synonym of *D. parishii* ssp. *p.* Warnock (in Morin 1997) cited the distribution of ssp. *parishii* as “Desert scrub and juniper woods; 200-3900 m; Ariz., Calif., Nev., Utah; Mexico (Baja California, Sonora).”

Descurainia pinnata (Walter) Britton var. glabra (Wooton & Standley) Shinn.

“desert tansy-mustard” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T5/S?

Distribution: WSH; AZ, NM, NV +

Notes: For current treatment see Field & Lab. 17: 145. 1949. Treated by Rollins (1993) as ssp. *glabra* (Wooton & Standley) Detling. Rollins (1993) cited the distribution as including Utah.

Dicoria canescens A. Gray ssp. canescens

“Gray’s sandplant” Asteraceae

Federal Status: None **UTNHP Rank:** G3G4/S1S2

Distribution: WSH; AZ, NV +

Notes: An annual of dunes and sandy soils, in Utah restricted to Washington Co. (Welsh et al. 1993, Cronquist 1994) with known localities at Snow Canyon (*Stone 1882*, UT) and north of Leeds where “[l]ocally common on small sand dunes” (*Warrick 3218*, BRY; cited by Warrick 1987). Ssp.

Status Category: *Peripheral*

canescens otherwise ranges across the deserts of western Arizona and southern Nevada to southern Calif. and northwestern México (Payne in Hickman 1993, Cronquist 1994).

***Dodecatheon redolens* (H.M. Hall) H.J. Thompson**

“odorous shooting-star” Primulaceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: JUA; NV +

Notes: For current treatment see Contr. Dudley Herb. 4: 143. 1953. In Utah restricted to the Deep Creek Mtns., Juab Co. (Welsh et al. 1993). Infrequent throughout Nevada acc. Kartesz (1987).

***Downingia laeta* (E. Greene) E. Greene**

“Great Basin downingia” Campanulaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: CAC, DAV, RIC, SAL, UTA; ID, NV, WY +

Notes: P. Holmgren (in Cronquist et al. 1984) cited the distribution as including “n. and c. Utah.”

***Draba crassa* Rydb.**

“thick-lvd. draba” Brassicaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: DUC, SUM; CO, WY +

Notes: In Utah restricted to the Uinta Mtns. (Welsh et al. 1993).

***Draba cuneifolia* Nutt. ex Torrey & Gray var. *integrifolia* S. Watson**

“desert annual draba” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: WSH; AZ, NV +

Notes: For recent taxonomic treatment see Hartman et al. (1975). Washington Co. record as cited in *AUF2* (Welsh et al. 1993) under *D. cuneifolia* var. *platycarpa* (Torrey & Gray) S. Watson.

***Draba densifolia* Nutt. ex Torrey & Gray**

“tufted draba” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S1S2

Distribution: JUA, SAL, UTA; ID, NV, WY +

Notes: In Utah restricted to the central Wasatch and Deep Creek ranges of Salt Lake, Utah, and Juab counties; no specimens seen from the Uinta Mtns. (Stone 1995a). The Daggett, Duchesne, Summit, and Uintah county reports in *AUF2* (Welsh et al. 1993) are considered to be in error, based on misidentified specimens of *D. globosa* Payson.

Status Category: *Peripheral*

***Draba incerta* Payson**

“Yellowstone draba” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, CAC; CO, ID, WY +

Notes: In Utah restricted to the Raft River and northern Wasatch mtns. (Welsh et al. 1993).

***Dudleya pulverulenta* (Nutt. in Torrey & Gray) Britton & Rose var. *arizonica* (Rose) Welsh**

“Arizona live-forever” Crassulaceae

Federal Status: None **UTNHP Rank:** G3T?/S1

Distribution: WSH; AZ, NV +

Notes: For current treatment see Great Basin Nat. Mem. 9: 242. 1987. For alternative treatment as ssp. *arizonica* (Rose) Moran, see Desert Pl. Life 15: 72. 1943. In Utah known only from the Beaver Dam Mtns., Washington Co. (Welsh et al. 1993). Uncommon in southern Nevada acc. Kartesz (1987).

***Echinocereus triglochidiatus* Engelm. var. *mojavensis* (Engelm. & Bigelow) L. Benson**

“claret-cup cactus” Cactaceae

Federal Status: None **UTNHP Rank:** G5T4/S1

Distribution: BEA, MIL, WSH; AZ?, NV +

Notes: For current treatment see Proc. Calif. Acad. Sci. IV, 25: 255. 1944. Benson (1982) cited the distribution as including “... Utah in Washington Co....”

***Echinodorus berteroi* (Sprengel) Fassett**

“bur-head” Alismataceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: MIL, UIN; AZ, NM?, NV ++

Notes: For current treatment see Rhodora 57: 139. 1955. These are the plants that were treated in AUF2 (Atwood in Welsh et al. 1993) as *E. rostratus* (Nutt.) Engelm. ex A. Gray. Acc. Rogers (1983), *E. rostratus* is a synonym of *E. berteroi*. The Uintah Co. record of this aquatic annual is evidently based on a few collections from wet bottomlands along the Green River near Ouray (Reveal in Cronquist et al. 1977, Goodrich and Neese 1986). The Millard Co. record may be from Clear Lake Waterfowl Management Area (see distribution map in Albee et al. 1988). Expected in New Mexico acc. Martin and Hutchins (1980; cf. Roalson and Allred, no date, 1995a,b). Rare in Nevada (Kartesz 1987). The overall distribution was cited by Rogers (1983) as “along the southern edge of the United States from mid-California to Georgia, and southward to southern Mexico; in much of the drainage of the Mississippi River ...; and throughout the West Indies.... A disjunct variety (var. *patagonicus* Rataj) grows only in Argentina.”

Status Category: *Peripheral*

***Elaeagnus commutata* Bernh. ex Rydb.**

“silver-berry” Elaeagnaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAG, SUM; CO, ID, WY ++

Notes: Acc. Goodrich and Neese (1986), “[e]ntering [the Uinta Basin] from Wyoming, the few records seen ... from Sheep Creek, Daggett Co.” In eastern slope Colorado flora acc. Weber and Wittmann (1996b). “Scattered in small colonies”

***Elatine californica* A. Gray**

“California waterwort” Elatinaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC; ID?, NV +

Notes: This mat-forming annual is known in Utah by a single collection (*Neese 12386*, BRY; cited in Welsh et al. 1993) from mud flats of Dry Lake, Cache Co. (Albee et al. 1988). *E. californica* is otherwise widespread but not often collected in the Pacific states from California to Washington, eastward to Montana (Mason 1957, Hitchcock and Cronquist 1961, Tucker in Hickman 1993); apparently not yet documented in Idaho. Rare in northwestern Nevada (Kartesz 1987).

***Eleocharis bella* (Piper) Svenson**

“tiny annual spike-rush” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, ID, NM?, NV +

Notes: Acc. *AUF2* (Goodrich in Welsh et al. 1993), *E. bella* is known in Utah by a single collection from south of Enterprise, Washington Co. (*Atwood & Higgins 5901*, BRY). Svenson (1957) cited the overall distribution as “[c]hiefly in river alluvium; Washington, Idaho, and Montana, south to northern Mexico (Chihuahua, *Mueller*).” Also reported from north-central U.S. (Cranfill in Hickman 1993). Questionable New Mexico record as reported by Kearney and Peebles (1951), Cronquist et al. (1977); cf. Martin and Hutchins (1980), Roalson and Allred (no date; 1995a,b).

***Elodea longivaginata* H. St. John**

“Rocky Mtn. water-weed” Hydrocharitaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WAS; CO, ID?, NM, NV, WY +

Notes: For original description see Res. Stud. State Coll. Wash. 30(2): 38. 1962. A submerged aquatic inhabiting freshwater ponds, lakes, and slow-moving streams, known in Utah by a single collection from Wasatch Co., drift at southern end of Strawberry Reservoir (*Hotchkiss 4933*, US), cited by St. John (1962, 1965). *E. longivaginata* otherwise ranges through the Rocky Mtn. region from Alberta, Montana, and North Dakota southward to Wyoming, Colorado, and New Mexico (St. John 1962, 1965). Nevada record as reported by Reveal (in Cronquist et al. 1977). Evidently not yet known from Idaho but perhaps to be expected in that state.

Status Category: *Peripheral*

***Emmenanthe penduliflora* Benth.**

“whispering-bells”

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Notes: Cronquist et al. (1984) cited the distribution as including “... Washington Co., Utah.” Monotypic genus.

***Encelia farinosa* A. Gray**

“inciense”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Notes: Known in Utah from a single Washington Co. collection (Welsh et al. 1993). Apparently disputed by Cronquist (1994) who cited the distribution as including “... s. Nev. (where bordering but apparently not entering [the Intermountain region]), and near Toroweap, at the lower end of the Grand Canyon in the Arizona Strip.” Clark (in Hickman 1993), however, cited the distribution as including southwest Utah.

***Ephedra fasciculata* A. Nelson**

“Mojave joint-fir”

Ephedraceae

Federal Status: None

UTNHP Rank: G3G4/S2

Distribution: WSH; AZ, NV +

Notes: A low or prostrate, apparently leafless shrub of dry, rocky slopes and washes, known in Utah from Washington Co., specifically from the vicinity of Beaver Dam Wash and the western slope of the Beaver Dam Mtns. (Albee et al. 1988) and the southern base of the Pine Valley Mtns. where reportedly frequent in the Red Cliffs area (Warrick 1987). The species otherwise ranges from northwestern Arizona to southern Nevada and southeastern Calif. (A. and N. Holmgren in Cronquist et al. 1972, Stevenson in Morin 1993).

***Epilobium anagallidifolium* Lam.**

“alpine willow-herb”

Onagraceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: BOX, DUC, JUA, SUM, UTA; CO, ID, NM, NV, WY ++

Notes: These are the plants that were treated in *AUF2* (Welsh et al. 1993) as *E. alpinum* L. var. *a*. A formal proposal to reject the name *E. alpinum* has been made (see Hoch et al. 1995). Cronquist et al. (1997) cited the distribution of *E. alpinum* as “[w]et places at upper elev. in the mts., often above timberline, frequently on talus, (2200) 2500-3700 m; circumboreal, s. in Amer. to Calif., n. Nev., Utah (Uinta, La Sal, Wasatch, and Pine Valley mts.; Wasatch Plateau), Colo., and N.Y.” Uncommon in Nevada (Kartesz 1987).

***Epilobium densiflorum* (Lindley) Hoch & Raven**

“dense-fl. spike-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, WEB; ID, NV +

Notes: For current treatment see *Phytologia* 73: 457. 1992 [1993]. Treated in *AUF2* (Welsh et al. 1993) as *Boisduvalia densiflora* (Lindley) S. Watson. Cronquist et al. (1997) cited the distribution as including “Cache and Weber cos., Utah.”

***Epilobium glaberrimum* Barbey var. *fastigiatum* (Nutt. in Torrey & Gray) Jepson**

“Nuttall’s willow-herb” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: SAL?, ?; NV, ID, WY +

Notes: For alternative treatment as ssp. *fastigiatum* (Nutt.) Hoch & Raven, see *Ann. Missouri Bot. Gard.* 71: 342. 1984 [1985]. Cronquist et al. (1997) cited the distribution as including “Utah (Wasatch Mts. and n. Utah Plateaus).” Albee et al. (1988) cited the distribution as including “Wasatch Range, Salt Lake Co.”

Epilobium glaberrimum* Barbey var. *glaberrimum

“smooth willow-herb” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: WSH; ID, NV +

Notes: Cronquist et al. (1997) cited the range as including “sw. Utah.” *AUF2* (Welsh et al. 1993) referred the Washington Co. plants to var. *fastigiatum* (Nutt.) Trel. which appears to be in error. Cronquist et al. (1997) have referred the Washington Co. plants to var. *glaberrimum* and cited the range of var. *fastigiatum* in Utah as encompassing the “Wasatch Mts. and n. Utah Plateaus.”

***Epilobium palustre* L.**

“marsh willow-herb” Onagraceae

Federal Status: None **UTNHP Rank:** G5/SP

Distribution: DUC, UIN; CO, ID, NV, WY ++

Notes: A circumboreal species, known in Utah from Duchesne and Uintah cos. (Cronquist et al. 1997). Occasional to rare in Nevada, known from the Ruby Mts. at Ruby Lake, Elko Co. (Kartesz 1987). *E. palustre* var. *grammadophyllum* Hausskn. in eastern slope Colorado flora acc. Weber and Wittmann (1996b) is “[i]nfrequent, montane meadows.”

***Epilobium pygmaeum* (Speg.) Hoch & Raven**

“smooth spike-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, SAL, UIN, UTA; ID, NV, WY +

Notes: For current treatment see *Phytologia* 73: 458. 1992 [1993]. Treated in *AUF2* (Welsh et al. 1993) as *Boisduvalia glabella* (Nutt.) Walp. Cronquist et al. (1997) cited the distribution as

Status Category: *Peripheral*

including “n. Utah (Cache, Salt Lake, Uintah, and Utah cos.)” Infrequent in Nevada acc. Kartesz (1987).

***Equisetum variegatum* Schleicher ex F. Weber & D. Mohr**

“northern scouring-rush” Equisetaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BEA?, GAR?, GRA?, IRO, KAN?, SAL?, WSH?; CO, ID, WY ++

Notes: *AUF2* (Higgins in Welsh et al. 1993) treated *E. variegatum* (at least as it has been applied to Utah plants) as a synonym of *E. laevigatum* A. Braun. Flowers (1944) reported *E. variegatum* as “[r]are in Utah” and cited the following collections: Iron Co., meadows at Cedar Breaks (collector not specified, UTC 20213), 15 miles east of Cedar City (collector not specified, UTC 40669), 1 mile east of Cedar Breaks Lodge (collector not specified, UTC 40670). Questionable Beaver, Garfield, Kane, and Salt Lake county records as reported in *AUF1* (Higgins in Welsh et al. 1987, not 1993). Questionable Grand and Washington county records as mapped by Albee et al. (1988). Cronquist et al. (1972) cited the distribution as including “Utah (Cedar Breaks)”

***Eremalche exilis* (A. Gray) E. Greene**

“white-fld. desert-mallow” Malvaceae

Federal Status: None **UTNHP Rank:** G5/S1S2

Distribution: WSH; AZ, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Malvastrum exile* A. Gray. In their distribution, Kearney and Peebles (1951) include southwestern Utah.

***Eriastrum eremicum* (Jepson) H. Mason**

“desert woolly-star” Polemoniaceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: WSH; AZ, NV +

Notes: For current treatment see Madroño 8: 78. 1945. Distribution cited in Cronquist et al. (1984) as including “Washington Co., Utah.”

***Ericameria laricifolia* (A. Gray) Shinn.**

“larch-lvd. goldenbush” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NM, NV +

Notes: For current treatment see Field & Lab. 18. 27. 1950. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus laricifolius* A. Gray. The overall distribution was cited by Cronquist (1994) as “s. Calif. to w. Texas and adj. Mex., n. to Washington Co., Utah.” Reported by Warrick (1987) as uncommon at the southern base of the Pine Valley Mtns., on slickrock latite east of The Cove (*Warrick 2558*, BRY). Rare in Nevada (Kartesz 1987).

Status Category: *Peripheral*

***Ericameria watsonii* (A. Gray) Nesom**

“Watson’s goldenbush” Asteraceae

Federal Status: None **UTNHP Rank:** G3G4/S3

Distribution: BEA, MIL; AZ, NV

Notes: For current treatment see *Phytologia* 68: 152. 1990. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus w.* A. Gray var. *w.* Distribution cited by Cronquist (1994) as including “w. Beaver and Millard cos., and in the Canyon Mts. of ne. Millard County [Utah].”

***Erigeron bloomeri* A. Gray**

“Bloomer’s rayless daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: BOX; ID, NV +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Cronquist (1994) cited the distribution as including “Utah in nw. Box Elder Co. ...”

***Erigeron canus* A. Gray**

“hoary daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G4/S2?

Distribution: GAR, IRO, KAN; AZ, CO, NM, WY +

Notes: In Utah, this perennial herb is known from several localities on the southern High Plateaus of Garfield, Iron, and Kane cos., where it is evidently restricted to outcrops of Claron Formation limestone (Welsh et al. 1993, Cronquist 1994). The species otherwise ranges from “s.w. S.D. and s. Nebr. to Okla. and n. N.M., w. irregularly to se. Wyo., sw. Colo., s. Utah, and n. Ariz.” (Cronquist 1994).

***Erigeron corymbosus* Nutt.**

“foothill daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: RIC; ID, WY +

Notes: Cronquist (1994) cited the distribution as including Rich Co., Utah.

***Erigeron coulteri* T.C. Porter**

“Coulter’s daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: SAL, SUM, UTA; CO, ID, NM, NV, WY? +

Notes: Cronquist (1994) cited the distribution as including “in Utah apparently only in the Wasatch Mts.” Acc. Welsh et al. (1993) in Utah restricted to the w. Uinta and Wasatch mtns. Infrequent in northwestern Nevada acc. Kartesz (1987).

Status Category: *Peripheral*

***Erigeron elatior* (A. Gray) E. Greene**

“tall daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: GRA, SNJ; CO, NM, WY

Notes: In Utah restricted to the La Sal and Abajo mtns. (Welsh et al. 1993).

***Erigeron filifolius* Nutt.**

“thread-lvd. daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, DAG?; ID, NV +

Notes: Known in Utah by a single collection from Logan, Cache Co. (*C.P. Smith 1737*, RM), cited by Cronquist (1947). Questionable Daggett Co. record as reported in *AUF2* (Welsh et al. 1993). Acc. Goodrich and Neese (1986, p. 56), the Daggett Co. record is apparently based on a collection (*Cottam 14552*, BRY) which they reported as probably belonging to *E. nematophyllus* Rydb. Elsewhere the species ranges through sagebrush country in valleys and foothills from southern British Columbia and western Montana to east-central Calif. and Humboldt Co., Nevada; reported as very abundant in eastern Washington and common in eastern Oregon and the Snake River Plains of Idaho (Cronquist 1947, 1994).

***Erigeron humilis* Graham**

“tundra daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: BEA?, GRA, PIU?, SNJ; CO, ID, WY ++

Notes: In Utah cited by Welsh et al. (1993) as “in the La Sal Mts. (Grand and San Juan counties) and reported for the Tushar Mts. (Piute or Beaver counties).” In western slope Colorado flora acc. Weber and Wittmann (1996a) is “[e]xtremely rare, mossy tundra on high peaks, [Gunnison and Pitkin cos.]”

***Erigeron linearis* (Hook.) Piper**

“yellow-rayed daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BOX; ID, NV, WY +

Notes: Cronquist (1994) cited the distribution as including “nw. Utah (Box Elder Co.)”

***Erigeron melanocephalus* (A. Nelson) A. Nelson**

“dark-headed daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: GRA, SNJ; CO, NM, WY

Notes: In Utah restricted to the La Sal Mtns. (Welsh et al. 1993).

Status Category: *Peripheral*

***Erigeron pumilus* Nutt. var. *gracilior* Cronquist**

“slender daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: CAC, DAV, SAL, SUM; ID, NV, WY +

Notes: For original description see Brittonia 6: 180. 1947. Treated in *AUF2* (Welsh et al. 1993) as a synonym of the more wide-ranging var. *intermedius* auth. [= var. *euintermidius* Cronquist]. Cronquist (1994) cited the distribution as including “northernmost Utah”

***Eriogonum baileyi* S. Watson**

“Bailey’s buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BEA; ID, NV +

Notes: Reveal (1985a) cited the distribution as including Utah.

***Eriogonum brachypodium* Torrey & Gray**

“Parry’s buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: WSH; AZ, NV +

Notes: Distribution cited by Reveal (1969) as including “sw. Utah”

***Eriogonum cernuum* Nutt. var. *viminale* (Stokes) Reveal**

“nodding buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5T?/S2?

Distribution: BEA, MIL, PIU; NV +

Notes: For current treatment see Suppl. Calif. Fl. 52. 1968. Reveal (1989a) cited the range as including “western Utah”

***Eriogonum davidsonii* E. Greene**

“Davidson’s buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: IRO, KAN, WSH; AZ, NV +

Notes: In the Utah portion of the range, Reveal (1973) cited the distribution as “[r]are on sandy soil in s. Utah, Washington and Kane cos.”

***Eriogonum esmeraldense* S. Watson**

“Esmeralda buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: SEV; NV +

Notes: In Utah known only from the Tushar Mountains, Sevier Co. (Welsh et al. 1993).

Status Category: *Peripheral*

***Eriogonum fasciculatum* Benth. var. *polifolium* (Benth.) Torrey & Gray**

“California buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G3T?/S3

Distribution: EME?, WSH; AZ, NV +

Notes: In Utah known only from Washington Co. [ref.]. *AUF2* (Welsh et al. 1993) cited a collection from Emery Co. (*Cottam 5224a*, BRY) but considered that it might be mislabeled.

***Eriogonum nidularium* Cov.**

“bird’s-nest buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH, ?; AZ, NV, ID +

Notes: Reveal (1973) cited the distribution as including “the deserts of w. Utah”

***Eriogonum ovalifolium* Nutt. var. *nivale* (Canby) M.E. Jones**

“alpine buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5T?/S1S2

Distribution: BOX, JUA?, TOO?; ID, NV +

Notes: *AUF2* (Welsh et al. 1993) did not recognize varieties under *E. ovalifolium*. These are the plants that were treated by Reveal (1969) as *E. o. var. depressum* Blankenship. Reveal (1973) made no mention of var. *depressum* in Utah and instead cited the distribution of var. *nivale* as “[h]igh mts. of w. and nw. Utah (Deep Creek and Raft River ranges) mostly above 8500 feet elevation; w. Utah w. to Sierra Nevada of Calif., n. through Ore. and Wash. to British Colum.” Reveal (1989a) cited the distribution as including “extreme western Utah...”

***Eriogonum polycladon* Benth.**

“leafy-stemmed annual buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: KAN, WSH?; AZ, NM +

Notes: Reveal (1973) cited the distribution as including “Washington [?] and Kane cos. ... known from only three sites in the southern part of the state.”

***Eriogonum pusillum* Torrey & Gray**

“puny buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: WSH; AZ, ID, NV +

Notes: Reveal (1973) cited the distribution as including Washington Co.

***Eriogonum thomasii* Torrey**

“Thomas’ buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: WSH; AZ, NV +

Status Category: *Peripheral*

Notes: Kearney and Peebles (1951) and Reveal (1973) include southwestern Utah in their distributions.

***Eriogonum trichopes* Torrey**

“little desert-trumpet” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: WSH; AZ, NM, NV +

Notes: Reveal (1989a) includes southwestern Utah within the distribution.

***Eriogonum wrightii* Torrey ex Benth.**

“Wright’s buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NM, NV +

Notes: In Utah restricted to the upper Beaver Dam and Manganese washes, Washington Co. (Welsh et al. 1993).

***Eriophorum altaicum* Meinsh. var. *neogaeum* Raymond**

“Alaska cotton-sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: DUC, SUM, UIN; CO, WY +

Notes: For original description see Contr. Inst. Bot. Univ. Montréal 70: 103. 1957. These are the plants that have been treated as *E. scheuchzeri* Hoppe (see Cronquist et al. 1977, Goodrich in Welsh et al. 1993). In Utah known only from the Uinta Mtns. (Goodrich in Welsh et al. 1993).

***Eriophorum angustifolium* Honck.**

“tall cotton-sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1S2

Distribution: DAG, DUC, UIN; CO, ID, NM, WY ++

Notes: Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *E. polystachion* L. Acc. Weber and Wittmann (1992), “Hylander (1945) shows that [*E. polystachion* L.] is a nomen ambiguum and should be rejected.” For alternative treatment as *Scirpus angustifolius* (Honck.) T. Koyama, see J. Fac. Sci. Univ. Tokyo, Sect. 3, Bot. 7: 356. 1958. In Utah known only from the Uinta Mtns.

***Eriophyllum lanatum* (Pursh) J. Forbes var. *integrifolium* (Hook.) Smiley**

“perennial woolly-daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: BOX, CAC; ID, NV, WY +

Notes: Cronquist (1994) cited the distribution as including “Utah in Box Elder and Cache cos.”

Status Category: *Peripheral*

***Eriophyllum lanosum* (A. Gray) A. Gray**

“Bigelow’s woolly-daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: WSH; AZ, NM, NV +

Notes: Desert annual, the overall distribution cited by Cronquist (1994) as “sw. Utah (Washington Co.) and s. Nev. to Ariz., sw. N.M., s. Calif., and n. Baja Calif.”

***Erodium texanum* A. Gray**

“Texas filaree” Geraniaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: GAR?, SNJ?, WSH; AZ, NM, NV +

Notes: N. Holmgren (in Cronquist et al. 1997) cited the distribution as including “sw. and sc. (near Hite) Utah” Cottam et al. (1940) cited a locality from “[v]icinity of St. George, Washington Co.” (based on specimens at BRY, UT). Rare to occasional in southern Nevada acc. Kartesz (1987).

***Eschscholzia californica* Cham. ssp. *mexicana* (E. Greene) C. Clark**

“California poppy” Papaveraceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: WSH; AZ, NM, NV +

Notes: For current treatment see Syst. Bot. 3: 382. 1978. Treated in *AUF2* (Welsh et al. 1993) as *E. mexicana* E. Greene. Acc. *AUF2*, this taxon is uncommon in Washington Co., where it is restricted to the southern end of the Beaver Dam Mtns. Clark (1978) cited the overall distribution as “Sonoran Desert, ranging from extreme eastern California east to the Organ Mts. of New Mexico and the Franklin Mts. of western Texas, north into southwestern Utah and south into northern Sonora and northwestern Chihuahua.”

***Eschscholzia glyptosperma* E. Greene**

“Mojave poppy” Papaveraceae

Federal Status: None **UTNHP Rank:** G4G5/S2S3

Distribution: IRO, WSH; AZ, NV +

Notes: Welsh et al. (1993) cited the distribution as including Iron and Washington cos., Utah.

***Eschscholzia minutiflora* S. Watson**

“pygmy poppy” Papaveraceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: MIL, WSH; AZ, NV +

Notes: Type of *E. ludens* E. Greene from St. George, Washington.

Status Category: *Peripheral*

Escobaria vivipara* (Nutt.) F. Buxb. var. *vivipara

“plains beehive-cactus” Cactaceae

Federal Status: None **UTNHP Rank:** G5T4/S1

Distribution: CAR, DUC, UIN?; CO, ID, NM, WY +

Notes: For current treatment see Österr. Bot. Zeitschr. 98: 78. 1951. Treated in *AUF2* (Welsh et al. 1993) as *Coryphantha* v. (Nutt.) Britton & Rose var. v. Benson (1982) cited the following Utah collections: Carbon Co., 10 miles south of Price (*Jones 5098s*, US); Duchesne Co., Theodore [Duchesne], benches of the Uinta Mtns., elev. 8000 ft. (*Jones s.n.* in 1908, POM). Questionable Uintah Co. record as reported in *AUF2* (in key on p. 94).

***Eucnide urens* (Parry ex A. Gray) Parry**

“desert rock-nettle” Loasaceae

Federal Status: None **UTNHP Rank:** G4\S1

Distribution: WSH; AZ, NV +

Notes: Type from Washington Co., near St. George (Abrams 1951, Thorne and Welsh in Welsh et al. 1993). Kearney and Peebles (1951) cited distribution as “Southern Utah and Nevada to western Arizona and southeastern California.”

***Eucrypta micrantha* (Torrey) Heller**

No common name Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5?/S3

Distribution: JUA, KAN, WSH; AZ, NM, NV +

Notes: In Utah occurs in “the valley of the Virgin River in Utah; extending n. irregularly ... to the Deep Creek Mts. in Juab Co.” (Cronquist et al. 1984). Ditypic genus.

***Euphorbia exstipulata* Engelm.**

No common name Euphorbiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BEA; AZ, CO?, NM, WY +

Notes: New Utah state record based on 1994 collections (*Franklin 7892 & 7906*; NY, UT) from the western base of the Wah Wah Mtns., Beaver Co. (see also Franklin 1996c). The identification of these specimens was confirmed by Dr. Noel Holmgren (NY). Otherwise, the overall distribution is reported as “c. and e. Ariz., N.M., w. Texas, and n. Mex.; disjunct stations near Hartville (type of *E. aliceae* A. Nelson) in Platte Co., Wyo., [and] on Clark Mt. in San Bernardino Co., Calif.” (Cronquist et al. 1997).

***Fagonia laevis* Standley**

No common name Zygophyllaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WSH; AZ, NV +

Status Category: *Peripheral*

Notes: Known in Utah only from a single collection at the U.S. Natl. Herbarium (Welsh et al. 1993). Acc. Cronquist et al. (1997), “We here somewhat reluctantly follow D.M. Porter in recognizing *F. laevis* as specifically distinct from *F. californica* Benth., of Baja California, and *F. chilensis* Hook. & Arn. These and several other taxa mainly of Chile and Baja California are all very much alike, and a critical reconsideration of the whole complex is in order.”

***Fendlera rupicola* Engelm. & Gray in A. Gray**

“cliff Fendler-bush” Philadelphaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: GRA, SNJ, WAY; AZ, CO, NM +

Notes: In “se. Utah” acc. N. and P. Holmgren (in Cronquist et al. 1997). Treated by N. and P. Holmgren (in Cronquist et al. 1997) in the family Hydrangeaceae.

***Ferocactus cylindraceus* (Engelm.) Orcutt var. *lecontei* (Engelm.) H. Brav.-Holl.**

“barrel cactus” Cactaceae

Federal Status: None **UTNHP Rank:** G5T4?/S1

Distribution: WSH; AZ, NV +

Notes: For current treatment see Cact. Succ. Mex. 25: 65. 1980. Treated in *AUF2* (Welsh et al. 1993) as *F. acanthodes* (Lem.) Britton & Rose [a rejected name acc. Anderson (in Hickman 1993)]. Benson (1982) cited the distribution of *F. acanthodes* var. *lecontei* (Engelm.) Lindsay in Utah as “Washington Co. S and W of St. George.”

***Festuca ovina* L. var. *arizonica* (Vasey) Hackel ex Beal**

“Arizona fescue” Poaceae

Federal Status: None **UTNHP Rank:** G5T4Q/S1

Distribution: SNJ; AZ, CO, NM, NV +

Notes: Reported from Navajo Mtn., San Juan Co., the authority not cited (Arnou in Welsh et al. 1993). A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution of *F. arizonica* Vasey as including “s. Utah (Navajo Mt.)”

***Filago californica* Nutt.**

“fluffweed” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NM, NV? +

Notes: White-woolly annual, the overall distribution cited by Cronquist (1994) as “cismontane Calif. to n. Baja calif., e. to w. Texas and adj. Mex., n. in [the Intermountain region] to Mono Co., Calif. and to Washington Co., Utah.” Reported by Warrick (1987) as very rare at the southern base of the Pine Valley Mtns., known there by a collection from Danish Ranch (*Atwood 4866*, BRY).

Status Category: *Peripheral*

Flaveria campestris J.R. Johnston

No common name Asteraceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: JUA, GRA, SNJ, TOO; AZ, CO, NM +

Notes: Cronquist (1994) cited the Utah distribution as “isolated stations in Grand, San Juan, and Tooele cos.” *Flaveria trinervia* (Spreng.) C. Mohr. reported from Arizona by Kearney and Peebles (1951) with the note: “probably not indigenous in the United States.” Possibly these plants are actually misidentified specimens of *F. campestris*; both *F. campestris* and *F. trinervia* occur in New Mexico acc. Roalson and Allred (no date).

Fraxinus velutina Torrey

“velvet ash” Oleaceae

Federal Status: None **UTNHP Rank:** G4/S3

Distribution: IRO, KAN, WSH; AZ, NM, NV +

Notes: For alternative treatment as *F. pennsylvanica* ssp. *v.* (Torrey in Emory) G. Miller, see Cornell Univ. Agric. Exp. Sta. Mem. 335: 40. 1955. N. Holmgren (in Cronquist et al. 1984) cited the distribution as including “sw. Utah.”

Gaillardia aristata Pursh

“blanket-flower” Asteraceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: DAG, DUC, UIN; CO, ID, WY +

Notes: Cronquist (1994) cited the distribution as including “the Uinta Basin in Utah.”

Gaillardia arizonica A. Gray

“Arizona blanket-flower” Asteraceae

Federal Status: None **UTNHP Rank:** G4?/S1

Distribution: WSH; AZ, NV +

Notes: Cronquist (1994) cited the distribution as including “the w. slope of the Beaver Dam Mts. in Washington Co., Utah”; reported by Biddulph from Wayne Co., Utah, based on Maguire & Maguire 18153, said to be at US.

Galium mexicanum Kunth var. asperulum (A. Gray) Dempster

“rough-stemmed bed-straw” Rubiaceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: CAC, MOR, SAL, TOO?; ID, NV +

Notes: For current treatment see Brittonia 10: 187. 1958. For alternative treatment as ssp. *asperulum* (A. Gray) Dempster, see Madroño 23: 384. 1976. Dempster (in Hickman 1993) cited the distribution of var. *asperulum* as including Utah.

Status Category: *Peripheral*

***Galium proliferum* A. Gray**

“desert annual bed-straw”

Rubiaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: KAN, WSH; AZ, NM, NV +

Notes: Cronquist et al. (1984) cited the distribution as including sw. Utah (Washington Co.). Kearney and Peebles (1951) also include “southern Utah” in its distribution.

***Galium stellatum* Kellogg var. *eremicum* Hilend & Howell**

“desert bed-straw”

Rubiaceae

Federal Status: None

UTNHP Rank: G4T?/S2

Distribution: WSH; AZ, NM?, NV +

Notes: For alternative treatment as ssp. *eremicum* (Hilend & Howell) Ehrend., see Contr. Dudley Herb. 5: 7. 1956. Ehrendorfer (1956) cited the distribution of ssp. *eremicum* as including “south[western] Utah (Washington County).” Dempster and Ehrendorfer (1965) cited the distribution of *G. stellatum* (sensu lato) as including “southwestern Utah (Washington Co.)” Cronquist et al. (1984) cited the distribution of *G. stellatum* (sensu lato) as including “sw. Utah (Washington Co.)” Acc. Dempster and Ehrendorfer (1965), “[I]ittle detailed work has been done on *Galium stellatum* to date, and it has therefore been treated here as an undifferentiated species. Var. *eremicum* probably is a valid infraspecific entity, but a careful study is yet to be made of the species throughout its entire range.”

***Galium wrightii* A. Gray**

“southwestern bed-straw”

Rubiaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: WSH; AZ, NM, NV +

Notes: In Utah restricted to Washington Co. (Higgins and Welsh in Welsh et al. 1993), Zion National Park.

***Garrya flavescens* S. Watson**

“yellow-lvd. silk-tassel”

Garryaceae

Federal Status: None

UTNHP Rank: G3G4/S1

Distribution: WSH; AZ, NM?, NV +

Notes: Type from southern Utah (*Palmer s.n.* in 1870?; holotype GH), cited by Cronquist et al. (1997). This evergreen, sclerophyllous shrub is known in Utah only from Washington Co. (Higgins in Welsh et al. 1993, Cronquist et al. 1997). Dahling (1978) earlier cited collections from the Pine Valley and Beaver Dam mtns. and from Zion Canyon. Outside the state, the species ranges from western Arizona to southern Nevada, southern Calif., and northern Baja Calif. (Dahling 1978, Daniel in Hickman 1993, Cronquist et al. 1997). Questionable New Mexico record as reported by Roalson and Allred (no date).

Status Category: *Peripheral*

Gayophytum diffusum* Torrey & Gray ssp. *diffusum

No common name

Onagraceae

Federal Status: None

UTNHP Rank: G5T5/SR

Distribution: BOX?, CAC, DAV?, DUC?, EME?, GRA?, JUA, MOR?, SAL?, SNP?, SUM, UTA, WAS?, WSH?; ID, NV, WY +

Notes: Acc. several authors (Lewis and Szweykowski 1964, Welsh et al. 1993, Cronquist et al. 1997), most of the Utah plants belong to ssp. *parviflorum* Lewis & Szweykowski [= *G. lasiospermum* E. Greene, *G. diffusum* var. *strictipes* (Hook.) Dorn, Vasc. Pls. Wyoming 298. 1988]. The distribution of ssp. *diffusum* was cited by Lewis and Szweykowski (1964) as including “Utah (Cache, Juab, Summit, and Utah cos.)” Cronquist et al. (1997) cited the distribution of *G. diffusum* var. *diffusum* as including “n. Utah (as far s. as Juab Co.)” Questionable Box Elder, Davis, Duchesne, Emery, Grand, Morgan, Salt Lake, Sanpete, Wasatch, and Washington county records as mapped in Albee et al. (1988).

***Gayophytum humile* A.L. Juss.**

No common name

Onagraceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: CAC, WAS; ID, NV, WY ++

Notes: Mapped by Albee et al. (1988) as occurring in Cache and Wasatch cos., Utah. Cronquist et al. (1997) cited the distribution as including “Utah (Wasatch and possibly Cache cos.); ... rare [in the Intermountain region].”

***Geraea canescens* Torrey & Gray**

“desert-sunflower”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Notes: Beaver Dam Wash, Washington Co. (Welsh et al. 1987, not 1993). Cronquist (1994) cited the distribution as including “Washington Co., Utah.” Ditypic genus.

***Geranium bicknellii* Britton**

“Bicknell’s crane’s-bill”

Geraniaceae

Federal Status: None

UTNHP Rank: G5/S1S2

Distribution: CAC, DAG, SAL, UIN, UTA; CO, ID, WY ++

Notes: Hitchcock and Cronquist (1961) cited the distribution as including Utah. N. Holmgren (in Cronquist et al. 1997) cited the distribution as “Often in disturbed places; ... in [the Intermountain region] in se. Idaho and n. Utah.”

***Geum aleppicum* Jacq.**

“Syrian avens”

Rosaceae

Federal Status: None

UTNHP Rank: G5/S1S2

Distribution: CAR, GAR, GRA, SAL, SNJ, SUM, UTA, WAS; AZ, CO, ID, NM, WY ++

Status Category: *Peripheral*

Notes: Hitchcock and Cronquist (1961) comment: “Our plant ... is often recognized at either the specific or infraspecific level (var. *strictum* Fern.). However, the alleged difference is not readily apparent, if actual.” Acc. Welsh et al. (1993), *G. aleppicum* “is infrequently collected [in Utah], possibly due to its similarity with [*Geum macrophyllum* Willd.]” N. Holmgren (in Cronquist et al. 1997) cited the distribution as including Utah (scattered localities). N. Holmgren (in Cronquist et al. 1997) treated both *G. strictum* Aiton and *G. decurrens* Rydb. as synonyms of *G. aleppicum*, without comment.

***Gilia capillaris* Kellogg**

“meadow gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G4/SR

Distribution: CAC?; ID, NV +

Notes: Cronquist et al. (1984) in their discussion of the distribution note “disjunct in the foothills of the Bear River Range in se. Idaho and n. Utah.”

***Gilia filiformis* Parry ex A. Gray**

“yellow-fl. gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Notes: Type from Washington Co., near St. George (*Parry 187*; holotype GH, isotypes BRY, ISC, NY). Cronquist et al. (1984) cited the distribution as including “sw. Utah (Washington Co.), only barely entering [the Intermountain region], as in ... the valley of the Virgin River in Utah.”

Gilia latifolia* S. Watson var. *latifolia

“broad-ld. gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G4T3/S1

Distribution: WSH; AZ, NV +

Notes: Type from Washington Co., valley of the Virgin River near St. George (*Parry 188*; holotype GH, isotypes BRY, CAS, ISC, NY, US). Although the type of *G. latifolia* was apparently taken from near St. George, the species has been collected again in Utah only rarely. [NOTE: the pls. from southeastern Utah, including Kane and Wayne cos., have been recently segregated as var. *imperialis* Welsh.]

***Gilia scopulorum* M.E. Jones**

“rock-dwelling gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G3/S1S2

Distribution: WSH; AZ, NV +

Notes: Type from Washington Co., St. George (*Jones 1659*; holotype POM, isotypes NY, US, UTC). Cronquist et al. (1984) cited the distribution as “reaching the fringe of [the Intermountain region] in s. Nev., and entering Washington Co., Utah, in the vicinity of the Virgin River.”

Status Category: *Peripheral*

***Gilia stellata* Heller**

“star gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G4/S2

Distribution: WSH; AZ, NM, NV +

Notes: Cronquist et al. (1984) cited the distribution as “reaching the fringe of [the Intermountain region] in s. Nev., and entering Utah in the valley of the Virgin River in Washington Co.”

***Gilia tenerrima* A. Gray**

“delicate gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BEA, CAC, EME, JUA, MIL, SAL, SEV, SUM; ID, NV, WY +

Notes: Type from Summit Co., upper Bear River valley (*Watson 922*; holotype GH, isotype NY). Restricted to the central highlands from south-central to northern Utah (Welsh et al. 1993). Cronquist et al. (1984) cited the distribution as including “Beaver, Emery, Salt Lake, and Sevier cos. in Utah.” Millard Co. record acc. Albee et al. (1988).

***Gilia transmontana* (Mason & A. Grant) A. & V. Grant**

“”

Polemoniaceae

Federal Status: None

UTNHP Rank: G5Q/S?

Distribution: WSH, ?; AZ, NV +

Notes: For original description see Madroño 9: 215. 1948. For current treatment see *Aliso* 3: 266. 1956. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *G. inconspicua* (J.E. Smith) Sweet. Grant (1964) cited a single collection from Washington Co.: Beaver Dam Mtns. (*V. Grant 9972*, RSA). The overall distribution of *G. transmontana* was cited by Grant (1964) as “[d]esert mountain slopes from the Mojave Desert [of Calif.] to southwestern Utah.” Acc. Grant (1964) and Day (in Hickman 1993), *G. transmontana* and *G. inconspicua* are both tetraploids ($n = 18$). Acc. A. and V. Grant (1956) and Day (in Hickman 1993), *G. ophthalmoides* is distinguished by its subequal stamens that are slightly exserted from the corolla throat (vs. stamens unequal in *G. inconspicua*, the longest well exserted but exceeded by the corolla lobes) and by its broadly ovoid capsule (vs. oblong-ovoid in *G. inconspicua*). Information needed on distribution and status in Utah; taxonomic problem?

***Glandularia gooddingii* (Briq.) Solbrig**

“Goodding’s vervain”

Verbenaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: KAN?, WSH; AZ, NM, NV +

Notes: For current treatment see Madroño 15: 50. 1959. Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as *Verbena* g. Briq. Acc. *AUF2*, this species is known in Utah only from Washington Co. Questionable Kane Co. record as reported in Cronquist et al. (1984). Outside the state, it ranges from southeastern Calif., southern Nevada, Arizona, and southwestern New Mexico to northwestern México in Baja Calif. and Sonora (Martin and Hutchins 1981, Cronquist et al. 1984, Kartesz 1987; see also the distribution map in Umber 1979, p. 95).

Status Category: *Peripheral*

Glossopetalon spinescens A. Gray var. aridum M.E. Jones

“Nevada greasebush” Crossosomataceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: KAN?, WSH?, ?; AZ, ID, NV +

Notes: Most of the plants from western and southern Utah belong to var. *microphyllum* N. Holmgren, Brittonia 40: 272. 1988. Var. *aridum* is found in southwestern Utah and otherwise ranges through northwestern Arizona, southern and western Nevada, southern California, southwestern Idaho, eastern Oregon, and southeastern Washington (N. Holmgren 1988, N. Holmgren in Cronquist et al. 1997). Additional data needed on distribution and abundance in Utah. *AUF2* (Welsh et al. 1993) treated this taxon in the family Celastraceae as *Forsellesia nevadensis* (A. Gray) E. Greene, which was regarded as having a much wider distribution in western and southwestern Utah; apparently these authors did not recognize *G. spinescens* var. *microphyllum*.

Glyptopleura setulosa A. Gray

“large-fl. holly-dandelion” Asteraceae

Federal Status: None **UTNHP Rank:** G4/S2

Distribution: WSH; AZ, NV +

Notes: Type from Washington Co., near St. George (*Palmer 6*; holotype GH, isotypes BRY, NY, US). Cronquist (1994) cited the overall distribution as “s. Calif., e. across the Mojave Desert to sw. Utah (Washington Co.) and adj. Ariz. (n. Mohave and Coconino cos.)” Reported by Warrick (1987) as rare in creosote bush scrub at the southern base of the Pine Valley Mtns. (Harrisburg Flat, *Cottam 4637*, BRY?). Ditypic genus (Cronquist 1994; cf. Stebbins in Hickman 1993).

Gnaphalium wrightii A. Gray

“southwestern cudweed” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: GAR, KAN?, WSH; AZ, CO, NM, NV +

Notes: Acc. Cronquist (1994), *G. wrightii* is closely related to the Mexican *G. canescens* DC. and perhaps should be included in that species. For alternative treatment as *Pseudognaphalium canescens* (DC.) W.A. Weber, see Phytologia 70: 232. 1991. Cronquist (1994) cited the distribution as including “sw. Utah (Washington Co.)” Kane Co. record as mapped in Albee et al. (1988).

Guillenia lasiophylla (Hook. & Arn.) E. Greene

“California mustard” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: WSH; AZ, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Caulanthus lasiophyllus* (Hook. & Arn.) Payson var. *utahensis* (Rydb.) Payson (based on *Thelypodium utahense* Rydb., type from St. George, Washington Co.). Acc. Rollins (1993), *C. lasiophyllus* var. *utahensis* is indistinct from var. *lasiophyllus*.

Status Category: *Peripheral*

***Gymnocarpium dryopteris* (L.) Newman**

“northern oak-fern” Dryopteridaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: PIU; AZ, CO, ID, NM, WY ++

Notes: In Utah known only from the Tushar Mountains, Piute County (M. Windham 1992, pers. comm.; Higgins in Welsh et al. 1993). Acc. Pryer (in Morin 1993), “*Gymnocarpium dryopteris* is a fertile allotetraploid species that arose following hybridization between *G. appalachianum* Pryer and Haufler and *G. disjunctum* (Ruprecht) Ching. Its wide distribution over much of the north temperate zone has provided ample opportunity for secondary contact between *G. dryopteris* and each of its diploid parents, thereby resulting in a wide-ranging composite of abortive-spored triploid crosses... Sterile triploid plants are not restricted only to areas where the range of the tetraploid overlaps with that of either diploid.”

***Gymnosteris parvula* Heller**

No common name Polemoniaceae

Federal Status: None **UTNHP Rank:** G4/S1S2

Distribution: DAG, EME, SEV, UIN; CO, ID, NV, WY +

Notes: Cronquist et al. (1984) cited the distribution as including “Utah (Uinta Mts. Sect. and Sevier Co.)” Acc. *AUF2* (Welsh et al. 1993), *G. parvula* “is possibly more common than the number of plants in herbaria indicate. It is tiny and easily overlooked.” Ditypic genus.

***Halimolobos virgata* (Nutt. ex Torrey & Gray) O. Schulz**

“strictweed” Brassicaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: DAG, MIL, WAS, WEB?; CO, ID, NV, WY +

Notes: Hitchcock and Cronquist (1964) cited the distribution as including Utah. Questionable Weber Co. record as mapped in Albee et al. (1988) and reported by Welsh et al. (1993). Acc. *AUF2* (Welsh et al. 1993), “Utah material, and that from southwestern Wyoming, differs slightly from that found elsewhere and may deserve varietal recognition.”

***Hedeoma nanum* (Torrey) Briq. ssp. *californicum* W.S. Stewart**

“Mojave mock-pennyroyal” Lamiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: KAN?, WSH; AZ, NV +

Notes: *H. nanum* in Utah is known from the Beaver Dam Mtns. of Washington Co. and the Lake Powell region in Kane and San Juan cos. (Albee et al. 1988). *AUF2* (Higgins in Welsh et al. 1993) did not recognize infraspecific taxa, but on distributional grounds it is assumed here that the Washington Co. plants belong to ssp. *californicum* which is otherwise is “frequent on rocky limestone outcrops in the mountains of the Mojave Desert of California and contiguous areas of southern Nevada and northwestern Arizona” (Irving 1980). Questionable Kane Co. record based on a 1992 collection from ca. 3 miles due west of Mt. Carmel (*Welsh & Thorne 25125*, BRY). Acc.

Status Category: *Peripheral*

Kartesz (1987), “[s]ubspecies *californicum* is a relatively uniform taxon that is easily separated from the typical expression by its multistemmed, tufted habit, finely puberulent stems and microphyllous leaves.” The plants from eastern Kane and San Juan cos. probably represent ssp. *nanum*.

Hedeoma nanum* (Torrey) Briq. ssp. *nanum

“dwarf mock-pennyroyal” Lamiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: KAN, SNJ; AZ, NV, NM +

Notes: *H. nanum* in Utah is known from the Beaver Dam Mtns. of Washington Co. and the Lake Powell region in Kane and San Juan cos. (Albee et al. 1988). *AUF2* (Higgins in Welsh et al. 1993) did not recognize infraspecific taxa, but on distributional grounds it is assumed here that the plants from eastern Kane and San Juan cos. belong to ssp. *nanum* which otherwise ranges from “[s]outhern Nevada and adjacent California [?], southeast to southeastern Arizona, east to Trans-Pecos Texas and south to San Luis Potosi, Mexico” (Irving 1980). The plants from western Kane and Washington cos. probably represent ssp. *californicum* W.S. Stewart which is endemic to the eastern Mojave Desert region.

Hedysarum occidentale* E. Greene var. *occidentale

“western sweet-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: DUC?, EME?, RIC, SUM; CO, ID, WY ++

Notes: Emery Co. location for var. *occidentale*, provided by Welsh et al. (1993), may be based on misidentified specimen of var. *canone* Welsh which is itself taxonomically problematic. Barneby (1989) cited the distribution of *H. occidentale* as including Utah “s. ... from the w. end of the Uinta Mts. [var. *occidentale*] and along the e. slope of the Wasatch to Emery Co.” [var. *canone*]. Acc. Welsh (in Tuhy 1990b), the general distribution of var. *occidentale* includes Rich, Summit and northern Duchesne cos. in Utah. The specific distribution in Utah is from the head of Echo Canyon and mostly on the north slope of the Uinta Mtns., with a few populations on the south slope of the Uintas.

***Heliomeris longifolia* (Robinson & Greenman) Cockerell var. *annua* (M.E. Jones) W.F. Yates**

“southwestern goldeneye” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5T/S2?

Distribution: KAN, SNJ, WSH; AZ, NV, NM +

Notes: For current treatment see Proc. Indiana Acad. Sci. 88: 369. 1979. Treated in *AUF2* (Welsh et al. 1993) as *Viguiera l.* var. *a.* (M.E. Jones) Welsh, Great Basin Nat. Mem. 9: 238. 1987. Acc. *AUF2*, this annual is restricted in Utah to the southern tier of counties. Var. *annua* otherwise ranges from “s. Nev. (e. Nye Co.) ... to Ariz., N.M., w. Texas, and n. Mex.” (Cronquist 1994).

Status Category: *Peripheral*

***Heliotropium curassavicum* L. var. *oculatum* (Heller) I.M. Johnston ex Munz**

“desert heliotrope” Boraginaceae

Federal Status: None **UTNHP Rank:** G5T?/S3?

Distribution: KAN?, WSH; AZ, NV +

Notes: For alternative treatment as ssp. *oculatum* (Heller) Thorne, see *Aliso* 9: 191. 1979. Var. *oculatum* treated by Wilken (in Hickman 1993) as a synonym of *H. curassavicum* (sensu lato). The overall range of var. *oculatum* is from southwestern Utah to ___ Arizona, southern Nevada, southern Calif., and Baja Calif. (Kearney and Peebles 1951, Cronquist et al. 1984). Reported by Warrick (1987) as frequent in the Pine Valley Mtns. (Washington Co.), “in alkaline soils, disturbed areas, and draw down areas of reservoirs.” Questionable Kane Co. record as reported in *AUF2* (Higgins in Welsh et al. 1993).

***Hesperochiron californicus* (Benth.) S. Watson**

No common name Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G4G5/SR

Distribution: SUM?; ID, NV, WY +

Notes: Reported from Summit Co. (authority unknown, cited by Atwood in Welsh et al. 1993). Cronquist et al. (1984) cited the distribution as including “ne. Utah” and note “but only irregularly eastward to Summit Co., Utah, and Bear Lake Co., Idaho.” Ditypic genus.

***Heterotheca fulcrata* (E. Greene) Shinn. var. *amplifolia* (Rydb.) Semple**

“Boulder golden-aster” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5T?/S?

Distribution: WSH; AZ, CO, NM, WY

Notes: For current treatment see *Univ. Waterloo Biol. Ser.* 37: 74. 1996. Semple (1996) cited the distribution of var. *amplifolia* as including Utah. Utah specimens cited and mapped are all from Washington Co., specifically from the Pine Valley Mtns. and more specifically from Pine Valley.

***Heterotheca villosa* (Pursh) Shinn. var. *nana* (A. Gray) Semple**

“dwarf golden-aster” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?/S2?

Distribution: SNJ, ?; AZ, CO, NM, WY +

Notes: For current treatment see *Novon* 4: 54. 1994. Semple (1996) cited the overall distribution of var. *nana* as “[w]estern Great Plains and lower to mid elevations in the central Rocky Mountains from southeastern Wyoming to southern New Mexico and west to eastern Arizona and Utah.” The same author (p. 107) provided a distribution map that includes two locations for var. *nana* in Utah. Semple (1996) cited no representative specimens from Utah but cited the following collection as “aff. var. *nana*”: San Juan Co., south of Monticello (*Allan 216*, BRY). Additional data needed on distribution and status in Utah.

Status Category: *Peripheral*

Heterotheca villosa (Pursh) Shinn. var. pedunculata (E. Greene) Harms ex Semple

“Pagosa Springs golden-aster” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?/S?

Distribution: GRA, SNJ; AZ, CO, NM

Notes: For current treatment see Brittonia 39: 383. 1987. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Specimens of var. *pedunculata* examined and mapped by Semple (1996) from Utah.

Hieracium fendleri Schultz-Bip.

“Fendler’s hawkweed” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WSH; AZ, CO, NM +

Notes: For alternative treatment as *Chlorocrepis f.* (Schultz-Bip.) W.A. Weber, see Phytologia 51: 371. 1982. Cronquist (1994) cited the distribution as including “the s. tier of cos. in Utah.”

Houstonia rubra Cav.

No common name Rubiaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: SNJ; AZ, NM +

Notes: Cronquist et al. (1984) cited the distribution as including “San Juan Co., Utah.”

Hulsea heterochroma A. Gray

“red-rayed hulsea” Asteraceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: WSH; AZ, NV +

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *H. heterochroma* is known in Utah only from the Beaver Dam Mtns., Washington Co. The first Utah collection of this aromatic perennial was cited by Higgins (1972) as summit of Beaver Dam Mtns., ca. 3 miles southeast of television relay tower, limestone soil, pinyon-juniper community (*Higgins & Atwood 1410*, BRY). The species is otherwise known from northwestern Arizona (Cronquist 1994), southern and northwestern Nevada (Kartesz 1987), and the mtns. of southern and central Calif. (Wilken in Hickman 1993).

Hydrocotyle verticillata Thunb.

“marsh-pennywort” Apiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV, NM ++

Notes: Kearney and Peebles (1951) mention occurrence in southern Utah. Cronquist et al. (1997) cited the distribution as including Utah.

***Hydrophyllum capitatum* Douglas ex Benth. var. *alpinum* S. Watson**

“woollen-breeches” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G4?T?/S2

Distribution: BOX, JUA, TOO; ID, NV +

Notes: In Utah restricted to the Deep Creek, Goose Creek, and Raft River mtns. (Atwood in Welsh et al. 1993). Cronquist et al. (1984) cited the distribution of var. *alpinum* as “occupying the more s. and w. part of the range of the sp.” including “the mts. of w. Utah (Juab and Tooele cos.)”

Hydrophyllum fendleri* (A. Gray) Heller var. *fendleri

“Fendler’s water-leaf” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: SNJ; CO, NM, WY

Notes: In Utah restricted to the Abajo Mtns., San Juan Co. (Atwood in Welsh et al. 1993). Cronquist et al. (1984) cited the distribution as including “the Abajo Mts. of se Utah.”

Hymenoclea salsola* Torrey & Gray var. *salsola

“burro-bush” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?/S3

Distribution: WSH; AZ, NV +

Notes: Cronquist (1994) cited the distribution of *H. salsola* as including “sw. Utah (Washington Co.)” and says “Our plants ... belong to the relatively northern var. *salsola*.... K.M. Peterson and W.W. Payne tried to distinguish var. *fasciculata* (= var. *patula*), with [involucral bracts with] appressed wings, from var. *salsola*, with spreading wings. Unfortunately, their perception of a geographic segregation between these two varieties has proved illusory. Plants with spreading wings (var. *salsola* sensu stricto) occur essentially throughout the range of the supposedly more northern plants with erect wings (var. *fasciculata*).”

***Hymenoxys torreyana* (Nutt.) K.L. Parker**

“Torrey’s gold-flower” Asteraceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: DAG, RIC, UIN; CO, WY +

Notes: For current treatment see Madroño 10: 159. 1950. Acc. Goodrich and Neese (1986), “[t]he few specimens seen are from 1-4 mi. s. of Manila, Jesse Ewing Canyon, and Phil Pico Mt. in Daggett Co.[] Douglas Mt., Moffat Co.[] Colorado;] and from the E. Tavaputs Plateau, Uintah Co.” Rich Co. record based on two 1993 collections cited by Allen and Curto (1995): Bear River Range, Utah Hwy. 30 ca. 5.6 road miles south of U.S. Hwy. 89, elev. 6000 ft. (Curto & Allen 871, UTC), South Eden Canyon, ca. 5.5 miles east of East Lake Road, elev. 6500 ft. (Curto & Allen 901, UTC). The type collection of *H. depressa* (Torrey & Gray ex A. Gray) Welsh & Reveal was regarded by Cronquist (1994) as indistinguishable from *H. torreyana*; Utah plants formerly referred to *H. depressa* are now referred to two different taxa, *H. torreyana* and *H. acaulis* var. *nana* Welsh (see Welsh 1993, Welsh et al. 1993, Cronquist 1994; N. Holmgren, addendum in Cronquist 1994).

Status Category: *Peripheral*

***Hypericum anagalloides* Cham. & Schlecht.**

“tinker’s-penny” Hypericaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: DUC, SUM, WAS; AZ, ID, NV +

Notes: Treated in *AUF2* (Higgins in Welsh et al. 1993) in the family Guttiferae (an old name for Hypericaceae).

***Imperata brevifolia* Vasey**

“satin-tail” Poaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: SNJ; AZ, NM, NV +

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as including “s. Utah.” Rare, restricted and endangered or possibly extirpated from Utah (Welsh et al. 1975). “The known localities in Utah where this grass occurred have been inundated by Lake Powell.”

***Ionactis alpina* (Nutt.) E. Greene**

“Flathead aster” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1S2

Distribution: BOX; ID, NV, WY +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Aster scopulorum* A. Gray (not *A. alpinus* L.). Cronquist (1994) cited the distribution of *Aster scopulorum* A. Gray as “barely entering Utah (Box Elder Co.)”

***Ipomopsis arizonica* (E. Greene) Wherry**

“Arizona scarlet-gilia” Polemoniaceae

Federal Status: None **UTNHP Rank:** G3G4/S?

Distribution: GAR?, IRO, KAN, WSH; AZ, NM?, NV +

Notes: For current treatment see Aliso 5: 7. 1961. For alternative treatment as *I. aggregata* ssp. *arizonica* (E. Greene) V. & A. Grant, see Aliso 3: 361. 1956. Treated in *AUF2* (Welsh et al. 1993) as *Gilia aggregata* var. *arizonica* (E. Greene) Fosberg, Amer. Midl. Nat. 27: 764. 1942. Questionable Garfield Co. record as reported by Cronquist et al. (1984). Grant and Wilken (1986) cited the overall distribution as “[o]penings in pinyon-juniper woodland or similar woodland types, in desert mountains or on arid slopes of higher mountains. Eastern California and southwestern Utah and northwestern Arizona. Mostly 5,000-8,000-ft elevation, occasionally up to 10,500 ft.” Questionable New Mexico record as reported by Cronquist et al. (1984); not reported for that state by Martin and Hutchins (1980), Grant and Wilken (1986), Roalson and Allred (no date, 1995a,b). Acc. Grant and Wilken (1986), “[p]lants in California and Nevada are usually low-growing with small basal leaves, while those in Utah and Arizona are usually tall with larger leaves. We have considered recognizing these habit differences taxonomically as subspecies but refrain from doing so for the present because of exceptional tall plants in the western area and short plants in the east. The problem warrants further study.”

Status Category: *Peripheral*

***Ipomopsis congesta* (Hook.) V. Grant ssp. *palmifrons* (Brand) A. Day**

“Nevada golfball-gilia” Polemoniaceae

Federal Status: None **UTNHP Rank:** G5T?/S2?

Distribution: BEA, BOX, JUA, MIL, TOO; ID, NV +

Notes: For current treatment see Madroño 27: 112. 1980. Treated in *AUF2* (Welsh et al. 1993) as *Gilia congesta* var. *palmifrons* (Brand) Cronquist, Univ. Wash. Publ. Biol. 17(4): 105. 1959. Cronquist et al. (1984) cited the distribution of var. *palmifrons* as “extending [e.] into Utah (Box Elder Co. to Millard Co.)” Acc. Welsh et al. (1993), assignment of Utah specimens to this taxon is tentative.

***Ipomopsis depressa* (M.E. Jones ex A. Gray) V. Grant**

“Deseret gilia” Polemoniaceae

Federal Status: None **UTNHP Rank:** G5/S1S2

Distribution: BEA, JUA, MIL, TOO; NV +

Notes: For current treatment see Aliso 3: 361. 1956. Treated in *AUF2* (Welsh et al. 1993) as *Gilia depressa* M.E. Jones ex A. Gray. Type from Millard Co., near Deseret, Riverside (*Jones 1772*; holotype POM, isotypes BRY, CAS, GH?, NY, US, UTC). Cronquist et al. (1984) cited the distribution as including “Millard and Juab cos., Utah.”

Ipomopsis spicata* (Nutt.) V. Grant ssp. *spicata

“spike gilia” Polemoniaceae

Federal Status: None **UTNHP Rank:** G4?TU/S1

Distribution: DAG, MOR?, WEB?; CO, NM, WY +

Notes: For current treatment see Aliso 3: 361. 1956. Treated in *AUF2* (Welsh et al. 1993) as *Gilia spicata* Nutt. var. *spicata*. A specimen at BRY (*Shoop 43*) bears the locality data of “near Ogden, Utah.” Cronquist et al. (1984) cited the distribution of *G. spicata* as including “ne. Utah” and “entering the ne. corner of [the Intermountain region] in Daggett Co., Utah; reported also to have been collected in the Weber River valley, in Morgan or Weber Co., Utah, during the Hayden expedition in 1871, but the locality needs confirmation.... Our plants ... represent the var. *spicata*” Wilken and Hartman (1991) cited the distribution of *I. spicata* ssp. *spicata* as including “northeastern Utah.” Acc. Goodrich and Neese (1986), “The 2 records seen [for *Gilia spicata* in the Uinta Basin] are from near Manilla [sic], Daggett Co.; juniper communities; 6,200-8,900 ft.... Our plants are referable to var. *spicata*.”

***Isoëtes echinospora* Durieu**

“spiny-spored quillwort” Isoëtaceae

Federal Status: None **UTNHP Rank:** G5?/S1

Distribution: DUC, SUM; CO, ID ++

Notes: In Utah known only from the high Uinta Mtns. (M. Windham 1992, pers. comm.). Acc. Taylor et al. (in Morin 1993), “North American plants of *Isoëtes echinospora*, which bear stomata, have been called *I. muricata* Durieu or *I. echinospora* var. *braunii* (Durieu) Engelm. to distinguish

Status Category: *Peripheral*

them from European plants of *I. echinospora*, which do not have stomata.” Flowers (1944) reported *I. braunii* Durieu as growing “[s]ubmerged in mountain lakes and ponds” and cited a collection from Summit Co., Uinta Mtns., lake near head of Bear River (*Watson 1371*; MO, NY, US). Duchesne Co. record as reported in *AUF2* (Higgins in Welsh et al. 1993).

***Isoëtes howellii* Engelm.**

“Howell’s quillwort”

Isoëtaceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: WSH; ID +

Notes: In Utah acc. Windham (1993a), based on two 1993 collections from an ephemeral sandstone pool in Washington Co., east of Motoqua, east rim of Red Hollow (*Franklin 7588, 7699*; to be accessioned). Plants from Dry Lake (Cache Co.), reported in *AUF2* (Higgins in Welsh et al. 1993) as *I. howellii*, actually belong to *I. melanopoda* Gay & Durieu.

***Isoëtes melanopoda* Gay & Durieu**

“black-footed quillwort”

Isoëtaceae

Federal Status: None

UTNHP Rank: G?/S1

Distribution: CAC; ++

Notes: These are the plants that have been treated (erroneously) as *I. howellii* Engelm. by various Utah authors (Cottam et al. 1940, Flowers 1944, Cronquist et al. 1972, Higgins in Welsh et al. 1993). *I. melanopoda* in Utah is known only from the margin of Dry Lake (Cache Co.) at ca. 1735 m elev. (Windham 1993a), based on several collections (*Flowers 3000, 3001, 3010, 3012; Garrett 6298*; all at UT). Acc. Taylor et al. (in Morin 1993), the northern Utah population is disjunct from the main distribution of the species in the midwestern U.S.

***Isoëtes occidentalis* L.F. Henderson**

“western quillwort”

Isoëtaceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: ?; CO, ID, WY +

Notes: *I. occidentalis* in Utah is known only from the high Uinta Mtns. (M. Windham 1992, pers. comm.), the range otherwise extending northward to British Columbia and Alaska and thence southward in the Pacific states to California (Taylor et al. in Morin 1993). These are the plants that were treated in *AUF2* (Higgins in Welsh et al. 1993) as *I. lacustris* L. Acc. Taylor et al. (in Morin 1993), “the general aspect of *Isoëtes occidentalis* and its tough, dark green leaves suggested to early workers an affinity with *I. lacustris*,” a species of eastern North America.

***Juncus bryoides* F. Hermann**

“moss-like rush”

Juncaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: DAG, KAN, SAL, SEV, UIN, WSH; CO, ID, NV +

Status Category: *Peripheral*

Notes: For original description see Leaflet. West. Bot. 5: 117. 1948. Acc. *AUF2* (Goodrich in Welsh et al. 1993), “[t]his very small plant is easily overlooked, it is probably more widespread than the few collections indicate.”

***Juncus castaneus* J.E. Smith**

No common name

Juncaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, SNP, SUM; CO, NM, WY ++

Notes: In Utah known only from the Uinta Mtns. and the Wasatch Plateau (Goodrich in Welsh et al. 1993). Cronquist et al. (1977) cited the distribution as including “Utah (Uinta Mts.)”

Juncus ensifolius* Wikstrom var. *ensifolius

“sword-lvd. rush”

Juncaceae

Federal Status: None

UTNHP Rank: G5/S1?

Distribution: DAG, SAL, TOO, UIN; AZ, CO, ID, NV, WY +

Notes: Cronquist et al. (1977) cited the distribution of var. *ensifolius* as “occasionally found as far south, in our range, as ... Salt Lake Co., Utah.”

***Juncus filiformis* L.**

“thread-stemmed rush”

Juncaceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: DAG?, SUM, UIN, WAS; CO, ID, NM, WY ++

Notes: In Utah known only from the Uinta Mtns. (Goodrich in Welsh et al. 1993). Cronquist et al. (1977) cited the distribution as including “Utah (Uinta Mts.)” Questionable Daggett County record as mapped in Albee et al. (1988).

***Juncus regelii* Buchenau**

“Regel’s rush”

Juncaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: DUC, SAL, WAS; ID, NV, WY +

Notes: Type of *J. jonesii* Rydb. from Alta, Salt Lake Co. Cronquist et al. (1977) cited the distribution as including “Utah (Wasatch and Uinta mts.)”

***Kallstroemia parviflora* Norton**

“Texas caltrop”

Zygophyllaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH, ?; AZ, CO, NM, NV +

Notes: In Utah known by two collections: without specific locality (*Bishop s.n.* in 1874, POM; cited by Porter 1969); Washington Co., gravelly parking area near Gunlock Reservoir (*Rumely 70628*, MONTU, photograph BRY; cited by Welsh et al. 1993, Cronquist et al. 1997). *K. parviflora* otherwise occurs in “[d]isturbed areas mainly in various grassland associations from Colorado and

Status Category: *Peripheral*

Kansas south to Guanajuato, Querétaro, and Hidalgo, Mexico, and west to Arizona, occurring sparingly in the Chihuahuan Desert, extending as a weed in all directions; introduced into western and central Peru” (Porter 1969). Were it not for the existence of a historical collection, this species might best be considered adventive in Utah.

***Kobresia myosuroides* (Vill.) Faori & Paoli**

“Bellard’s slender-sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S3?

Distribution: DAG, DUC, SUM; CO, ID, NM, WY ++

Notes: Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *K. bellardii* (All.) Degl., but the correct name for this species is evidently *K. myosuroides* (see Hylander 1966). Cronquist et al. (1977) cited the distribution of *K. bellardii* as “irregularly to ... Utah (Uinta Mts.)”

***Kobresia simpliciuscula* (Wahlenb.) Mackenzie**

No common name Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAG, DUC, EME; CO, ID, WY ++

Notes: Acc. Cronquist et al. (1977), *K. simpliciuscula* is a circumboreal species that has been collected near Driggs, Idaho, and may eventually be found in the Intermountain region.

***Krameria erecta* Willd. ex Schultes & Schultes f.**

“range ratany” Krameriaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: WSH; AZ, CO?, NM, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *K. parvifolia* Benth. Cronquist et al. (1997) cited the distribution of *K. erecta* as including “sw. Utah (Washington Co.)”

***Krameria grayi* Rose & Painter**

“white ratany” Krameriaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: WSH; AZ, NM, NV +

Notes: Cronquist et al. (1997) cited the distribution as “entering [the Intermountain region] in Washington Co., Utah”

***Langloisia setosissima* (Torrey & Gray ex Torrey) E. Greene**

No common name Polemoniaceae

Federal Status: None **UTNHP Rank:** G4/S2S3

Distribution: KAN, WSH; AZ, NV +

Notes: Lectotype designated by Cronquist (in Cronquist et al. 1984), from “most westerly part of N.M., near Virgin R.” (*Frémont 414*, NY), actually referring to the Virgin River in Washington Co.,

Status Category: *Peripheral*

Utah. Cronquist et al. (1984) cited the distribution as “just reaching the fringes of [the Intermountain region], as ... in Washington and Kane cos., Utah.” Monotypic genus (see Timbrook 1986).

***Lathyrus eucosmus* Butters & St. John**

“seemly sweet-pea” Fabaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: BEA?, EME, GRA, SNJ; AZ, CO, NM +

Notes: For alternative treatment as *L. brachycalyx* ssp. *e.* (Butters & St. John) Welsh, see Proc. Utah Acad. Sci. 42: 217. 1965. For alternative treatment as *L. b.* var. *e.* (Butters & St. John) Welsh, see Great Basin Nat. 38: 316. 1978. Distribution cited by Barneby (1989) as including “se. Utah (Emery, Grand, and San Juan cos.) ...; an old record from Beaver Co., Utah (*Jones*, May 1890, NY!, perhaps mislabeled) requires confirmation.”

***Lathyrus lanzwertii* Kellogg var. *leucanthus* (Rydb.) Dorn**

“Mogollon sweet-pea” Fabaceae

Federal Status: None **UTNHP Rank:** G4G5T?/S2?

Distribution: GRA, SNJ; AZ, CO, NM, WY

Notes: For current treatment see Vasc. Pls. Wyoming 297. 1988. Barneby (1989) cited the distribution of var. *leucanthus* as including “the Abajo Mts. in Grand Co., Utah.”

***Lepidium densiflorum* Schrader var. *pubicarpum* (A. Nelson) Thell.**

“Gallatin pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T4/S1

Distribution: BOX, SAL, SNP, TOO, UTA; ID, NV, WY +

Notes: Rollins (1993) cited the range of var. *pubicarpum* as including Utah. Var. *pubicarpum* acc. Davis (1952), adapted from Hitchcock’s 1936 monograph, “south to Utah.” Hitchcock (1936) cited the distribution of var. *pubicarpum* as including “Utah, Apparently most common in Utah.”

***Lepidium dictyotum* A. Gray**

“alkali pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: SAL, WEB, WSH?; ID, NV +

Notes: Hitchcock (1936) cited the distribution as including “region of Great Salt Lake, Utah.” Washington County record as mapped in Albee et al. (1988).

***Lepidium fremontii* S. Watson**

“Fremont’s pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: WSH; AZ, NV +

Notes: Hitchcock (1936) cited the distribution as including “extreme southwestern Utah.”

Status Category: *Peripheral*

***Lepidospartum latisquamum* S. Watson**

“Nevada scale-broom” Asteraceae

Federal Status: None **UTNHP Rank:** G3G5/S1

Distribution: MIL; NV +

Notes: In Utah known only from a minor drainage near the north end of Pine Valley, Millard Co. (Welsh et al. 1993). Cronquist (1994) cited the distribution as including “a single station in Utah, where locally abundant for several km along a dry wash in Pine Valley, w. Millard Co.”

***Leptochloa mucronata* (Michaux) Kunth**

“red sprangle-top” Poaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NM ++

Notes: Treated in *AUF2* (Arnow in Welsh et al. 1993) as *L. filiformis* (Lam.) Beauv., but the correct name for this species is evidently *L. mucronata* (see Snow and Davidse 1993). Acc. Higgins (1972) and *AUF2*, this annual grass is known in Utah by a single collection from Washington Co., Beaver Dam Mtns., 1 mile west of U.S. Hwy. 91 [road to Littlefield, Arizona] along the Jackson road, wet sandy soil near a spring (*Higgins 823, BRY*). The overall distribution was cited by Snow and Davidse (1993), “widespread in the Americas, occurring from the southern third of the United States, the West Indies and throughout much of Mesoamerica and South America. [*L. mucronata*] has also been reported from the Old World, where it may only be adventive. This species is found most commonly in cultivated fields and along roadsides, and attains its most robust growth in humid climates.”

***Lesquerella fendleri* (A. Gray) S. Watson**

“Fendler’s bladderpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: SNJ; AZ, CO, NM +

Notes: Rollins and Shaw (1973) report and map the distribution of *L. fendleri* as including “se. Utah.” Rollins (1993) cited the distribution as including “southeastern Utah.”

***Lesquerella tenella* A. Nelson**

“slender bladderpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G4G5/S2?

Distribution: WSH; AZ, NV +

Notes: Rollins and Shaw (1973) cited the distribution as including “Washington Co., Utah.” Rollins (1993) cited the distribution as including “southern Utah.” Rollins (in Hickman 1993) reports that the name *L. palmeri* S. Watson has been misapplied to plants of *L. tenella*.

Status Category: *Peripheral*

***Leucocrinum montanum* Nutt. ex A. Gray**

“star-lily” Liliaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: GAR, IRO, KAN, WSH?; CO, ID, NV, NM, WY +

Notes: Reveal (in Cronquist et al. 1977) cited the distribution as “s. Utah ...; in scattered places in the northern valleys of [the Intermountain region] and in the mts. throughout most of Utah” Monotypic genus. Acc. Weber and Wittmann (1996a), “*Leucocrinum* is out of place in the Liliaceae and has been placed by Dahlgren et al. in the Funkiaceae or the Amaryllidaceae, with the further suggestion that its relationships may really be with the Hemerocallidaceae.”

***Lewisia triphylla* (S. Watson) B. Robinson**

“three-lvd. lewisia” Portulacaceae

Federal Status: None **UTNHP Rank:** G4?/S2?

Distribution: CAC, DAV, DUC, MOR, RIC, SAL, SUM; CO, ID, NV, WY +

Notes: Acc. Kartesz (1987) occurs in Utah. Acc. Higgins and Welsh (in Welsh et al. 1993), “[t]his is an obscure, poorly collected entity that should be expected beyond the range of the few specimens examined.”

***Ligusticum grayi* Coulter & Rose**

“Gray’s lovage” Apiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX; ID, NV +

Notes: In Utah known only from the Raft River Mtns., Box Elder Co. (Goodrich in Welsh et al. 1993). Cronquist et al. (1997) cited the distribution as including “the Raft River Mts. in Utah.”

***Linanthus aureus* (Nutt.) E. Greene**

“desert gold” Polemoniaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WSH; AZ, NM, NV +

Notes: Cronquist et al. (1984) cited the distribution as “entering sw. Utah in the valley of the Virgin River.”

***Linanthus bigelovii* (A. Gray) E. Greene**

“Bigelow’s linanthus” Polemoniaceae

Federal Status: None **UTNHP Rank:** G5?/S2

Distribution: KAN, WSH; AZ, NM, NV +

Notes: Cronquist et al. (1984) cited the distribution as “entering it in the valley of the Virgin River in Utah, and in s. Kane Co.”

Status Category: *Peripheral*

***Linanthus demissus* (A. Gray) E. Greene**

“desert linanthus” Polemoniaceae

Federal Status: None **UTNHP Rank:** G4/S2?

Distribution: WSH; AZ, NV +

Notes: Cronquist et al. (1984) cited the distribution as “entering [the Intermountain region] in the Virgin River Valley of sw. Utah.”

***Linanthus dichotomus* Benth.**

“evening snow” Polemoniaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: WSH; AZ, NV +

Notes: In Utah known only from Zion Canyon, Washington Co. (Welsh et al. 1993; B. Franklin 1997, pers. comm.). Otherwise widespread across the deserts of western Arizona, southern Nevada, and southern California and reported as common in cismontane California (Cronquist et al. 1984, Patterson in Hickman 1993).

***Linanthus harknessii* (Curran) E. Greene**

“Harkness’ linanthus” Polemoniaceae

Federal Status: None **UTNHP Rank:** G3G4/S1S2

Distribution: CAC, EME, MOR, RIC, SAL, SEV?, WAS; ID, NV +

Notes: Cronquist et al. (1984) cited the distribution as including “n. Utah; ... known ... at scattered stations in the Wasatch Mts. of Utah....” Sevier County record as mapped in Albee et al. (1988).

***Linum australe* Heller**

“small yellow flax” Linaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: GAR, KAN, SNJ, SEV; AZ, CO, NM, NV, WY +

Notes: For alternative treatment as *Mesynium a.* (Heller) W.A. Weber, see *Phytologia* 55: 3. 1984. Acc. Rogers (1968), *L. australe* “ranges in the foothills of the Rocky Mountains from southern Arizona and western Texas northward to southern Alberta ... primarily a plant of [ponderosa] pine woods.” Albee et al. (1988) mapped a locality for *L. australe* in Wayne Co., based on a collection from Orange Cliffs, North Point road, Glen Canyon Natl. Recreation Area (*L. & J. Shultz* 7318, UTC); this specimen has more recently been determined as *L. subteres* (Trel.) Winkler (L. Allen 1995, pers. comm.).

***Listera borealis* Morong**

“northern twayblade” Orchidaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: CAC, DUC, SAL, SNJ, SEV, SUM; CO, ID, WY ++

Notes: A. Holmgren (in Cronquist et al. 1977) cited the distribution as including Utah.

Status Category: *Peripheral*

Lobelia cardinalis L. ssp. graminea (Lam.) McVaugh

“western scarlet lobelia” Campanulaceae

Federal Status: None **UTNHP Rank:** G5T5/S2

Distribution: KAN, SNJ, WSH; AZ, CO, NM, NV +

Notes: For current treatment see Ann. Missouri Bot. Gard. 27: 347, 348. 1940. The scarlet lobelia in Utah is restricted to the southern tier of counties, where it is found in hanging gardens and similar moist habitats on the southern flank of the Pine Valley Mtns., in Zion Canyon, and in Glen Canyon near the confluence of the Colorado and San Juan rivers (Warrick 1987, Albee et al. 1988). Ssp. *graminea* is otherwise widespread in the southwestern U.S. and southward to México and Panamá (P. Holmgren in Cronquist et al. 1984).

Loeseliastrum schottii (Torrey) Timbrook

No common name Polemoniaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: WSH; AZ, NV +

Notes: For current treatment in the ditypic genus *Loeseliastrum*, see Madroño 33: 172. 1986. Treated in *AUF2* (Welsh et al. 1993) as *Langloisia s.* (Torrey) E. Greene. Cronquist et al. (1984) cited the distribution as including “the valley of the Virgin River in sw. Utah.”

Lomatium cous (S. Watson) Coulter & Rose

“cous” Apiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, WSH?; ID, NV, WY +

Notes: In Utah known only from the Grouse Creek and Raft River mtns., Box Elder Co. (Goodrich in Welsh et al. 1993). Cronquist et al. (1997) cited the distribution as including “Box Elder Co., Utah ... disjunct (?) in the mts. of Washington Co., Utah.” Acc. Davis (1952), “This plant was called Cous by the Indians and the roots were used as food.” Acc. Cronquist et al. (1997), *cous* is an [American] Indian name and is pronounced to rhyme with “mouse” or “grouse.” This author further notes that *L. cous* is “A highly variable but sharply delimited species, marked especially by the relatively large and broad bractlets of the involucrel.”

Lomatium foeniculaceum (Nutt.) Coulter & Rose var. fimbriatum (Theob.) B. Boivin

“fringe-petaled desert-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G5T4T5/S2?

Distribution: BEA, ?; NV +

Notes: For original description see Brittonia 18: 15. 1966. For current treatment see Phytologia 17: 110. 1968. Acc. Theobald (1966), ssp. *fimbriatum* is distinguished by the petals which are conspicuously pubescent along the margins. The same author cited the overall distribution as “Mono and Inyo counties, California and adjacent Nevada east to western Utah.” Utah specimen cited: Beaver Co., 61 miles north of Lund (*Harrison 10173*, BRY?). Var. *fimbriatum* is widely distributed

Status Category: *Peripheral*

in piñon-juniper woodlands of southern Nevada, with locations cited in Esmeralda, Lincoln, Mineral, Nye, and White Pine cos. (Theobald 1966, Kartesz 1987, Cronquist et al. 1997).

***Lomatium graveolens* (S. Watson) Dorn & Hartman**

var. *alpinum* (S. Watson) Dorn & Hartman

“sky-island desert-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G5?T3?/S1

Distribution: KAN?, MIL, SEV?, SNP?, WSH?, ?; NV

Notes: For current treatment see Madroño 35: 71. 1988. Cronquist et al. (1997) cited the distribution of var. *alpinum* as including “sw. Utah (Kane and Washington cos.), n. sparingly in the Utah Plateaus to Millard, Sevier, and Sanpete cos., where fully intergradient with var. *graveolens*.”

Lomatium nevadense* (S. Watson) Coulter & Rose var. *nevadense

“Nevada spring-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: GAR, SNJ, ?; AZ, ID, NM, NV +

Notes: *AUF2* (Goodrich in Welsh et al. 1993) tentatively referred all of the Utah specimens to var. *parishii* (Coulter & Rose) Jepson. Cronquist et al. (1997) noted that var. *nevadense* occurs “virtually throughout the range of the species, except in Utah (though present in the Henry Mts.) and s. Nev., where largely replaced by the var. *parishii*.” Neese (1981) also reported var. *nevadense* from the Henry Mtns. and observed that it is uncommon there in ponderosa pine and montane sagebrush communities. Collections cited (all at BRY): McClellan Spring (*Neese 1741B, 1983 & 5129*), Wickiup Ridge (*Neese 5972*), Pennellen Pass (*Welsh & Moore 11747*). San Juan Co. record based on a collection from Navajo Mtn. (*Albee 4463, UT*), cited in *AUF2* (Goodrich in Welsh et al. 1993) which noted that the specimen “has uniformly small leaf segments and glabrous fruits.”

***Lomatium nudicaule* (Pursh) Coulter & Rose**

“Columbia desert-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, JUA, TOO, WEB?; ID, NV +

Notes: In Utah known only from the Deep Creek Mtns. and western Box Elder Co. (Goodrich in Welsh et al. 1993). Cronquist et al. (1997) cited the distribution as including “n. and wc. Utah (Box Elder, Juab, Tooele, and Weber cos.)” Acc. Cronquist et al. (1997), “Our most distinctive species of the genus. M. Lewis and W. Clark noted that ‘the natives eat the tops and boil it sometimes with their soup.’ “

***Lomatium ravenii* Mathias & Constance**

“Ravendale desert-parsley” Apiaceae

Federal Status: (3C) **UTNHP Rank:** G4/S1

Distribution: MIL; ID, NV +

Status Category: *Peripheral*

in its non-littoral habitat and its taller and more fastigiate growth, narrower leaves and calyx lobes, and smaller flowers (Porsild 1955).

***Lotus humistratus* E. Greene**

“colchita”

Fabaceae

Federal Status: None

UTNHP Rank: G5/S3

Distribution: IRO, WSH; AZ, NM NV +

Notes: Barneby (1989) cited the distribution as including “along ... the Virgin River in ... Washington Co., Utah.”

***Lotus rigidus* (Benth.) E. Greene**

“broom trefoil”

Fabaceae

Federal Status: None

UTNHP Rank: G5/S3?

Distribution: WSH; AZ, NV +

Notes: Barneby (1989) cited the distribution as “entering Utah along the Virgin River in Washington Co.”

***Lotus wrightii* (A. Gray) E. Greene**

“Wright’s trefoil”

Fabaceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: SNJ; AZ, CO, NM

Notes: Barneby (1989) cited the distribution as including “the Abajo Mts. in San Juan Co., Utah.”

***Lupinus arbustus* Douglas ex Lindley**

“Douglas’ spurred lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: JUA, TOO; ID, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *L. arbustus* is restricted to the Deep Creek Mtns., Juab and Tooele cos. Outside the state, the species is widespread across the northern part of the Intermountain region to eastern Calif., Oregon, and Washington and western Montana (Barneby 1989). *AUF2* treated the Utah plants as var. *calcaratus* (Kellogg) Welsh (Great Basin Nat. 38: 324. 1978) but regarded it as “a taxon of questionable significance among the range of variation in *L. arbustus*.” Barneby (1989) also treated var. *calcaratus* as a “minor variant” and places it in synonymy under *L. arbustus*.

***Lupinus argenteus* Pursh var. *hillii* (E. Greene) Barneby**

“Kaibab lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G5?T?/S1

Distribution: WSH; AZ, NM

Notes: For current treatment see Intermt. Fl. 3B: 246. 1989. In Utah known only from Washington Co., the distribution cited in *AUF2* (Welsh et al. 1993) as “mainly in the Pine Valley Mountains.”

Status Category: *Peripheral*

Var. *hillii* also occurs in northern and central Arizona at elevations from 6000 to 9000 ft. (Harmon 1972, Barneby 1989); “often very abundant in pine forests in the Flagstaff region” (Kearney and Peebles 1951). New Mexico state record as reported by Roalson and Allred (no date).

***Lupinus argenteus* Pursh var. *palmeri* (S. Watson) Barneby**

“Arizona lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G4G5T?/S1

Distribution: IRO, WSH; AZ, NM, NV +

Notes: For current treatment see Great Basin Nat. 46: 257. 1986. Distribution of var. *palmeri* cited by Barneby (1989) as “entering [the Intermountain] region weakly ... in Iron and Washington cos., Utah”

***Lupinus argenteus* Pursh var. *parviflorus* (Nutt. ex Hook. & Arn.) C.L. Hitchc.**

“small-fl. lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G5?T?/S2

Distribution: BOX, CAC, DUC, SAL, SUM; ID, WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(3): 302. 1961. Acc. *AUF2* (Welsh et al. 1993), this plant is uncommon in the northern Wasatch Mtns. Dorn (1988, p. ___) regarded *L. argenteus* var. *parviflorus* as “A small-flowered variant of var. *rubricaulis* (E. Greene) Welsh. Intergradation so extensive in Wyoming that recognition seems impractical.”

***Lupinus concinnus* Agardh var. *orcuttii* (S. Watson) C.P. Smith**

“Sonoran annual lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G5T5/S2?

Distribution: WSH; AZ, NM, NV +

Notes: For alternative treatment as ssp. *orcuttii* (S. Watson) Dunn, see *Aliso* 6: 46. 1966. Barneby (1989) says “[R]epresented in [the Intermountain] region by var. *orcuttii*, the common phase of the Sonoran desert.”

***Lupinus flavoculatus* Heller**

“yellow-eyed annual lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: WSH; AZ, NV +

Notes: Barneby (1989) cited the distribution as including “along the Virgin River in sw. Washington Co., Utah.”

***Lupinus lepidus* Douglas ex Lindley var. *aridus* (Douglas ex Lindley) Jepson**

“Columbia Basin lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G5T5/S2

Distribution: BOX, IRO, WSH; AZ?, ID?, NV +

Status Category: *Peripheral*

Notes: For alternative treatment as ssp. *aridus* (Lindley) Detl., see Amer. Midl. Nat. 45: 491. 1951. Barneby (1989) cited the distribution of var. *aridus* as including “just into ... Iron and Washington cos., Utah.” Acc. Welsh et al. (1993), var. *aridus* in Utah is known from nw. Box Elder Co. (Goose Cr.) and from sw. Iron and nw. Washington cos. (Bull Valley Mtns.).

Lupinus sparsiflorus Benth.

“Coulter’s annual lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G5/S3

Distribution: WSH; AZ, NM, NV +

Notes: Barneby (1989) cited the distribution as “entering sw. Utah along the Virgin River in Washington Co.”

Lychnis apetala L. var. montana (S. Watson) C.L. Hitchc.

“Rocky Mtn. champion”

Caryophyllaceae

Federal Status: None

UTNHP Rank: G4T?/S1

Distribution: DUC, EME?, GRA, SNJ; CO, WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(2): 274. 1964. Hitchcock and Cronquist (1964) say “Our plants ... are referable to the var. *montana* (S. Watson) C.L. Hitchc., which occurs ... to e. Utah ...” Questionable Emery County record as mapped in Albee et al. (1988).

Lycium cooperi A. Gray

“peach-thorn”

Solanaceae

Federal Status: None

UTNHP Rank: G5/S1S2

Distribution: WSH; AZ, NV +

Notes: Distribution cited by Hitchcock and Cronquist (in Cronquist et al. 1984) as including “extreme sw. Utah.”

Lygodesmia juncea (Pursh) D. Don

“rush-pink”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: EME, JUA; CO, ID, NM, NV, WY ++

Notes: Cronquist (1994) discusses the distribution of *L. juncea*, including “disjunct (?) at a few localities in n. Utah (as far s. as Juab Co.).” Tomb (1980) cited Utah collection: Juab Co., Champlin (*Harrison 6549*; Oct. 12, 1935; US).

Lysiella obtusata (Banks ex Pursh) Rydb.

“northern small bog-orchid”

Orchidaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, SUM; CO, ID, WY ++

Notes: Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Habenaria o.* (Banks ex Pursh) Richardson. A. Holmgren (in Cronquist et al. 1977) cited the distribution as including Utah.

***Lysimachia ciliata* L.**

“fringed loosestrife”

Primulaceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: CAC, DAV, SAL, UTA, WEB; CO, ID, NM, WY ++

Notes: In Utah, *L. ciliata* has been found in wet meadows and along waterways of Cache Valley and the Wasatch Front (Albee et al. 1988). The overall range was described by Coffey and Jones (1980) as “[m]oist woods and shaded stream banks. Throughout much of North America with the exception of the southwestern United States.” Plants from Arizona are referred by these authors to a separate species, *L. hybrida* Michaux.

***Lysimachia thyrsiflora* L.**

“tufted loosestrife”

Primulaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, UTA, WEB; CO, ID, WY ++

Notes: *Naumburgia thyrsiflora* (L.) Reichenb. in eastern slope Colorado flora acc. Weber and Wittmann (1992, 1996b). “One record, from a willow fen in Rocky Mountain National Park, a relictual eastern prairie plant.” In Idaho acc. Davis (1952). In Albany Co., Wyoming acc. Dorn (1992).

***Lythrum californicum* Torrey & Gray**

No common name

Lythraceae

Federal Status: None

UTNHP Rank: G4/S2

Distribution: WSH; AZ, NM, NV +

Notes: Cronquist et al. (1997) cited the distribution as including “Washington Co., Utah.”

***Machaeranthera asteroides* (Torrey) E. Greene var. *glandulosa* B.L. Turner**

“Arizona desert-aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/S1

Distribution: WSH; AZ, NM, NV +?

Notes: For original description see *Phytologia* 60: 77. 1986. Turner (1987) cited the distribution of var. *glandulosa* as “[m]ostly central and western Arizona from 100-1000 m, but extending into adjacent New Mexico, Southern Nevada, southwestern Utah and probably Mexico.” Utah collection cited: Washington Co., Bloomington Price Hills, 1 mile east of Hwy. I-15 (*Higgins & Welsh 13426*; BRY, NY). The same author added that the above-referenced specimen is “the only unquestionable collection of this taxon which I have seen from the state.... In the lower elevations of Washington County, Utah, there occur a puzzling series of populations that superficially resemble *M. a.* var. *glandulosa* but such plant[s] possess the involucre of *M. canescens* and I have annotated most of these as intermediates between *M. c.* var. *canescens* and *M. c.* var. *leucanthemifolia* (e.g., *Christian 1005*, ARIZ, POM, TEX, UT, etc.), the two varieties intergrading in this region.”

Status Category: *Peripheral*

***Machaeranthera canescens* (Pursh) A. Gray var. *glabra* A. Gray**

“plains hoary-aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/SR

Distribution: GRA, SNJ?; AZ, CO, NM, WY +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Cronquist (1994) treated this taxon as *M. linearis* E. Greene and reported that it intergrades with *M. rigida* E. Greene [= *M. canescens* var. *aristata* (Eastw.) B.L. Turner] and with *M. canescens* var. *ambigua* B.L. Turner. Turner (1987, see pp. 241, 260) cited the distribution of var. *glabra* as mostly in sandy soils along the eastern edge of the Rocky Mountains from southern Wyoming to New Mexico, extending south to Chihuahua, Mexico, and west to eastern Arizona, southeastern Utah, and adjacent Colorado. Cronquist (1994) cited the distribution of *M. linearis* E. Greene (non *M. linearis* Rydb.) as “entering [Utah] on the lower slopes of the La Sal Mts. in Grand Co.”

***Machaeranthera gracilis* (Nutt.) Shinn.**

“slight goldenweed”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S3?

Distribution: IRO, KAN, WSH; AZ, CO, NM, NV +

Notes: For current treatment see Field & Lab. 18: 41. 1950. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus* g. (Nutt.) A. Gray. Cronquist (1994) cited the distribution as including “s. Utah (Washington and Kane cos.)” The same author noted that “[t]his species is notable for having the lowest chromosome number ($n = 2$) known in flowering plants, but most or all of [the Intermountain?] plants belong to the phase with $n = 4$ ” [= *Haplopappus ravenii* R.C. Jackson, Amer. J. Bot. 49: 123. 1962]. Acc. Hartman (Phytologia 68: 438. 1990), “[t]his species is treated in the broad sense to include the $n = 4$ *Haplopappus ravenii* in addition to the $n = 2$ and 3 chromosomal races. According to Jackson (1962; 1971), the $n = 4$ race can be distinguished from the other two on the basis of floret and phyllary morphology. The former is said to possess fewer and shorter pappus bristles, shorter achenes, and phyllaries that are covered by stiffer and more erect trichomes. I have been unable to make this distinction with confidence. It is true that *H. ravenii* (based on specimens from its described geographic range, but not confirmed by chromosome counts) has phyllaries with trichomes which are often sparse and ascending to spreading versus more numerous, generally appressed, and longer. Unfortunately, in surveying several hundred sheets of *Machaeranthera gracilis* sensu lato, approximately twenty percent showed intermediacy in this character. Formal recognition of the $n = 4$ race has been questioned by Cronquist (1971) and others.”

***Machaeranthera parviflora* A. Gray**

“alkali desert-aster”

Asteraceae

Federal Status: None

UTNHP Rank: G4/SR

Distribution: SNJ; AZ, CO, NM +

Notes: Acc. Welsh et al. (1993), *M. parviflora* is similar to *M. tanacetifolia* (Kunth) Nees and has been reported for Utah by various authors. Cronquist (1994) cited the distribution of *M. parviflora* as including “se. San Juan Co. (near Bluff), Utah.”

Status Category: *Peripheral*

***Machaeranthera pinnatifida* (Hook.) Shinn. var. *gooddingii* (A. Nelson) Turner & Hartman**

“spiny goldenweed”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/S1

Distribution: WSH; AZ, NV +

Notes: For current treatment see Wrightia 5: 313, 314. 1976. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus spinulosus* var. *g.* (A. Nelson) S.F. Blake in Kearney and Peebles, Fl. Pl. Ferns Ariz. 905. 1942. Acc. Cronquist (1994), the distribution of *Haplopappus spinulosus* var. *gooddingii* includes “Washington Co., Utah.”

***Malacothrix coulteri* Harvey & Gray**

“Coulter’s desert-dandelion”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: WSH; AZ, NV +

Notes: Cronquist (1994) cited the distribution as including “sw. Utah (Washington Co.)”

***Malacothrix stebbinsii* Davis & Raven**

“Stebbins’ desert-dandelion”

Asteraceae

Federal Status: None

UTNHP Rank: G3G4/S1

Distribution: WSH; AZ, NV +

Notes: For original description see Madroño 16: 265. 1962. For alternative treatment as *M. clevelandii* var. *s.* (Davis & Raven) Cronquist, see Intermt. Fl. 5: 436. 1994. These are the plants that were treated in *AUF2* (Welsh et al. 1993) as *M. clevelandii* A. Gray. Cronquist (1994) cited the distribution of *M. clevelandii* as including “sw. Utah (Washington Co.)” He adds that “[the Intermountain] plants ... belong to the var. *stebbinsii* (Davis & Raven) Cronquist. It is interesting that Davis’ treatment for the Jepson Manual places *M. clevelandii* A. Gray in Utah but not *M. stebbinsii*; thus his treatment conflicts with that of Cronquist (1994).

***Mammillaria tetrancistra* Engelm.**

“nipple cactus”

Cactaceae

Federal Status: None

UTNHP Rank: G3G4/S2

Distribution: WSH; AZ, NV +

Notes: Benson (1982) cited the overall distribution as “Colorado Desert and lower levels of Mojavean and Arizona desert. California from Inyo Co. (Panamint Mts.) to San Diego and Imperial Cos.; Nevada in S Nye Co. and in foothills of Charleston Mts. and W of Davis Dam in Clark Co.; Utah near St. George; Arizona in Mohave, Yuma, W Yavapai, W Maricopa, W Pinal, and W Pima Cos.” Reported by Warrick (1987) as uncommon at the southern base of the Pine Valley Mtns. Acc. *AUF2* (Welsh et al. 1993), “[t]he plants [in Washington Co.?] are widely scattered but never abundant.”

Status Category: *Peripheral*

***Marsilea oligospora* Goodding**

“Columbia water-clover”

Marsileaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC; ID, NV, WY +

Notes: For alternative treatment as *M. vestita* var. *o.* (Goodding) Dorn, see Vasc. Pls. Wyoming 295. 1988. Treated in *AUF2* (Higgins in Welsh et al. 1993) as a synonym of *M. vestita* Hook. & Grev. In Utah known only from the margin of Dry Lake, Cache Co. (Higgins in Welsh 1987, not 1993). Johnson (in Morin 1993) cited the overall distribution as “[a]round ponds and marshes, in wet depressions in sagebrush and less commonly on river margins; 700-2400 m; Calif., Idaho, Mont., Nev., Oreg., Utah, Wash., Wyo.” Acc. Johnson (in Morin 1993), “*M. oligospora* recently has been reseeded from *M. vestita*, from which it differs consistently in its nodding sporocarps that lack a pronounced distal tooth and its pilose leaves and stems. Where their ranges overlap, *M. oligospora* also has longer sporocarp stalks than does *M. vestita*.”

***Maurandya antirrhiniflora* Humb. & Bonpl. ex Willd.**

“violet twining snapdragon”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G4G5/SH

Distribution: WSH; AZ, NM, NV +

Notes: N. Holmgren (in Cronquist et al. 1984) cited the distribution as including “[the Intermountain] region on the Grand Canyon Plateaus of n. Ariz. and sw. Utah.” Rare in southern Nevada acc. Kartesz (1987).

***Melica porteri* Scribner**

“Porter’s melic”

Poaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: SNJ; AZ, CO, NM +

Notes: Known in Utah from a single collection (*Thompson s.n.* in 1961, BRY) from an aspen-mountain brush community in San Juan Co. (Arnow in Welsh et al. 1993).

***Menodora scabra* A. Gray**

No common name

Oleaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BEA, GAR, KAN, WSH; AZ, CO, NM, NV +

Notes: Distribution given by Welsh et al. (1975) as Garfield and Washington cos.

***Menodora spinescens* A. Gray**

No common name

Oleaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: WSH; AZ, NV +

Notes: In Utah known only from southwestern Washington Co. (Welsh et al. 1993).

Status Category: *Peripheral*

Mentzelia obscura Thompson & Roberts

“cryptic stick-leaf” Loasaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: KAN, TOO, WSH; AZ, NV +

Notes: For original description see *Phytologia* 21:284. 1971. Treated in *AUF2* (Thorne and Welsh in Welsh et al. 1993) as a synonym of *M. albicaulis* (Hook.) Torrey & Gray. Local and infrequent in Utah (Welsh et al. 1975). Prigge (in Hickman 1993) maintains *M. obscura* as a distinct species with the comment, “Much like *M. albicaulis* (exc seeds).”

Mentzelia tricuspis A. Gray

“desert stick-leaf” Loasaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: WSH; AZ, NV +

Notes: Prigge (in Hickman 1993) cited the distribution as “[e. Sonoran Desert of Calif.]; to UT, AZ.” Infrequent in southern Nevada acc. Kartesz (1987).

Menyanthes trifoliata L.

“buck-bean” Menyanthaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: DUC, KAN, SUM, UIN, WAS; AZ, CO, ID, NV, WY ++

Notes: Distribution cited in Cronquist et al. (1984) as including “ ne. Utah (Uinta Mts.)” In addition, Welsh et al. (1993) indicate a location at Hidden Lake near Orderville, Kane Co. Monotypic genus.

Micranthes nidifica (E. Greene) Small

“Donner Lake saxifrage” Saxifragaceae

Federal Status: None **UTNHP Rank:** G4G5/S2?

Distribution: CAC, SAL?, SUM, ?; ID, NV, WY +

Notes: Not treated (not even in synonymy) in *AUF2* (Goodrich in Welsh et al. 1993). These are the plants that were treated by Albee et al. (1988, p. 620) as *Saxifraga integrifolia* Hook. The distribution of *S. nidifica* var. *n.* was cited by P. and N. Holmgren (in Cronquist et al. 1997) as including “[the Intermountain region] in se. Oregon, sw. Idaho, n. Nev., and n. Utah (Wasatch Mts., including the Bear River Range.... P.E. Elvander (1984) did not report *S. nidifica* from Utah even though he had annotated a fragmentary specimen collected by S. Watson in the Wasatch Mountains in 1869 [at NY!] as possibly *S. nidifica* var. *nidifica*. We have seen two additional collections of *S. nidifica* from the northern Wasatch (*A.O. Garrett 2956b*, Gorgoza, Summit Co., 15 June 1922, at NY!; *K.H. Thorne & J. Chandler 4831*, Bear River Range, Cache Co., 5 July 1986, at BRY!, NY!), thus confirming the occurrence of *S. nidifica* var. *nidifica* in Utah.” Placement of this species in the segregate genus *Micranthes* is supported by morphological and chloroplast DNA sequence data (see Soltis et al. 1996).

Status Category: *Peripheral*

***Mimetanthe pilosa* (Benth.) E. Greene**

“downy monkey-flower” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: IRO, KAN, WSH; AZ, ID, NV +

Notes: N. Holmgren (in Cronquist et al. 1984) cited the distribution as including “sw. Utah.” A monotypic genus, alternatively treated by some authors in the larger genus *Mimulus*, as *M. pilosus* (Benth.) S. Watson.

***Mimulus bigelovii* (A. Gray) A. Gray var. *cuspidatus* A.L. Grant**

“Bigelow’s monkey-flower” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV +

Notes: In Utah known only from Beaver Dam Wash, Washington Co. (Welsh et al. 1993). *Mimulus spissus* A.L. Grant is a synonym of *M. bigelovii* var. *cuspidatus* A.L. Grant (Welsh et al. 1993, Thompson in Hickman 1993).

***Mimulus breweri* (E. Greene) Cov.**

“Brewer’s monkey-flower” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, SEV, SUM, TOO; CO, ID, NV, WY +

Notes: N. Holmgren (in Cronquist et al. 1984) cited the distribution as including “Utah (sporadically in the Wasatch Range).” In eastern slope Colorado flora acc. Weber and Wittmann (1996b); “Infrequent in moss on seepy ledges in the subalpine.”

***Mimulus cardinalis* Douglas ex Benth.**

“scarlet monkey-flower” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV, NM +

Notes: In Utah known only from Zion Canyon, Washington Co. (Welsh et al. 1993). Cottam et al. (1940) cited a location for *M. verbenaceus* E. Greene at “Zions Grotto, Washington Co.” (based on specimens at BRY, UT).

***Mimulus glabratus* Kunth ssp. *fremontii* (Benth.) Pennell**

“plains monkey-flower” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5T5/S?

Distribution: KAN, WSH, ?; AZ, CO, NM, WY +

Notes: Ssp. *fremontii* is primarily a plant of the Great Plains, but its range extends across Arizona to southwestern Utah (Pennell 1935, N. Holmgren in Cronquist et al. 1984, Welsh et al. 1993). Utah collections cited by Pennell (1935): Kane Co., Kanab (*Cottam 4309*, PH); Washington Co.: between Leeds and St. George (*Cottam 4024*, PH). Acc. Dorn (1988, p. 307), “Autonym rule requires use of var. *jamesii* (Torrey & Gray ex Benth.) A. Gray.”

Status Category: *Peripheral*

Mimulus primuloides Benth.

“wet-meadow monkey-flower” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4/S1**Distribution:** BEA, DUC, WSH; AZ, ID, NV +

Notes: N. Holmgren (in Cronquist et al. 1984) cited the overall distribution as “Cascades of Wash. and Oregon to c. Idaho, s. to Calif., Nev. (in the larger mt. ranges of the n. half of the state), sw. Utah (Pine Valley Mts.), and Ariz. (Kaibab Plateau and White Mts.)” Rare and possibly extirpated in the Pine Valley Mts. (Warrick 1987), known there by a single historical collection from a creekside in Pine Valley (*Cottam 1197*, BRY?). Beaver Co. record from the Tushar Mtns. (mapped by Albee et al. 1988). Duchesne Co. record based on a 1928 collection from Gilbert Basin, Uinta Mtns., elev. 11,000 ft. (*Weight 125*; RM, Ashley Natl. Forest herbarium), cited by Goodrich and Neese (1986).

Minuartia pusilla (S. Watson) Mattf.

“dwarf sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5/S1**Distribution:** WSH; ID, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Arenaria pusilla* S. Watson. Known in Utah only from Washington Co.

Mirabilis bigelovii A. Gray var. retrorsa (Heller) Munz

“desert four-o’clock” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G4G5T4/S3**Distribution:** WSH; AZ, NV +

Notes: Type of *M. glutinosa* A. Nelson from near St. George, Washington Co. (cf. Kartesz 1987). Range of var. *retrorsa* cited by Spellenberg (in Hickman 1993) as “[Calif. deserts]; to UT, AZ, nw Mex.”

Mirabilis glabra (S. Watson) Standley

“smooth four-o’clock” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G5/S2?**Distribution:** KAN; AZ, CO, NM +

Notes: Type from Kane Co., Kanab (*Thompson s.n.* in 1872, US). *AUF2* (Welsh et al. 1993) treated *M. glabra* variously as “reported for Utah, but no specimens have been seen” (in key on p. 483) and as a synonym of *M. linearis* (Pursh) Heimerl var. *l.* (in text on p. 484). Turner (1993) treated *M. glabra* and *M. linearis* as separate species; he further indicated (see map on p. 440) that the Utah population of *M. glabra* is disjunct and that the main distribution is from southeastern Colorado, western Oklahoma, central and western Texas, southern New Mexico, and northern Chihuahua, Mexico. Arizona record based on a report by Kearney and Peebles (1951) from “Hopi Indian Reservation, Navajo County (*Zuck* in 1897, *Hough 53*).”

Status Category: *Peripheral*

Mirabilis multiflora (Torrey) A. Gray var. pubescens S. Watson

“Froebel’s four-o’clock” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G5T?/S?

Distribution: IRO?, WSH; AZ, NV +

Notes: AUF2 (Welsh et al. 1993) reported the Utah distribution of var. *pubescens* as limited to Washington Co. and noted that recognition of varieties in *M. multiflora* is difficult (at least among Utah plants). Questionable Iron Co. record as mapped in Albee et al. (1988). Pilz (1978) cited the overall distribution of var. *pubescens* as [n]orthern Baja California ... through southern California, southeastern Nevada, southwestern Utah, and western Arizona.” The same author noted that “[t]he nature of the mature fruit is the most consistent character for distinguishing the varieties of *Mirabilis multiflora*.... In some areas where the varieties of *M. multiflora* occur together they are quite distinct morphologically.... In contrast the plants of southwestern Utah and northwestern Arizona show a collage of characteristics normally typical of the [three] different varieties.”

Mohavea breviflora Cov.

“desert snapdragon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: WSH; AZ, NV +

Notes: Acc. Welsh et al. (1993), “[t]his is another Mohavean plant that encroaches on Utah in the Beaver Dam Wash vicinity. The plants are rather common on talus below Tabeau Peak, at the north end of a warm cove (Baird Cove) at the southern end of the Beaver Dam Mountains. It was taken first in Utah on 17 April 1986 in Beaver Dam Wash, 3.5 mi S of Lytle Preserve.” Ditypic genus.

Monarda fistulosa L. var. mentifolia (Graham) Fern.

“cordilleran bee-balm” Lamiaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: SNJ, WSH?; AZ, CO, ID, NM, WY +

Notes: For current treatment see *Rhodora* 46: 495. 1944. Cronquist and Reveal (in Cronquist et al. 1984) cited the distribution as including “[the Intermountain region] known only from San Juan Co., Utah, at middle elev. in and about the Abajo and LaSal mts. ... Our plants ... belong to the var. *mentifolia* (Graham) Fern.” Questionable Washington Co. record as mapped in Albee et al. (1988).

Monarda pectinata Nutt.

“plains bee-balm” Lamiaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: KAN, SNJ, WSH; AZ, CO, NM, WY +

Notes: Cronquist and Reveal (in Cronquist et al. 1984) cited the distribution as including “s. Utah (San Juan and Kane cos.).”

Status Category: *Peripheral*

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as including “Utah....; rare in the Intermountain region.” Acc. A. and N. Holmgren (in Cronquist et al. 1977), “*Muhlenbergia glomerata* closely resembles *M. racemosa* and has been merged with that species by some. Pohl (1969) separates them on the basis of culm and lemma pubescence and ligule and anther length.... The two species also have a different chromosome number and occupy different habitats. *Muhlenbergia glomerata*, a diploid, is confined to moister, non-disturbed habitats. It is a rare species that exists as isolated populations, perhaps relict colonies of a wide Pleistocene distribution. *Muhlenbergia racemosa*, on the other hand, is a tetraploid that is found in drier ground and often in disturbed sites.” Acc. Arnow (in Welsh et al. 1993), “[a]lthough the total range of variation for both forms can be seen in our plants, the characters ... are not consistently correlated, either in Utah material or in numerous North American specimens examined at the National Herbarium. Under these circumstances, the validity of recognizing *M. glomerata* as a distinct species appears to need additional scrutiny.”

***Muhlenbergia microsperma* (DC.) Kunth**

“littleseed muhly” Poaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: WSH; AZ, NV ++

Notes: Known in Utah only from Washington Co. (Arnow in Welsh et al. 1993). Uncommon to rare in southern Nevada acc. Kartesz (1977).

***Muhlenbergia repens* (C. Presl) A. Hitchc.**

“creeping muhly” Poaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: KAN; AZ, NM, NV? +

Notes: Rhizomatous perennial grass, known in Utah by two collections from Kane Co., one historical (*Morden 649*, UT; cited by Arnow in Welsh et al. 1993) and one in 1992 (draw bottom near The Barracks, T42S R9W S15, *Welsh & Thorne 25177*, BRY; cited by Welsh and Eliason 1995). The species otherwise ranges from Arizona to Texas and México (Gould 1951). Questionable Nevada record as reported in *AUF2* (Arnow in Welsh et al. 1993; cf. Kartesz 1987).

***Myosurus apetalus* Gay var. *borealis* Whittemore**

“northwestern mouse-tail” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5T5/S2?

Distribution: SAL, ?; ID, NV, WY +

Notes: For current treatment see Novon 4: 78. 1994. Whittemore (1994) proposed the name *M. apetalus* var. *borealis* for the taxon previously treated by North American authors as *M. aristatus* Benth. ex Hook. f. (an illegitimate name). The same author cited a single specimen of var. *borealis* from Salt Lake Co. (*Garrett 2808*, UC). Additional data needed on distribution and status in Utah. Acc. Whittemore (in Morin 1997), var. *montanus* (G.R. Campbell) Whittemore is the more widespread variety in Utah.

Status Category: *Peripheral*

***Myriophyllum verticillatum* L.**

“whorl-lvd. water-milfoil”

Haloragaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SAL, UIN, UTA; CO, ID, NV, WY ++

Notes: Known in Utah from Salem Pond and the Millrace (both in Utah Co.), and from Uintah and Salt Lake cos. (Welsh et al. 1993).

***Najas marina* L.**

“holly-lvd. water-nymph”

Najadaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: BOX, CAC, JUA, MIL, TOO; AZ, CO?, NM, NV ++

Notes: Reveal (in Cronquist et al. 1977), followed by *AUF2* (Atwood in Welsh et al. 1993), erroneously treated *N. marina* as introduced from the Old World. Although the type is from Europe, Haynes (1979) apparently regarded *N. marina* as native in North America, as did Thorne (in Hickman 1993) who treated the genus *Najas* as belonging to the family Hydrocharitaceae. A submerged aquatic inhabiting brackish or highly alkaline waters of ponds and lakes (Haynes 1979), *N. marina* in Utah is known from Locomotive Springs, Box Elder Co. (Maguire and Jensen 1942); near Logan, Cache Co. (Reveal in Cronquist et al. 1977); Juab Co. (Albee et al. 1988, Atwood in Welsh et al. 1993); and Fish Springs, Tooele Co. (Maguire and Jensen 1942, Reveal in Cronquist et al. 1977). Millard Co. record based on a 1994 collection from Twin Springs (*Stone 1728*, UT). Expected in western Colorado (Weber and Wittmann 1996a).

***Nama hispidum* A. Gray**

No common name

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: KAN, SNJ; AZ, CO, NM, NV +

Notes: Acc. *AUF2* (Atwood in Welsh et al. 1993), *N. hispidum* in Utah is restricted to the vicinity of Lake Powell in Kane and San Juan cos. Outside the state, this annual of sandy places ranges widely in the southwestern deserts from western Oklahoma and Texas to southeastern Calif. and northern México (Hitchcock 1933, Cronquist et al. 1984). It is unclear whether Utah plants are referable to var. *hispidum* or var. *spathulatum* (Torrey) C.L. Hitchc., but “[t]he species is extremely variable and not easily separable into well-marked varieties” (Hitchcock 1933).

***Nemacladus glanduliferus* Jepson var. *orientalis* McVaugh**

“glandular thread-stem”

Campanulaceae

Federal Status: None

UTNHP Rank: G5T4/S3

Distribution: WSH; AZ, NM, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *N. glanduliferus* in Utah is restricted to Washington Co. where “locally common.” Var. *orientalis* otherwise ranges widely from the deserts of Calif. to New Mexico and southward to México in Baja Calif. and northern Sonora (P. Holmgren in Cronquist et al. 1984, Morin and Milburn in Hickman 1993).

Status Category: *Peripheral*

***Oenothera caespitosa* Nutt. var. *macroglottis* (Rydb.) Cronquist**

“tufted evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: GRA?, SNJ; CO, NM, WY

Notes: For current treatment see Great Basin Nat. 46: 259. 1986. For alternative treatment as ssp. *macroglottis* (Rydb.) Wagner, Stockhouse & Klein, see Ann. Missouri Bot. Gard. 70: 195. 1983. In Utah restricted to the La Sal and Abajo mtns. (Welsh et al. 1993).

Oenothera deltooides* Torrey & Frémont var. *deltooides

“devil’s-lantern” Onagraceae

Federal Status: None **UTNHP Rank:** G5T4/S2?

Distribution: BEA, IRO, WSH; AZ, NV +

Notes: Cronquist et al. (1997) cited the distribution of var. *deltooides* as including “Washington, Beaver, and Iron cos., Utah.”

***Oenothera pallida* Lindley var. *latifolia* Rydb.**

“Coalville evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T5/S?

Distribution: SUM, ?; CO, NM, WY +

Notes: For alternative treatment as ssp. *latifolia* (Rydb.) Munz, see N. Amer. Fl. II, 5: 110. 1965. Var. *latifolia* treated in AUF2 (Welsh et al. 1993) as a synonym of var. *pallida*. Cronquist et al. (1997) cited the distribution of var. *latifolia* as “mainly on the Great Plains and the e. side of the Rocky Mts., but extending as far w. as Coalville (Summit Co.), Utah, where apparently native; represented by a few specimens from disturbed sites elsewhere in n. Utah (Cache, Salt Lake, and e. Tooele cos.), where perhaps introduced.”

***Oenothera pallida* Lindley var. *trichocalyx* (Nutt. in Torrey & Gray) Dorn**

“Wyoming evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S?

Distribution: DAG, DUC, UIN; CO, NM, WY

Notes: For current treatment see Vasc. Pl. Wyoming 298, 1988. For alternative treatment as ssp. *trichocalyx* (Nutt.) Munz & Klein, see N. Amer. Fl. II, 5: 119. 1965. Cronquist et al. (1997) cited the distribution of ssp. *trichocalyx* as including “the Uinta Basin of Utah (Daggett, Duchesne, and Uintah cos.)” Acc. Cronquist et al. (1997), “[t]he plants here treated as *O. pallida* subsp. *trichocalyx* form a taxonomically perplexing group. In its most characteristic form the taxon appears to be very different from subsp. *pallida*, being marked by its short-lived, taprooted habit, clustered stems, clustered basal leaves, pinnatifid cauline leaves, and long-hairy calyx. On purely morphological grounds such plants seem more like the caulescent forms of *O. deltooides* var. *piperi* Munz than like typical *O. pallida*. Yet every distinction between subsp. *trichocalyx* and subsp. *pallida* fails, and not only at the margins of the range. The plants described as *Anogra rhizomata* A. Nelson, from the heart of the range of subsp. *trichocalyx*, have a distinctly creeping root-system,

Status Category: *Peripheral*

but otherwise look like *trichocalyx*. Other characters are equally unstable. Some specimens of otherwise characteristic subsp. *trichocalyx* from the Uinta Basin have a virtually glabrous calyx, and some plants of subsp. *pallida* from well outside the range of subsp. *trichocalyx* have long hairs on the calyx. At the present state of knowledge it does not seem that *O. trichocalyx* can be upheld as a species, yet it seems more distinctive than the other phases of *O. pallida*.”

***Oenothera primiveris* A. Gray var. *bufonis* (M.E. Jones) Cronquist**

“Darwin Mesa evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S2S3

Distribution: WSH; AZ, NV +

Notes: For current treatment see Great Basin Nat. 46: 259. 1986. For alternative treatment as ssp. *bufonis* (M.E. Jones) Munz, see N. Amer. Fl. II, 5: 103. 1965. The earlier report of var. *bufonis* from Emery and Kane cos. (Welsh et al. 1987, not 1993) is apparently in error.

***Opuntia acanthocarpa* Engelm. & Bigelow var. *coloradensis* L. Benson**

“buckhorn cholla” Cactaceae

Federal Status: None **UTNHP Rank:** G4T?/S1?

Distribution: WSH; AZ, NV +

Notes: For original description see Cacti Ariz. ed. 3. 20, 34. 1969. The following specimens from Washington Co. (all at POM) were cited by Benson (1982): northwest of Santa Clara (*L. Benson 13713*), Beaver Dam Mtns. (*L. Benson 13715*), 10 miles northwest of St. George (*E.L. Benson 315*).

Opuntia basilaris* Engelm. & Bigelow var. *basilaris

“beavertail cactus” Cactaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: IRO, SNJ, WSH; AZ, NV +

Notes: Benson (1982) cited the overall distribution of var. *basilaris* as “California, occasional at intervals on coastal sides of mountains of the main axis W of the deserts from S Tulare Co. to San Diego Co., common in Inyo Co. and Mojave and Colorado deserts, rare in mountains, but sometimes on E side of Sierra Nevada in Inyo Co. and in San Bernardino Mts.; Nevada from Esmeralda and S Lincoln Cos. to Clark Co.; Utah in SW Washington Co. and (rarely) in Garfield Co. [this apparently the var. *heilii* Welsh & Neese]; Arizona from Mohave Co. to Coconino Co. (at low altitudes along Colorado R. system) and to Yavapai, W Yuma, NW Maricopa, and W Pima Cos. Mexico in adjacent N Sonora.” Iron Co. record acc. Warrick (1987), based on a collection from the northern flank of the Pine Valley Mtns. along Paradise Spring Trail (*Warrick 2187*, BRY). San Juan Co. record as reported in *AUF2* (Welsh et al. 1993), which noted that the plants from Cataract Canyon “differ in tenuous ways from the typical material in Washington Co.; they do not seem worthy of taxonomic recognition.”

Status Category: *Peripheral*

Opuntia echinocarpa Engelm. & Bigelow

“silver or golden cholla” Cactaceae

Federal Status: None **UTNHP Rank:** G3?/S1

Distribution: BEA, WSH; AZ, NV +

Notes: Benson (1982, p. 287) cited the overall distribution of var. *echinocarpa* as “Mojavean Desert and (less commonly) Colorado Desert. California at Benton Station, Mono Co., and in Mojave and Colorado Deserts and South Fork Valley, Kern Co.; Nevada from Esmeralda, Nye, and Lincoln Cos. southward; SW Utah near Milford, Beaver Co., and in Washington Co.; Arizona in Mohave, NW Coconino, Yuma, and Maricopa Cos. Mexico in NE Baja California and NW Sonora.” Reported by Warrick (1987) as uncommon in sagebrush communities at the southern base of the Pine Valley Mtns.

Opuntia phaeacantha Engelm. var. major Engelm.

“southwestern prickly-pear” Cactaceae

Federal Status: None **UTNHP Rank:** G5T?Q/S2S3

Distribution: GAR, KAN, SNJ, WSH; AZ, CO, NM, NV +

Notes: Var. *major* was cited by Benson (1982) as “the most abundant prickly pear in the deserts of the Southwest.” Acc. *AUF2* (Welsh et al. 1993), var. *major* “is the common phase of the species in Utah.” Perhaps then it is only undercollected and not really an uncommon taxon at the margin of its geographic distribution.

Opuntia phaeacantha Engelm. var. phaeacantha

“dark-spined prickly-pear” Cactaceae

Federal Status: None **UTNHP Rank:** G5T?/S2

Distribution: SNJ, WSH; AZ, CO, NM +

Notes: Acc. *AUF2* (Welsh et al. 1993), var. *phaeacantha* is known in Utah only from Washington Co. (see also the distribution map of Benson 1982, p. 472). Reported by Warrick (1987) as uncommon in pinyon-juniper and sagebrush communities in the Pine Valley Mtns. (South Fork Pinto Creek, 5.4 miles south of Pinto, *Warrick 2110*, BRY). San Juan Co. record based on the report by Benson (1982). Outside the state, var. *phaeacantha* ranges from Arizona and southern Colorado to New Mexico and western Texas (Parfitt 1980, Benson 1982).

Opuntia polyacantha Haw. var. trichophora (Engelm. & Bigelow) Coulter

“white-bearded prickly-pear” Cactaceae

Federal Status: None **UTNHP Rank:** G5T?/S2

Distribution: GRA, KAN, SNJ; AZ, CO, NM, NV +

Notes: Benson (1982) cited the distribution of var. *trichophora* as including “SE Utah and Colorado (uncommon).” Var. *trichophora* rare in southern Nevada acc. Kartesz (1987).

Status Category: *Peripheral*

Orobanche cooperi (A. Gray) Heller

“desert broom-rape” Orobanchaceae

Federal Status: None **UTNHP Rank:** G5/S?

Distribution: KAN, SNJ, WSH; AZ, NM, NV +

Notes: N. Holmgren (in Cronquist et al. 1984) cited the distribution of *O. ludoviciana* var. *cooperi* (A. Gray) Beck as “s. Utah and s. Nev., southward.” AUF2 (Higgins in Welsh et al. 1993) treated two varieties of *O. ludoviciana* as occurring in Utah, namely var. *cooperi* and var. *arenosa* (Suksd.) Cronquist. Noting that these taxa are wholly confluent and that none of the diagnostic criteria seem to hold singly or in combination, Higgins concluded that it is best to regard all of the Utah material as belonging to a somewhat expanded var. *cooperi*. Heckard (in Hickman 1993) treated *O. cooperi* as a distinct species while continuing to recognize *O. ludoviciana* var. *arenosa* (which he noted as probably not occurring in California). N. Holmgren (in Cronquist et al. 1984) stated that “*Orobanche ludoviciana* is a complex species. [Intermountain] material is weakly divisible into two varieties [i.e., vars. *arenosa* and *cooperi*]. The typical variety occurs east of the Rocky Mts.”

Orthocarpus purpureo-albus A. Gray ex S. Watson

“plateau owl’s-clover” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G3G4/S1S2

Distribution: GAR, GRA, KAN, SNJ; AZ, CO, NM, NV

Notes: Chuang and Heckard (1992) cited the distribution of *O. purpureo-albus* as including the “Colorado Plateau of SE Utah.” Kane Co. record based on a historical collection from “Kanab” (*Thompson s.n.*, GH), cited in Chuang and Heckard (1992). Nevada record based on a collection from White Pine Co., White Pine Range, Ellison Creek (Holmgren 7089; NY, UC), cited in Chuang and Heckard (1992).

Oxypolis fendleri (A. Gray) Heller

“Fendler’s cow-bane” Apiaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: SNJ, SEV; AZ, CO, NM, WY

Notes: In Utah known only from the Abajo and La Sal mtns. in San Juan Co. and also the Fish Lake Plateau in Sevier Co. (Goodrich in Welsh et al. 1993).

Oxytheca perfoliata Torrey & Gray

No common name Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV +

Notes: Acc. Welsh et al. (1993), “[t]his species is apparently uncommon in Utah, occurring as scattered individuals in the Mohavean vegetation in Washington County.”

Status Category: *Peripheral*

***Oxytropis borealis* DC. var. *viscida* (Nutt. in Torrey & Gray) Welsh**

“sticky loco-weed” Fabaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: SAL, UTA; CO, ID, WY ++

Notes: For current treatment see Great Basin Nat. 50: 359. 1990. Barneby (1989) cited the distribution of *O. viscida* Nutt. in Torrey & Gray as including “the plateaus of c. Utah between Salt Lake and w. Wayne cos.” The plants from southern Utah were more recently distinguished as var. *australis* Welsh (Great Basin Nat. 50: 359. 1990), and *AUF2* (Welsh et al. 1993) considered the Utah distribution of var. *viscida* as limited to Salt Lake and Utah cos.

***Oxytropis campestris* (L.) DC. var. *cusickii* (Greenman) Barneby**

“Cusick’s loco-weed” Fabaceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: DUC, SUM; CO, ID, WY +

Notes: For current treatment see Leaflet. West. Bot. 6: 111. 1951. Summit Co. record based on a historical collection from the north slope of the Uinta Mtns., Bear River, Goodman’s Ranch (*E. & L. Payson 4868*, POM), cited by Barneby (1952). Rediscovered in the Uintas by Dr. Sherel Goodrich in 1984, on the divide between Blind Stream and North Fork Duchesne River, Duchesne Co. (Welsh et al. 1993).

***Oxytropis multiceps* Torrey & Gray**

“Nuttall’s loco-weed” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAG, DUC; CO, WY +

Notes: Barneby (1952) cited the distribution as including “westward to the Green River and the north slope of the Uinta Range in Utah.” Barneby (1989) cited the distribution as including “locally disjunct on sandstone of the Park City formation ... along Sheep Creek, se. of Manila, Daggett Co., and ... along Red Creek, Duchesne Co., Utah.” Acc. Goodrich and Neese (1986), “The 6 specimens seen [from the Uinta Basin] are from Sheep Creek, Kingfisher Island, and Green Lakes, Daggett Co.; Vermillion Gap and Little Snake River, Moffatt Co. [Colorado]; and Red Creek, Duchesne Co.; *Graham 8989* cited by Graham (1937) belongs to *O. jonesii*.”

***Paeonia brownii* Douglas ex Hook.**

“western peony” Paeoniaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, SNP?; ID, NV, WY +

Notes: Hitchcock and Cronquist (1964) cited the distribution as including “Utah.” Questionable Sanpete Co. record as mapped in Albee et al. (1988).

Status Category: *Peripheral*

***Palafoxia arida* Turner & Morris**

“Spanish needle”

Asteraceae

Federal Status: None

UTNHP Rank: G3G5/S1

Distribution: WSH; AZ, NV +

Notes: For original description see Madroño 23: 79. 1975. These are the plants to which the name *P. linearis* (Cav.) Lag. was misapplied by earlier authors. Cronquist (1994) cited the distribution as “[s]andy soil and dunes in the Larrea desert, or sometimes along roadsides; sw. Utah (Washington Co.)”

***Panicum hallii* Vasey**

“Hall’s panic-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BEA; AZ, CO, NM +

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as including “s. Utah (*Hutchings & Stachmann*, Red Knoll, e. side of Pine Valley, Beaver Co.).”

Parietaria hespera* B.D. Hinton var. *hespera

“southwestern pellitory”

Urticaceae

Federal Status: None

UTNHP Rank: G5T?/S?

Distribution: KAN?, SNJ?, WSH?, ?; AZ, NM, NV +

Notes: For original description see Sida 3: 293. 1969. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Woodland (in Hickman 1993) cited the range of *P. hespera* as including “UT.” Kane and San Juan county records as mapped for *P. pensylvanica* in Albee et al. (1988).

***Parrya nudicaulis* (L.) Regel**

“Uinta parrya”

Brassicaceae

Federal Status: (3C)

UTNHP Rank: G5/S2

Distribution: DAG, DUC, SUM, UIN; WY ++

Notes: Treated in *AUF2* (Welsh et al. 1993) as *P. rydbergii* Botsch. and regarded as a Uinta Mtns. endemic. *P. rydbergii* not distinct from *P. nudicaulis* acc. Rollins (1993), who stated that “[t]he range of variation in *Parrya nudicaulis* is unusually great. Variants have received trivial or specific names implying a taxonomic status that is unjustified.” Acc. Franklin (1991c), “*P. rydbergii*, a Uinta Mountains endemic, is presently known from various locations along the crest and across the north and south slopes of the [Uinta Mountains]; from Hayden Peak on the west to Leidy Peak on the east. During the period of the survey both East Fork Smith’s Fork and Henry’s Fork drainages were visited.... Within the general survey area there are six [occurrences] for *P. rydbergii*.... There were an estimated total of 340+ *P. rydbergii* plants ... in these areas.... Throughout the Uinta Mountains, ... there are many more scattered areas of suitable habitat in which these species could occur.... *P. rydbergii* is known from opposite ends of the range and many locations between; its broad range suggests that there is potential for many yet-to-be-discovered occurrences.”

Status Category: *Peripheral*

***Parryella filifolia* Torrey & Gray ex A. Gray**

“Parry’s dune-broom” Fabaceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: GRA, SNJ; AZ, CO, NM

Notes: Barneby (1989) cited the distribution as including “Utah on the Colorado River near and s. of Moab in nw. San Juan and adjoining Grand cos., its former habitat along lower San Juan River now inundated [by Lake Powell].” Monotypic genus.

***Parthenium incanum* Kunth**

“mariola” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NM, NV +

Notes: Aromatic shrub, known in Utah only from rocky, limestone slopes in Washington Co. (Welsh et al. 1993, Cronquist 1994), the first Utah collection from the Beaver Dam Mtns., at Castle Cliffs along U.S. Hwy. 91 [road to Littlefield, Arizona], south-facing slope, associated with *Buddleja*, *Agave*, *Larrea*, and *Psilostrophe* (Higgins 4162; BRY, WTSU), cited by Higgins (1972). The species otherwise ranges from southern Nevada to western Texas and southward to central México (Kartesz 1987, Cronquist 1994).

***Parthenocissus vitacea* (Knerr) Hitchc.**

“grape woodbine” Vitaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: GAR, KAN, SNJ; AZ, CO, NM, WY ++

Notes: Cronquist et al. (1997) cited the distribution as including “se. Utah (San Juan, Garfield, and Kane cos.), Ariz., Calif., and Texas; in [the Intermountain region] especially in the hanging gardens along the Colorado and San Juan rivers.”

***Paspalum distichum* L.**

“knot-grass” Poaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: UTA, WSH; AZ, ID, NV, NM ++

Notes: The map provided by Hitchcock and Chase (1951) supports the interpretation of *P. distichum* as a peripheral species in Utah. Acc. Arnow (in Welsh et al. 1993), the plants clog irrigation ditches in Washington Co.

***Pectis angustifolia* Torrey**

“plains chinch-weed” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: KAN, SNJ; AZ, CO, NM, WY +

Notes: In Utah known only from San Juan and eastern Kane cos. (Keil 1977, Albee et al. 1988, Cronquist 1994). The overall distribution of var. *angustifolia* was cited by Keil (1977) as “[w]estern

Status Category: *Peripheral*

Nebraska to eastern Arizona, western Texas, Chihuahua and northern Durango.” Another variety occurs in central Texas, and yet another in northeastern Mexico and adjacent Texas (Keil 1977).

***Pectis papposa* Harvey & Gray**

“chinch-weed”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: KAN?, SNJ?, WSH; AZ, NM, NV +

Notes: In Utah known only from Washington Co. (Keil 1977, Welsh et al. 1993, Cronquist 1994). Questionable Kane and San Juan county records as mapped in Albee et al. (1988). The overall distribution of var. *papposa* was cited by Keil (1977) as “[s]outhern California and southwestern Utah to southwestern New Mexico, south to Baja California and central Sinaloa.... *Pectis papposa* var. *papposa* often colors large areas of the Sonoran Desert during late summer. It is particularly abundant in central Arizona.” Another variety occurs further to the south and east, especially in the Rio Grande valley of western Texas and adjacent New Mexico (Keil 1977).

***Pectocarya heterocarpa* (I.M. Johnston) I.M. Johnston**

“mixed-nut combseed”

Boraginaceae

Federal Status: None

UTNHP Rank: G5/S3

Distribution: SNJ, WSH; AZ, NM, NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “s. Calif. and n. Baja Calif., e. across s. Nev. into Washington and San Juan cos., Utah, and into w. and s. Ariz. and n. Sonora.” New Mexico record as reported by Spellenberg et al. (1986), based on a collection from Luna Co. (*Worthington 9995*, NMC).

***Pectocarya platycarpa* (Munz & Johnston) Munz & Johnston**

“broad-winged combseed”

Boraginaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: WSH; AZ, NM, NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “s. Calif. and n. Baja Calif. to s. Nev. and w. and s. Ariz., and barely entering [the Intermountain region] in Washington Co., Utah.” Reported by Warrick (1987) as infrequent but locally common at base of sandstone ledges on the southern flank of the Pine Valley Mtns. New Mexico record as reported by Roalson and Allred (no date).

***Pectocarya setosa* A. Gray**

“bristly combseed”

Boraginaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: WSH; AZ, ID, NM?, NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “Yakima Co., Wash., s. through e. Oregon to Calif. and n. Baja Calif., e. in the Snake River Plains to Twin Falls Co., Idaho, in Nev. to Humboldt, Esmeralda, Lincoln, and s. Nye cos., throughout much of Ariz. into w. N.M. and in

Status Category: *Peripheral*

Washington Co., Utah.” Reported by Warrick (1987) as common in sandy areas at the southern base of the Pine Valley Mtns. Not in New Mexico (Roalson and Allred, no date; 1995a,b).

***Pedicularis contorta* Benth.**

“white coil-beaked lousewort” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX; ID, WY +

Notes: In Utah known only from the Raft River Mtns., Box Elder Co. (Welsh et al. 1993).

***Pedicularis procera* A. Gray**

“Gray’s lousewort” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: GRA, SNJ, SEV, UIN?; AZ, CO, NM, WY +

Notes: N. Holmgren (in Cronquist et al. 1984) cited the distribution as “sw. Wyo. and Black Hills of Nebr., s. through w. half of Colo., e. Utah (East Tavaputs Plateau and LaSal and Abajo mts.) to n. and w. N.M. and e. Ariz.” Questionable Uintah Co. record as mapped in Albee et al. (1988), evidently based on a literature reference [source?].

***Pediomelum retrorsum* Rydb.**

“Peach Springs bread-root” Fabaceae

Federal Status: None **UTNHP Rank:** G?/S1

Distribution: WSH; AZ, NV

Notes: For alternative treatment as *P. megalanthum* var. *r.* (Rydb.) Grimes, see Brittonia 38: 185. 1986. Acc. *AUF2* (Welsh et al. 1993), this species is known in Washington Co. from the western slope of the Beaver Dam Mtns. (on the Muddy Creek Formation) and east of the Hurricane Fault (Moenkopi Formation).

***Pellaea atropurpurea* (L.) Link**

“purple cliff-brake” Pteridaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: GRA, KAN, SNJ, WSH; AZ, CO, NM, NV, WY ++

Notes: Windham (in Morin 1993) reported the distribution as including southeastern Utah and extending widely to eastern North America and southward to México and Guatemala. The same author noted that *P. atropurpurea* is an apogamous triploid and that the diploid parent has not yet been found (if it is in fact not already extinct). The following Utah collections were seen at UT: [TO BE ADDED].

***Pellaea glabella* Mettenius ex Kuhn ssp. *occidentalis* (E. Nelson) Windham**

“Laramie cliff-brake” Pteridaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: UIN, ?; WY +

Status Category: *Peripheral*

Notes: For current treatment see Contr. Univ. Michigan Herb. 19: 39. 1993. Ssp. *occidentalis* treated in *AUF2* (Higgins in Welsh et al. 1993) as a synonym of *P. glabella* (sensu lato). Windham (in Morin 1993) treated *P. glabella* as including four geographically and genetically isolated subspecies (including two diploids and two autopolyploids). Most of the Utah plants belong to the tetraploid ssp. *simplex* (Butters) Á. & D. Löve. The Uintah Co. record for the diploid ssp. *occidentalis* is based on a 1982 collection from 18 miles northwest of Vernal, Brownie Canyon, limestone ledges near canyon bottom in a spruce-Douglas fir-aspen community, elev. 7900 ft. (*Goodrich 17716*; BRY?, UT; annot. by M. Windham, 1990). Outside the state, this subspecies ranges northeastward, usually on limestone, through much of Wyoming to eastern Montana, the western part of the Dakotas, and Canada in Alberta, Saskatchewan, Manitoba, and Northwest Territories (Windham in Morin 1993).

Pellaea wrightiana Hook.

“Wright’s cliff-brake” Pteridaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: KAN, WSH; AZ, CO, NM +

Notes: In Utah known from the Zion Canyon vicinity (Higgins in Welsh et al. 1993). Acc. Windham (in Morin 1993), “Wagner (1965) suggested that *Pellaea wrightiana* [is] a fertile allotetraploid hybrid between *P. truncata* Goodding (as *P. longimucronata* Hook.) and *P. ternifolia* (Cav.) Link. This hypothesis has been confirmed by isozyme analyses (Windham 1988)... This tetraploid species hybridizes with *P. truncata* and *P. ternifolia* ssp. *arizonica* Windham to produce sterile triploids and tetraploids with intermediate morphology and malformed spores.”

Penstemon crandallii A. Nelson var. crandallii

“Crandall’s beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4T4/S1

Distribution: SNJ; CO, NM?

Notes: Keck (1937) cited the overall distribution as “[f]requent from Teller County, [central] Colorado, to San Juan County, Utah, usually on dry, brush-covered slopes, at elevations of 1,800 to 3,050 m.” In Utah, var. *crandallii* is known only from the Abajo Mtns., San Juan Co. (Keck 1937, N. Holmgren in Cronquist et al. 1984, Neese in Welsh et al. 1993). Two other forms that Keck (1937) regarded as subspecies have been placed by Weber and Wittmann (1992) in synonymy under ssp. *crandallii*; these are ssp. *procumbens* (E. Greene) Keck from Gunnison Co., Colorado, and ssp. *glabrescens* (Pennell) Keck from southwestern Colorado and adjacent New Mexico. If Weber and Wittmann’s treatment is accepted, then the range of var. *crandallii* extends into New Mexico.

Penstemon deustus Douglas ex Lindley var. pedicellatus M.E. Jones

“hot-rock penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5T3/S1

Distribution: BOX; ID, NV +

Status Category: *Peripheral*

Notes: Type from Muncy, Schell Creek Range, White Pine Co., Nev. In Utah known only from the vicinity of Pilot Peak, Box Elder Co. (Neese in Welsh et al. 1993).

***Penstemon immanifestus* N. Holmgren**

“un-Revealed beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: JUA, MIL, TOO; NV

Notes: For original description see *Brittonia* 30: 334. 1978. Type from Steptoe Valley, 33.8 km n. of McGill, White Pine Co., Nevada. Acc. N. Holmgren (1978), *P. immanifestus* “is a common species in Nevada from southern Elko County south through White Pine County and along the eastern half of Nye and adjacent Lincoln counties, east to adjacent western Utah in western Toole, Juab, and Millard counties, and less common further west in southern Monitor Valley near Belmont, Nye County and Reese River Valley northwest of Austin, Lander County.”

***Penstemon speciosus* Douglas ex Lindley**

“showy penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, JUA, TOO; ID, NV +

Notes: In Utah known only from the Deep Creek and Raft River mtns. (Neese in Welsh et al. 1993). Cottam et al. (1940) reported *P. payettensis* Nelson & Macbr. from “Holstein Ranger Station, Minidoka Forest, Boxelder Co.” [specimen at UT]. The species has not been reported from Utah by more recent authors, and perhaps the specimen is merely misidentified *P. speciosus*.

Pentagramma triangularis* (Kaulf.) Yatskievych, Windham & Wollenweber ssp. *triangularis

“gold-back fern” Pteridaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: KAN, WSH; AZ?, ID, NV? +

Notes: For current treatment see *Amer. Fern J.* 80: 16. 1990. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Pityrogramma t.* (Kaulf.) Maxon. Acc. *AUF2*, this fern occurs in Utah only in western Kane and Washington cos., where it is found “[i]n crevices of rocks or in talus, usually where it is humid” (Flowers 1944). The latter author cited a single collection from Santa Clara Creek, Washington Co. (*Cottam 7500*, UT). Yatskievych et al. (1990) noted that ssp. *triangularis* “comprises a complex of morphological, cytological, and phytochemical variants.” Their concept of this subspecies applies to “plants with yellow farina and glabrous adaxial frond surfaces occurring ... in westernmost North America (B.C., Wash., Ore., Calif., Baja Calif. Norte)... Plants with yellow farina from Arizona, Nevada, and Utah [also extreme se. California?] may represent tetraploid hybrids between subsp. *triangularis* and subsp. *maxonii* (unpubl. data).”

Status Category: *Peripheral*

***Perideridia bolanderi* (A. Gray) Nelson & Macbr.**

“olasi” Apiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, JUA; ID, NV, WY +

Notes: In Utah known only from the Deep Creek Mtns. (Juab Co.) and from western Box Elder Co. (Goodrich in Welsh et al. 1993).

***Perityle emoryi* Torrey**

“white rock-daisy” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV ++

Notes: Cronquist (1994) cited the distribution as “s. Calif. to s. Nev. and sw. Utah, where barely entering [the Intermountain region] in Washington Co., s. to Baja Calif. and Sonora; common about Lake Mead, and extending up the Colorado River to the Little Colorado in Coconino Co., Ariz.; disjunct in Chile and Peru.”

***Petalonyx nitidus* S. Watson**

“shining sandpaper-plant” Loasaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: WSH; AZ, NV +

Notes: The overall distribution of this low subshrub was cited by Davis and Thompson (1967) as “[c]ommon in rocky canyons, washes of open desert, and sandy road banks above 3500 ft. Mojave Desert; ... Inyo and San Bernardino counties of California, to southern Nevada, southwestern Utah, and northwestern Arizona.” Acc. *AUF2* (Thorne and Welsh in Welsh et al. 1993), “[i]t has been more than six decades since this species was collected in Utah; possibly it is no longer a part of the flora.”

***Petasites sagittatus* (Banks ex Pursh) A. Gray**

“arrow-lvd. colt’s-foot” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: SAL; CO, ID, WY ++

Notes: Acc. Albee et al. (1988), *P. sagittatus* is a “native perennial herb; streamside; Little Cottonwood Canyon, Wasatch Range, Salt Lake Co. (UT).” Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993) or in Cronquist (1994).

***Petunia parviflora* A.L. Juss.**

“wild petunia” Solanaceae

Federal Status: None **UTNHP Rank:** G5/S1S2

Distribution: WSH; AZ, NM ++

Notes: In Utah known only from Beaver Dam Wash, Washington Co., where it was discovered in some abundance in the summer of 1985 (Higgins in Welsh et al. 1993).

Status Category: *Peripheral*

***Peucephyllum schottii* (A. Gray) A. Gray**

“pygmy-cedar”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Notes: In Utah, *P. schottii* occurs “on the sandstone and limestone foot slopes and talus slopes of Tabeau Peak in the Beaver Dam mts., Washington County” (Welsh et al. 1993). Monotypic genus.

***Phacelia affinis* A. Gray**

No common name

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: KAN, MIL, TOO?, WSH; AZ, NM, NV +

Notes: Occurrence in Utah “disjunct in widely scattered localities, rare” (Atwood in Welsh et al. 1993). Cronquist et al. (1984) cited the distribution in Utah as “sw. Utah (Kane Co. and the valley of the Virgin River), and n. irregularly to Tooele Co.”.

***Phacelia austromontana* J.T. Howell**

“San Gabriel Mtns. phacelia”

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: WSH; NV +

Notes: For original description see Leaflet West. Bot. 3: 190. 1942. Cronquist et al. (1984) cited the overall distribution as “mts. of s. Calif., as far n. as the White Mts.; disjunct in the Toquima Range of Nye Co., Nev., and in the Pine Valley Mts. of Washington Co., Utah.” Warrick (1987) cited two collections (Pine Valley Mtns., *Ripley & Barneby 4936*, CAS?; Oak Grove, *Cottam 8831*, UT) and reported *P. austromontana* as infrequent in mtn. mahogany-Gambel’s oak communities.

***Phacelia coerulea* E. Greene**

“sky-blue phacelia”

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NM, NV +

Notes: In Utah known only from the Beaver Dam Slope, Washington Co. (*Stahmann & Jacobs 60*, BRY).

***Phacelia cryptantha* E. Greene**

“limestone phacelia”

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “s. Calif. to Ariz., s. Nev., and sw. Utah (Pine Valley Mtns.)” Reported by Warrick (1987) as uncommon in creosote bush communities at the southeastern base of the Pine Valley Mtns. (Leeds Creek; east of Red Cliffs).

Status Category: *Peripheral*

***Phacelia curvipes* Torrey ex S. Watson**

“Washoe phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV +

Notes: Cronquist et al. (1984) cited the distribution as including “sw. Utah (Washington Co.)”

***Phacelia franklinii* (R. Brown) A. Gray**

“Franklin’s phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: DUC, WAS, ?; ID, WY ++

Notes: Cronquist et al. (1984) cited the distribution as including “disjunct in the Uinta Mts. of Utah.” Albee et al. (1988) map the Utah distribution in Wasatch and Duchesne cos.

***Phacelia integrifolia* Torrey**

“Torrey’s phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G4/S2?

Distribution: KAN, SNJ; AZ, CO, NM +

Notes: Cronquist et al. (1984) cited the distribution as “s. Utah (San Juan and Kane cos.)”

***Phacelia ivesiana* Torrey var. *glandulifera* (Piper) Nelson & Macbr.**

“Piper’s phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: BOX; ID, NV, WY +

Notes: In Utah known from a single collection from Box Elder Co. (Atwood in Welsh et al. 1993). Cronquist et al. (1984) cited the overall distribution of *P. glandulifera* Piper as “c. Wash., s. through e. Oregon to e. Calif. (as far s. as the White Mts.), e. to Elko and c. Nye cos. in Nev., and e. through the Snake River Plains of Idaho into sw. Wyo.”

***Phacelia lemmonii* A. Gray**

“Lemmon’s phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BEA, KAN?, SNJ?, WSH; AZ, NV +

Notes: Cronquist et al. (1984) cited the distribution as including “s. Utah (Beaver and Kane cos.)” Acc. Atwood (in Welsh et al. 1993), “[m]aterial from the head of Johnson Canyon, Kane County, and vicinity, are placed [with *P. lemmonii*] but possibly represent a taxonomic unit worthy of recognition.” Howell (1943) cited the distribution as “[d]esert mountains 3000 to 7000 feet, southern and southeastern California north to middle western Nevada and east to central Arizona.” No Utah collection localities were cited. “Although *P. lemmonii* is a widespread species in the desert ranges of southwestern America, it is not a common plant. It grows in moist places and in wet sand along streams.”

Status Category: *Peripheral*

***Phacelia lutea* (Hook. & Arn.) J.T. Howell var. *scopulina* (A. Nelson) Cronquist**

“yellow-fl. phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: SNP, TOO; NV, WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(4): 168. 1959. For alternative treatment as *P. scopulina* (A. Nelson) J.T. Howell, see Leafl. West. Bot. 4: 16. 1944.

Type of *Emmenanthe foliosa* M.E. Jones from Deep Creek Valley above Furber, Tooele Co. Cronquist et al. (1984) cited the distribution of var. *scopulina* as including “Utah (Tooele Co.), and disjunct in San Pete Co., Utah.” *P. salina* (A. Nelson) J.T. Howell rare and possibly extirpated from Utah (Welsh et al. 1975). Distribution given as Tooele Co., Utah, and adjacent Nevada and southern Wyoming. For treatment of *P. salina* (A. Nelson) J.T. Howell see Leafl. West. Bot. 4: 16. 1944. Both Cronquist et al. (1984) and *AUF2* (Atwood in Welsh et al. 1993) treated *P. salina* (A. Nelson) J.T. Howell as a synonym of *P. lutea* (Hook. & Arn.) J.T. Howell. Cronquist et al. (1984) further indicated that *P. salina* = *P. lutea* var. *scopulina* (A. Nelson) Cronquist.

***Phacelia peirsoniana* J.T. Howell**

“Peirson’s phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: WSH; NV +

Notes: For original description see Leafl. West. Bot. 3: 117. 1942. In Utah restricted to upper Beaver Dam Wash, Washington Co. (Atwood in Welsh et al. 1993).

***Phacelia rotundifolia* Torrey ex S. Watson**

“round-lvd. phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: KAN, WSH; AZ, NV +

Notes: Type from “southern Utah,” probably Washington Co. (*Palmer s.n.* in 1870; holotype NY, isotype US). Cronquist et al. (1984) cited the distribution as including “sw. Utah (Washington and Kane cos.)” Howell (1943) cited the distribution as including “southwestern Utah and south to western Arizona.... *Phacelia rotundifolia* is the most common and widespread species in the [*P. pulchella*, *P. rotundifolia* and related species] group ... and it is also the most abundantly collected.” Additional Utah collection localities cited: St. George; 1 mile east of Hurricane, 3400 ft. (both Washington Co.).

***Phacelia tetramera* J.T. Howell**

“diminutive phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: WEB; NV +

Notes: For current treatment see Leafl. West. Bot. 4: 16. 1944. Cronquist et al. (1984) cited the distribution as including “Weber Co., Utah.”

Status Category: *Peripheral*

***Phacelia vallis-mortae* Voss**

“Death Valley phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: WSH; AZ, NV +

Notes: Cronquist et al. (1984) cited the distribution as including “sw. Utah, and along the valley of the Virgin River in Washington Co., Utah.” Reported as “very common” in southern Nevada acc. Kartesz (1987). CA, NV, UT and AZ.

***Phoradendron californicum* Nutt.**

“desert mistletoe” Viscaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NM, NV +

Notes: In Utah known only from Beaver Dam Wash, Washington Co. (Atwood in Welsh et al. 1993).

***Phyla cuneifolia* (Torrey) E. Greene**

No common name Verbenaceae

Federal Status: None **UTNHP Rank:** G5/S3?

Distribution: CAR, EME, GRA, (MIL), UIN, (UTA), WAY?; AZ, CO, NM, WY +

Notes: Cronquist et al. (1984) cited the distribution as including “Utah (along the Green River, and as a casual weed in Utah and Millard cos.)”

***Phyla lanceolata* (Michaux) E. Greene**

No common name Verbenaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: GRA; AZ, CO, NM, NV ++

Notes: In Utah known from a single collection (R. Pendleton 121, BRY) from a palustrine community in Grand County.

***Physalis crassifolia* Benth.**

“thick-lvd. ground-cherry” Solanaceae

Federal Status: None **UTNHP Rank:** G5/S1?

Distribution: SNJ, WSH; AZ, NV +

Notes: Distribution cited by Hitchcock and Cronquist (in Cronquist et al. 1984) as including “nw. and sc. Ariz. (to within 5 mi of the Utah border in the Narrows of the Virgin River).” The weakly separable var. *versicolor* is known only from the McCullough Mts., Clark Co. CA, NV, UT and AZ. Arizona distribution cited by Kearney and Peebles (1951) as including “Southern Utah.”

Status Category: *Peripheral*

Physalis hederifolia* A. Gray var. *hederifolia

“ivy-ld. ground-cherry” Solanaceae

Federal Status: None **UTNHP Rank:** G5?T?/S1

Distribution: GAR, MIL, WSH; AZ, NM +

Notes: Distribution of var. *hederifolia* cited by Hitchcock and Cronquist (in Cronquist et al. 1984) as including “isolated stations in Millard and Washington cos., Utah.” Acc. Higgins (in Welsh et al. 1993), “[t]he specimens examined are equivocal, not quite fitting the description of any of the [named] varieties.”

***Physalis lobata* Torrey**

“purple-fl. ground-cherry” Solanaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: GRA, SNJ; AZ, CO, NM, NV +

Notes: Cottam et al. (1940) cited a location at “Bluff, San Juan Co., sand dunes” [specimen at BRY].

***Physostegia parviflora* Nutt. ex A. Gray**

“purple dragon’s-head” Lamiaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: CAC, RIC; CO?, ID, WY +

Notes: For alternative treatment as *P. virginiana* var. *p.* (A. Gray) B. Boivin, see *Naturaliste Canad.* 93: 575. 1966. Cronquist and Reveal (in Cronquist et al. 1984) cited the distribution as including “the vicinity of Bear Lake, and in Cache Valley, Utah.”

***Plagiobothrys arizonicus* (A. Gray) E. Greene ex A. Gray**

“Arizona popcorn-flower” Boraginaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: DAV?, WSH; AZ, NM, NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “N.M. to s. Nev. and s. Calif., bordering [the Intermountain region] in s. Nev., and entering it in Washington Co., Utah.” Reported by Warrick (1987) as frequent in sandy areas at the southern base of the Pine Valley Mtns. Questionable Davis Co. record based on a collection from Antelope Island (mapped in Albee et al. 1988).

***Plagiobothrys jonesii* A. Gray**

“Jones’ popcorn-fl.” Boraginaceae

Federal Status: None **UTNHP Rank:** G4/S2?

Distribution: SNJ, WSH; AZ, NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “Mojave Desert region in s. Nev., se. Calif., and w. Ariz., extending into [the Intermountain region] in s. Utah (Washington Co. and Lake Powell in San Juan Co.), and along the lower part of the White Mts. in Calif.” Reported by Warrick

Status Category: *Peripheral*

(1987) as uncommon in creosote bush and blackbrush communities at the southern base of the Pine Valley Mtns.

***Plagiobothrys tenellus* (Nutt. ex Hook.) A. Gray**

“slender popcorn-fl.” Boraginaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: SAL, WSH; AZ, ID, NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “Wash. and adj. s. B.C. and w. Idaho, s. through Oregon, w. Idaho, Calif., and w. Nev. to Baja Calif., and e. irregularly to Utah (Wasatch and Pine Valley mts.)” Reported by Warrick (1987) as uncommon at middle elevs. in the Pine Valley Mtns., moist areas in pinyon-juniper woodland, a single collection cited from Bitter Creek (*Atwood 5032*, BRY).

***Plantago elongata* Pursh**

“alkali plantain” Plantaginaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: BOX, CAC, DAV, SAL, UIN; CO, ID, NM, WY +

Notes: Type of *P. myosuroides* Rydb. from Salt Lake Co. Cronquist et al. (1984) cited the distribution as including “Salt Lake Valley, Cache Valley, and the Uinta Basin, Utah.... Our plants belong to the widespread var. *elongata*.”

***Platanthera hyperborea* (L.) Lindley var. *gracilis* (Lindley) Luer**

“Menzies’ bog-orchid” Orchidaceae

Federal Status: None **UTNHP Rank:** G5TU/S2

Distribution: DAG, DUC, SUM, UIN, UTA; AZ, CO, ID, NM?, NV, WY +

Notes: For current treatment see Native Orchids U.S. & Canada 232. 1975. For alternative treatment as *P. stricta* var. *g.* (Lindley) Hultén, see Acta Univ. Lund. 2, 39, nr. 1: 483. 1943. Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Habenaria sparsiflora* S. Watson var. *laxiflora* (Rydb.) Correll, Leafl. West. Bot. 3: 245. 1943. Acc. Luer (1975), “[t]his variety grows in colonies separate from typical *P. hyperborea*. It is distributed in the higher elevations of the mountains of the northwest as far as the Alaskan pandhandle. It favors steep, wet seepage-slopes or streambeds, often in company with *P. dilatata* (Pursh) Lindley ex Beck.” The same author mapped the distribution of var. *gracilis* as including northeastern Utah along with the following neighboring states: northeastern Arizona, western Colorado, northern Idaho, western and southern Nevada, and western Wyoming (but not New Mexico).

***Platystemon californicus* Benth.**

“cream-cups” Papaveraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV? +

Status Category: *Peripheral*

Notes: Type of *P. remotus* E. Greene from near St. George, Washington Co. Type of *P. rigidulus* E. Greene from near St. George, Washington Co. Type of *P. terminii* Fedde from Diamond Valley, Washington Co. Clark (in Morin 1997) cited the distribution as including “Utah.” Acc. Hannan (in Morin 1997), “This highly variable, wind-pollinated taxon has been split into as many as 57 species on the basis of characteristics showing little cohesiveness. Ecotypic variation has produced morphologic extremes ranging from semisucculent, nearly glabrous coastal forms to very robust, moderately pubescent plants of interior grassland to compact, densely pubescent plants of semidesert habitats (G.L. Hannan 1979, 1982)... Rather than naming each ecotype, it seems best to treat *Platystemon* as a single, highly variable species with many locally adapted, intergrading populations.”

***Pleuraphis rigida* Thurber**

“big galleta”

Poaceae

Federal Status: None

UTNHP Rank: G5/S3

Distribution: WSH; AZ, CO?, NM, NV +

Notes: For recent taxonomic treatment see Reeder and Reeder (1988). Treated in *AUF2* (Arnow in Welsh et al. 1993) as *Hilaria r.* (Thurber) Benth. ex Scribner. A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as including “[sw.] Utah.”

***Pluchea odorata* (L.) Cass.**

“marsh-fleabane”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: WSH; AZ, NM, NV ++

Notes: Treated in *AUF2* (Welsh et al. 1993) as *P. camphorata* (L.) DC., a name which acc. Cronquist (1994) has been misapplied to plants from Utah and elsewhere in the Intermountain region. Cronquist (1994) cited the distribution as including “sw. Utah (Washington Co.)”

***Pluchea sericea* (Nutt.) Cov.**

“arrow-wood”

Asteraceae

Federal Status: None

UTNHP Rank: G4G5/S3

Distribution: GAR, KAN, SNJ?, WAY?, WSH; AZ, NM, NV +

Notes: Cronquist (1994) cited the distribution as including “s. Utah (Washington, Wayne, and San Juan cos.)”

***Poa bolanderi* Vasey**

“Bolander’s bluegrass”

Poaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, GAR?, RIC; ID, NV +

Notes: Annual grass, the Cache Co. record as reported in *AUF2* (Arnow in Welsh et al. 1993). Rich Co. record based on two 1993 collections from the Bear River Range, cited by Allen and Curto (1995): ca. 8.5 road miles south of U.S. Hwy. 89 on U.S. Forest Service road 055, elev. 8000 ft.

Status Category: *Peripheral*

(*Curto & Allen 1036*, UTC), 2.5 miles north of U.S. Hwy. 89 along U.S. Forest Service road 014 (*Barkworth et al. 136-93*, UTC). Questionable Garfield Co. record as reported in *AUF2*, based on a collection originally determined as *P. occidentalis* Vasey (*Eggleston 8219*, US; cited in *Contr. U.S. Natl. Herb. 1: 274. 1893*). A. and N. Holmgren (in Cronquist et al. 1977, p. 236) considered this report as probably belonging to *P. palustris* L. Outside of Utah, *P. bolanderi* is found in mtns. from Idaho and Washington to northwestern Nevada and Calif. (A. and N. Holmgren in Cronquist et al. 1977, Kartesz 1987, Soreng in Hickman 1993).

***Poa lettermanii* Vasey**

“Letterman’s bluegrass”

Poaceae

Federal Status: None

UTNHP Rank: G4/S2?

Distribution: DUC, GRA, SNJ, SUM; CO, ID?, NV, WY +

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as “[r]ocky ridges and ledges mostly above timberline in the Uinta (Utah) and Ruby (Nev.) mts.; B.C., Wash. and Calif. (Sierra Nevada), and e. to Wyo. and Colo. ... This species is rarely encountered in [the Intermountain] region.”

***Polemonium brandegei* (A. Gray) E. Greene**

“pale sky-pilot”

Polemoniaceae

Federal Status: None

UTNHP Rank: G4/SH

Distribution: PIU; CO, NM, WY +

Notes: Known in Utah from a single early collection from the Tushar Mtns., Piute Co. (Welsh et al. 1993, p. 531).

***Polemonium micranthum* Benth.**

“annual polemonium”

Polemoniaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: CAC, DAV, SAL, UTA; ID, NV, WY ++

Notes: Cronquist et al. (1984) cited the distribution as including “Utah; in Utah s. in the Wasatch Mts. Sect. to Provo.”

***Polygala acanthoclada* A. Gray**

“thorny milk-wort”

Polygalaceae

Federal Status: None

UTNHP Rank: G4G5/S3?

Distribution: SNJ; AZ +

Notes: Type from San Juan Co., along the San Juan River near the Colorado border (*Brandegee 1172*; holotype GH, isotype NY). Cronquist and N. Holmgren (in Cronquist et al. 1997) cited the distribution of *P. acanthoclada* var. *a.* as including “s. San Juan Co., Utah.” Acc. Cronquist and N. Holmgren (in Cronquist et al. 1997), *P. acanthoclada* “consists of two well marked geographic varieties, distinguished mainly by the pubescence and to some extent by the length of the pedicels. Intergradation is said to be mainly at the tetraploid level.”

Status Category: *Peripheral*

Polygonum minimum S. Watson

“leafy dwarf knotweed”

Polygonaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SAL, SUM; CO, ID, NV, WY ++

Notes: Type from Summit Co., Uinta Mtns. (*Watson 1058*, US).

Polypodium glycyrrhiza D.C. Eaton

“licorice fern”

Polypodiaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: WSH; ID ++

Notes: Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). Reported as occurring in Utah by Windham (1993a). Washington Co. record based on a 1940 collection from Zion Canyon, crevices of rocks in shade, elev. 5600 ft. (*Flowers 3035*, UT; det. by coll. as *P. hesperium* Maxon; annot. by M. Windham, 1990). *P. glycyrrhiza* otherwise ranges from Alaska southward to Calif. and Idaho, also eastern Asia in Kamchatka (Haufler et al. in Morin 1993). The Zion Canyon plants are remarkably disjunct, and one cannot help but wonder whether the specimen might be mislabeled. However, there are other significant range extensions in the same area [e.g., *Asplenium adiantum-nigrum* L., *Chimaphila menziesii* (R. Brown ex D. Don) Sprengel].

Polystichum kruckebergii W.H. Wagner

“Kruckeberg’s holly-fern”

Dryopteridaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: BOX; ID, NV +

Notes: For original description see Amer. Fern J. 56: 4. 1966. In Utah known only from the Raft River Mtns., Box Elder Co. (Cronquist et al. 1972, Albee et al. 1988). The single Utah specimen cited by W.H. Wagner (1966) is from the head of Middle Fork of Drum Canyon, elev. 9500 ft., infrequent in dry places in crevices of cliffs, in contact with quartzite and serpentine (*Maguire & Holmgren 2225*; US, UC, NY). The same author cited the overall distribution as “sporadically ... from Utah and California north to British Columbia.” Acc. D.H. Wagner (in Morin 1993), “*Polystichum kruckebergii* is a tetraploid presumed to be of hybrid origin, with *P. lonchitis* (L.) Roth and *P. lemmonii* Underwood as its diploid progenitors (W.H. Wagner 1973), although this hypothesis has not been confirmed.”

Populus balsamifera L. ssp. trichocarpa (Torrey & Gray) Brayshaw

“black cottonwood”

Salicaceae

Federal Status: None

UTNHP Rank: G5T5/S2?

Distribution: BOX?, CAC?, JUA?, PIU?, SAL?, SEV?, TOO?, UTA?, WAS?, WAY?; ID, NV, WY ++

Notes: For current treatment see Canad. Field-Nat. 79: 95. 1965. Treated by Dorn (1992) as *P. balsamifera* var. *californica* S. Watson. Hitchcock and Cronquist (1964) cited the distribution of *P. trichocarpa* Torrey & Gray as including “w. Utah (Deep Creek Mts.)... *Populus trichocarpa* is

Status Category: *Peripheral*

the w. vicariad of the eastern and northern *P. balsamifera* L., which differs in its narrower, glabrous, 2-carpellate ovaries and fruits and fewer (commonly about 20) stamens. There is evidently some hybridization and introgression between them where their ranges overlap, and they might with some justification be treated as geographical races of a single species." Additional data needed on occurrence and status in Utah; at least some of the county records cited in *AUF2* (Goodrich in Welsh et al. 1993) may be based on cultivated plants.

Porophyllum gracile Benth.

"odora"

Asteraceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: SNJ, WSH; AZ, NM, NV +

Notes: Cronquist (1994) cited the distribution as including "[the Intermountain region] in Nev. and sw. Utah (Washington Co.); also a casual roadside weed in San Juan Co., Utah." Cottam et al. (1940) cited a location for *P. gracilis* [sic] "between Leeds and St. George, Washington Co." (based on a specimen at UT).

Porterella carnulosa (Hook. & Arn.) Torrey

No common name

Campanulaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: SEV, SUM; AZ, ID, NV, WY +

Notes: P. Holmgren (in Cronquist et al. 1984) cited the distribution as including "w. Wyo., s. to ne. Calif. (as far s. as Tulare Co.), n. Nev., and ne. and c. Utah; disjunct in n. Ariz." Rare in northern Nevada acc. Kartesz (1987). Monotypic genus.

Potamogeton epihydrus Raf. ssp. nuttallii (Cham. & Schldl.) Calder & Taylor

"Nuttall's pond-weed"

Potamogetonaceae

Federal Status: None

UTNHP Rank: G5T?Q/S1

Distribution: SAL, SUM?; CO, ID, NV?, WY ++

Notes: For current treatment see Canad. J. Bot. 43: 1388. 1965. Questionable Summit Co. record as mapped in Albee et al. (1988), evidently based on a literature reference [source?]. Reveal (in Cronquist et al. 1977) noted that "[t]he distinction between those plants with submersed leaves 5-10 mm wide (as var. *epihydrus*) and those with narrower ones, (1) 2-8 mm wide (as var. *nuttallii*), seems hardly worth the effort."

Potamogeton filiformis Pers. var. alpinus (Blytt) Asch. & Graebn.

"thread-lvd. pond-weed"

Potamogetonaceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: SUM, ?; CO, ID, WY ++

Notes: A submerged aquatic herb with a circumboreal distribution; in North America from Alaska and Canada southward at high elevations in the Rocky Mtns. to Colorado (St. John 1916, Reveal in Cronquist et al. 1977). Summit Co. record based on a collection from "Bear River, 8,000 feet

Status Category: *Peripheral*

altitude” (*Watson 1144*; GH, YU), cited by St. John (1916) under his *P. filiformis* var. *borealis* (Raf.). The var. *alpinus* has also been reported from the Wasatch Plateau (Reveal in Cronquist et al. 1977).

Potamogeton friesii Rupr.

“Fries’ pond-weed”

Potamogetonaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: SEV, SUM; ID, WY ++

Notes: A submerged aquatic herb with a circumboreal distribution; in North America from Alaska to Newfoundland and southward to the northern U.S. (Fernald 1932, Haynes 1974, Reveal in Cronquist et al. 1977). Sevier Co. record based on a report from Fish Lake (Reveal in Cronquist et al. 1977). Summit Co. record based on a collection from Lyman Lake (*Hobson 52*, GH), cited by Haynes (1974). In neighboring states, the species is known from Mud Lake, Jefferson Co., Idaho (Reveal in Cronquist et al. 1977) and from Carbon and Teton cos., Wyoming (Dorn 1992).

Potamogeton illinoensis Morong

“Illinois pond-weed”

Potamogetonaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, ?; CO, ID, NM, NV, WY ++

Notes: Higgins (in Welsh et al. 1993) indicated a single Utah record from Cache Co. Reveal (in Cronquist et al. 1977) cited the distribution as including “... most of Utah...”

Potamogeton robbinsii Oakes

“Robbins’ pond-weed”

Potamogetonaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DAG?, RIC?, SEV; ID, WY ++

Notes: In Utah known from a Sevier Co. collection (Albee et al. 1988, Higgins in Welsh et al. 1993) and from literature references [source?] placing it in Daggett and Rich cos. (as mapped in Albee et al. 1988). Higgins (in Welsh et al. 1993) did not mention a Daggett Co. record and considered the Rich Co. record questionable.

Potamogeton strictifolius Bennett

“rigid-lvd. pond-weed”

Potamogetonaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SUM; ID?, WY ++

Notes: A submerged aquatic herb, known in Utah by a single collection taken in 1869 from “Bear R., alt. 8,000 ft.” (*Watson 1136*; GH, K, NY, US), cited by Fernald (1932) and by Haynes (1974) who erroneously placed the locality in Box Elder Co. Expected in Idaho acc. Davis (1952); known in Wyoming from Yellowstone Natl. Park and in Albany Co. (Dorn 1992). *P. strictifolius* otherwise ranges widely in the northeastern U.S. and eastern Canada (Fernald 1932, Haynes 1974, Reveal in Cronquist 1977). Fernald (1932) treated the Utah specimen as belonging to his var. *rutiloides* [*P.*

Status Category: *Peripheral*

pusillus var. *r.* (Fern.) B. Boivin, *Naturaliste Canad.* 94: 527. 1967] which reportedly differs in having lvs. firm (not rigid), lvs. tapering gradually to the apex (not obtuse or mucronate), and stipules less strongly fibrous. More recent authors, however, have not recognized var. *rutiloides*, noting that the two forms occupy the same geographic range and (at least in some cases) can be found within the same population (Haynes 1974, Reveal in Cronquist et al. 1977).

Potamogeton vaginatus Turcz.

“sheathed pond-weed” Potamogetonaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: GAR, UTA, WSH; CO, ID, WY ++

Notes: Reveal (in Cronquist et al. 1977) cited the distribution as including “Oregon, Idaho and Utah, Wyo...; rare in [the Intermountain region] in se. Oregon (Lake Sect.) and n. Utah.”

Potamogeton zosteriformis Fern.

“eel-grass pond-weed” Potamogetonaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: SEV; ID, WY ++

Notes: For alternative treatment as *P. zosterifolius* var. *zosteriformis* (Fern.) Hultén, see Kongl. Svenska Vetenskapsakad. Handl. IV, 8(5): 168. 1962. Albee et al. (1988) cited the Utah distribution as “native perennial aquatic; ... Fish Lake, Sevier Co.”

Potentilla palustris (L.) Scop.

“marsh cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: UIN; CO, ID, WY ++

Notes: Acc. Goodrich and Neese (1986), “[t]he few specimens seen are from S. Fork Ashley Cr. drainage, Uinta Mts.; bogs and margins of ponds; 9,640-9,740 ft.”

Potentilla plattensis Nutt. in Torrey & Gray

“plains cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: BOX?, GAR, KAN, SEV, WAY; AZ, CO, NM, WY +

Notes: N. Holmgren (in Cronquist et al. 1997) cited the distribution as including “... scattered localities in s. Utah (Sevier, Wayne, and Kane cos.)” A questionable Box Elder Co. record, cited in *AUF2* (Welsh et al. 1993), may be based on misidentified specimen(s) of *P. ovina* Macoun.

Primula incana M.E. Jones

“silvery primrose” Primulaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: DAG, GAR; CO, ID, WY +

Status Category: *Peripheral*

Notes: Type from Garfield Co., head of South Fork of East Fork Sevier River, cold bogs at 7,000 feet (*Jones 5312av*; holotype? POM). Goodrich and Neese (1986) cited a Daggett Co. locality at Sheep Creek Park, Uinta Mtns., wet meadow at 8600 ft. elev. (*Goodrich 19523*, BRY?).

***Proboscidea parviflora* (Wooton) Wooton & Standley**

“devil’s-claw” Martyniaceae

Federal Status: None **UTNHP Rank:** G4G5/S2?

Distribution: WSH; AZ, NM, NV +

Notes: Reported in *AUF2* (Higgins in Welsh et al. 1993) as occurring in Washington Co. (where probably indigenous) and Utah Co. (where adventive).

***Prosopis glandulosa* Torrey var. *torreyana* (L. Benson) M. Johnston**

“honey mesquite” Fabaceae

Federal Status: None **UTNHP Rank:** G5?T5?/S2?

Distribution: WSH; AZ, NM, NV +

Notes: For original description see *Amer. J. Bot.* 28: 751. 1941. For current treatment see *Brittonia* 14: 82. 1962. For alternative treatment as *P. g. ssp. t.* (L. Benson) E. Murray, see *Kalmia* 12: 23. 1982. Acc. Barneby (1989), var. *torreyana* is the common form of *P. glandulosa* in the southwestern deserts, entering the Intermountain region along the Virgin valley, western Washington Co., Utah.

***Prosopis odorata* (Torrey & Frémont) Torrey & Frémont emend. Welsh**

“screwbean mesquite” Fabaceae

Federal Status: None **UTNHP Rank:** G4G5/S2?

Distribution: WSH; AZ, NM, NV +

Notes: These are the plants that have been treated by previous authors, including Barneby (1989), as *P. pubescens* Benth. Acc. *AUF2* (Welsh et al. 1993), “[a]lthough the formal proposal of *Prosopis odorata* by Torrey & Frémont (Rep. Explor. Exped. Oregon & California 313. 1845) was based on discordant type material and has been rejected, the species is adequately characterized and typified on page 260 of that report. The disposition in the botanical appendix is regarded as an inadvertent new combination of *Spirolobium odoratum* Torrey & Frémont.” Barneby (1989) cited the distribution of *P. pubescens* [= *P. odorata*] as including “... [the Intermountain region] by way of the Virgin valley in w. Washington Co., Utah.”

***Prunus emarginata* (Douglas ex Hook.) D. Dietr.**

“bitter cherry” Rosaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, ID, NM, NV, WY? +

Notes: Large shrubs or small trees, known in Utah known only from the Pine Valley Mtns. (Washington Co.) where found in “two neighboring populations near Oak Grove” (Three Pine Creek, *Warrick 1046*; near the headwaters of Spirit Creek, *Warrick 1474 & 2597*; all at BRY?), cited by

Status Category: *Peripheral*

Warrick (1987). The same author noted that the species is “[r]are but locally common along streams in [mtn. mahogany-Gambel’s oak] and ponderosa pine forests.” The distribution otherwise was cited by N. Holmgren (in Cronquist et al. 1997) as “s. B.C., Wash., and nw. Mont., s. through Oregon and w. Idaho to Calif. and Nev.; in [the Intermountain region] in Oregon on Steens Mt. (Harney Co.), in Idaho in the Owyhee Mts. (Owyhee Co.) and South Hills (Twin Falls Co.), [and] in Nev. in the Pine Forest Range (Humboldt Co.).”

***Psathyrotes ramosissima* (Torrey) A. Gray**

“turtleback”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1S2

Distribution: WSH; AZ, NV +

Notes: Cronquist (1994) cited the distribution as including Washington Co., Utah.

***Psilocarphus brevissimus* Nutt.**

“woolly-marbles”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, SAL; ID, NV, WY ++

Notes: Welsh et al. (1993) and Cronquist (1994) indicated the Utah distribution as being in Cache and Salt Lake cos.

***Psilostrophe cooperi* (A. Gray) E. Greene**

“white-stemmed paper-flower”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: WSH; AZ, NM, NV +

Notes: Welsh et al. (1993) and Cronquist (1994) indicated the Utah distribution as being in southwest Utah, Washington Co.

***Psilostrophe tagetina* (Nutt.) E. Greene**

“marigold-paperflower”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: GRA, SNJ?; AZ, NM +

Notes: Cronquist (1994) cited the distribution as including “... se. Utah (near Moab)”. Questionable San Juan Co. record as reported in Albee et al. (1988, p. 613).

Psorothamnus polydenius* (Torrey ex S. Watson) Rydb. var. *polydenius

“gland-dotted indigo-bush”

Fabaceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: WSH; NV +

Notes: In Utah restricted to the west slope of the Beaver Dam Mtns., Washington Co., specifically the Limestone Knolls and Welcome Springs sections, west of Castle Cliff (Welsh et al. 1993).

Status Category: *Peripheral*

***Pterostegia drymarioides* Fischer & Meyer**

No common name Polygonaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ, NV +

Notes: In Utah known only from Washington Co. (Welsh et al. 1993). Rare in southern Nevada acc. Kartesz (1987). Monotypic genus.

***Puccinellia simplex* Scribner**

“little alkali-grass” Poaceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: WEB?; +

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as “Central Valley and interior valleys of the Coast Ranges, Calif. and ... Weber Co., Utah.” Arnow (in Welsh et al. 1993) reported that the species is “[k]nown in Utah from a single population in a heavily grazed greasewood community.... [I]t was first seen in 1974 and was recollected from a population covering many acres in 1982, but not seen on subsequent visits.”

***Purshia glandulosa* Curran**

“desert bitter-brush” Rosaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: IRO, WSH; AZ, NV +

Notes: In Utah known only from the Beaver Dam Mtns. and vicinity, Washington Co. (Welsh et al. 1993). Treated by Rosatti (in Hickman 1993) as *Purshia tridentata* var. *glandulosa* (Curran) M.E. Jones.

***Pyrrocoma crocea* (A. Gray) E. Greene**

“orange-rayed goldenweed” Asteraceae

Federal Status: None **UTNHP Rank:** G4?/S1

Distribution: GRA, SNJ; AZ, CO, NM, WY

Notes: *AUF2* (Welsh et al. 1993) treated this taxon as *Haplopappus croceus* A. Gray. Cronquist (1994) cited the distribution as including “... the La Sal mts. of Utah.” Acc. *AUF2*, the earlier report of this species from Kolob Reservoir, Washington Co. (Welsh et al. 1987) was based on a misidentified specimen of *Haplopappus clementis* (Rydb.) S.F. Blake [= *Pyrrocoma clementis* Rydb.].

***Pyrrocoma hirta* (A. Gray) E. Greene**

“sticky goldenweed” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: BOX; NV, ID +

Status Category: *Peripheral*

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Cronquist (1994) cited the distribution of *Haplopappus hirtus* A. Gray as including "... the w. edge of Box Elder Co., Utah." Rare or infrequent in Nevada acc. Kartesz (1987).

***Pyrocoma racemosa* (Nutt.) Torrey & Gray var. *paniculata* (Nutt.) Kartesz & Gandhi**

No common name

Asteraceae

Federal Status: None

UTNHP Rank: G5T4/S1

Distribution: BOX?, CAC, UTA; ID, NV +

Notes: For current treatment see *Phytologia* 71: 61. 1991. For alternative treatment as *Haplopappus racemosus* var. *paniculatus* (Nutt.) Cronquist, see *Intermt. Fl.* 5: 210. 1994. These are the plants that were treated in *AUF2* (Welsh et al. 1993) as *Haplopappus racemosus* var. *prionophyllus* (E. Greene) Welsh (*Great Basin Nat.* 43: 294. 1983), which Cronquist (1994) regarded as a synonym of var. *paniculatus*. Known in Utah from Cache and Utah cos. where evidently rare (Welsh et al. 1993, Cronquist 1994). Questionable Box Elder Co. record as mapped in Albee et al. (1988).

***Pyrocoma racemosa* (Nutt.) Torrey & Gray**

var. *sessiliflora* (E. Greene) Mayes ex Brown & Keil

"Nevada goldenweed"

Asteraceae

Federal Status: None

UTNHP Rank: G4T2T4/S1

Distribution: MIL; NV +

Notes: For current treatment see *Phytologia* 73: 58. 1992. Treated in *AUF2* (Welsh et al. 1993) as *Haplopappus racemosus* var. *sessiliflorus* (E. Greene) Welsh (*Great Basin Nat.* 43: 294. 1983). Acc. *AUF2* (Welsh et al. 1993), this variety is known in Utah only from Snake Valley (western Millard Co.). Other recent authors (Kartesz 1987, Brown in Hickman 1993, Cronquist 1994) have not included Utah in their range descriptions; additional study needed.

***Rafinesquia californica* Nutt.**

"California-chicory"

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Notes: Welsh et al. (1993) and Cronquist (1994) cited the distribution as including Washington Co., Utah. Ditypic genus.

***Rafinesquia neomexicana* A. Gray**

"desert-chicory"

Asteraceae

Federal Status: None

UTNHP Rank: G5?/S2S3

Distribution: WSH; AZ, NM, NV +

Notes: Welsh et al. (1993) and Cronquist (1994) cited the distribution as including Washington Co., Utah. Ditypic genus.

Status Category: *Peripheral*

Ranunculus aquatilis L. var. hispidulus E. Drew

“white-fl. water-buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5T?Q/S1

Distribution: BEA, CAC, SAL, SNJ, SUM, WAS; NV, ID, WY +

Notes: Benson (1948) cited Utah specimens of var. *hispidulus* from Beaver, Cache, San Juan, and Summit cos. The Salt Lake and Wasatch county records were reported in *AUF2* (Welsh et al. 1993); evidently of wide but sporadic distribution in the state (at least very rarely collected). Whittemore (in Morin 1997) treated var. *hispidulus* as a synonym of var. *aquatilis*.

Ranunculus eschscholtzii Schlecht. var. eximius (E. Greene) L. Benson

“Bighorn Mtns. buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: GRA?, SNJ; AZ, ID, WY +

Notes: For current treatment see Bull. Torrey Bot. Club 68: 654. 1941. The distribution of var. *eximius* was reported by Benson (1948) as including the La Sal Mtns. of southeastern Utah (specimens cited from San Juan Co. and possibly Grand Co.). *AUF2* (Welsh et al. 1993) implied that var. *eximius* is poorly defined and perhaps not distinct from *R. eschscholtzii* (sensu lato), but more recently it was maintained at varietal level by Whittemore (in Morin 1997).

Ranunculus flabellaris Raf.

“yellow-fl. water-buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, DUC, SAL, SUM; ID, NV, WY ++

Notes: Benson (1948) cited the following specimens from northern Utah: Cache Co., near Logan (*Piranian s.n.* in 1935; UTC, WS, WTU); Salt Lake Co., Poplar Grove (*Garrett 2679*; NY, Clokey herbarium). Goodrich and Neese (1986) cited two collections (*Brotherson 2427*, *Goodrich 15024*; both at BR?Y?) from Rock Creek, Uinta Mtns., Duchesne Co., elev. 7600 ft. The Summit Co. record was reported in *AUF2* (Welsh et al. 1993).

Ranunculus gelidus Kar. & Kir. ssp. grayi (Britton) Hultén

“tundra buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: DUC, SUM; CO, ID, WY ++

Notes: For current treatment see Ark. Bot. II, 7(1): 59. 1968. In Utah known only from the Uinta Mtns., Duchesne and Summit cos. (Welsh et al. 1993).

Ranunculus glaberrimus Hook. var. glaberrimus

“Columbia buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: BOX, ?; ID, NV, WY +

Status Category: *Peripheral*

Notes: Benson (1948) cited the following specimen of var. *glaberrimus* from northwestern Utah: Box Elder Co., Blue Creek (*Williams s.n.* in 1934; RM, WS). The more common and widespread plant in Utah is the var. *ellipticus* (E. Greene) E. Greene. The distinction between these varieties was questioned in *AUF2* (Welsh et al. 1993). More recently, Whittemore (in Morin 1997) noted that “[p]opulations growing at high elevations (*Ranunculus glaberrimus* var. *ellipticus*) and low elevations (var. *glaberrimus*) are usually well differentiated, but these varieties intergrade at intermediate elevations.”

Ranunculus gmelinii DC. var. hookeri (D. Don in G. Don) L. Benson

“Slave Lake buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5TUQ/S1

Distribution: DUC?, MOR?, PIU, RIC?, SNP?, SEV, SUM, WEB?; CO, ID, NM, NV, WY ++

Notes: For current treatment see Amer. Midl. Nat. 40: 209. 1948. Benson (1948) reported var. *hookeri* as rare in Utah and cited specimens from Piute, Sevier, and Summit cos. Questionable Duchesne, Morgan, Rich, Sanpete, and Weber county records as reported in *AUF2* (Welsh et al. 1993) for *R. gmelinii* (sensu lato). Var. *hookeri* rare in Nevada acc. Kartesz (1987). The continued recognition of varieties in this species has been questioned by recent authors (Welsh et al. 1993, Whittemore in Morin 1997).

Ranunculus gmelinii DC. var. limosus (Nutt.) Hara

“strand buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5T4T5/S1

Distribution: DUC?, MOR?, PIU?, RIC?, SNP?, SEV?, SUM, WEB?; CO, ID, WY? +

Notes: Benson (1948) cited the following historical collections of var. *limosus* from Utah: “Northern Utah” (*S. Watson 24*, GH); Summit Co., Bear River (*Goodman 1905*, GH). Questionable Duchesne, Morgan, Rich, Sanpete, and Weber county records as reported in *AUF2* (Welsh et al. 1993) for *R. gmelinii* (sensu lato). The species is evidently of wide but sporadic distribution in northern and central Utah (at least very rarely collected); see above for taxonomic discussion.

Ranunculus pedatifidus J.E. Smith var. affinis (R. Brown) L. Benson

“alpine buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: SUM, ?; AZ, CO, NM?, WY ++

Notes: For current treatment see Amer. Midl. Nat. 52: 355. 1954. Acc. *AUF2* (Welsh et al. 1993), *R. pedatifidus* is known in Utah by a 1977 collection from alpine tundra in the Uinta Mtns., Summit Co. (*Ostler 640*, BRY). Benson (in Kearney and Peebles 1951, Howell and McClintock 1960) reported that the plants in northern Arizona and southern Utah occur “in modified form” and “may represent an undescribed variety.”

Status Category: *Peripheral*

***Ranunculus pygmaeus* Wahlenb.**

“pygmy buttercup”

Ranunculaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SUM; CO, ID, WY ++

Notes: Acc. *AUF2* (Welsh et al. 1993), *R. pygmaeus* is known in Utah by a 1988 collection from the alpine in Summit Co. (*Franklin 6286*, BRY).

***Redfieldia flexuosa* (Thurber) Vasey**

“blowout grass”

Poaceae

Federal Status: None

UTNHP Rank: G5?/S3

Distribution: KAN, UIN; AZ, CO, NM, WY +

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as including Utah. Common on the crests of the Coral Pink Sand Dunes, Kane Co. (Arnold in Welsh et al. 1993). Uinta Basin distribution cited by Goodrich and Neese (1986) as “[i]nfrequent or locally common; Snake John Wash, Kennedy Wash, and Coyote Wash drainages in e. Uintah Co. and probably into Colorado.” Monotypic genus.

***Reverchonia arenaria* A. Gray**

“sand-spurge”

Euphorbiaceae

Federal Status: None

UTNHP Rank: G4G5/S2?

Distribution: KAN, SNJ, WSH; AZ, NM +

Notes: Cronquist et al. (1997) cited the distribution as including “...Washington, Kane, and San Juan cos., Utah.” Monotypic genus.

***Rhamnus alnifolia* L’Her.**

“alder-lvd. buck-thorn”

Rhamnaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DAV, SAL; ID, WY ++

Notes: Cronquist et al. (1997) reported that *R. alnifolia* is “...disjunct (apparently) in the Wasatch Mts. of Davis and Salt Lake cos., Utah.”

***Ribes laxiflorum* Pursh**

“trailing black currant”

Grossulariaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: JUA; CO?, ID, NM? ++

Notes: In Utah known only from a small population in the Deep Creek Mtns., Juab Co. (Goodrich in Welsh et al. 1993, P. Holmgren in Cronquist et al. 1997). The Utah plants are remarkably disjunct, and Dr. Noel Holmgren (NY) is studying whether they might be varietally distinct. The species otherwise ranges from Calif. northward on the coastal slopes to Alaska and Siberia, and eastward to southwestern Alberta and northern Idaho (Hitchcock and Cronquist 1961, Mesler and Sawyer (in Hickman 1993). The questionable Colorado and New Mexico records are based on *R.*

Status Category: *Peripheral*

coloradense Cov., which P. Holmgren (in Cronquist et al. 1997) regarded as a synonym of *R. laxiflorum*. Treated in *AUF2* (Goodrich in Welsh et al. 1993) in the family Saxifragaceae.

***Robinia neomexicana* A. Gray**

“New Mexico locust”

Fabaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: GAR?, WSH; AZ, CO, NM, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), native stands are known in Washington Co. (Zion Canyon, Santa Clara River, Beaver Dam Wash, and near Enterprise Reservoir); the species is also known in cultivation from Cache, Salt Lake, and Utah cos. Questionable Garfield Co. record as reported by Welsh et al. (1975).

***Rorippa sphaerocarpa* (A. Gray) Britton**

“roundpod yellow-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: DUC, GAR, PIU, UTA; AZ, CO, ID?, NM, NV?, WY +

Notes: A plant of moist habitats, *R. sphaerocarpa* is known in Utah from six collections and is “evidently rare” (Welsh et al. 1993). A questionable Nevada record was discussed by Kartesz (1987).

***Rubus neomexicanus* A. Gray**

“New Mexico raspberry”

Rosaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SNJ; AZ, CO, NM

Notes: For alternative treatment as *Oreobatus deliciosus* ssp. *n.* (A. Gray) W.A. Weber, see *Phytologia* 79: 65. 1995. In Utah known only from Ribbon, Knowles, and Cataract canyons, San Juan Co. (Welsh et al. 1993, N. Holmgren in Cronquist et al. 1997). Acc. Welsh et al. (1975), “[m]ost of the known range of this species [in Utah] has been destroyed by Lake Powell.” Acc. Weber (1995), *Oreobatus deliciosus* ssp. *n.* “replaces the Coloradan race, *Oreobatus deliciosus* subsp. *deliciosus* in the southern edge of eastern Colorado and ranges south through New Mexico into southeastern Arizona.” Is *neomexicanus* the correct name for the Utah plants?

***Rudbeckia laciniata* L. var. *ampla* (A. Nelson) Cronquist**

“cut-lvd. cone-flower”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: GRA, SNJ; AZ, ID, CO, NM, WY +

Notes: For current treatment see *Univ. Wash. Publ. Biol.* 17(5): 280. 1955. For alternative treatment as ssp. *ampla* (A. Nelson) W.A. Weber, see *Phytologia* 51: 375. 1982. In Utah, *R. laciniata* is known only from moist meadows and riparian habitats in the La Sal Mtns., Grand and San Juan cos. (Welsh et al. 1993, Cronquist 1994). As discussed by Cronquist (1994), “[o]ur plants

Status Category: *Peripheral*

... represent the mainly Rocky Mountain var. *ampla*, which also extends east to Kansas and to the Dakotas.”

Salazaria mexicana Torrey

“bladder-sage”

Lamiaceae

Federal Status: None

UTNHP Rank: G5/S3

Distribution: WSH; AZ, NM?, NV +

Notes: Cronquist and Reveal (in Cronquist et al. 1984) cited the distribution as including Washington Co., Utah. Monotypic genus.

Salix laevigata Bebb

“red willow”

Salicaceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: KAN?, SNJ, WSH; AZ, NV +

Notes: For alternative treatment as *S. bonplandiana* var. *l.* (Bebb) Dorn, see *Phytologia* 77: 91. 1994. Acc. *AUF2* (Goodrich in Welsh et al. 1993), *S. laevigata* is known only from the southern portion of the state in Kane (?), San Juan, and Washington cos.

Salix melanopsis Nutt.

“dusky willow”

Salicaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DAG, UTA, ?; CO, ID, NV, WY +

Notes: *S. melanopsis* was reported by Hitchcock and Cronquist (1964) as ranging southward in the Wasatch region of northern Utah as far as Utah Co. The Daggett Co. record is based on two collections from the northern slope of the Uinta Mtns. (Big Springs, *Refsdal 3119*; Burnt Creek, *Refsdal & Goodrich 7605*; both at RM, ! R. Dorn), cited by Refsdal (1996).

Salvia columbariae Benth.

“chia”

Lamiaceae

Federal Status: None

UTNHP Rank: G5/S3

Distribution: KAN?, WSH; AZ, NM, NV +

Notes: Cronquist and Reveal (in Cronquist et al. 1984) cited the distribution as including Washington Co., Utah.

Sarcostemma cynanchoides Decne. var. hartwegii (Vail) Shinn.

“climbing milkweed”

Asclepiadaceae

Federal Status: None

UTNHP Rank: G5T5/S2?

Distribution: GAR, KAN, SNJ, WSH; AZ, NM, NV +

Notes: For current treatment see Sida 1: 361. 1964. For alternative treatment as ssp. *hartwegii* (Vail) R. Holm, see *Ann. Missouri Bot. Gard.* 37: 530. 1950. The distribution of var. *hartwegii* was

Status Category: *Peripheral*

reported by P. and N. Holmgren (in Cronquist et al. 1984) as including "... s. Utah (Washington, Kane, Garfield, and San Juan cos.)." Infrequent in southern Nevada acc. Kartesz (1987).

***Saxifraga adscendens* L. var. *oregonensis* (Raf.) Breitung**

"wedge-lvd. saxifrage" Saxifragaceae

Federal Status: None **UTNHP Rank:** G5/S?

Distribution: BEA, DUC, GRA, SNJ, SUM; CO, ID, NV, WY +

Notes: For current treatment see Canad. Field-Nat. 71: 56. 1957. For alternative treatment as ssp. *oregonensis* (Raf.) Bacigalupi, see Ill. Fl. Pacific States 2: 359. 1944. P. and N. Holmgren (in Cronquist et al. 1997) cited the distribution as "... in [the Intermountain region] in the Ruby Mts. (Elko Co.) of Nev., the Uinta, La Sal, and Tushar mts. of Utah, and on Steens Mt. (Harney Co.) of Oregon." Acc. Weber and Wittmann (1992) "*Muscaria adscendens* (L.) Small may be entirely Eurasian, which might justify using the name *M. oregonensis* (Raf.) Cockerell."

***Saxifraga bronchialis* L. var. *austromontana* (Wiegand) G.N. Jones**

"spotted saxifrage" Saxifragaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: GRA, SNJ; ID, CO, NM, WY +

Notes: For alternative treatment as *Ciliaria a.* (Wiegand) W.A. Weber, see Phytologia 51: 371. 1982. In Utah known only from the La Sal Mtns., Grand and San Juan cos. (Goodrich in Welsh et al. 1993, P. and N. Holmgren in Cronquist et al. 1997).

***Saxifraga cernua* L.**

"nodding saxifrage" Saxifragaceae

Federal Status: None **UTNHP Rank:** G4/S2

Distribution: DUC, GRA, SNJ, SUM; CO, ID, NM, NV, WY ++

Notes: In Utah known only from the Uinta and La Sal Mtns. (Goodrich in Welsh et al. 1993, P. and N. Holmgren in Cronquist et al. 1997). Rare in Nevada acc. Kartesz (1987), known only from Lamoille Canyon, Ruby Mtns., Elko Co.

***Saxifraga hirculus* L.**

"yellow marsh saxifrage" Saxifragaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAG; CO ++

Notes: A circumboreal species that in Utah is restricted to the Uinta Mtns., Daggett Co. (Goodrich in Welsh et al. 1993, P. and N. Holmgren in Cronquist et al. 1997). Elsewhere in North America, *S. hirculus* ranges widely from Alaska across Canada to Greenland, with disjunct populations in the Beartooth Mtns. of south-central Montana and in central and north-central Colorado (P. and N. Holmgren in Cronquist et al. 1997). Acc. Hedberg (1992), the North American plants are predominantly diploid ($2n = 16$) whereas the Eurasian plants are mostly tetraploid ($2n = 32$). The same author has segregated the Colorado plants as ssp. *coloradensis*. Acc. P. and N. Holmgren (in

Status Category: *Peripheral*

Cronquist et al. 1997), “[Hedberg] cited his new subspecies as being restricted to Colorado, so presumably he was unaware of the collections of this species from Utah and Montana. We are unable to distinguish [the Utah] plants of *S. hirculus* from the circumboreal ones and accordingly have not given them taxonomic recognition at the infraspecific level.”

***Schizachne purpurascens* (Torrey) Swallen**

“false melic” Poaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAG, DUC, UIN; CO, NM, WY ++

Notes: Acc. *AUF2* (Arnow in Welsh et al. 1993), *S. purpurascens* is known in Utah only from the Uinta Mtns. There it was reported by Goodrich and Neese (1986) as “[l]ocally infrequent or occasional” on both the south slope (Whiterocks Canyon, Rock Creek) and the north slope (Eagle Creek), growing in moist woods at 7200 to 7500 ft. elev. Rare or infrequent in Colorado acc. Weber and Wittmann (1996a,b). Monotypic genus.

***Schoenoplectus nevadensis* (S. Watson) Soják**

“alkali bulrush” Cyperaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: JUA; CO, ID, NV, WY ++

Notes: For current treatment see Čas. Nár. Mus. Odd. Přír. 140: 127. 1972. For alternative treatment as *Amphiscirpus n.* (S. Watson) Oteng-Yeboah, see Notes Royal Bot. Gard. Edinburgh 33: 308. 1974. Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *Scirpus n.* S. Watson. Known in Utah by a single collection from a low-elevation, saline meadow habitat in Juab Co. (Cronquist et al. 1977, Albee et al. 1988, Goodrich in Welsh et al. 1993). The species otherwise ranges widely in western North America from eastern Calif. to British Columbia and the northern Great Plains; also disjunct in Argentina (Cronquist et al. 1977, Smith et al. in Hickman 1993). Move to peripherals list?

***Schoenoplectus saximontanus* (Fern.) Raynal**

“plains club-rush” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: MIL, SAL, UIN; CO +

Notes: For current treatment see *Adansonia* 16: 141. 1976. Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *Scirpus supinus* L. For alternative treatment as *S. supinus* var. *saximontanus* (Fern.) T. Koyama, see *Canad. J. Bot.* 40: 920. 1962. Uintah Co. record based on a collection from bottomland along the Green River near Ouray (*Folks s.n.* in year?, UTC), cited by Goodrich and Neese (1986). The Millard Co. record may be from Clear Lake Waterfowl Management Area (see distribution map in Albee et al. 1988). Salt Lake Co. record apparently based on “a single old collection near the Great Salt Lake” (Cronquist et al. 1977). Var. *saximontanus* is otherwise rare on the plains and piedmont valleys of eastern Colorado (Weber and Wittmann 1996b); also in the

Status Category: *Peripheral*

central U.S. from South Dakota and Ohio southward to Texas and northern México (Fernald 1901, Koyama 1962, Raynal 1976).

***Scleropogon brevifolius* Philippi**

“burro grass”

Poaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: KAN; AZ, CO, NM, NV ++

Notes: Acc. *AUF2* (Arnow in Welsh et al. 1993), *S. brevifolius* is known in Utah by a single Kane Co. collection (*Atwood 17272*, BRY). The range of this stoloniferous perennial is otherwise from “s. Nev. and Ariz., e. to Okla. and Texas, and s. to c. Mex. and recurring in Chile and Argentina” (A. and N. Holmgren in Cronquist et al. 1977). Rare in southern Nevada (Kartesz 1987) and southeastern Calif. (Wilken in Hickman 1993). Monotypic genus.

***Scutellaria antirrhinoides* Benth.**

“snapdragon skull-cap”

Lamiaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: MOR, WEB; ID, NV +

Notes: Known in Utah only from the oak brush zone on the western and eastern flanks of the Wasatch Mtns., Morgan and Weber cos. (Cronquist and Reveal in Cronquist et al. 1984, Higgins in Welsh et al. 1993).

***Sedum rosea* (L.) Scop. var. *integrifolium* (Raf.) A. Berger**

“rose-root”

Crassulaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BOX, JUA; CO, ID, NM, NV, WY ++

Notes: Acc. N. Holmgren (in Cronquist et al. 1997), “[t]he correct spelling of the [specific] epithet is *rosea* (not *roseum*) because it is a noun in apposition derived from a pre-Linnaean generic name.” For alternative treatment as ssp. *integrifolium* (Raf.) Hultén, see Fl. Alaska & Yukon 5: 895. 1945. For alternative treatment as *Rhodiola r. ssp. i.* (Raf.) H. Hara, see J. Fac. Sci. Univ. Tokyo, Sect. 3, Bot. 6: 62. 1952. For alternative treatment as *Tolmachevia i.* (Raf.) Á. & D. Löve, see Bot. Not. 128: 515. 1975 [1976]. Acc. *AUF2* (Welsh et al. 1993), *S. rosea* in Utah is restricted to the Raft River Mtns. (Box Elder Co.) and the Deep Creek Mtns. (Juab Co.). Acc. Weber and Wittmann (1996a), this species has been segregated in the genus *Tolmachevia* because of its peculiar sexuality (i.e., flowers usually unisexual and plants dioecious).

***Selaginella scopulorum* Maxon**

“Rocky Mtn. spike-moss”

Selaginellaceae

Federal Status: None

UTNHP Rank: G4?/S2?

Distribution: GRA, SNJ, ?; AZ, CO, ID, NM, NV?, WY +

Notes: Treated in *AUF2* (Higgins in Welsh et al. 1993) as a synonym of *S. densa* Rydb. For alternative treatment as *S. densa* var. *s.* (Maxon) Tryon, see Ann. Missouri Bot. Gard. 42: 67. 1955.

Status Category: *Peripheral*

For alternative treatment as *S. engelmannii* var. *s.* (Maxon) C.F. Reed, see *Phytologia* 9: 499. 1964. Occurs in Utah in the La Sal Mtns., Grand and San Juan cos. (Cronquist et al. 1972, Albee et al. 1988) and reported from the Uinta Mtns. (Cronquist et al. 1972). *S. scopulorum* otherwise ranges widely in the mtns. of western North America from Alberta and British Columbia southward to northern Calif., New Mexico, and northeastern Arizona (Cronquist et al. 1972, Valdespino in Morin 1993). Rare in Nevada, known by a single collection from the Sierra Nevada at Galena Creek, Washoe Co. (Kartesz 1987). Taxonomic problem?

***Selaginella underwoodii* Hieron.**

“Underwood’s spike-moss” Selaginellaceae

Federal Status: None **UTNHP Rank:** G5?/S1

Distribution: KAN, WSH; AZ, CO, NM, WY +

Notes: Flowers (1944) cited several collections from Zion Natl. Park and vicinity (*Flowers* 3232, 3233 & 3234; *Cottam* 4768 & 6993; all at UT). Reported by Warrick (1987) as common at higher elevs. in the Pine Valley Mtns. (Washington Co.). Kane Co. record as cited in *AUF2* (Higgins in Welsh et al. 1993). The species otherwise ranges from Arizona east to western Oklahoma and Texas, north to southern Wyoming, and south to México in Chihuahua and Nuevo León (Valdespino in Morin 1993).

***Senecio bigelovii* A. Gray var. *hallii* A. Gray**

“Hall’s butterweed” Asteraceae

Federal Status: None **UTNHP Rank:** G4?T3T4/S1

Distribution: GRA, SNJ; CO, NM, WY

Notes: For alternative treatment as *Ligularia b.* ssp. *h.* (A. Gray) W.A. Weber, see *Southwest Nat.* 18: 321. 1973. Known from Utah in the La Sal and Abajo mtns. of Grand and San Juan cos. (Welsh et al. 1993, Cronquist 1994).

***Senecio hydrophiloides* Rydb.**

“sweet-marsh butterweed” Asteraceae

Federal Status: None **UTNHP Rank:** G3G5/S1

Distribution: BOX; ID, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *S. foetidus* Howell, with distribution within the state reportedly limited to northwestern Box Elder Co. Acc. Cronquist (1994), “[a]cceptance of the name *S. foetidus* for the broadly defined species by T.M. Barkley and by myself in earlier publications reflects bibliographic confusion. Rydberg’s name *S. hydrophiloides* [Feb. 1900] has six months priority over *S. foetidus* [Aug. 1900].”

***Silene verecunda* S. Watson ssp. *andersonii* (Clokey) Hitchc. & Maguire**

“Anderson’s campion” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: BEA, KAN, WSH; NV +

Status Category: *Peripheral*

Notes: For current treatment see Univ. Wash. Publ. Biol. 13: 43. 1947. Acc. *AUF2* (Welsh et al. (1993), *S. verecunda* in Utah is known from very few collections in Beaver, Kane, and Washington cos.

***Simmondsia chinensis* (Link) C. Schneider**

“jojoba” Simmondsiaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: WSH; AZ +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Cronquist et al. (1997) cited the distribution as including “... Washington Co., Utah.” Monotypic family!

***Sisyrinchium douglasii* A. Dietr. var. *inflatum* (Suksd.) P. Holmgren**

“purple-eyed grass” Iridaceae

Federal Status: None **UTNHP Rank:** G4G5T?/S1

Distribution: TOO; ID, NV +

Notes: For current treatment see Intermt. Fl. 6: 540. 1977. First collection in Utah at Stockton Bar, Tooele Co. (*Cottam 7483*, BRY). Acc. *AUF2* (Welsh et al. 1993), the species was rediscovered in 1988 at the same locality (*Franklin 5859*, BRY). P. Holmgren (in Cronquist et al. 1977) indicated that the Utah plants belong to var. *inflatum*, and Kartesz (1987) reported that the same variety is uncommon in northern Nevada. Based on the distributional notes supplied by Hitchcock et al. (1969), it appears that the treatment by Henderson and Cholewa (in Hickman 1993) is in error in two respects: (a) var. *douglasii* does NOT range east to Idaho and Utah; and (b) var. *inflatum* probably occurs in the Modoc Plateau region of northeastern Calif.

***Sisyrinchium halophilum* E. Greene**

“Nevada blue-eyed grass” Iridaceae

Federal Status: None **UTNHP Rank:** G4G5/SRF

Distribution: ?; NV +

Notes: Henderson (1976) cited the distribution as “[m]eadows bordering springs and running water, often in highly alkaline soils; eastern California, Nevada, and possibly Utah.” The known range of the species includes Utah acc. Henderson and Cholewa (in Hickman 1993); additional information needed on occurrence and status. Widely distributed in Nevada, common in the northern portion (P. Holmgren in Cronquist et al. 1977, Kartesz 1987).

***Solanum jamesii* Torrey**

“wild potato” Solanaceae

Federal Status: None **UTNHP Rank:** G3G5/S1

Distribution: GAR, SNJ; AZ, CO, NM +

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), the Utah distribution includes Garfield and San Juan cos.

Status Category: *Peripheral*

***Solidago gigantea* Aiton**

“smooth goldenrod”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SAL, ?; CO, ID, NV, WY ++

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993), apparently most closely related to *S. canadensis* L. Acc. Cronquist (1994), “[t]he original *S. gigantea* ... has a line of hairs along the lower side of the midrib and the principal pair of lateral veins of the leaves. Another phase of the species lacks these hairs. Both phases are common in eastern U.S., but only the glabrous phase extends west across the Great Plains and the western cordillera to the Pacific. The name *S. gigantea* var. *serotina* (Aiton) Cronquist [Univ. Wash. Publ. Biol. 17(5): 306. 1955] is available for the glabrous phase, but the utility of the taxonomic separation might be questioned.” For alternative treatment as *S. serotinoidea* Á. & D. Löve, see Taxon 31: 358. 1982. Cronquist (1994) cited the distribution as “common in appropriate habitats across s. Idaho and into se. Oregon, s. less commonly to Salt Lake Co., Utah.” Additional data needed on distribution and status in Utah. Rare in Nevada (Kartesz 1987).

***Solidago spectabilis* (D.C. Eaton) A. Gray**

“Great Basin goldenrod”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: MIL, WSH; AZ, NV +

Notes: In Utah known only from saline seeps and meadows in Washington and western Millard cos. (Welsh et al. 1993, Cronquist 1994). Acc. *AUF2* (Welsh et al. 1993), “Utah materials differ from Nevada specimens in the more open inflorescence and fewer flowers.”

***Sophora nuttalliana* B.L. Turner**

“silky sophora”

Fabaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: GRA, IRO, SNJ, WSH; AZ, CO, NM, WY +

Notes: For current treatment see Field & Lab. 24: 15, 42. 1956. Barneby (1989) cited the distribution as including a feeble entry into “Utah in e. San Juan Co. and in the Virgin River valley in Washington Co.” Iron Co. record as reported in Franklin (1994a).

***Sparganium natans* L.**

“small bur-reed”

Sparganiaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, SUM, UIN; CO, ID, NV?, WY ++

Notes: An aquatic plant of lake shores and shallow ponds, in Utah known only from high elevations in the Uinta Mtns. (Albee et al. 1988). Reveal (in Cronquist et al. 1977), followed by *AUF2* (Atwood in Welsh et al. 1993), treated these plants as *S. minimum* Fries. However, it has been noted by Cook (1985) that “[t]he name *Sparganium natans* is adequately typified and must be used for the plant that has been generally called *S. minimum* for about the last eighty years.” Cook and Nicholls

Status Category: *Peripheral*

(1986) cited the overall distribution of *S. minimum* as “arctic and boreal N. America and Eurasia. [In North America extending] from Newfoundland to Alaska, south (on higher ground) into Oregon, Utah, Colorado, and New Jersey.” Not definitely known from Nevada but perhaps to be expected there since it has been found on the north shore of Lake Tahoe on the Calif. side (Kartesz 1987). Thorne (in Hickman 1993) treated the genus *Sparganium* as belonging to the family Typhaceae.

Sphaeralcea ambigua* A. Gray var. *ambigua

“desert globe-mallow” Malvaceae

Federal Status: None **UTNHP Rank:** G4G5T?/S2?

Distribution: KAN, WSH; AZ, NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *S. ambigua* in Utah is restricted to western Kane and Washington cos. Outside the state, var. *ambigua* is found on dry, rocky slopes and wash margins from Arizona and southern Nevada to southeastern Calif., northwestern Sonora, and northern Baja Calif. (Kearney 1935, Kearney and Peebles 1951, La Duke in Hickman 1993).

***Sphaeromeria capitata* Nutt.**

“Wyoming rock-tansy” Asteraceae

Federal Status: FS **UTNHP Rank:** G3/S1

Distribution: GAR; CO, WY +

Notes: *S. capitata* is known in Utah from a disjunct population (five known occurrences) on Claron Formation limestone in Bryce Canyon Natl. Park and vicinity, Garfield Co. (Paunsaugunt Plateau).

***Sporobolus asper* (Michaux) Kunth**

“tall drop-seed” Poaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: GRA, UIN, UTA; AZ, CO, NM, WY ++

Notes: The Uintah Co. record is based on a collection from near the Green River ca. 4 miles southeast of Dinosaur Quarry, juniper-snakeweed community, elev. 4900 ft. (*Neese & Trent 12319*, BRY?), cited by Goodrich and Neese (1986). The Grand and Utah county records are as reported in *AUF2* (Arnou in Welsh et al. 1993) and mapped in Albee et al. (1988); overall this perennial grass is known in Utah from very few collections.

***Sporobolus pulvinatus* Swallen**

“six-weeks drop-seed” Poaceae

Federal Status: None **UTNHP Rank:** G5?/S1

Distribution: SNJ; AZ, CO?, NM +

Notes: For original description see J. Wash. Acad. Sci. 31: 351. 1941. A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as “[s]andy or clay soils; se. Utah (near the Four Corners), Ariz. and N.M.” Questionable Colorado record as reported in *AUF2* (Arnou in Welsh et al. 1993); cf. Weber and Wittmann (1992, 1996a,b).

Status Category: *Peripheral*

***Sporobolus texanus* Vasey**

“Texas drop-seed”

Poaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: GRA; AZ, CO, NM +

Notes: Acc. *AUF2* (Arnou in Welsh et al. 1993), *S. texanus* is known in Utah by a single collection from Grand Co. (*Franklin 4344*, BRY).

Stellaria crassifolia* Ehrhart var. *crassifolia

“thick-lvd. starwort”

Caryophyllaceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: DAG; CO, ID, NV?, WY ++

Notes: Utah state record based on a 1995 collection from the northern slope of the Uinta Mtns., Daggett Co. (*Refsdal & Goodrich 7500*, RM), cited by Refsdal (1996).

***Stellaria nitens* Nutt. in Torrey & Gray**

“shining chickweed”

Caryophyllaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, SAL, TOO, WSH; AZ, ID, NM +

Notes: Acc. *AUF2* (Welsh et al. 1993), this slender annual is known in Utah from relatively few collections and is apparently of sporadic occurrence in Cache, Salt Lake, Tooele, and Washington cos.

***Stellaria obtusa* Engelm.**

“Rocky Mtn. starwort”

Caryophyllaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: CAC, DAG, DAV?, SAL, SNP, SUM, UTA; CO, ID, WY +

Notes: This mat-forming perennial of moist areas is evidently of widely scattered occurrence and rarely collected along the Wasatch Front and elsewhere in northern and central Utah (Albee et al. 1988, Welsh et al. 1993). Questionable Davis Co. record as mapped in Albee et al. (1988).

***Stephanomeria parryi* A. Gray**

“Parry’s wire-lettuce”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: KAN; AZ, NV +

Notes: Perennial herb, known in Utah by two collections from Kane Co., one historical (*Parry s.n.* in 1874, ISC; cited by Welsh et al. 1993) and one recent (Nipple Bench, *Atwood and Allen 2822a*, BRY; cited by Welsh et al. 1993, Welsh and Eliason 1995). Acc. Cronquist (1994), the species otherwise ranges from “desert mts. of s. Calif., n. as far as the White Mts., e. to Esmeralda and s. Nye cos., Nev., ... and barely into Mohave Co., Ariz. (Kingman).”

Status Category: *Peripheral*

***Stylocline intertexta* Morefield**

“Morefield’s nest-straw”

Asteraceae

Federal Status: None

UTNHP Rank: G3Q/S1

Distribution: WSH; AZ, NV +

Notes: For original description see Madroño 39: 121. 1992. *AUF2* (Welsh et al. 1993) cited a single collection from Washington Co. (*Neese 13026*, BRY); an additional specimen (*Thorne et al. 4251A*, NY) was cited by Morefield (1992).

***Stylocline micropoides* A. Gray**

“desert nest-straw”

Asteraceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: GAR, SNJ, WSH; AZ, NM, NV +

Notes: N. Holmgren (addendum in Cronquist 1994) cited the distribution as including “...s. Utah (Washington Co., and up the Colorado River drainages to Garfield and San Juan cos.)”

***Stylocline psilocarphoides* M. Peck**

“Peck’s nest-straw”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: WSH; ID, NV +

Notes: For original description see Leaflet. West. Bot. 4: 185. 1945. Cronquist (1994) cited the overall distribution as “typically with sagebrush ...; se. Oregon (as far n. as n. Malheur Co.) and sw. Idaho (Owyhee Co.), s. to the White Mts., the e. slope of the Sierra Nevada, and the mts. of s. Calif., e. to Mineral, Eureka, s. Nye, and Lincoln cos. in Nev., and to Washington Co., Utah.” Scattered in northern Nevada acc. Kartesz (1987).

***Symphoricarpos occidentalis* Hook.**

“wolfberry”

Caprifoliaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: DAG, DUC, UIN; CO, ID, NM, WY +

Notes: In Utah known only from the Uinta Basin (Cronquist and A. Holmgren in Cronquist et al. 1984) where reported by Goodrich and Neese (1986) as “[I]ocally common; apparently widespread; often forming clones along ditches, streams and on flood plains of rivers; 5,000-7,000 ft.”

***Symphoricarpos oreophilus* A. Gray var. *parishii* (Rydb.) Cronquist**

“Parish’s snowberry”

Caprifoliaceae

Federal Status: None

UTNHP Rank: G5T?/S?

Distribution: ?; AZ, NV +

Notes: For current treatment see Intermt. Fl. 4: 539. 1984. For alternative treatment as *S. rotundifolius* var. *p.* (Rydb.) Dempster, see Madroño 39: 78. 1992. Var. *parishii* reportedly occurs along Utah’s western boundary (Cronquist and A. Holmgren in Cronquist et al. 1984, Welsh et al.

Status Category: *Peripheral*

1993), but additional data on occurrence and status are needed. Reported by Kartesz (1987) as “[l]ocally abundant in areas along the eastern, central and southern portions of [Nevada].”

***Syntrichopappus fremontii* A. Gray**

No common name Asteraceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: WSH, SNJ; AZ, NV +

Notes: Acc. Cronquist (1994), this desert annual enters southwestern Utah in Washington Co. San Juan Co. record as reported in *AUF2* (Welsh et al. 1993). Occasional in southern Nevada acc. Kartesz (1987). Ditypic genus.

***Taraxacum ceratophorum* (Ledeb.) DC.**

“horned dandelion” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: BEA?, DAG, DUC, GRA?, JUA, PIU?, SNJ, SUM, UIN; CO, ID, NM, NV, WY ++

Notes: Cronquist (1994) cited the Utah distribution as including high elevations in the Deep Creek, La Sal, and Tushar mtns. The species has also been reported from King’s Peak and Leidy Peak in the Uinta Mtns. (Goodrich and Neese 1986, Welsh et al. 1993).

***Telesonix jamesii* (Torrey) Raf. var. *heucheriformis* (Rydb.) Bacigalupi**

No common name Saxifragaceae

Federal Status: None **UTNHP Rank:** G4T4/S1

Distribution: CAC; ID, NV, WY +

Notes: For current treatment see Leaflet West. Bot. 5: 71. 1947. Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *Boykinia j.* var. *h.* (Rydb.) Engler. In Utah known only from the Bear River Range, Cache Co. (Goodrich in Welsh et al. 1993). *Boykinia heucheriformis* (Rydb.) Rosend. rare in Nevada acc. Kartesz (1987). Monotypic genus.

***Tetradymia axillaris* A. Nelson var. *longispina* (M.E. Jones) Strother**

“long-spined horsebrush” Asteraceae

Federal Status: None **UTNHP Rank:** G4T4/S3

Distribution: WSH; AZ?, NV +

Notes: For current treatment see *Brittonia* 26: 197. 1974. Type of from Washington Co., St. George (*Jones 5110*; holotype POM, isotypes BRY, NY, US). Keil (in Hickman 1993) cited the distribution of var. *longispina* as “[s. eastern Sierra Nevada and w. Mojave Desert regions of Calif.]; to sw UT.” Cronquist (1994) cited the distribution as “southern, extending n. to Washington Co., Utah; Lincoln, s. Nye, and s. Mineral cos., Nev.; and Mono Co., Calif.”

Status Category: *Peripheral*

Thalictrum dasycarpum Fischer & Ave-Lall.

“purple meadow-rue” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: WSH?, ?; AZ, CO, ID, NM, WY ++

Notes: Park and Festerling (in Morin 1997) reported *T. dasycarpum* as widely distributed in the east-central U.S. and adjacent Canada, extending westward in the Rocky Mtns.; their distribution map indicates an isolated population occurring in southwestern Utah (Washington Co.?). The same authors noted that “*Thalictrum dasycarpum* is a variable species similar to, and possibly intergrading with, *T. pubescens* Pursh [widespread in eastern United States and Canada]. Glabrous variants of *T. dasycarpum* have been treated as *T. dasycarpum* var. *hypoglaucom* (Rydb.) B. Boivin. Glabrous and glandular (stipitate and papillate) forms are found throughout the range of the species and occur together in some populations.”

Thalictrum venulosum Trel.

“early meadow-rue” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: DAG?, DUC?, SUM?, UIN?, ?; CO, ID, NV, WY ++

Notes: Park and Festerling (in Morin 1997) reported *T. venulosum* as widely distributed in the northern plains and Rocky Mtns. of Canada and the northern U.S.; their distribution map indicates an isolated population occurring in northeastern Utah (Uinta Mtns.?). In Colorado acc. Weber and Wittmann (1992), where the “[d]istinctions between this and *T. fendleri* Engelm. ex A. Gray are not convincing.” Acc. Park and Festerling (in Morin 1997), “*Thalictrum venulosum* is similar to *T. confine* Fern. and *T. occidentale* A. Gray. Careful field studies are needed to clarify the relationships among these taxa.”

Thamnosma montana Torrey & Frémont

“turpentine-broom” Rutaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: KAN, WSH; AZ, NM?, NV +

Notes: This ill-scented, glandular shrub enters southern Utah in Washington and Kane cos. (Cronquist et al. 1997), in the latter instance near Glen Canyon (Higgins and Welsh in Welsh et al. 1993).

Thelesperma megapotamicum (Sprengel) Kuntze

“green-thread” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: SNJ, WSH; AZ, CO, NM, WY ++

Notes: This perennial herb is known in Utah from relatively few collections in San Juan and Washington cos. (Welsh et al. 1993, Cronquist 1994).

Status Category: *Peripheral*

***Thelypodium milleflorum* A. Nelson**

No common name Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX; ID, NV +

Notes: In Utah known by a single collection from Box Elder Co., 12 miles west of Snowville (*Jensen 137*, UTC), cited in Al-Shehbaz (1973). *T. milleflorum* is otherwise known from western and southern Idaho, northern and central Nevada (where reportedly common), northeastern Calif., eastern Oregon, and southern and central Washington (Al-Shehbaz 1973, Kartesz 1987, Rollins 1993). It is often associated with sagebrush and grows predominantly on sandy soils, i.e., on sand dunes or along river banks (Al-Shehbaz 1973).

Thelypodium wrightii* A. Gray ssp. *wrightii

No common name Brassicaceae

Federal Status: None **UTNHP Rank:** G4G5T?/S1

Distribution: BEA?, KAN?, SNJ?, WAY; AZ, NM, NV? +

Notes: In Utah known by a single collection (*Jones s.n.* in 1894, POM) from Wayne Co., Henry Mtns., “Marvine Laccolite” [= Table Mtn. acc. Lenz (1986)], cited erroneously as Garfield Co. by Al-Shehbaz (1973). Questionable Beaver, Kane, and San Juan county records as mapped in Albee et al. (1988). Ssp. *wrightii* otherwise ranges from western Texas to New Mexico and Arizona and southward to northern and central México (Al-Shehbaz 1973, Rollins 1993). Questionable Nevada report as discussed by Kartesz (1987). Acc. Al-Shehbaz (1973), “*T. wrightii* grows primarily on clay-loam to sandy-loam soils that are usually moist. It is often found in sheltered areas of oak-woodlands or pinyon-juniper associations along rocky slopes, cliffs, and ledges of canyons and river banks.”

***Thermopsis rhombifolia* (Nutt. ex Pursh) Richardson**

“High Plains false-lupine” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: DAG, DUC?, UIN; CO, NM, WY +

Notes: Barneby (1989) cited the distribution of *T. rhombifolia* as including “... Utah ... on the n. slope of the Uinta Mts. and a few localities in the Uinta Basin (Uintah, Daggett, and Duchesne cos.)” Goodrich and Neese (1986) cited it as “[o]ccasional; Daggett Co. and Asphalt Ridge to Dinosaur National Monument and s. to Cliff Ridge and Hell’s Hole Canyon in Uintah Co. and e. into Moffat and probably Rio Blanco Cos. [Colorado]; ... 5,000-6,600 ft.”

***Thysanocarpus curvipes* Hook.**

“lace-pod” Brassicaceae

Federal Status: None **UTNHP Rank:** G4G5/S3

Distribution: IRO, WSH; AZ?, ID, NM, NV +

Notes: *AUF2* (Welsh et al. 1993) treated the Utah plants as var. *eradiatus* Jepson and cited the distribution as including Iron and Washington cos. Questionable Arizona record as reported in

Status Category: *Peripheral*

Townsendia scapigera D.C. Eaton

“Nevada ground-daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: BOX, MIL; NV +

Notes: Acc. *AUF2* (Welsh et al. 1993), *T. scapigera* is known in Utah from two widely separated localities in the western part of the state (Box Elder and Millard cos.). It has since been collected in Beaver and Tooele cos. (Ben Franklin, pers. comm. 1997). It is “the common *Townsendia* in most of Nevada” and also ranges to easternmost Calif. (Cronquist 1994).

Tragia ramosa Torrey

“nose-burn”

Euphorbiaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BEA, GRA, WSH; AZ, CO, NM, NV +

Notes: Perennial herb with coarse, stinging hairs, the county distribution as reported in *AUF2* (Higgins and Welsh in Welsh et al. 1993). A Washington Co. locality was cited by Higgins (1972), in the Beaver Dam Mtns., near summit along old U.S. Hwy. 91 [road to Littlefield, Arizona], gravelly wash bottom, *Juniperus-Cercocarpus-Purshia* community (*Higgins 602*, BRY). The species otherwise ranges from southeastern Calif. to the south-central U.S. and northern México (Webster in Hickman 1993, Cronquist et al. 1997).

Tricardia watsonii Torrey ex S. Watson

“three hearts”

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G4/S1?

Distribution: WSH; AZ, NV +

Notes: Perennial herb, in Utah known only from Washington Co. (Cronquist et al. 1984, Atwood in Welsh et al. 1993). Monotypic genus.

Trichophorum cespitosum (L.) F.X. Hartmann

“tufted club-rush”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: DUC, SUM, UIN?, WAS; ID ++

Notes: Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *Scirpus cespitosus* L. A circumboreal species, known in Utah only from wet meadows at high elevs. in the western half of the Uinta Mtns. (Albee et al. 1988) where “[I]ocally abundant” (Goodrich and Neese 1986). Questionable Uintah Co. record as mapped in Albee et al. (1988).

Trifolium beckwithii Brewer ex S. Watson

“Beckwith’s clover”

Fabaceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: PIU?, SEV; ID, NV +

Status Category: *Peripheral*

Notes: Acc. *AUF2* (Welsh et al. 1993), in Utah this clover has been found along Otter Creek (tributary to Sevier River) in Piute (?) and Sevier cos. The distribution was otherwise cited by Barneby (1989) as “ne. Calif. and se. Oregon to sw. Mont., in Nev. s. weakly to the Humboldt valley; ... disjunct on prairies ... in e. S.D.”

***Trifolium variegatum* Nutt. ex Torrey & Gray**

“white-tipped clover” Fabaceae

Federal Status: None **UTNHP Rank:** G4G5/S1S2

Distribution: BOX, CAC, KAN, SAL, WEB; ID, NV +

Notes: *T. variegatum* is a widespread and abundant species in vernal moist habitats of the Pacific states and less commonly eastward across the Columbia and northern Great basins (Barneby 1989). The disjunct Kane Co. record is based on several 1992 collections from a sandy, moist drainage ca. 1.5 miles south of The Barracks (Welsh & Thorne 25120, 25182; Thorne & Welsh 10483, 15190a), cited by Welsh and Eliason (1995).

***Trifolium wormskioldii* Lehm. var. *arizonicum* (E. Greene) Barneby**

“Arizona clover” Fabaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: KAN; AZ, CO, NM +

Notes: For current treatment see Intermt. Fl. 3B: 228. 1989. Acc. *AUF2* (Welsh et al. 1993), plants of *T. wormskioldii* from Kane Co. belong to this variety. Outside the state, var. *arizonicum* ranges from the “Rocky Mts. of Colo. and N.M. and the Mogollon mt. system in sw. N.M. and Ariz., e. to Trans-Pecos Texas and adj. Coahuila” (Barneby 1989).

***Tripterocalyx carneus* (E. Greene) Galloway var. *wootonii* (Standley) Galloway**

“Wooton’s sand-verbena” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G4G5T?/S2?

Distribution: GAR, KAN, SNJ; AZ, CO, NM

Notes: For current treatment see Brittonia 27: 337. 1975. The overall range of var. *wootonii* was cited by Galloway (1975) as “sandy soil, northwestern New Mexico, southwest corner of Colorado, southern Utah, south to southwestern New Mexico and southeastern Arizona.”

***Trisetum canescens* Buckley**

“tall trisetum” Poaceae

Federal Status: None **UTNHP Rank:** G5T?/S2

Distribution: CAC, SAL, SNJ?; ID, NV +

Notes: The overall distribution of this perennial grass was cited by A. and N. Holmgren (in Cronquist et al. 1977) as “s. Alaska and B.C., s. to Calif., c. Idaho and Mont. with a disjunct station in Red Butte Canyon of the Wasatch Range, Utah.” Cache Co. record as reported in *AUF2* (Arnou in Welsh et al. 1993) and mapped in Albee et al. (1988). Questionable San Juan Co. record acc. *AUF2*. Rare in Nevada acc. Kartesz (1987).

Status Category: *Peripheral*

***Uropappus lindleyi* (DC.) Nutt.**

“silver puffs”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: TOO, WSH; AZ, ID, NM, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as *Microseris l.* (DC.) A. Gray. Evidently most of the Utah collections of this annual are from Washington Co., but there is also a record from on or near Stansbury Island in Tooele Co. (Albee et al. 1988, Welsh et al. 1993, Cronquist 1994). Monotypic genus.

***Urtica dioica* L. var. *procera* (Muhl. ex Willd.) Weddell**

“slender nettle”

Urticaceae

Federal Status: None

UTNHP Rank: G5T5/S2S3

Distribution: GRA, SNJ, UIN; AZ, CO, ID, NM, NV?, WY ++

Notes: For alternative treatment as *U. d.* ssp. *gracilis* (Aiton) Selander, see Svensk Bot. Tidskr. 41: 271. 1947. The range of ssp. *gracilis* was cited by Woodland (1982) as “Labrador and Newfoundland west to Yukon and Alaska and south to Virginia, Missouri, northern Texas, New Mexico, eastern Utah and Arizona, and California; ... the most wide-ranging and most variable nettle in North America.... The more western tetraploid (*U. californica* - *U. lyallii* - *U. gracilis*) of the northern Rocky Mountains and Pacific Northwest is best treated as a tetraploid race.”

***Utricularia intermedia* Hayne**

“flat-lvd. bladder-wort”

Lentibulariaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, RIC, WAY; ID, NV ++

Notes: N. Holmgren (in Cronquist et al. 1984) cited the overall distribution as “circumboreal, in N. Amer. extending s. to Calif., n. Nev. (Ruby Valley), se. Idaho (Bear Lake), n. Utah (Cache Valley), Mont., Ind., and Del.” The records from Rich and Wayne cos. are as reported in *AUF2* (Welsh et al. 1993); evidently of sporadic occurrence in ponds and lakes and very rarely collected in Utah.

***Utricularia minor* L.**

“lesser bladder-wort”

Lentibulariaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, RIC, SUM, UIN, UTA; CO, ID?, NV, WY ++

Notes: N. Holmgren (in Cronquist et al. 1984) cited the overall distribution as “circumboreal, in N. Amer. extending s. to Calif., ne. Nev. (Ruby Lake), n. Utah (Utah Valley, Cache Valley, Dry Lake, Bear Lake, and Uinta Mts.), Colo., Nebr., Iowa, Ind., and N.J.” Evidently of sporadic occurrence in ponds and lakes and very rarely collected in northern Utah (Welsh et al. 1993).

Status Category: *Peripheral*

Valeriana arizonica A. Gray

“Arizona valerian”

Valerianaceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: WSH; AZ, CO, NM +?

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *V. arizonica* is known in Utah only from the West Rim Trail in Zion Natl. Park (Washington Co.).

Verbena macdougalii Heller

“MacDougal’s vervain”

Verbenaceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: GAR?; AZ, CO, NM, WY?

Notes: In Utah known only by a single collection from Garfield Co. (! Lenz 1986), “Mammoth Creek, near head of Sevier River” (*Jones 6026*; MO, NY, POM), cited by Perry (1933). The species otherwise ranges from Arizona and New Mexico to southern and central Colorado, mainly in open ponderosa pine forests (Cronquist et al. 1984). Questionable Wyoming record as reported by Perry (1933; cf. Dorn 1992).

Veronica catenata Pennell

“broad-fruited water speedwell”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: DAG, SAL, SNP, ?; CO, ID, NM?, NV, WY ++

Notes: For alternative treatment as *V. comosa* var. *glaberrima* (Pennell) B. Boivin, see *Naturaliste Canad.* 79: 174. 1952. For taxonomic discussion, see Cronquist (in Hitchcock et al. 1959, p. 423). N. Holmgren (in Cronquist et al. 1984) cited the distribution as including “the Wasatch front of Utah,” but Welsh et al. (1993) have seen no specimens. Albee et al. (1988) mapped the Utah distribution in Salt Lake and Sanpete cos. Daggett Co. record based on a 1994 collection from along the Green River at Brown’s Park (*Refsdal et al. 2428*, RM), cited by Refsdal (1996). Rare in Nevada acc. Kartesz (1987).

Vicia americana Muhlenb. ex Willd. var. minor Hook.

“prairie vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5T?/S2

Distribution: DAG, UIN; AZ, CO, ID, NM, NV?, WY +

Notes: Barneby (1989) cited the distribution of var. *minor* as including “... ne. Utah (Daggett and Uintah cos.)” Goodrich and Neese (1986) reported var. *minor* as “[o]ccasional; Tridell to Island Park and Red Wash in Uintah Co., Daggett Co. and into Colorado; ... often on Duchesne River, Morrison and other raw-eroding formations with high clay content; 5,200-6,000 ft.” Acc. Isely (in Hickman 1993), “[a]ttempts to use leaflet form and hairs to define infraspecific taxa are untenable.”

Status Category: *Peripheral*

Viola beckwithii Torrey & Gray

“Beckwith’s violet”

Violaceae

Federal Status: None

UTNHP Rank: G4/S2

Distribution: BOX, CAC, SAL, UTA; ID, NV +

Notes: The overall range of *V. beckwithii* was cited by Hitchcock and Cronquist (1961) as “sagebrush hills and plains and ponderosa pine woodland from n.e. Oreg. to Ida. and Utah, s. to Inyo Co., Calif.” In Utah it is rare along the Wasatch Front and in Cache Valley, and acc. *AUF2* (Welsh et al. (1993), “[t]his handsome violet has been displaced largely from its range in Utah by housing subdivisions and commercial developments.”

Vitis arizonica Engelm.

“canyon grape”

Vitaceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: SNJ, WSH; AZ, NV, NM +

Notes: Acc. *AUF2* (Welsh et al. 1993), *V. arizonica* in Utah occurs in Zion Canyon and elsewhere in Washington Co. The San Juan Co. record was reported by Cronquist et al. (1997), who also cited the extralimital distribution as “[c]anyon and streambanks; ... s. Nev. (Clark, Lincoln, and s. Nye cos.) to Ariz., N.M., w. Texas, and n. Mex.”

Wolffia borealis (Engelm. ex Hegelm.) Landolt ex Landolt & Wildi

“northern water-meal”

Lemnaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, MOR, WEB; CO ++

Notes: For current treatment see Ber. Geobot. Inst. ETH, Stiftung Rübel 44: 137. 1977. Treated (erroneously) in *AUF2* (Atwood in Welsh et al. 1993) as *W. punctata* Griseb. A tiny floating aquatic plant, *W. borealis* is endemic to North America (Landolt 1986) and occurs in widely separated, disjunct populations throughout the Pacific, midwestern, and eastern United States and in southern Canada (Armstrong 1997). Rare in northern Utah where known from Cache, Morgan, and Weber cos. (Landolt 1986). Colorado record as reported by Landolt (1986) and Weber and Wittmann (1996b).

Woodsia oregana D.C. Eaton (sensu stricto)

“Oregon cliff fern”

Dryopteridaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SAL, TOO, ?; ID, NV, WY +

Notes: Windham (in Morin 1993) mapped the distribution of diploid *W. oregana* [as ssp. *oregana*] as including only the northernmost part of Utah. Most Utah plants previously referred to *W. oregana* are evidently the tetraploid cytotype known as ssp. *cathcartiana* (B.L. Robinson) Windham (see Windham 1993b). Three collections at UT have been annotated by Dr. Michael Windham as belonging to ssp. *oregana*: Salt Lake Co., Oquirrh Mtns. (*C.C. Hall? in 1897?*, UT 500), Wasatch

Status Category: *Peripheral*

Mtns., near mouth of Red Butte Canyon (*Arnow 2760*); Tooele Co., Stansbury Island, Corral Canyon (*Albee 2304*, in part).

***Woodsia scopulina* D.C. Eaton ssp. *laurentiana* Windham**

“cordilleran cliff fern” Dryopteridaceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: SUM, ?; AZ, CO, ID, NV, WY +

Notes: For original description see *Contr. Univ. Michigan Herb.* 19: 59. 1993. Windham (in Morin 1993) recognized both ssp. *scopulina* (diploid) and ssp. *laurentiana* (tetraploid) as occurring in Utah, with ssp. *laurentiana* mapped in the northern part of the state (i.e., the Wasatch and Uinta mts.). Summit Co. record based on two collections from high elevs. in the western Uintas (crevices of rocky cliffs near Trial Lake, *Seiler 1282*; southwest of Marjorie Lake in crevices among quartzite rocks on southwest-facing slope, *Windham 91-271*; both at UT). Windham (1993b) reported that ssp. *laurentiana* overall has a “[b]imodal distribution with a cluster of populations in the Great Lakes/St. Lawrence region and scattered records in western North America.” Additional data needed on distribution and abundance in Utah.

Xylorhiza glabriuscula* Nutt. var. *glabriuscula

“Wyoming woody-aster” Asteraceae

Federal Status: None **UTNHP Rank:** G4T?/S1

Distribution: DAG; CO, WY +

Notes: For alternative treatment as *Machaeranthera* g. (Nutt.) Cronquist & Keck, see *Brittonia* 9: 239. 1957. Acc. Goodrich and Neese (1986), “[I]abel data of the one specimen seen (*Williams 404* UTC) gives only dry hills, Daggett Co. for location.” Watson (1977) cited another Daggett Co. collection (1 mile south of Manila, *Watson 452*, TEX) and reported the overall range as “[w]idespread throughout the plains of Wyoming, extending into southern Montana, eastern South Dakota, northeastern Utah and northwestern Colorado; occurring on seleniferous clays derived from the Mancos Shale, Bridger and other formations in areas dominated by sagebrush, saltbush, greasewood and grasses...; soil pH 7.8-8.6; elevation 1150-2300 m.”

Xylorhiza tortifolia* (Torrey & Gray) E. Greene var. *tortifolia

“desert woody-aster” Asteraceae

Federal Status: None **UTNHP Rank:** G4T?/S3?

Distribution: WSH; AZ, NV +

Notes: For alternative treatment as *Machaeranthera* t. (Torrey & Gray) Cronquist & Keck, see *Brittonia* 9: 239. 1957. Most of the Utah plants belong to *X. tortifolia* var. *imberbis* (Cronquist) T.J. Watson; the distribution of var. *tortifolia* in Utah is limited to Washington Co., but outside the state it ranges widely across the Mojave Desert region of northwestern Arizona, southern Nevada, and southeastern Calif. (Watson 1977, Welsh et al. 1993, Cronquist 1994).

***Yabea microcarpa* (Hook. & Arn.) Koso-Polj.**

“California hedge-parsley” Apiaceae

Federal Status: None **UTNHP Rank:** G5?/S1

Distribution: WSH; AZ, ID, NV +

Notes: Cronquist et al. (1997) cited the overall range as “s. B.C., s. through Wash. and n. Idaho to Baja Calif. and Sonora, and inland ... to Ariz. and sw. Utah (Washington Co.)” The first Utah collection was made in the Pine Valley Mtns., where the species is reportedly rare in the Red Cliffs area (*Warrick 862*, BRY), cited by Warrick (1987). Known in Nevada only from Lincoln Co. (Kartesz 1987). Monotypic genus.

***Yucca brevifolia* Engelm.**

“Joshua tree” Liliaceae

Federal Status: None **UTNHP Rank:** G5/S3S4

Distribution: WSH; AZ, NV +

Notes: Reveal (in Cronquist et al. 1977) and *AUF2* (Higgins in Welsh et al. 1993) cited the distribution as including a disjunct location in southwestern Utah along the western slope of the Beaver Dam Mtns. (Washington Co.) and adjacent Mohave Co., Arizona. Acc. *AUF2*, *Y. brevifolia* does not naturally reach into the St. George basin except along the northeastern flank of the Beaver Dam Mtns. Recent authors (Reveal in Cronquist et al. 1977, Higgins in Welsh et al. 1993, McKinney and Hickman in Hickman 1993) have not recognized infraspecific taxa in *Y. brevifolia*.

***Yucca schidigera* Roezl ex Ortgies**

“Mojave yucca” Liliaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WSH; AZ, NV +

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), *Y. schidigera* “occurs as an introduction at Castle Cliffs, and is native, though apparently very rare, on the bajadas along the rd. to Beaver Dam Wash west of Castle Cliffs.”

***Zigadenus venenosus* S. Watson var. *gramineus* (Rydb.) Walsh ex M. Peck**

“sheathing death-camas” Liliaceae

Federal Status: None **UTNHP Rank:** G5T5/SP

Distribution: UIN; CO, ID, NM, WY +

Notes: For current treatment see Man. Higher Pls. Oregon, 190. 1941. Acc. Reveal (in Cronquist et al. 1977), “[the] common phase [in the Intermountain region] is var. *venenosus*, but just to the east of our line in Wyoming is var. *gramineus*. It is to be expected in the extreme northeastern corner of Utah.” Acc. *AUF2* (Welsh et al. 1993), a specimen from southern Uintah Co. approaches this variety. Weber and Wittmann (1992) placed this taxon in the genus *Toxicoscordion* in the family Melanthiaceae.

Status Category:

Infrequent

Plants widely but infrequently distributed in the western U.S. or the Intermountain region.

Status Category: Infrequent

Agoseris heterophylla (Nutt.) E. Greene

“annual agoseris” Asteraceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, DAV, SAL; AZ, CO, ID, NM, NV +

Notes: Cronquist (1994) cited the distribution as including “the w. base of the Wasatch front and Bear River Range in Utah.” Davis Co. record based on a 1996 collection from Antelope Island (Stone 1914, UT). The species is otherwise widespread in western North America (Chambers in Hickman 1993, Cronquist 1994).

Asplenium septentrionale (L.) Hoffmann

“grass-like spleenwort” Aspleniaceae

Federal Status: None **UTNHP Rank:** G4?/S1

Distribution: DAG, GRA, SNJ, UIN, WSH; AZ, CO, ID, NM, WY ++

Notes: Of sporadic occurrence in rock crevice habitats, in Utah known from the La Sal Mtns. (Grand and San Juan cos.), the Uinta Mtns. (Daggett and Uintah cos.), and Washington Co. where reported as very rare in the Pine Valley Mtns. (Warrick 1987, Albee et al. 1988, Higgins in Welsh et al. 1993). Idaho state record based on a 1995 collection from the Bear River Range, Franklin Co. (M. Windham and R.D. Stone, unpubl.). The overall distribution is “interrupedly circumboreal” (Cronquist et al. 1972).

Bergia texana (Hook.) Seub.

No common name Elatinaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: MIL, UIN; CO, NM, NV ++

Notes: In Utah known only from Millard and Uintah cos. (Albee et al. 1988, Welsh et al. 1993). Goodrich and Neese (1986) reported two collections from the Uinta Basin: from mud flats on the flood plain of the Green River at Leota Bottom near Ouray (Thorne & Goodrich 3578, BRY?), and below the high water line of Steinaker Reservoir (Goodrich 22007, BRY?). *B. texana* otherwise ranges from the midwestern U.S. southward to northern Mexico and westward to California and eastern Washington (Tucker 1986, Tucker in Hickman 1993).

Bolboschoenus fluviatilis (Torrey) Soják

“river bulrush” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BOX, CAC, DAG; ID, NM ++

Notes: For current treatment see Čas. Nár. Mus. Odd. Přír. 141: 62. 1972. For alternative treatment as *Schoenoplectus f.* (Torrey) M.T. Strong, see Novon 3: 203. 1993. Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *Scirpus f.* (Torrey) A. Gray. Daggett Co. record based on a collection from along the Green River at Brown’s Park (Neese 14802, BRY; cited by Goodrich and Neese 1986). The species is otherwise known in Utah from near the mouth of the Bear River (Box Elder Co.) and from Cache Valley (Albee et al. 1988). Outside the state it ranges widely through temperate North

Status Category: *Infrequent*

America and Asia but is irregularly distributed in the western U.S. (Cronquist et al. 1977, Smith et al. in Hickman 1993).

***Botrychium lanceolatum* (S. Gmelin) Angström**

“deltate-lvd. moonwort” Ophioglossaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: JUA?, SAL, SUM?; AZ, CO, ID, NM, NV, WY ++

Notes: Questionable Juab Co. record based on a collection from the Deep Creek Mtns., Indian Farm Canyon, elev. 10,000 ft. (Maguire & Holmgren 21990A, NY; cited by Flowers 1944, Maguire and Holmgren 1946). This specimen perhaps belongs to the closely related *B. hesperium* (Maxon & Clausen) Wagner & Lellinger which has also been reported from the Deep Creek Mtns. of Juab Co. (W.H. Wagner 1987, pers. comm.; cited in Albee et al. 1988, p. 617). Salt Lake Co. record based on a collection from meadow bordering Silver Lake, Big Cottonwood Canyon (Garrett 1519, UT), a mixed sheet with one plant identified as *B. lanceolatum* (annot. by W.H. Wagner, 1987; see also Cottam et al. 1940; cf. Flowers 1944). Questionable Summit Co. record based on a locality on the northern slope of the Uinta Mtns. (Albee et al. 1988), possibly based on a misidentified collection of the closely related *B. echo* W.H. Wagner. The overall distribution of *B. lanceolatum* is “interruptedly circumboreal” (Cronquist et al. 1972).

***Botrychium lunaria* (L.) Swartz**

“moonwort” Ophioglossaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BEA, CAC, DAG, DUC, GAR, IRO?, JUA, PIU, SAL, SUM; AZ, CO, ID, NM?, NV, WY ++

Notes: Evidently of sporadic occurrence in the mtns. of Utah (see Albee et al. 1988), the county distribution as reported in *AUF2* (Higgins in Welsh et al. 1993). In New Mexico acc. Isaacs (1977, cited in Roalson and Allred, no date; cf. W. and F. Wagner in Morin 1993). Cronquist et al. (1972) cited the overall distribution as “widespread in the cooler parts of the n. hemisphere, and at scattered stations in the s. hemisphere as well; widely scattered in the higher mts. of [the Intermountain region], but apparently nowhere common.”

***Botrychium minganense* Victorin**

“Mingan Islands moonwort” Ophioglossaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: JUA, SUM, ?; AZ, CO, ID, NV, WY ++

Notes: For alternative treatment as *B. lunaria* ssp. *m.* (Victorin) Calder & Taylor, see *Canad. J. Bot.* 43: 1388. 1965. Treated in *AUF2* (Higgins in Welsh et al. 1993) as a synonym of *Botrychium lunaria* (L.) Swartz. Juab Co. record based on a collection from the Deep Creek Mtns., Indian Farm Canyon, elev. 10,000 ft. (Maguire & Holmgren 21990, NY?; cited Maguire and Holmgren 1946). This report was confirmed by W.H. Wagner (1987, pers. comm.; cited in Albee et al. 1988, p. 617) who noted the habitat as “wet streamside under *Salix* sp.” Summit Co. record based on 1991

Status Category: *Infrequent*

collections from the western Uinta Mtns., east-northeast of Big Elk Lake, alpine tundra community in shale talus on steep, northeast-facing slope, elev. 10,500 ft. (*Windham 91-192a & 192b*, UT). Overall, *B. minganense* is restricted to North America where it occurs in widely scattered locations across Canada to Alaska and southward in the mtns. of the western U.S. (W. and F. Wagner in Morin 1993).

***Callitriche heterophylla* Pursh emend. Darby**

“water-starwort” Callitrichaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAG?, DUC, GRA, PIU, SUM, UIN, UTA, WAS; AZ, CO, ID, NM, NV, WY ++

Notes: Cronquist et al. (1984) cited the distribution as including the “Uinta Mts. of Utah (the rare, wholly submersed form known as *C. anceps* Fern.)”. County distribution as reported in *AUF2* (Welsh et al. 1993). *C. heterophylla* overall is widespread in North America, ranging south to Guatemala and South America (Fassett 1951, Philbrick and Jansen 1991).

***Carex deweyana* Schwein. var. *bolanderi* (Olney) W. Boott**

“Bolander’s sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** None

Distribution: BEA, CAC, JUA, MIL, PIU, SAL, WSH; AZ, CO?, ID, NM, NV, WY +

Notes: Evidently of sporadic occurrence in Utah; known from the Bear River Range, the Wasatch, Deep Creek, Canyon, and Tushar mtns., and Washington Co. (Goodrich in Welsh et al. 1987, 1993; Albee et al. 1988). The Juab Co. record is based on a collection from the Deep Creek Mtns., Granite Creek, elev. 7500 ft., where reportedly “[f]requent” (*Maguire and Holmgren 21871*, NY?; cited in Maguire and Holmgren 1946). Overall, var. *bolanderi* is widespread in the mtns. from British Columbia and Montana southward to Calif. and New Mexico (Hermann 1970, Mastrogiuseppe in Hickman 1993); the var. *deweyana* is more eastern (Cronquist et al. 1977).

***Carex stipata* Muhlenb. in Willd.**

“prickly sedge” Cyperaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAV, SAL, WEB; AZ, CO, ID, NM, WY ++

Notes: Cronquist et al. (1977) reported that *C. stipata* is “missing from most of [the Intermountain region]; with us known mainly along our northern border, and from several collections in n. Utah.” The Utah distribution is evidently in wet habitats at low elevations along the Wasatch Front in Davis, Salt Lake, and Weber cos. (Albee et al. 1988, Goodrich in Welsh et al. 1993). It is otherwise widespread in temperate North America and (disjunct?) in Japan (Cronquist et al. 1977, Mastrogiuseppe in Hickman 1993).

Status Category: *Infrequent*

***Ceratophyllum demersum* L.**

“hornwort”

Ceratophyllaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: BEA, BOX, CAC, DAV, JUA, KAN, MIL, PIU, SAL, SEV, UTA, WAS; AZ, CO, ID, NM, NV, WY ++

Notes: A submersed aquatic of cosmopolitan distribution (Les in Morin 1997), *C. demersum* is evidently of widespread but sporadic occurrence in Utah where it inhabits low-elevation ponds, reservoirs, lakes, and slow-moving streams (Albee et al. 1988). County distribution as reported in *AUF2* (Welsh et al. 1993).

***Chenopodium rubrum* L. var. *humile* (Hook.) S. Watson**

“low goosefoot”

Chenopodiaceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: DAV, GAR, IRO, SNP, SEV, UTA; CO?, ID, NM?, NV, WY? ++

Notes: Treated in *AUF2* (Welsh et al. 1993) as *C. humile* Hook. with the county distribution given above. A plant of moist, often saline habitats at low elevations, it is evidently of wide but very infrequent occurrence in Utah (at least rarely collected). For taxonomic discussion see Wahl (1954), Hitchcock and Cronquist (1964).

***Cuscuta cephalanthi* Engelm.**

“streamside dodder”

Cuscutaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, SAL, UIN; AZ, CO?, ID?, NV, NM ++

Notes: For alternative treatment as *Grammica c.* (Engelm.) W.A. Weber, see Southwest. Nat. 18: 319. 1973. Twining stem-parasite on a variety of plant hosts, found growing near streams, rivers and lakes, widespread in North America but only occasionally found in the Intermountain region (Reveal and Cronquist in Cronquist et al. 1984, Beliz in Hickman 1993). County distribution in Utah as reported in *AUF2* (Baird in Welsh et al. 1993) and mapped in Albee et al. (1988).

***Cyperus acuminatus* Torrey & Hook.**

“Drummond’s annual nut-sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: MIL; AZ, CO, ID, NM?, NV, WY ++

Notes: *C. acuminatus* is “seldom collected” in the Intermountain region (Cronquist et al. 1977) and is known in Utah only from drying mud flats in Millard Co. (Albee et al. 1988, Goodrich in Welsh et al. 1993). The overall distribution was cited by Tucker (1994) as “[e]ndemic to North America, from southwestern Virginia, Minnesota, and Washington south into Alabama, Texas, and southern California, U.S.A., and in northeastern Mexico.”

Status Category: Infrequent

Cyperus schweinitzii Torrey

“sand nut-sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: KAN; AZ?, ID, NM, WY ++

Notes: In Utah known only from dunes and sandy soil near Kanab, Kane Co. (Cottam et al. 1940, Goodrich in Welsh et al. 1993). Although *C. schweinitzii* is evidently uncommon and sporadically distributed in the West, it is widespread in eastern North America from Ontario and New York to Texas and México (Cronquist et al. 1977). Expected in Arizona acc. Kearney and Peebles (1951).

Descurainia incisa (Engelm. ex A. Gray) Britton ssp. viscosa (Rydb.) Rollins

“mountain tansy-mustard”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T_/S1?

Distribution: DUC, WAS; AZ, CO, ID, NM, NV, WY +

Notes: For current treatment see Cruciferae Continental N. Amer., 345. 1993. Treated in *AUF2* (Welsh et al. 1993) as *D. richardsonii* var. *v.* (Rydb.) M. Peck, see Madroño 6: 133. 1941. For alternative treatment as *D. incana* var. *v.* (Rydb.) Dorn, see Vasc. Pls. Wyoming 296. 1988. For alternative treatment as *D. incana* ssp. *v.* (Rydb.) Kartesz & Gandhi, see Phytologia 71: 275. 1991. Acc. *AUF2*, this taxon is known in Utah by a handful of collections from Duchesne and Wasatch cos. The overall distribution was cited by Rollins (1993) as “mountains of west Texas to Nevada, Oregon and Montana, mostly in the Rocky Mountains.”

Dichanthelium oligosanthes (J.A. Schultes) Gould var. scribnerianum (Nash) Gould

“Scribner’s panic-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5T5/S2?

Distribution: GAR, WSH; AZ, CO, ID, NM, WY ++

Notes: For current treatment see Brittonia 26: 60. 1974. Treated in *AUF2* (Arnow in Welsh et al. 1993) as *Panicum o.* var. *s.* (Nash) Fern. Acc. *AUF2*, this perennial grass in Utah is restricted to Garfield and Washington cos. where it is found in riparian habitats and hanging gardens. Overall, var. *scribnerianum* ranges widely in the western U.S. and extends to the east where var. *oligosanthes* also occurs (A. and N. Holmgren in Cronquist et al. 1977).

Elatine rubella Rydb.

“western water-wort”

Elatinaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, GAR, SAL, UIN, UTA, WSH; AZ, CO, ID?, NM, NV, WY ++

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *E. triandra* Schkuhr. Mason (1956, 1957), followed by Tucker (in Hickman 1993; cf. Tucker 1986), regarded *E. triandra* as a strictly Eurasian species and treated the plants from western North America as belonging to *E. rubella*. The former author noted that *E. rubella* differs from *E. triandra* in having sepals that are unequal in size (*rubella*, 2 large, oblong sepals often equalling the corolla in length vs. *triandra*, all sepals very small in proportion to the corolla). The Garfield and Uintah county records are as mapped by Albee et al.

Status Category: *Infrequent*

sometimes can be found even within samples of single populations. However, because populations composed primarily of these monocephalous plants are easily recognizable and tend to be geographically clustered (on a small scale) within the range of *E. concinnus*, I believe it is useful to retain the formal taxonomic status of variety for them. Most of the plants of var. *condensatus* I have seen are white-rayed, but the ray color varies to pink and purple.”

Geranium carolinianum L.

“Carolina crane’s-bill” Geraniaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: DAV, SAL, WEB; AZ, CO?, NM, NV, ID, WY ++

Notes: N. Holmgren (in Cronquist et al. 1997) cited the distribution as including “n. Utah (Wasatch front).” Although uncommon in Utah, this species has weedy tendencies and perhaps should not be regarded as a rare plant.

Gratiola neglecta Torrey

“American hedge-hyssop” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC; AZ, CO?, ID, NV, NM, WY ++

Notes: Small annual of wet, muddy habitats, widely distributed in temperate North America and known in Utah by a single collection from Cache Valley (N. Holmgren in Cronquist et al. 1984, Welsh et al. 1993).

Leersia oryzoides (L.) Swartz

“rice cut-grass” Poaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: BOX?, DAV, UTA, WEB; AZ, CO, ID, NM, NV, WY ++

Notes: A denizen of marshes and waterways at low elevations, *L. oryzoides* is known in Utah from the eastern sides of Great Salt and Utah Lakes (A. and N. Holmgren in Cronquist et al. 1977, Albee et al. 1988). Questionable Box Elder Co. record based on a report by A. and N. Holmgren (in Cronquist et al. 1977) from “Bear River Bay.” The species is otherwise widely distributed in temperate North America and Eurasia (A. and N. Holmgren in Cronquist et al. 1977, Wilken in Hickman 1993); reported as a weed along irrigation ditches in Arizona (Kearney and Peebles 1951) and Colorado (Weber and Wittmann 1996a,b).

Lemna gibba L.

“inflated duckweed” Lemnaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: IRO, UTA; AZ, CO?, ID, NM, NV?, WY? ++

Notes: Reveal (in Cronquist et al. 1977) cited the distribution as “... slow-moving streams, ponds and lakes; rather common throughout the temp. and trop. regions of the world; known in [the Intermountain region] from se. Idaho and Utah, but to be expected elsewhere.” Acc. Landolt (1975),

Status Category: *Infrequent*

“As a rule, *L. gibba* s.l. occurs only in regions with a marked drought season during the vegetation period or with an average yearly precipitation level of less than 90 mm. The absence of *L. gibba* from the south-eastern, eastern and north-western states of the U.S.A. is due to the high precipitation levels; the absence of this taxon in the middle and northern parts of North America, in northern Europe as well as in central and northern Asia is caused by the low winter temperatures.” From this report and from Landolt’s map (see p. 359) it seems unlikely that *L. gibba* would occur in Utah except in the extreme southwestern portion. “In arid regions where *L. gibba* occurs, *L. minor* is very rare or totally absent.”

***Lemna trisulca* L.**

No common name

Lemnaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, GAR, MIL, MOR, SAL, SEV, SUM, UTA; AZ, CO, ID, NM, NV, WY ++

Notes: Reveal (in Cronquist et al. 1977) cited the distribution as “... slow-moving streams, ponds, ditches, springs or lakes; common throughout much of the temp. and subtrop. world, but apparently lacking from S. Amer.; found in [the Intermountain region] from se. Oregon and e. Calif. across n. Nev. to Utah.”

***Lemna valdiviana* Philippi**

“Chilean duckweed”

Lemnaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, UTA, WSH, WEB; AZ, CO?, ID, NM?, NV, WY ++

Notes: Reveal (in Cronquist et al. 1977) cited the distribution as “... slow-moving streams, ponds and lakes; N. and S. Amer.; e. Calif. s. to Mex. and e. to the e. U.S.; infrequent in [the Intermountain region] in e. Calif., Nev., Utah, and n. Ariz.” Rare in Nevada acc. Kartesz (1987). Armstrong (in Hickman 1993) regards *L. valdiviana* as apparently uncommon in Calif. Not definitely known from New Mexico acc. Roalson and Allred (no date).

***Lipocarpa aristulata* (Cov.) G.C. Tucker**

No common name

Cyperaceae

Federal Status: None

UTNHP Rank: G5?/S1

Distribution: KAN; AZ, CO, ID, NM?, WY ++

Notes: For current treatment see J. Arnold Arbor. 68: 410. 1987. Treated in *AUF2* (Goodrich in Welsh et al. 1993) as *Hemicarpha micrantha* var. *a.* Cov. Acc. Welsh and Eliason (1995), this diminutive annual “was discovered [for the first time in Utah] during the 1992 collecting season in an ephemeral seep in Kitchen Canyon [Kane Co.], and was found again in another ephemeral seep in Park Canyon during 1993.” The overall range was cited by Tucker (1987) as “across the United States from South Carolina to Florida west to Washington and California.”

Status Category: *Infrequent*

***Muhlenbergia mexicana* (L.) Trin.**

“misnamed muhly” Poaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: GRA, UTA; AZ, CO, ID, NM, NV, WY ++

Notes: Perennial grass, in Utah known only from moist habitats in Grand and Utah cos. (Albee et al. 1988, Arnow in Welsh et al. 1993). Acc. A. and N. Holmgren (in Cronquist et al. 1977), “[t]he specific epithet ‘*mexicana*’ is a misnomer, since the species does not extend as far south as Mexico.” Acc. Pohl (1969), “*M. mexicana* is one of the most widespread and abundant species of the subgenus [*Muhlenbergia*]. It is transcontinental north of the 40th parallel, although rare or overlooked in the plains states, where suitable habitats are few, and very scattered in the Rocky Mountains.” Rare in Nevada (Kartesz 1987).

***Muhlenbergia minutissima* (Steudel) Swallen**

“delicate muhly” Poaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: BEA, GAR?, IRO, SEV, TOO?, WSH?; AZ, CO, ID, NM, NV, WY +

Notes: For current treatment see Contr. U.S. Natl. Herb. 29: 207. 1947. Beaver, Iron, and Sevier county records as reported in *AUF2* (Arnow in Welsh et al. 1993). Questionable Garfield Co. record as mapped by Albee et al. (1988). Questionable Tooele Co. record based on a report of *Sporobolus confusus* (Fourn.) Vasey from meadows adjoining marshlands in Tooele Valley (Flowers 1932, p. 112). Questionable Washington Co. record as reported by Welsh et al. (1975), based on a (misidentified?) specimen at BRY (*Atwood & Higgins 5528*). Annual grass, the overall distribution cited by A. and N. Holmgren (in Cronquist et al. 1977) as “[s]andy soils of meadows, streambanks and shores of ponds and lakes, often forming dense stands along receding shores of reservoirs; Wash. to Mont., s. through Calif., Ariz., N.M. and w. Texas to n. Mex.” Infrequent in western Colorado (Weber and Wittmann 1996a); rare in Nevada (Kartesz 1987).

***Myosurus minimus* L.**

“mouse-tail” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5?/S1S2

Distribution: CAC, DAG, SAL, SNJ, SEV, SUM; AZ, CO, ID, NM, NV?, WY ++

Notes: Whittemore (in Morin 1997) cited the distribution as including Utah.

***Najas guadalupensis* (Sprengel) Magnus**

“American water-nymph” Najadaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: CAC, SAL; AZ, CO, ID, NM, NV, WY ++

Notes: A submerged aquatic inhabiting lakes, rivers, and canals (Haynes 1979). Cache Co. record based on a collection from south end of Oxbow Pond, 0.5 mile south of Smithfield Sugar Refinery (*Maguire 20198*, UTC?), cited in Maguire and Jensen (1942). Salt Lake Co. record as reported in *AUF2* (Atwood in Welsh et al. 1993). *N. guadalupensis* has now been reported from all neighboring

Status Category: *Infrequent*

states (Reveal in Cronquist et al. 1977, Haynes 1979, Kartesz 1987, Dorn 1992, Weber and Wittmann 1996b; Roalson and Allred, no date), and elsewhere the species ranges widely from Calif. to the eastern U.S. and south to the West Indies and South America (Reveal in Cronquist et al. 1977, Haynes 1979). Thorne (in Hickman 1993) treated the genus *Najas* as belonging to the family Hydrocharitaceae.

***Nuphar lutea* (L.) J.E. Smith ssp. *polysepala* (Engelm.) E.O. Beal**

“yellow-fl. pond-lily” Nymphaeaceae

Federal Status: None **UTNHP Rank:** G5T5/S2

Distribution: DUC, SUM, UIN, WAS?; AZ, CO, ID, NM, NV, WY +

Notes: For current treatment see J. Elisha Mitchell Sci. Soc. 72: 339. 1956. Treated in *AUF2* (Welsh et al. 1993) as *N. polysepala* Engelm. Wiersema and Hellquist (in Morin 1997) cited the distribution of *N. polysepala* as “Ponds, lakes, and sluggish streams; 0-3700 m; B.C., N.W.T., Yukon; Alaska, Ariz., Calif., Colo., Idaho, Mont., Nev., N.Mex., Oreg., Utah, Wash., Wyo.” Wasatch County record as mapped in Albee et al. (1988). *N. lutea* ssp. *polysepala* uncommon in northwestern Nevada acc. Kartesz (1987). Not in Arizona acc. Kearney and Peebles (1951), Howell and McClintock (1960).

***Poa pattersonii* Vasey**

“Patterson’s bluegrass” Poaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: BEA, DUC, GRA, IRO, PIU, SNJ; AZ, CO, ID, NM?, NV, WY +

Notes: For alternative treatment as *P. abbreviata* ssp. *p.* (Vasey) Á. Löve, D. Löve & Kapoor, see Arctic & Alpine Res. 3: 142. 1971. Utah collections cited by Soreng (1991a): Duchesne Co., Uinta Mtns., Kings Peak (*Harrison et al. 10070*, US); Grand Co., La Sal Mtns., Mt. Waas (*Maguire et al. 16383*; CAN, CU); San Juan Co., La Sal Mtns., Mt. Peale (*Maguire et al. 16384*, CU). Rare in the Tushar Mtns., Beaver and Piute cos. (Albee et al. 1988, Taye 1995). Iron Co. record based on a collection from Cedar Breaks Natl. Monument, “near Panguitch Lake entrance” (*B. & L. Palmer 1087*; Cedar Breaks herbarium housed at Zion Natl. Park). Elsewhere, Patterson’s bluegrass ranges from Alaska and Yukon westward to northeastern Asia (Wrangel Island) and uncommonly southward at high elevs. in the Rocky Mtns. to Calif. and Colorado (Soreng 1985, 1991a). Arizona record as reported by A. and N. Holmgren (in Cronquist et al. 1977). Questionable New Mexico record as reported by Martin and Hutchins (1980; cf. Soreng 1985, Roalson and Allred [no date]).

***Polypodium hesperium* Maxon**

“western polypody-fern” Polypodiaceae

Federal Status: None **UTNHP Rank:** G5/S2

Distribution: SAL, UTA, WSH; AZ, CO, ID, NM +

Notes: This species is known from Washington Co. where it occurs in Zion Canyon (there sympatric with the closely related *P. glycyrrhiza* D.C. Eaton) and the Pine Valley Mtns. (Flowers 1944, Cronquist et al. 1972, Warrick 1987, Albee et al. 1988, Higgins in Welsh et al. 1993). As

Status Category: *Infrequent*

documented by specimens at UT (see also Flowers 1944), *P. hesperium* is also found in the central Wasatch Mtns., specifically in Big and Little Cottonwood Canyons (Salt Lake Co.) and American Fork Canyon at Pittsburg Lake (Utah Co.). The habitat was described by Flowers (1944) as “crevices of cliffs and ledges or under rocks in soil, usually in shaded canyons and ravines.” Outside of Utah, *P. hesperium* ranges widely in the mtns. of western North America from Alberta and British Columbia southward to México in Chihuahua and Baja California (Haufler et al. in Morin 1993).

Potamogeton natans L.

“floating-lvd. pond-weed”

Potamogetonaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, RIC, UIN, UTA; AZ, CO, ID, NM, NV, WY ++

Notes: Reveal (in Cronquist et al. 1977) cited the distribution as “Eurasia and N. Amer.; Alaska to Newfl., s. to s. Calif., c. Ariz., n. N.M. and most of the midw. and ne. U.S.; widely scattered throughout [the Intermountain region].”

Potentilla nivea L.

“snow cinquefoil”

Rosaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: GRA, JUA, SNJ, SUM; AZ, CO, ID, NV, WY ++

Notes: N. Holmgren (in Cronquist et al. 1997) cited the distribution as “Rocky subalpine and alpine slopes and ridges, (1800) 2200-3700 m; Alaska to Que., s. through the Rocky Mts. to Colo. and sporadically w. to Utah (La Sal, Abajo, and Deep Creek mts.), e. Nev. (Snake and Schell Creek ranges), and n. Ariz. (San Francisco Mts.)” Acc. N. Holmgren (in Cronquist et al. 1997), “Some plants in given populations in the La Sal Mountains have stiffer, straighter hairs on the petioles and would pass for *P. hookeriana* Lehm. In the Snake and Schell Creek ranges, some plants form tight bun-like cushions, but some with looser mats are also encountered.”

Potentilla rivalis Nutt. in Torrey & Gray

“brook cinquefoil”

Rosaceae

Federal Status: None

UTNHP Rank: G5/S1S2

Distribution: CAR, PIU, SAL, SEV, UIN, WAS; AZ, CO, ID, NM, NV, WY ++

Notes: N. Holmgren (in Cronquist et al. 1997) cited the distribution as “[m]oist meadows, streambanks, and shores of ponds and lakes, 1300-2400 m; sw. Can. from B.C. to Sask., s. to c. and s. Calif., n. Nev., Utah (in Sevier, Carbon, and Uintah cos.), n. and e. Ariz., N.M., w. Texas, Kansas, and Mo.” N. Holmgren (in Cronquist et al. 1997) treated *P. millegrana* Engelm. ex Lehm. as a synonym of *P. rivalis* Nutt., without comment.

Pyrola picta J.E. Smith

“white-veined wintergreen”

Pyrolaceae

Federal Status: None

UTNHP Rank: G4G5/S1

Distribution: CAC, GRA?, KAN, RIC, SNJ?, WSH; AZ, CO, ID, NM, NV, WY +

Status Category: *Infrequent*

Notes: Perennial herbs with evergreen lvs. (or rarely \pm leafless and then partially to completely heterotrophic), known in Utah from the mtns. of Cache and Rich cos., western Kane Co., and the Pine Valley Mtns. of Washington Co. where uncommon in ponderosa pine and spruce-fir forests (Warrick 1987, Albee et al. 1988, Welsh et al. 1993). Questionable Grand and San Juan county records based on the distribution map by Haber (1987, p. 332) which indicates a collection locality in the La Sal Mtns. The species characteristically inhabits dry coniferous forests and ranges widely in western North America from British Columbia southward to Calif. and New Mexico (Haber 1987). Sometimes treated in the family Ericaceae.

Rorippa sinuata (Nutt. ex Torrey & Gray) A. Hitchc.

“spreading yellow-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: UIN, SNJ; AZ, CO, ID, NM, NV, WY ++

Notes: Acc. Goodrich and Neese (1986), “The few specimens seen [from the Uinta Basin] are from the flood plain of the Green River; disturbed swamp communities and pond margins; 4,700-6,760 ft. ... Graham (1937) lists *Graham 6113* from between Green River and Quarry.”

Samolus parviflorus Raf.

“white-fld. water-pimpernel”

Primulaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: SAL, WSH; AZ, NM, NV ++

Notes: For alternative treatment as *S. valerandii* ssp. *p.* (Raf.) Hultén, see Svenska Vet. Handl. 13(1): 148. 1971. A perennial herb of moist areas, known in Utah only from Salt Lake and Washington cos. (Albee et al. 1988, Welsh et al. 1993). *S. parviflorus* otherwise ranges widely from Canada southward throughout the U.S. to México, the West Indies, and South America (Channell and Wood 1959, Cholewa and Henderson in Hickman 1993). Uncommon in southern Nevada (Kartesz 1987). Also reported (as *S. floribundus* Kunth) from Arizona and New Mexico (Kearney and Peebles 1951; Martin and Hutchins 1981; Roalson and Allred, no date). *S. ebracteatus* var. *cuneatus* (Small) Henrickson also occurs in southern Nevada (see Henrickson 1983), and the possibility exists that some of the plants from Washington Co. should be referred to that taxon. *S. ebracteatus* Kunth differs from *S. parviflorus* in its pink flowers, floral bracts and staminodia lacking, and in having the lower four leaves much greater than 5 cm long (Channell and Wood 1959, Cholewa and Henderson in Hickman 1993).

Scirpus pallidus (Britton) Fern.

“pale bulrush”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/S1S2

Distribution: UIN, UTA; AZ, CO, ID, NM, WY ++

Notes: Known in Utah from the eastern shore of Utah Lake (Albee et al. 1988) and from several localities in the Uinta Basin where it occurs “along ditches, washes, and the Green River, tolerant of alkali” (Goodrich and Neese 1986). The overall distribution was reported by Schuyler (1967) as

Status Category: *Infrequent*

“marshes, along streams, and ditches from southeastern Manitoba to Washington and Oregon, south to eastern Texas, New Mexico, and Utah; also known from localities in Wisconsin and Pennsylvania.” Move to peripherals list?

***Sparganium eurycarpum* Engelm.**

“broad-fruited bur-reed” Sparganiaceae

Federal Status: None **UTNHP Rank:** G5/S2?

Distribution: BOX, CAC, DAV, GAR, PIU, SAL, SEV, UTA; AZ, CO, ID, NM, NV, WY ++

Notes: An emergent aquatic plant of pond and lake margins, marshes, and sluggish streams; in Utah found mostly at low elevations along the Wasatch Front and in Cache Valley (Albee et al. 1988). Typical *S. eurycarpum* is endemic to North America (Cook and Nicholls 1987), the distribution cited by Reveal (in Cronquist et al. 1977) as “B.C. to Baja Calif., e. to Newfl. and Fla.; fairly common in [the Intermountain region] from se. Oregon and s. Idaho into n. Nev., Utah and n. Ariz.” Thorne (in Hickman 1993) treated the genus *Sparganium* as belonging to the family Typhaceae.

***Spirodela polyrrhiza* (L.) Schleiden**

“many-rooted duck-meat” Lemnaceae

Federal Status: None **UTNHP Rank:** G5/S1S2

Distribution: CAC, DAV, SAL, UTA; AZ, CO, ID, NM, NV, WY ++

Notes: Reveal (in Cronquist et al. 1977) cited the distribution as “[q]uiet water of ponds, lakes, marshes and slow-moving streams; widely distributed throughout the world, from Eurasia and Africa to N. Amer. and Australia; known in [the Intermountain region] only from scattered locations in Utah, but expected elsewhere.”

***Stellaria longifolia* Muhlenb. ex Willd.**

“long-lvd. starwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5/S2S3

Distribution: CAC, DUC, GRA, RIC, SAL, SEV, UIN, UTA, WAS, WSH?; AZ, CO, ID, NM, NV, WY ++

Notes: Questionable Washington Co. record as mapped in Albee et al. (1988), perhaps based on collections from the Pine Valley Mtns. that Warrick (1987) referred to *S. calycantha* (Ledeb.) Bong. (Mill Canyon, *Warrick 2665*; Mill Creek above Browse Guard Station, *Warrick 3064*; both at BRV). County distribution otherwise as reported in *AUF2* (Welsh et al. 1993); apparently of sporadic occurrence in mtns. throughout Utah. The overall distribution is circumboreal (Hartman in Hickman 1993).

***Teucrium canadense* L. var. *occidentale* (A. Gray) McClintock & Epling**

“western wood-sage” Lamiaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: CAC, PIU, SAL, UTA; AZ, CO, ID, NM, NV?, WY +

Status Category: *Infrequent*

Notes: For current treatment see Brittonia 5: 499. 1946. For alternative treatment as ssp. *occidentale* (A. Gray) W.A. Weber, see Phytologia 53: 190. 1983. A rhizomatous perennial of streambanks and moist bottomlands, *T. canadense* has been found in Utah in the Cache Valley and on the western side of Utah Lake (Cronquist and Reveal in Cronquist et al. 1984). Piute Co. record as reported in *AUF2* (Higgins in Welsh et al. 1993). Salt Lake Co. record based on location along the Jordan River (B. Glisson 1997, pers. comm.; voucher specimen to be deposited at UT). *T. canadense* is otherwise irregularly distributed in the western states (Cronquist and Reveal in Cronquist et al. 1984); questionable Nevada record as discussed by Kartesz (1987).

Trautvetteria caroliniensis (Walter) Vail var. occidentalis (A. Gray) C.L. Hitchc.

“false bug-bane”

Ranunculaceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: SNJ; AZ, CO, ID, NM, WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(2): 411. 1964. In Utah known only from the Abajo Mtns., San Juan Co. (Welsh et al. 1993). Treated by Parfitt (in Morin 1997) as a monotypic genus. “Populations of *Trautvetteria caroliniensis* in western North America have been distinguished from the eastern typical material as *T. caroliniensis* var. *borealis* (H. Hara) T. Shimizu [synonym: *T. caroliniensis* var. *occidentalis* (A. Gray) C.L. Hitchcock]. Asian populations, long treated as a distinct species *T. japonica* Siebold & Zuccarini, were most recently regarded (T. Shimizu 1981; M. Tamura 1991) as conspecific with the North American populations [as *T. caroliniensis* var. *japonica* (Siebold & Zuccarini) T. Shimizu]. Aside from geography, varietal differences seem rather arbitrary.”

Trifolium wormskioldii Lehm. var. wormskioldii

“cow clover”

Fabaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: BOX, CAC, SAL, TOO; AZ, CO, ID, NM, NV, WY +

Notes: Barneby (1989) cites the distribution of var. *wormskioldii* as “widespread and common in Pacific N. Amer. from coastal B.C. to s. Calif., inland to sw. Idaho, w. Wyo., c. N.M., and s. Sonora; frequent within the nw. perimeter of the Intermountain region, s. in Nev. to the Humboldt valley and the Charleston Mts., feebly e. to the Wasatch Front in Utah.”

Status Category:

Taxonomic Problems

Status Category: *Taxonomic Problems*

Abronia nana S. Watson var. harrisii Welsh

“Harris’ sand-verbena” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G3G4T1Q/S1

Distribution: EME

Notes: For original description see Great Basin Nat. 46: 258. 1986. Type from Emery Co., San Rafael Swell, 1 mile south of San Rafael River campground (*Harris 364*; holotype BRY). Two additional collections cited by Welsh (1986a), both from Emery Co.: San Rafael Swell, on road to Wedge Overlook, ca. 4 miles south of Buckhorn Flat crossroads (*Despain 517*, BRY); San Rafael Swell, Bottleneck Peak area, off the west side of Cottonwood Draw road, ca. 2 miles south of Bridge Campground (*Despain 564*, BRY). The type specimen at BRY has been annotated to *A. elliptica* A. Nelson, a common and widespread species (det. L.A. Galloway, 1993).

Achnatherum nevadense (B. Johnson) Barkworth

“Nevada needlegrass” Poaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: BEA; ID, NV, WY? +

Notes: Treated in *AUF2* (Arnou in Welsh et al. 1993) as *Stipa nevadensis* B. Johnson, Amer. J. Bot. 49: 257. 1962. For current treatment see Phytologia 74: 9. 1993. Acc. *AUF2*, this perennial grass is known in Utah only by a 1989 collection from the Tushar Mtns., Beaver Co. (*Taye 4700*, BRY). Johnson (1962) cited the overall distribution as “California, along the east slope of the Sierras from Modoc County to Kern County, east across Nevada to southern Idaho, dry hills and open woods at medium to high altitudes.” The same author noted that rare specimens from Idaho and Utah, previously referred to *Stipa californica* Merrill & Burt Davy [= *Achnatherum occidentale* ssp. *californicum* (Merrill & Burt Davy) Barkworth], are of uncertain identity. Questionable Wyoming record for *A. nevadense* based on a report from Carbon Co. (Dorn 1992). Acc. Barkworth (in Hickman 1993), *A. nevadense* is a polyploid derivative of *A. nelsonii* (Scribner) Barkworth and *A. lettermanii* (Vasey) Barkworth, both of which occur widely in Utah.

Agoseris glauca (Pursh) Raf. var. agrestis (Osterh.) Q. Jones ex Cronquist

“Estes Park agoseris” Asteraceae

Federal Status: None **UTNHP Rank:** G4G5T3?Q/S1S2

Distribution: BEA, GAR, IRO, SAL, SNP, SEV; CO, NM, NV?, ID?, WY +?

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(5): 26. 1955. Cronquist (1994) cited the distribution of var. *agrestis* as “mainly in the Rocky Mts., extending w. to e. Wash. and ne. Oregon; at scattered localities in [the Intermountain region]; chiefly in the foothills and at middle elev. in the mts.” Acc. *AUF2* (Welsh et al. 1993), “these are the tall plants that might prove to be mere extensions of var. *dasycephala*” (Torrey & Gray) Jepson. More recently, Baird (1996) regarded *A. agrestis* Osterh. as having a more limited distribution in the Rocky Mtns. from southern Wyoming through Colorado and northern New Mexico; he further treated it as a putative hybrid between the sympatric *A. glauca* var. *glauca* and *A. parviflora* (Nutt.) D. Dietr. Utah plants previously

Status Category: *Taxonomic Problems*

determined as *A. glauca* var. *agrestis* were recognized by Baird (1996) as belonging to *A. glauca* var. *dasycephala* or representing intermediates between var. *glauca* and var. *dasycephala*.

Agoseris glauca (Pursh) Raf. var. cronquistii Welsh

“Cronquist’s agoseris”

Asteraceae

Federal Status: None

UTNHP Rank: G4G5T?Q/SSYN

Distribution: BEA, DAG, DUC, GAR, PIU, SNJ, SNP, SUM, UIN

Notes: For original description see *Rhodora* 95: 393. 1993. Type from Piute Co., Tushar Mtns., 9 miles due west of Marysvale, at timberline (Welsh et al. 14021; holotype BRY). Dwarf alpine perennial, endemic to Utah on the Aquarius and Wasatch plateaus, and in the La Sal, Tushar, and Uinta mtns. (Welsh 1993; Cronquist 1994, p. 430; N. Holmgren, addendum in Cronquist 1994, p. 480). Acc. Baird (1996), the type that was selected for *A. glauca* var. *cronquistii* was misidentified and actually belongs to *A. aurantiaca* var. *purpurea* (A. Gray) Cronquist. The same author treated the plants to which Welsh (1993) intended to apply the name *A. glauca* var. *cronquistii* as the “*isomeris* phase” of the widespread *A. glauca* var. *dasycephala* (Torrey & Gray) Jepson. Also belonging to this phase is the type of *A. isomeris* E. Greene (Fish Lake, Uinta Mtns., *Goodding 1397*; holotype US, isotypes ISC, RM). As noted by Baird (1996), “variety *dasycephala* exhibits a wide range of phenotypic variation.... There are a number of semi-distinct forms or phases in this variety that are much more morphologically and geographically separable than those found in var. *glauca*. Most of these different forms of var. *dasycephala* have been given taxonomic recognition at some time or another[,] but they all grade into each other and often cannot be successfully or completely segregated.”

Allium campanulatum S. Watson

“Sierra onion”

Liliaceae

Federal Status: None

UTNHP Rank: G4/SR

Distribution: BEA, JUA; NV +

Notes: Mapped by Albee et al. (1988) as occurring in Beaver and Juab cos. Acc. *AUF2* (Welsh et al. 1993), reports of *A. campanulatum* from Utah are probably based on misidentified specimens of *A. bisceptrum* S. Watson. Otherwise *A. campanulatum* is chiefly a Californian species, with the range extending to northwestern Nevada (along the eastern slope of the Sierra Nevada) and (disjunctly?) to the Steens Mtns. in southeastern Oregon (Cronquist and Ownbey in Cronquist et al. 1977, Kartesz 1987, McNeal in Hickman 1993).

Ambrosia sandersonii Welsh

“Sanderson’s burro-sage”

Asteraceae

Federal Status: (C2+), BLM

UTNHP Rank: G1Q/S1

Distribution: WSH

Notes: For original description see *Rhodora* 95: 396. 1993. For alternative treatment as *Hymenoclea s.* (Welsh) N. Holmgren, see *Intermt. Fl.* 5: 473. 1994. Acc. *AUF2* (Welsh et al. 1993), *A. sandersonii* is known only from Beaver Dam Wash, Washington Co., type from ca. 0.2 mile up

Status Category: *Taxonomic Problems*

the wash along the Beaver Dam Well road (*Sanderson 93-02*; holotype BRY, isotypes CAS, GH, MO, NY, POM, RM, US, UT, UTC). Acc. Baldwin et al. (1996), “[t]he parentage of *A. sandersonii* ... is still uncertain and may have involved *A. eriocentra* (A. Gray) Payne and *H. salsola* Torrey & Gray, as contemplated by Welsh (1993). Vegetative and reproductive morphology of *A. sandersonii* and low pollen stainability (2.6%) in the isotype at CAS indicate hybridity between a shrubby *Franseria* and *H. salsola*.”

Apocynum sibiricum Jacq. var. salignum (E. Greene) Fern.

No common name Apocynaceae

Federal Status: None **UTNHP Rank:** G5?T4?/S2

Distribution: BOX, EME, JUA, MOR, SAL, UIN, UTA; AZ, CO, ID, NM, NV, WY +

Notes: Acc. N. Holmgren (in Cronquist et al. 1984), var. *salignum* is infrequent but widespread in the Intermountain region. Utah specimens cited by Woodson (1930): Salt Lake Co., Murray (*Jones s.n.* in 1917; GH, POM), Red Butte [Canyon?] (*Clemens s.n.* in 1908, PH); Morgan Co., Peterson Canyon, elev. 8000 to 10,000 ft. (*Pammel & Blackwood 4009*, MO); Utah Co., Provo (*Jones 5490*; MO, POM). County distribution otherwise as reported in *AUF2* (Higgins in Welsh et al. 1993), which also noted that “[s]egregation of [*A. sibiricum*] from *A. cannabinum* is tenuous at best.” Acc. Weber and Wittman (1996a), “[p]lants with sessile, clasping lower lvs (*A. sibiricum*), while possibly once distinct, merge with *A. cannabinum*.”

Arabis sp. nov. ined. “Gray Knolls, Uintah Co.”

No common name Brassicaceae

Federal Status: (3B) **UTNHP Rank:** GHQ/SH

Distribution: DAG?, UIN

Notes: First collected in 1977 in Uintah Co., west of Gray Knolls, ca. 3 miles south of Alger Pass (*England 494*; BRY 230562, 230563; UIN 1716, filed at BRY without accession). Considered by U.S. Fish and Wildlife Service (USFWS 1990) as endemic to Gray Knolls (Uintah Co.) and possibly extinct. Another specimen from Pine Ridge, northwest of Vernal, Uintah Co. (*England 511*, BRY 186157), determined by the collector as *A. microphylla* Nutt., closely resembles the specimen attributed to Gray Knolls. Rediscovered at the Pine Ridge location in 1996 (*Stone 1913*, UT). The fact that this *Arabis* occurs on Pine Ridge, combined with the continued failure to relocate it in the very different habitat at Gray Knolls, leads one to suspect that the Gray Knolls collections must be mislabeled. The upper stems droop conspicuously when the plants are in flower (i.e., the inflorescences appear to be nodding) and become erect in fruit (R.D. Stone 1998, unpubl. data). Questionable Daggett Co. record based on a 1979 collection from near the Sheep Creek boat ramp ca. 2 miles southwest of Flaming Gorge (*Neese & B. Welsh 7857*, BRY), which closely resembles the plants from Pine Ridge.

Status Category: Taxonomic Problems

Arenaria congesta Nutt. ex Torrey & Gray var. cephaloidea (Rydb.) Maguire

“Spokane sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5T?/SR**Distribution:** SUM, ?; ID +

Notes: For current treatment see Bull. Torrey Bot. Club 74: 46. 1947. *A. cephaloidea* Rydb. treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. congesta* var. *congesta*. The report of var. *cephaloidea* in Utah is based on a 1927 collection from “dry rocky slopes, Uintah Mts., Summit Co., 8000 ft. alt.” (Goodman 235, MO?; cited in Goodman 1931). Acc. Goodman (1931), “[t]he specimen at hand agrees in all essential morphological characters with [*A. cephaloidea*].” Maguire (1947b, 1951) later cited the distribution of var. *cephaloidea* as “[e]ssentially confined to central and northwestern Washington and adjacent Idaho.”

Arenaria kingii (S. Watson) M.E. Jones var. plateauensis (Maguire) Reveal

“Cedar Breaks sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G4T2?Q/S2?**Distribution:** BEA, GAR, IRO, KAN, WAY

Notes: For original description see Bull. Torrey Bot. Club 74: 54. 1947. For current treatment see Great Basin Nat. 35: 344. 1975. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. fendleri* A. Gray var. *glabrescens* S. Watson. Type from Iron Co., Cedar Breaks rim, abundant in open park in spruce-aspens forest (Maguire 19024; NY, US, UTC). Endemic to Utah, the distribution cited by Maguire (1947b) as “[c]ommon in pine woodlands at lower altitudes and open aspen and spruce parks and ridges at higher altitudes, from 8000 to 11,500 ft., the high plateau region of south central Utah in Iron, Beaver, Garfield, Wayne, and Kane Counties, and in the Henry Mountains, Wayne and Garfield Counties.” Additional collections cited: Beaver Co., Tushar Mtns., Big John Flat (Maguire 19671); Garfield Co., Aquarius Plateau, 8 miles east of Widtsoe, 1/2 mile east of pass (Maguire 19141), Aquarius Plateau, 2 miles north Cyclone Lake (Maguire 19233), Henry Mtns., summit of Mt. Ellen (Maguire 19345), Panguitch Lake (Jones 6007); Kane Co., Harris Flat (Gierisch 453).

Arnica nevadensis A. Gray

“Sierra arnica” Asteraceae

Federal Status: None **UTNHP Rank:** G3G4/SRF**Distribution:** SNJ; NV +

Notes: San Juan Co. record as reported in Albee et al. (1988, p. 612), citing a specimen at UTC. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Acc. Cronquist (1994), “[a] few of our [Intermountain] plants of *A. cordifolia* var. *pumila* (Rydb.) Maguire from Elko Co., Nevada, and from the La Sal Mountains of Utah have sometimes been referred to *A. nevadensis*, a closely allied taxon of upper altitudes in the Sierra Nevada and Cascade Mountains. This is not unreasonable on purely morphological grounds, but the populational situation is complex.... I here arbitrarily exclude *A. nevadensis* from our Flora, and refer *nevadensis*-like individuals to *A. cordifolia* var. *pumila*.”

Status Category: *Taxonomic Problems*

***Artemisia parryi* A. Gray**

“Parry’s sagewort”

Asteraceae

Federal Status: None

UTNHP Rank: G3G4/SRF

Distribution: GRA?, SNJ; CO

Notes: For alternative treatment as *A. laciniata* ssp. *p.* (A. Gray) W.A. Weber, see *Phytologia* 58: 382. 1985. Hall and Clements (1923) reported the distribution of *A. parryi* as “high mountains of southern Colorado and southeastern Utah” and cited a collection from San Juan Co., La Sal Mtns., near Mount Peale (*Rydberg & Garrett 9003*, NY). Acc. *AUF2* (Welsh et al. 1993), “[t]here is one specimen from the La Sal Mountains (*Harrison 12533*, BRY?) with heads spicate and elevated above the foliage that is tentatively placed with this poorly understood taxon. It has been assigned previously to *A. michauxiana* Besser, and might represent a contracted form of that species.” Acc. Cronquist (1994, p. 146), “[t]he rare southern Rocky Mountain species *A. parryi* was attributed to Utah by Hall and Clements on the basis of *Rydberg & Garrett 9003*.... In my opinion this specimen belongs to *A. michauxiana*.”

***Artemisia tridentata* Nutt. var. *vaseyana* (Rydb.) B. Boivin (sensu stricto)**

“Vasey’s sagebrush”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/S1

Distribution: CAC, DUC, RIC, TOO; ID, ??? +

Notes: For current treatment see *Phytologia* 23: 91. 1972. For alternative treatment as ssp. *vaseyana* (Rydb.) Beetle, see *Rhodora* 61: 83. 1959. For alternative treatment as *Seriphidium tridentatum* ssp. *vaseyanum* (Rydb.) W.A. Weber, see *Phytologia* 55: 8. 1984. For alternative treatment as *Seriphidium vaseyanum* (Rydb.) W.A. Weber, see *Phytologia* 58: 384. 1985. County distribution as reported in *AUF2* (Welsh et al. 1993). Acc. Goodrich et al. (1985), the “small-headed, few-flowered phase [named *A. tridentata* ssp. *vaseyana* var. *pauciflora* Winward & Goodrich] is widespread in most of the western states, whereas those matching the type of [*A. vaseyana* Rydb.] are most common in the upper-elevational sagebrush areas of Washington, Oregon, and Idaho.” Cronquist (1994) did not recognize var. *pauciflora*, noting that it is “[t]he more characteristic form of var. *vaseyana*, with 4-6 flowers per head.”

***Asclepias engelmanniana* Woodson**

“plains milkweed”

Asclepiadaceae

Federal Status: None

UTNHP Rank: G5/SRF

Distribution: GRA, SNJ; AZ, CO, NM +

Notes: For current treatment see *Ann. Missouri Bot. Gard.* 28: 207. 1941. Primarily a Great Plains species (P. and N. Holmgren in Cronquist et al. 1984, Higgins in Welsh et al. 1993) but mapped in San Juan Co. by Woodson (1954). Rare in Utah acc. Welsh et al. (1975), citing collections from Grand Co. (*Rydberg & Garrett 8504*, UT) and San Juan Co. (*Welsh et al. 2930*, BRY). Closely related to *A. rusbyi* (Vail) Woodson, to which the Utah reports might best be referred.

Status Category: *Taxonomic Problems*

***Asclepias fascicularis* Decne.**

“narrow-lvd. milkweed”

Asclepiadaceae

Federal Status: None

UTNHP Rank: G5/S1?

Distribution: DAV?, KAN?, UTA?; ID, NV +

Notes: Questionable county distribution as given in *AUF2* (Higgins in Welsh et al. 1993). Woodson (1954) reported the overall range as “Idaho, Utah, and Nevada westward to the Pacific Coast; northern Baja California.” The same author cited the Utah distribution as “Davis and Utah counties.” Acc. P. and N. Holmgren (in Cronquist et al. 1984), “Woodson’s report of this species from Davis and Utah cos., Utah is based on misidentified *A. incarnata* L. specimens.” The specimen(s) from Kane Co. may represent good *A. fascicularis*.

***Asclepias involucrata* Engelm. ex Torrey**

“dwarf milkweed”

Asclepiadaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SNJ; AZ, CO, NM +

Notes: Woodson (1954) reported the overall range as “New Mexico and Arizona and adjacent Utah, Colorado, and Kansas; northern Mexico from Coahuila to Durango.” The same author cited the Utah distribution as “San Juan County.” Acc. P. and N. Holmgren (in Cronquist et al. 1984), “Woodson (1954) considered the closely related species *A. macrosperma* Eastw. and *A. involucrata* to have overlapping ranges in southeastern Utah and extreme northern Arizona. We find no collections identifiable as *A. involucrata* from these areas. As we interpret these taxa, *A. involucrata* occurs to the south and east of *A. macrosperma* southward in Arizona and southeastward in New Mexico to the panhandle of Texas, southern Colorado, southern Kansas, and northern Mexico.”

***Astragalus adanus* A. Nelson**

“Boise milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G3G4/SRF

Distribution: JUA; ID

Notes: Reported from Juab Co. by Barneby (1964) and Welsh et al. (1975). An endemic of southern and central Idaho, mistakenly attributed to Utah (Barneby 1989). Acc. *AUF2* (Welsh et al. 1993, p. 422), “[t]he previous report of *A. adanus* for Utah belongs [with *A. scopulorum* T.C. Porter].”

Astragalus bisulcatus* (Hook.) A. Gray var. *bisulcatus

“two-grooved milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5T5/S2?

Distribution: DAG, GRA, UIN; CO, ID, NM, WY +

Notes: County distribution of var. *bisulcatus* as given in *AUF2* (Welsh et al. 1993). Barneby (1989) did not recognize the var. *major* (M.E. Jones) Welsh and included it within an expanded var. *bisulcatus* with main distribution reported as “prairies from c. Alta. to sw. Man., s. to Kansas and n. N.M.” Acc. *AUF2*, “var. *major* differs in about the same manner and degree as do other varieties in *Astragalus*. It is the dominant type within most of Utah.”

Astragalus bryantii Barneby

“Phantom Canyon milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G?Q/SX?

Distribution: KAN; AZ

Notes: For original description see Proc. Calif. Acad. Sci. IV. 25: 156. 1944. Barneby (1964) cited the distribution as “local, known only from the canyons of the Colorado River in southeastern Utah (Lost Eden Canyon and West Creek in Glen Canyon) and northern Arizona (Phantom Canyon and Clear and Hermit Creeks in Grand Canyon).” Probably extirpated in Utah by the filling of Lake Powell (Welsh et al. 1975). Acc. Barneby (1989, p. 162), *A. bryantii* represents a low-elevation form of *A. lentiginosus* var. *palans* (M.E. Jones) M.E. Jones in which the pod becomes extremely narrow relative to its length. Acc. *AUF2* (Welsh et al. 1993), “[s]pecimens cited previously as *A. bryantii* do not differ in any remarkable way from [*A. lentiginosus* var. *palans*].”

Astragalus calycosus Torrey ex S. Watson var. *mancus* (Rydb.) Barneby

No common name Fabaceae

Federal Status: None **UTNHP Rank:** G5/S4

Distribution: JUA; NV

Notes: For current treatment see Leaflet. West. Bot. 7: 195. 1954. Var. *mancus* in Utah is restricted to the Deep Creek Mtns., Juab Co., the distribution otherwise scattered across the higher mtn. ranges of Nevada (Barneby 1964, Kartesz 1987, Welsh et al. 1993). Barneby (1989) recently considered var. *mancus* as a synonym of the common and widespread var. *calycosus*.

Astragalus calycosus Torrey ex S. Watson var. *monophyllidius* (Rydb.) Barneby

“single-lvd. milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T2/SR

Distribution: SEV; NV

Notes: For current treatment see Leaflet. West. Bot. 3: 107. 1942. Barneby (1989) cited the distribution of var. *monophyllidius* as “s. Eureka, ne. Nye, and adj. Lincoln cos., Nev., and in Sevier Co., Utah, there vicariant with var. *calycosus*.” Rare in Nevada (Kartesz 1987). *AUF2* (Welsh et al. 1993) referred the Utah plants to the common and widespread var. *calycosus*.

Astragalus ceramicus Sheldon var. *filifolius* (A. Gray) F.J. Hermann

“plains painted milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G4T4/SU

Distribution: UIN; CO, NM, WY +

Notes: For current treatment see J. Wash. Acad. Sci. 38: 237. 1948. Acc. Goodrich and Neese (1986), Uinta Basin plants are generally referable to var. *ceramicus*, but some are somewhat intermediate to var. *imperfectus* Sheldon [= var. *filifolius* acc. Barneby (1964)]. Acc. *AUF2* (Welsh et al. 1993), specimens of *A. ceramicus* from the Uinta Basin have the long leaves typical of the Great Plains phase [= var. *filifolius* acc. Barneby (1964)]. Barneby (1964, 1989) treated the Utah plants as belonging to var. *ceramicus*.

***Astragalus ensiformis* M.E. Jones var. *gracilior* Barneby**

“Veyo milk-vetch” Fabaceae

Federal Status: (3B) **UTNHP Rank:** G4T1Q/SSYN

Distribution: WSH; NV

Notes: For original description see Proc. Calif. Acad. Sci. IV. 25: 158. 1944. For alternative treatment as *A. minthorniae* var. *g.* (Barneby) Barneby, see Amer. Midl. Nat. 55: 493. 1956. Type from Washington Co., 5 miles south of Veyo (*Ripley & Barneby 4951*; holotype CAS; isotypes K, NY, RSA). Distribution of var. *gracilior* cited by Barneby (1989) as “Washington Co., Utah, n. of Virgin River, in the foothills of Beaver Dam, Bull Valley, and Pine Valley mts., and on Clover Mts. in adj. Nev.” Rare in Nevada, known only from the Cedar Wash area of the Clover Mtns., extreme eastern Lincoln Co. (Kartesz 1987). Treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. ensiformis* (sensu lato).

***Astragalus flavus* Nutt. in Torrey & Gray var. *argillosus* (M.E. Jones) Barneby**

“Jones’ clay milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T3/S3

Distribution: EME, GAR, GRA, WAY; AZ?, NV?

Notes: For current treatment see Mem. New York Bot. Gard. 13: 401. 1964. Lectotype from Emery Co., Green River (*Jones s.n.* in 1891, POM), designated by Barneby (1964). Acc. Barneby (1989), “[i]ntensive exploration of San Rafael Swell ... has demonstrated that *A. argillosus* M.E. Jones was based on an uncommon form of *A. flavus* in which a loosely pilose, long-toothed calyx coincided with relatively short, reddish-lilac petals. We now have examples from Emery Co. of short-toothed calyx with lilac petals, long-toothed calyx with sulfur-yellow flowers, and loosely pilose calyx with flowers of either color. The application of the name *A. flavus* var. *argillosus* could perhaps be extended to all purple-flowered populations of *A. flavus*, which range from San Rafael Swell southwestward to the Arizona Strip and Muddy River in Nevada, but formal recognition of varieties which persistently elude definition no longer seems useful.” County distribution as given in *AUF2* (Welsh et al. 1993), which also noted that “[t]he specimens examined from southeastern Utah come from populations where the flowers are pink purple throughout, not intermixed with the more typical ochroleucous to white flowered plants of var. *flavus*.”

***Astragalus flavus* Nutt. in Torrey & Gray var. *candicans* A. Gray**

“white-fld. clay milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5TUQ/SU

Distribution: KAN, SEV?, WSH, ?; AZ, NM, NV

Notes: Type from Sevier Co., near Richfield (*Ward 246*; holotype GH, isotypes NY, PH, US). Acc. *AUF2* (Welsh et al. 1993), “[t]here is a tendency for plants from southwestern Utah, especially in Kane and Washington counties (and less commonly in Garfield, Grand, and San Juan), for the flowers to be pallid, even pale bluish or almost pure white. These fall within the concept of what has been called var. *candicans*, whose type came from near Richfield where the plants suggest equivalence with var. *flavus*.... Possibly the pallid flowered plants are still worthy of a name, but

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confluence is complete.” Acc. Barneby (1989), “[a]ttempts to segregate a small- and narrow-flowered var. *candicans* with whitish or lilac rather than yellow or yellowish petals have run into difficulties. While most plants from the Dixie-Corridor are indeed a little different in size and color of flowers from average *A. flavus* of the Canyonlands to the east, the quantitative differences can be expressed only in averages.... The var. *candicans* is based by typification on a fruiting collection from the Sevier valley which has traditionally been associated with purplish-flowered plants of far southwestern Utah. Modern collections from the middle Sevier, however, prove to be yellow-flowered and inseparable from *A. flavus* prevalent in the Canyonlands Section.”

***Astragalus lentiginosus* Douglas ex Hook. var. *chartaceus* M.E. Jones**

“Ephraim milk-vetch” Fabaceae

Federal Status: (3C) **UTNHP Rank:** G5T3Q/SSYN

Distribution: DAG, JUA, SEV, SNP, SUM, TOO, ?; CO?, ID, NV, WY +

Notes: Type from Sanpete Co., Ephraim (*Jones 5627m*; holotype POM). County distribution as given by Welsh et al. (1975). Barneby (1989) cited the range of var. *chartaceus* as “interruptedly widespread around the n. and nw. periphery of the Intermountain region, from Lassen and Modoc cos., Calif. and adj. Nev. ne. through transmontane Oregon, the Owyhee Desert, and Snake River Plains to the Red Desert in s. Wyo., s. feebly into ne. Nev., and in Utah to lower Sevier valley and to the n. slope of Uinta Mts. in Daggett Co.” Questionable Colorado record as reported in Welsh et al. (1975). Treated in *AUF2* (Welsh et al. 1993) as a synonym of var. *araneosus* (Sheldon) Barneby, a common taxon.

***Astragalus lentiginosus* Douglas ex Hook. var. *platyphyllidius* (Rydb.) M. Peck**

“broad-lvd. milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T4/S1

Distribution: DAG, RIC, SUM?; CO, ID, NV, WY +

Notes: For current treatment see Madroño 6: 135. 1941. Barneby (1964) reported the distribution as “commonly on basalt and associated with sagebrush, ... widespread and locally plentiful over most of transmontane Oregon, from John Day Valley southward into northeastern California, extreme northern Nevada, and east in scattered stations around the edge of the Snake River Plains in southern Idaho to the Bear River and upper Green River Basin in southwestern Wyoming, the Weber River in adjoining Utah [hence the questionable record from Summit Co.], and the Yampa Valley in extreme northwestern Colorado.” County distribution otherwise as given in *AUF2* (Welsh et al. 1993). Var. *platyphyllidius* was treated more recently by Barneby (1989) as a synonym of var. *chartaceus* M.E. Jones.

***Astragalus lentiginosus* Douglas ex Hook. var. *ursinus* (A. Gray) Barneby**

“Bear Valley milk-vetch” Fabaceae

Federal Status: (3B) **UTNHP Rank:** G5TUQ/SU

Distribution: IRO?, GAR?, WSH?

Status Category: Taxonomic Problems

Notes: For current treatment see Leaflet. West. Bot. 4: 133. 1945. Type from “Bear Valley in south-central part of Utah” (*Palmer s.n.* in 1877; holotype GH, isotypes ISC, NY). Acc. Barneby (1964), “Palmer’s Bear Valley has not been identified with any certainty, but is presumed to be the valley of Bear Creek, a small west affluent of the Sevier River which rises in the Panguitch Mountains east of Parowan. After flowing about 15 miles in a northeasterly direction through eastern Iron County, Bear Creek turns abruptly southeast and in the course of some 6 miles or less joins the Sevier at Orton Ranch in western Garfield County.” *AUF2* (Welsh et al. 1993) indicated that the type locality is more likely at the southern end of the Beaver Dam Mtns., Washington Co. Var. *ursinus* treated more recently by Barneby (1989) and *AUF2* as a synonym of *A. lentiginosus* var. *palans* (M.E. Jones) M.E. Jones.

Astragalus lentiginosus Douglas ex Hook. var. wahweapensis Welsh

“Wahweap milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T3?Q/S3?

Distribution: GAR, KAN

Notes: For original description see Great Basin Nat. 38: 286. 1978. Type from Kane Co., Four Mile Bench (*Welsh 12426*; holotype BRY, isotype ISC). Acc. Welsh (1978d), “[t]he Wahweap milkvetch is an inhabitant of sandy soils mainly in the pinyon-juniper and sagebrush communities ... in the Paria, Wahweap, and Last Chance drainages west of the Kaiparowits Plateau proper.” Garfield Co. record as reported in *AUF2* (Welsh et al. 1993). Treated by Barneby (1989) as a synonym of var. *diphysus* (A. Gray) M.E. Jones.

Astragalus newberryi A. Gray var. escalantinus Barneby

“Escalante milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G5T3?Q/S3?

Distribution: GAR?, KAN

Notes: For original description see Intermt. Fl. 3B: 128. 1989. Type from Kane Co., 36 road miles south of Escalante (*Cronquist 10028*; holotype NY, isotype BRY). Barneby (1989) cited the distribution as “locally common in valleys of Escalante, Wahweap, and Paria rivers in e. Kane and perhaps adj. Garfield cos., Utah, and known from one collection from near Kanab in w. Kane Co.” *AUF2* (Welsh et al. 1993) treated var. *escalantinus* as a synonym of var. *newberryi*, noting that “[s]egregation of var. *escalantinus*[,] a phase with narrow leaflets is only arbitrarily possible. Plants with broad leaflets sometimes occur in the same populations with those having narrow leaflets, and the leaflet number is apparently the same for the two entities.”

Astragalus pubentissimus Torrey & Gray var. peabodianus (M.E. Jones) Welsh

“Peabody’s milk-vetch” Fabaceae

Federal Status: None **UTNHP Rank:** G4T2Q/S2

Distribution: EME, GRA

Notes: For current treatment see Great Basin Nat. 38: 297. 1978. Type from Grand Co., “Thompson’s Springs” (*Jones s.n.* in 1891; holotype POM). Barneby (1989) did not recognize var.

Status Category: Taxonomic Problems

peabodianus, noting that “[i]n Uinta Basin and northward the petals of *A. pubentissimus* are uniformly reddish-purple, drying violet. South of Tavaputs plants with pallid, faintly lilac-tinged or -tipped flowers occur either in pure populations or mixed with purple. Welsh attributes to the heterochromous races a more diffuse growth-habit than prevails northward and on this precarious basis recognizes a var. *peabodianus*.” Acc. *AUF2* (Welsh et al. 1993), var. *peabodianus* “occurs in entrenched channels cut into escarpments draining the south and west flanks of the West and East Tavaputs Plateau.”

***Astragalus subcinereus* A. Gray var. *basalticus* Welsh**

“basalt milk-vetch” Fabaceae

Federal Status: (C2), BLM **UTNHP Rank:** G3T1Q/S1

Distribution: EME, GAR?, SEV

Notes: For original description see Great Basin Nat. 38: 302. 1978. Type from Sevier Co., along Utah Hwy. 72 ca. 10 miles south of Fremont Junction (*Welsh et al. 6447*; holotype BRY, isotype ISC). Var. *basalticus* is a plant of pinyon-juniper and ponderosa pine communities on volcanic gravels in eastern Sevier and western Emery cos. (Welsh et al. 1993, Welsh 1998). Questionable Garfield Co. record as reported in Atwood et al. (1991). Barneby (1989) did not recognize infraspecific taxa under *A. subcinereus*, describing several different morphological trends in the Utah plants and stating that the “mosaic of variation is not usefully described by proliferation of varietal categories.”

***Atriplex bonnevillensis* C.A. Hanson**

“Bonneville saltbush” Chenopodiaceae

Federal Status: None **UTNHP Rank:** G2G3Q/S2

Distribution: JUA, MIL; NV

Notes: For original description see Studies Syst. Bot. Brigham Young Univ. 1: 2. 1962. Treated in *AUF2* (Welsh et al. 1993) as *A. gardneri* var. *b.* (C.A. Hanson) Welsh, Great Basin Nat. 44: 190. 1984. Type from Millard Co., Pine Valley playa, 1.5 miles northeast of Desert Range Expt. Sta. headquarters (*Hanson 354*; holotype BRY, isotypes GH, MO, NY, UTC). Distribution cited by Hanson (1962) as “isolated desert playas through central and northern Nevada and western Utah.” County distribution as given in *AUF2* (Welsh et al. 1993). *A. bonnevillensis* evidently arose through hybridization between *A. canescens* (Pursh) Nutt. and *A. falcata* (M.E. Jones) Standley, and the hybrid is genetically unstable with introgression continuing in at least some populations (see Stutz 1984a, Welsh et al. 1993).

***Atriplex robusta* Stutz, ined.**

“Knolls saltbush” Chenopodiaceae

Federal Status: None **UTNHP Rank:** HYB/HYB

Distribution: TOO

Notes: This form arose very recently near Knolls (Tooele Co.) through hybridization between tetraploid *A. canescens* (Pursh) Nutt. and hexaploid *A. tridentata* Kuntze (Stutz et al. 1979, Stutz

Status Category: Taxonomic Problems

1984a). Since then it has spread along the shoulders and median strip of Hwy. I-15 westward nearly to Wendover and eastward nearly to Delle, a linear distance of approx. 70 miles (Stutz 1984a,b). Stutz (1984a) assigned to this form the provisional name *A. robusta* and reported that it “has *tridentata*-like fruits but also considerable woodiness and tall stature acquired from *A. canescens*.” However, the name *robusta* evidently has not been effectively and validly published. Stutz et al. (1979) noted that “[a]pparently hybridization of *A. canescens* and *A. tridentata* is still common [in the Knolls population] but only hexaploid derivatives continue successfully.... Seeds collected from plants which, because of their intermediate phenotypes appeared to be backcrosses of [tetraploid] *A. canescens* onto this new [hexaploid] robust derivative, showed 1.48% 165/11,150) germination. Consequently, continuing introgression of *A. canescens* into the robust derivative could be providing it additional variation.”

Atriplex tooelensis Stutz, ined.

“Tooele saltbush”

Chenopodiaceae

Federal Status: None

UTNHP Rank: HYB/HYB

Distribution: TOO

Notes: This form arose very recently through hybridization between tetraploid *A. canescens* (Pursh) Nutt. and hexaploid *A. tridentata* Kuntze (Stutz et al. 1979, Stutz 1984a). It occurs approx. 6 miles west of Tooele (Tooele Co.) on Hwy. 112, where the population occupies about 100 acres on both sides of the road (Stutz 1984a,b). Elsewhere the plants “are distributed as scattered patches throughout central Tooele Valley” (Stutz et al. 1979). Stutz (1984a) assigned to this form the provisional name *A. tooelensis* and reported that it “is well suited to heavy clay soils, is late flowering, and has a few other *tridentata*-like attributes but otherwise is much like the tetraploid *A. canescens* which grows nearby.” However, the name *tooelensis* evidently has not been effectively and validly published. Stutz et al. (1979) provided a detailed hypothesis of the genetic mechanism that would result in a hexaploid product that is mostly *A. canescens*-like but with some *A. tridentata* attributes.

Baccharis emoryi A. Gray

“Emory’s seep-willow”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S3?

Distribution: KAN, SNJ, WSH; AZ, CO?, NM, NV +

Notes: A shrub of desert streams and washes, in Utah mapped in the Virgin River drainage (Washington Co.) and the Colorado River in Glen Canyon (Albee et al. 1988). The range outside of Utah was reported as southern California east to Texas and northern Mexico (Sundberg in Hickman 1993). Acc. Weber and Wittmann (1992), earlier reports of *B. emoryi* from Colorado apply to *B. salicina* Torrey & Gray. Cronquist (1994) treated *B. emoryi* as a synonym of *B. salicina*, noting that “[s]outhwestern plants of this species have usually been segregated as *B. emoryi*, but the differences are minimal.”

Status Category: *Taxonomic Problems*

***Baccharis glutinosa* Pers.**

“sticky seep-willow”

Asteraceae

Federal Status: None

UTNHP Rank: G5?/S2S3

Distribution: GAR, KAN, WSH; AZ, CO?, NM, NV ++

Notes: A shrub of desert streams and washes, in Utah mapped in the drainages of the Virgin, Paria, and Dirty Devil rivers and the Colorado River in Glen Canyon (Albee et al. 1988). “[L]ocally common” acc. *AUF2* (Welsh et al. 1993). The range outside of Utah was described by Cronquist (1994) as “widespread in warm Amer., n. to s. Calif., s. Nev. (Lincoln Co.), ... Colo., and Texas.” Acc. Weber and Wittmann (1992), earlier reports of *B. glutinosa* from Colorado apply to *B. salicina* Torrey & Gray. Acc. Sundberg (in Hickman 1993), both *B. glutinosa* and *B. viminea* DC. are synonyms of the widespread *B. salicifolia* (Ruiz Lopez & Pavón) Pers.

***Baccharis viminea* DC.**

“mule-fat”

Asteraceae

Federal Status: None

UTNHP Rank: G5?Q/S2S3

Distribution: SNJ, WSH; AZ, NM, NV +

Notes: A shrub of desert streams and washes, in Utah restricted to the Virgin River drainage in Washington Co. (Albee et al. 1988, Welsh et al. 1993). Not in Washington Co. acc. Cronquist (1994), who reported the species as occurring in Utah “along the Colorado and San Juan rivers in San Juan Co.” and elsewhere from “Calif., [e.] through Ariz. and s. Nev. to w. Texas.” Acc. Sundberg (in Hickman 1993), both *B. viminea* and *B. glutinosa* Pers. are synonyms of the widespread *B. salicifolia* (Ruiz Lopez & Pavón) Pers.

***Betula X utahensis* Britton**

“Utah birch”

Betulaceae

Federal Status: None

UTNHP Rank: HYB/HYB

Distribution: SAL, CAC?, ?; CO, ID, WY +

Notes: Type from Salt Lake Co., City Creek Canyon (*Stokes s.n.* in 1900; holotype NY). Hitchcock and Cronquist (1964, p. 80) cited a form occurring in the Bear River Range (Cache Co.?) and in Idaho which they regarded as perhaps belonging to *B. utahensis*. Dugle (1966) considered *B. X utahensis* as a hybrid between *B. fontinalis* Sarg. and *B. papyrifera* Marshall and cited the distribution as “[c]ommon where the parental species occur together; especially mountains in British Columbia and Alberta; north into the Yukon and south to Colorado, Idaho, Utah, and Montana.” *AUF2* (Welsh et al. 1993) presumed *B. utahensis* to be a hybrid between *B. occidentalis* Hook. and *B. papyrifera* and noted that the Utah plants have “either persisted from a time when *B. papyrifera* was sympatric, or [have] been derived more recently through long-distance pollination.” Furlow (in Morin 1997, p. 526) also treated *B. X utahensis* as “a common hybrid marked by intermediate characteristics.”

Status Category: *Taxonomic Problems*

***Botrychium echo* W.H. Wagner**

“echo moonwort”

Ophioglossaceae

Federal Status: None

UTNHP Rank: G2/S1

Distribution: SUM; AZ, CO

Notes: For original description see Amer. Fern J. 73: 57. 1983. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). In Utah known by a single collection from Summit Co., Uinta Mtns., meadow 1.5 miles south of Spirit Lake (*A. Holmgren et al. 7130*, UC, UTC?; cited in W. and F. Wagner 1983). Otherwise known from high mtns. in northern Arizona and central Colorado; “of conservation concern” (W. and F. Wagner in Morin 1993). Acc. Dr. Michael Windham (1995, unpubl. data), isozyme analysis does not show a clear separation of *B. echo* from *B. hesperium* (Maxon & Clausen) Wagner & Lellinger.

***Callitriche anceps* Fern.**

“small water-starwort”

Callitrichaceae

Federal Status: None

UTNHP Rank: G5Q/S1?

Distribution: SUM; NV ++

Notes: Fassett (1951) cited the overall distribution of *C. anceps* as “[w]estern Greenland to northern New England, rarely to Georgia in the mountains, and from Alaska to Washington and the mountains of Utah.” Two Utah specimens cited, both from the Uinta Mtns., Summit Co.: Diamond Lake west of Bald Mtn. (*Harrison 10461*; BRY?, UC); Duck Lake, northwestern slope of Lamotte Peak (*Hermann 5929*; MO, UC). Acc. Philbrick and Jansen (1991), “[s]ubsequent study of the genus in North America has revealed that [some *Callitriche*] species are environmental forms of others (Philbrick 1989, unpublished dissertation)... *C. anceps* is a high elevation form of *C. verna* L.”

***Caltha leptosepala* DC. var. *biflora* (DC.) G. Lawson**

“marsh-marigold”

Ranunculaceae

Federal Status: None

UTNHP Rank: G5T5Q/SR

Distribution: SNP, ?; CO?, ID?, NV, WY? +

Notes: Most of the Utah plants have been treated as belonging to var. *leptosepala*. Acc. Ford (in Morin 1997), “[p]lants in the Coast Ranges of central California north to the coastal islands of southern Alaska, distinguished by broader-than-long leaves with large, overlapping basal lobes, 2-flowered inflorescences, and stipitate follicles, have been called *C. biflora* DC.” Hitchcock and Cronquist (1964) reported *C. biflora* from Utah, and acc. *AUF2* (Welsh et al. 1993) it is approached by some Utah specimens, especially those from Sanpete Co. (*Lewis 7402, 7603*; BRY). Morris (1972, 1973) completed a detailed investigation of the morphology, cytology, and flavonoid chemistry of the *C. leptosepala* complex in the Rocky Mtns. region and concluded that only one polymorphic taxon is present. In addition, Ford (in Morin 1997) compared specimens from the Rocky Mtns. and the Coast Ranges and found that “no clear distinction could be made.” For alternative treatment as *Psychrophila leptosepala* (DC.) W.A. Weber, see *Phytologia* 51: 375. 1982. Weber and Wittman (1992) treated the genus *Psychrophila* in the family Helleboraceae.

Camissonia boothii (Douglas ex Lehm.) Raven var. desertorum (Munz) Cronquist

“Garlic Springs evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/SR**Distribution:** WSH; NV +

Notes: For current treatment see Great Basin Nat. 52: 76. 1992. For alternative treatment as *C. b.* ssp. *d.* (Munz) Raven, see Brittonia 16: 285. 1964. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Raven (1969) cited the distribution as “endemic to California: from vicinity of Benton Station, Mono County, south in the deserts and east slope of the Sierra Nevada to eastern Kern, northern Los Angeles, and western San Bernardino Counties; also in the upper Kern River drainage, west to the vicinity of Kernville, and in southeastern most Tulare County.” Kartesz (1987) reports ssp. *desertorum* (Munz) Raven as occurring in southwestern Nevada, from Chiatovich Ranch, White Mtns., Esmeralda Co.; and Rhyolite, Nye Co. Cronquist et al. (1997) cite the distribution of var. *desertorum* (Munz) Cronquist as “se. Calif.; entering [the Intermountain region] in the White Mts., and perhaps also in Washington Co., Utah.”

Camissonia claviformis (Torrey & Frémont) Raven var. claviformis

“Mojave evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S1**Distribution:** WSH; AZ?, NV +

Notes: For current treatment see Brittonia 16: 282. 1964. Ssp. *claviformis* endemic to California acc. Raven (1969), there found mainly on the Mojave Desert but intergrading gradually and throughout a broad area with ssp. *aurantiaca* (Munz) Raven and ssp. *funerea* (Raven) Raven. Ssp. *claviformis* not in Nevada acc. Kartesz (1987). Cronquist et al. (1997) cited the distribution of var. *claviformis* as “s. Calif ... but entering [the Intermountain region] in Mineral Co., Nev.; some plants from Washington Co., Utah, and adjacent Ariz. may also belong here.” Are the Washington Co. plants referable to var. *aurantiaca* (Munz) Cronquist?

Camissonia claviformis (Torrey & Frémont) Raven var. cruciformis (Kellogg) Cronquist

“Steamboat Springs eve.-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T?/S1**Distribution:** WSH; ID, NV +

Notes: For current treatment see Great Basin Nat. 52: 76. 1992 (not Welsh, Rhodora 95: 409. 1993 [1994]). For alternative treatment as *C. claviformis* ssp. *cruciformis* (Kellogg) Raven, see Brittonia 16: 282. 1964. *AUF2* (Welsh et al. 1993) reported that a single specimen from Washington Co. (*Baird 1964b*, BRY) has yellow flowers and keys to this taxon. The overall distribution of ssp. *cruciformis* was cited by Raven (1969) as “Lake, Harney, and Malheur Counties, Oregon, western Canyon and Owyhee Counties, Idaho, central and southern Washoe County, Nevada, and Lassen County, California.”

Status Category: *Taxonomic Problems*

Carex bigelovii Torrey ex Schwein.

“Bigelow’s sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/SRF

Distribution: ?; CO, ID, WY ++

Notes: Hermann (1970) cited the distribution as “Greenland to Alaska, southward in the mountains to New Hampshire, northern New York, Idaho, Wyoming, Colorado, and Utah; also in Arctic Eurasia.” Acc. Weber and Wittmann (1992), the Colorado reports of *C. bigelovii* are referable to *C. scopulorum* T.J. Holm. This conclusion may apply to the Utah report as well.

Carex hassei L. Bailey

“Hasse’s sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G5?Q/SR

Distribution: ?; AZ, CO, ID, NM, NV, WY? +

Notes: Acc. Hermann (1970), *C. hassei* is “Occasional on streambanks and in wet meadows at middle elevations, mostly 5,000-9,000 ft. Mackenzie and Yukon, southward to Colorado, Utah, Arizona, and California.” Goodrich (in Welsh et al. 1993) treats *C. hassei* as a synonym of *C. aurea* Nutt. but notes that the name might apply to relatively tall plants from the canyonlands section of the state. Acc. Cronquist et al. (1977), “[i]t has been customary in recent years to attempt to distinguish *C. hassei* and/or *C. garberi* from *C. aurea*.... Each of [the supposed distinguishing] characters represents, in my opinion, one end of the normal variation in the population of *C. aurea*, and they are not well correlated among themselves. Neither is there any obvious geographic or ecologic correlation; *C. aurea* and *C. garberi-hassei* (as indicated by authoritative determinations) have essentially the same geographic range and they occur in the same set of habitats. The changes in color and texture of the perigynium are ... partly but not wholly related to maturation.”

Castilleja leonardii Rydb.

“Leonard’s paint-brush”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G?Q/S?

Distribution: CAC, DAG, DAV, DUC, SAL, SNP, SUM, TOO, UTA, WAS

Notes: Type from Utah Co., head of American Fork Canyon (*Leonard 151* “in part”; holotype NY). County distribution as reported by Welsh et al. (1975), who also considered *C. leonardii* as endemic, and locally common but neither threatened nor endangered. Treated by N. Holmgren (in Cronquist et al. 1984) and Atwood in *AUF2* (Welsh et al. 1993) as a synonym of *C. rhexifolia* Rydb.

Centaurium namophilum Reveal, Broome & Beatley var. *nevadense* Broome

“Nevada centaury”

Gentianaceae

Federal Status: None

UTNHP Rank: G?T?Q/S?

Distribution: BEA, MIL, TOO, ?; ID, NV +

Notes: For original description see Great Basin Nat. 41: 192. 1981. Broome (1981) cited the distribution of var. *nevadense* as “[m]argins of alkaline springs and seeps or graminoid meadows from Inyo and Mono Counties, California, eastward across central and northern Nevada to western

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Utah, and northward into southwestern Idaho and southeastern Oregon, mostly from 2200 to 6000 ft elevation.” Utah collections cited: Beaver Co., Escalante Valley, 14.5 miles west-southwest of Minersville, 3 miles south of Thermo Siding (*Welsh et al. 20136*, MARY); Millard Co., 6.5 miles east of Gandy, south of Salt Marsh Lake (*Welsh et al. 14512*, BRY); Tooele Co., 5 miles northwest of Callao, Six Mile Spring (*Welsh et al. 17701*, BRY); county unknown, near Salt Lake City (*McVicker s.n.* in 1901, UC). N. Holmgren (in Cronquist et al. 1984) does not recognize var. *nevadense*, stating that “[w]hat Broome has sorted out could be interpreted as *C. exaltatum* with varying degrees of influence from ancient hybridization with a *C. namophilum*-like ancestor. Her ‘nevadense’ material is completely sympatric with *C. exaltatum* and where enough collections have been made I find all intermediate forms.”

Chrysothamnus nauseosus (Pallas) Britton var. glareosus (M.E. Jones) H.M. Hall

“Marysvale rabbit-brush”

Asteraceae

Federal Status: None

UTNHP Rank: G5THQ/SH

Distribution: PIU, ???; AZ?

Notes: For alternative treatment as *Ericameria nauseosa* var. *glareosa* (M.E. Jones) Nesom & Baird, see *Phytologia* 75: 86. 1993. Type from Piute Co., Marysvale (*Jones s.n.* in 1890; holotype POM?). Hall and Clements (1923) cited the distribution of this taxon as including central and southern Utah and northern Arizona, but as discussed by Anderson (1978) their concept included plants more recently distinguished as var. *nitidus* (L.C. Anderson) Welsh. Cronquist (1994) cited the distribution of var. *glareosus* as “local, mainly on and just e. of the Utah Plateaus, ne. to Wasatch Co. and sw. Duchesne Co.,” but his concept includes plants that have been distinguished as var. *psilocarpus* S. F. Blake and var. *iridis* (L.C. Anderson) Welsh. Acc. *AUF2* (Welsh et al. 1993), “[t]he type specimen [of *Bigelovia glareosa* M.E. Jones] is lost, and the ultimate disposition of this taxon is uncertain; it should be sought in the canyon north of Marysvale.” Acc. Anderson (1978), “[a]lthough extant specimens of ‘good’ ssp. *glareosus* have not been found, Jones’ description (1891) ... stated those plants were about a foot high and had phyllaries with conspicuous thickened yellow tips and linear-lanolate corolla lobes.”

Chrysothamnus nauseosus (Pallas) Britton var. uintahensis (L.C. Anderson) Welsh

“Lapoint rabbit-brush”

Asteraceae

Federal Status: None

UTNHP Rank: G5T3?Q/S3?

Distribution: DAG, UIN

Notes: For original description see *Great Basin Nat.* 44: 416. 1984. For current treatment see *Great Basin Nat. Mem.* 9: 168. 1987. Type from Uintah Co., 2 miles east-northeast of Lapoint (*Anderson 5513*; holotype BRY). Acc. *AUF2* (Welsh et al. 1993), var. *uintahensis* “appears to be a stabilized hybrid involving *C. nauseosus* and *C. parryi* (A. Gray) E. Greene.” For alternative treatment as *Ericameria X uintahensis* (L.C. Anderson) Nesom & Baird, see *Phytologia* 75: 90. 1993. Acc. Goodrich and Neese (1986), “[e]ndemic [to the Uinta Basin], locally common from Lapoint to Red Fleet Reservoir; on Duchesne River, Morrison, Dakota, and other formations of poor substrate; desert shrub communities, often on sandy-clay soil...”

Status Category: *Taxonomic Problems*

***Chrysothamnus viscidiflorus* (Hook.) Nutt. var. *latifolius* (D.C. Eaton) E. Greene**

“Elko rabbit-brush”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?Q/S1

Distribution: BOX; ID, NV +

Notes: For alternative treatment as *Ericameria viscidiflora* var. *latifolia* (D.C. Eaton) L.C. Anderson, see Great Basin Nat. 55: 86. 1995. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Cronquist (1994) cited the distribution of var. *latifolius* as “n. Nev., especially Elko Co., extending w. to Modoc Co., Calif., e. barely into nw. Box Elder Co., Utah, and n. into Owyhee and Ada cos., Idaho; disjunct in c. Idaho.” Kartesz (1987) and Anderson (in Hickman 1993) treated ssp. *latifolius* (D.C. Eaton) Hall and Clements as a synonym of ssp. *viscidiflorus*.

Cirsium calcareum* (M.E. Jones) Wootton & Standley var. *calcareum

“Canyonlands thistle”

Asteraceae

Federal Status: None

UTNHP Rank: G4T?/S1

Distribution: CAR, EME, GAR, SNJ, SEV, WAY; AZ?, CO?, NM?

Notes: Lectotype from Garfield Co., Henry Mtns., Bromide Pass (*Jones 5695bh*, US; isoelectotypes BRY, NY, POM), designated by Moore and Frankton (1974); but see Neese (1981) who questioned this record. The type locality was reported (erroneously) in *AUF2* (Welsh et al. 1993) as Caineville, Wayne Co. [apparently based on *Jones 5696* (POM) which Moore and Frankton (1974) cited as a syntype]. County distribution otherwise as reported in *AUF2* (Welsh et al. 1993), which also noted that a peculiar form has been collected in Cedar Canyon, Iron Co. (*Atwood and Higgins 5918*, BRY). *AUF2* treated var. *bipinnatum* (Eastw.) Welsh [type from Montezuma Co., Colorado] and var. *pulchellum* (Eastw.) Welsh [type from Archuleta Co., Colorado] as distinct from var. *calcareum*. Moore and Frankton (1974), followed by Weber and Wittman (1992) and Cronquist (1994), treated *C. bipinnatum* Eastw. and *C. pulchellum* Eastw. as synonyms of *C. calcareum*. If these authorities are followed, then *C. calcareum* cannot be considered a Utah endemic. Kearney and Peebles (1951) reported *C. bipinnatum* and *C. pulchellum* but not *C. calcareum* in Arizona; Howell and McClintock (1960) provided no additional information. Questionable Colorado record as reported by Cronquist (1994) and Weber and Wittmann (1992, 1996a). Martin and Hutchins (1981) reported all three taxa -- *C. calcareum*, *C. bipinnatum*, and *C. pulchellum* -- as occurring in northwestern New Mexico.

***Cirsium hallii* (A. Gray) M.E. Jones**

“Hall’s thistle”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G5/SRF

Distribution: ?; NV? +

Notes: Reported from Nevada and Utah in the 1980 and 1985 U.S. Fish and Wildlife Service Notices of Review. Abrams and Ferris (1960) cited the distribution as “Oregon west of the Cascade Mountains, particularly in the Coast Ranges, from the Columbia River south to Coos Bay.” Seemingly a circumscription problem, but evidently there is no published account placing *C. hallii* in Utah.

Claytonia parviflora Douglas ex Hook. ssp. utahensis (Rydb.) Miller & Chambers

“desert claytonia”

Portulacaceae

Federal Status: None

UTNHP Rank: G5T?/S2?

Distribution: WSH; AZ, NV +

Notes: For current treatment see Novon 3: 271. 1993. Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as *Montia perfoliata* var. *u.* (Rydb.) Munz, *Aliso* 4: 90. 1958. Type from Washington Co., St. George (*Palmer* 56; holotype NY). Acc. *AUF2*, “[p]lants with linear basal leaves have been segregated as *Montia perfoliata* var. *utahensis* (Rydb.) Munz. There appears to be some geographic correlation with the linear leaf type, i.e., the plants occur in Washington County.” Acc. Miller and Chambers (1993), “*Claytonia parviflora* subsp. *utahensis* comprises populations of generally diminutive plants whose spatulate to narrowly lanceolate adult leaf blades are 4 mm or more wide.... The plants are autogamous and principally tetraploid. Intergradient populations have been noted between this subspecies and both *C. perfoliata* subsp. *intermontana* Miller & Chambers and *C. parviflora* subsp. *viridis* (Davidson) Miller & Chambers.” Chambers (in Hickman 1993) reduces this taxon to synonymy under *C. parviflora* Douglas ex Hook. ssp. *parviflora*.

Clematis columbiana (Nutt.) Torrey & Gray var. tenuiloba (A. Gray) J.S. Pringle

“Black Hills virgin’s-bower”

Ranunculaceae

Federal Status: None

UTNHP Rank: G5?T?/SR

Distribution: ?; CO, WY +

Notes: For current treatment see Brittonia 23: 382. 1971. Pringle (1971) cited the distribution of *C. columbiana* var. *tenuiloba* (A. Gray) Pringle as “[f]oothills of Montana and northern Wyoming; Killdeer Mountains, North Dakota; Black Hills, South Dakota; intergrading with var. *columbiana* in western Montana, northern Utah, and Colorado.” Acc. *AUF2* (Welsh et al. 1993), “[s]egregation of specimens into two varieties on the basis of much dissected leaves and short aerial stems (var. *tenuiloba*) versus not much dissected leaves and developed aerial stems (var. *columbiana*) seems arbitrarily possible only and does not seem to be geographically correlated.” Acc. Pringle (1971), “[i]n the Rocky Mountains of Colorado and northern Utah there is complete intergradation between var. *columbiana* and var. *tenuiloba*.... Both of the extremes, along with intermediates, are sometimes encountered in the same locality.”

Cornus sericea L. var. occidentalis Torrey & Gray

“western red dogwood”

Cornaceae

Federal Status: None

UTNHP Rank: G5T?/SR

Distribution: WSH; NV, ID +

Notes: Acc. *AUF2* (Welsh et al. 1993), some Utah plants, especially those from the Pine Valley Mtns. (Washington Co.), approach this variety. Acc. to Cronquist et al. (1997), “[The Intermountain] plants ... belong to the widespread var. *sericea*, although the petals average a little longer than in the eastern American plants. In the Pacific coast states, mainly in and west of the Cascade-Sierran axis, this gives way to the var. *occidentalis* Torrey & Gray, which also extends east occasionally across northern Washington to northern Idaho and adjacent Montana, but is not

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represented in our range. The var. *occidentalis* has a longitudinally ribbed and grooved stone, and usually has more abundant, longer, loose (even crisped or curled) hairs on the lower surface of the leaves and in the inflorescence. Some midwestern plants approach var. *occidentalis* in pubescence, but do not have the fluted stone.”

Cryptantha flaccida (Douglas ex Lehm.) E. Greene

“Douglas’ cryptantha”

Boraginaceae

Federal Status: None

UTNHP Rank: G?/SRF

Distribution: WSH; ID +

Notes: Albee et al. (1988, p. 613) cite the Utah distribution as “native annual, creosote bush community, Washington Co. (BRY).” Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). The report of this species from Utah is most likely based on a misidentification.

Cystopteris sp. nov. Windham, ined.

No common name

Dryopteridaceae

Federal Status: None

UTNHP Rank: G?/S?

Distribution: IRO, SAL, UTA; +?

Notes: Acc. Dr. Michael Windham (1995, pers. comm.), there is an undescribed species of *Cystopteris* from Utah that is always found on limestone or very limy sandstone. Thus far there are three known locations in Utah: Iron Co., upper part of Cedar Canyon (the type locality for *Erigeron proselyticus* Nesom); Utah Co., Mt. Timpanogos, Scout Falls; and Salt Lake Co., Albion Basin, among limestone boulders along the trail to Secret Lake. The new species is the only known hexaploid *Cystopteris* from Utah, and Dr. Windham has seen vigorous hybrids which are pentaploids and have sterile spores. He also noted that the Utah plants may be the same as another hexaploid that has been found on limestone in Glacier Natl. Park, Montana, but further work is needed to resolve this question.

Dalea flavescens (S. Watson) Welsh var. epica (Welsh) Welsh & Chatterley

“Hole-in-the-Rock spike-clover”

Fabaceae

Federal Status: (C2), BLM

UTNHP Rank: G5T1Q/S1

Distribution: GAR, KAN?, SNJ

Notes: For original description see Great Basin Nat. 31: 90. 1971. For current treatment see Great Basin Nat. 45: 187. 1985. Type from San Juan Co., ca. 10 miles east of Hall’s Crossing (*Welsh 5205*; holotype BRY, isotype NY). Endemic to central Glen Canyon (Welsh et al. 1993). Questionable Kane Co. record as reported in Atwood et al. (1991). Barneby (1989) does not recognize this taxon, listing it in synonymy under *D. flavescens* and noting: “A variant from dunes near Hole-in-the-Rock, which has an exceptionally long calyx contributing to an abnormally fat flower-spike, has been described as *D. epica*, but seems to represent the extreme of a series rather than a genetically detached entity.”

Status Category: Taxonomic Problems

Dichanthelium lanuginosum (Elliott) Gould var. thermale (Bolander) Spellenberg

“The Geysers panic-grass” Poaceae

Federal Status: None **UTNHP Rank:** G5TU/SR**Distribution:** SAL, UTA; +

Notes: For current treatment see Madroño 23: 151. 1975. *Panicum t.* Bolander treated in *AUF2* (Arnou in Welsh et al. 1993) as a synonym of *P. acuminatum* Swartz. Cottam et al. (1940) cited records of *Panicum thermale* Bolander from “Salt Lake City” and “Utah Co.” [specimens at BRY, UT]. Skinner and Pavlik (1994) reported *Dichanthelium lanuginosum* var. *thermale* as endemic to The Geysers geothermal area, Sonoma County, California. Acc. A. and N. Holmgren (in Cronquist et al. 1977), “Spellenberg has conducted biosystematic studies on the western members of the *Panicum* [*Dichanthelium*] *lanuginosum* complex and has discovered that the plants are predominantly autogamous with occasional hybridization which contributes to the taxonomic complexity. The complex has received many different interpretations. As it now appears the taxa recognized by Hitchcock and Chase (1910) in this group are for the most part based on an arbitrary selection of specimens showing various recombinations of characters.”

Draba lonchocarpa Rydb. var. exigua O. Schulz

“Sawatch draba” Brassicaceae

Federal Status: None **UTNHP Rank:** G4T3/S1S2**Distribution:** DUC, GRA, SUM; CO, WY

Notes: In Utah restricted to the Uinta and La Sal mtns. (Welsh et al. 1993). Var. *exigua* not distinct from var. *lonchocarpa* acc. Rollins (1993).

Draba pectinipila Rollins

“Beartooth Plateau draba” Brassicaceae

Federal Status: (C2) **UTNHP Rank:** G1Q/SRF**Distribution:** DAG; WY

Notes: For original description see *Rhodora* 55: 231. 1953. For alternative treatment as *D. oligosperma* var. *p.* (Rollins) C.L. Hitchc., see *Univ. Wash. Publ. Biol.* 17(2): 496. 1964. Rollins (1953) cited two collections from Daggett Co., 15 miles southeast of Manila, vicinity of Flaming Gorge (*Williams* 476, GH; *Rollins* 2275, GH). Acc. Dorn (1978), plants with yellow flowers and long styles, from the pinyon-juniper zone in Daggett Co., Utah, and Sweetwater Co., Wyoming, previously included by Rollins in *D. pectinipila*, are a distinct species, *D. juniperina* Dorn. Range of *D. pectinipila* includes CO, WY acc. USFWS (1993a). However, plants referable to *D. juniperina* occur in the pinyon-juniper zone in Moffat Co., Colorado (cf. Weber and Wittmann 1996a); thus the USFWS report from CO is most likely based on misidentified specimens of *D. juniperina*. Acc. Fertig (1994), *D. pectinipila* is endemic to the Beartooth Plateau, Park Co., Wyoming. *D. pectinipila* and *D. juniperina* treated by Rollins (1993) as synonyms of *D. oligosperma* Hook., without comment. Dr. Robert A. Price (1994, pers. comm.) recognizes *D. oligosperma* Hook., *D. pectinipila* Rollins, and *D. juniperina* Dorn as three distinct species.

***Echinocereus engelmannii* (Parry ex Engelm.) Lem. var. *purpureus* L. Benson**

“purple-spined hedgehog-cactus” Cactaceae

Federal Status: (3B)**UTNHP Rank:** G5TUQ/SSYN**Distribution:** WSH

Notes: For original description see Cactus & Succ. J. 41: 126. 1969. Type from Washington Co., north of St. George (*Benson 13637*, holotype POM). Listed as endangered by the USFWS in 1979 (44 *FR* 58866), delisted and reduced to 3B (non-candidate) status in 1989 (54 *FR* 48749). Benson (1982, p. 246) considers *E. engelmannii* var. *purpureus* to be endangered but “[n]ot collected; too rare to be found readily, or unsuitable for growing.” He adds (p. 648) that “[t]his small local variety has only a few stems. It is striking because of its purplish spines, which are conspicuous against the brownish or tannish-red sand and rock of its habitat.” Acc. USFWS (1989), “[i]ndividual plants exhibiting characteristics described for *E. e. purpureus* occur sporadically within the population of *E. e. chrysocentrus* in southwestern Utah (Woodbury and England 1988)... Woodbury and England (1988) demonstrated that many morphological variations occur within the population of *E. e. chrysocentrus* in southwestern Utah and that none of these variations exhibit any population integrity independent of *E. e. chrysocentrus* as described by Benson (1982) and Taylor (1985). Miller (1988) considers *E. e. purpureus* to be a betalain color phase within the southwestern Utah population of *E. engelmannii* that may be of no more than horticultural interest.... Field observations by Bureau of Land Management and Fish and Wildlife Service biologists and botanists have confirmed the findings described above.”

***Echinocereus triglochidiatus* Engelm. var. *inermis* (K. Schum.) Rowley**

“spineless hedgehog-cactus” Cactaceae

Federal Status: (3B)**UTNHP Rank:** G5T3Q/S2**Distribution:** GAR?, GRA, KAN, SNJ, WAY?; CO

Notes: For current treatment see Repert. Pl. Succ. 22: 9. 1973 [not Arp, Cactus & Succ. J. 44: 132. 1973]. Neotype from San Juan Co., La Sal Mtns., Brumley Ridge (*Atwood & Welsh 9933*, POM; isoneotype BRY), designated by Benson (1982). Listed as endangered by USFWS in 1979 (44 *FR* 64744), delisted and reduced to 3B (non-candidate) status in 1993 (58 *FR* 49242). Acc. USFWS (1993d), “[t]he spineless hedgehog cactus is now found at over 20 sites. Its known range has been expanded 160 km (100 mi) to the west (Heil and Porter 1989), and 40 km (25 mi) to the east and south (James Ferguson, pers. comm., 1986) of the original area. This is an area about 320 km (200 mi) by 160 km (100 mi), where it occurs widely interspersed within the range of var. *melanacanthus* in southeast Utah and south[west] Colorado.” Kane Co. record based on a locality at the north end of Horse Mountain, reported by Franklin (1990g). Questionable Garfield and Wayne county records based on the report by Heil and Porter (1989) from Capitol Reef Natl. Park. Treated by Benson (1982) and in *AUF2* (Welsh et al. 1993) as a synonym of var. *melanacanthus* (Engelm.) L. Benson. Several lines of evidence appear to cast doubt on continued recognition of this plant as a distinct variety: (a) the incomplete degree of geographic isolation between var. *inermis* and the widespread var. *melanacanthus* (Benson 1978, cited in USFWS 1986); (b) the fact that spineless clumps transplanted from the wild into gardens sometimes develop spines (USFWS 1986); (c) the fact that

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intermediate, “weak-spined” individuals are not uncommon (Tuhy 1988b); and (d) the fact that attempts to breed spineless plants from mature stock have yielded a mixture of spined and spineless progeny (USFWS 1993d).

***Eriogonum brevicaule* Nutt. var. *cottamii* (Stokes) Reveal**

“Cottam’s buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G4T2?Q/S2?

Distribution: JUA, MIL, UTA, TOO?, ?

Notes: For current treatment see Great Basin Nat. 32: 113. 1972. Type from Utah Co., West Mtn. (*Cottam 411*; holotype BRY, isotype UT). Var. *cottamii* is a Utah endemic, the distribution cited by Reveal (1973) as “[i]nfrequent on clay hills and limestone outcrops in w-central Utah from Utah and Juab cos. s. to n. Millard Co.” Questionable Tooele Co. record as reported by Reveal (1972a). Acc. *AUF2* (Welsh et al. 1993), var. *cottamii* is based on the densely tomentose plants of Utah’s western ranges, but these are completely transitional at higher elevations with var. *laxifolium* (Torrey & Gray) Reveal and at lower elevations with *E. spathulatum* A. Gray.

***Eriogonum brevicaule* Nutt. var. *nanum* (Reveal) Welsh**

“Willard Peak buckwheat”

Polygonaceae

Federal Status: (3B)

UTNHP Rank: G4T3/S3

Distribution: BOX, CAC?, JUA?, MIL?, SAL?, TOO?, UTA?, WEB

Notes: For original description see Phytologia 25: 194. 1973. For current treatment see Great Basin Nat. 44: 531. 1984. Type from Box Elder Co., south of Willard Peak (*Reveal & N. Holmgren 665*; holotype US, isotypes ARIZ, BRY, CAS, DS, GH, KANU, MO, NY, OKL, OSC, RM, RSA, UC, UT, UTC, WTU). Endemic to Utah, the distribution of *E. nanum* Reveal cited as “[k]nown only from the Willard Peak area of Box Elder Co.” (Reveal 1973). The range was later reported as Box Elder and Weber cos. (Reveal in Welsh et al. 1975). Questionable Cache, Juab, Millard, Salt Lake, Tooele, and Utah county records as reported in *AUF2* (Welsh et al. 1993), which implies an expanded concept of var. *nanum* including those plants earlier recognized as *E. grayi* Reveal. Acc. *AUF2* “[t]his assemblage consists of crevice plants and other dwarf, high elevation phases that apparently do not have genetic integrity. Their recognition at any taxonomic rank is, therefore, problematical, and they are treated here for convenience only.”

***Eriogonum brevicaule* Nutt. var. *wasatchense* (M.E. Jones) Reveal**

“Wasatch buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G4T?Q/S?

Distribution: DAV, JUA, MIL, SAL, SEV?, UTA, WEB

Notes: For current treatment see Great Basin Nat. 32: 113. 1972. Lectotype from Utah Co., American Fork Canyon (*Jones 1877*, POM; isolectotypes BM, CAS, GH, MICH, POM, US, UTC), designated by Reveal (1972a). Endemic to Utah, the distribution cited by Reveal (1973) as “[i]n the mountains and along the w. slope of the Wasatch Mts. from n. Sevier Co. n. to Davis Co.” County distribution otherwise as reported by Reveal (in Welsh et al. 1975). Acc. *AUF2* (Welsh et al. 1993,

p. 539), this is a narrow-leaved phase that is completely transitional with the var. *brevicaule* northward and the var. *laxifolium* (Torrey & Gray) Reveal southward.

Eriogonum corymbosum Benth. var. davidsei Reveal

“Wellington buckwheat” Polygonaceae

Federal Status: (3B) **UTNHP Rank:** G5T?/SSYN

Distribution: CAR

Notes: For original description see Great Basin Nat. 27: 216. 1967 [1968]. Type from Carbon Co., 0.7 miles south of Wellington, just south of the Price River Bridge on the dirt road to Mound, on steep dark Mancos Shale hills (*Reveal & Davidse 956*; holotype UTC, isotypes ARIZ, BRY, CAS, DS, GH, MO, NY, RM, RSA, UC, US). Distribution cited by Reveal (1973) as “[e]ndemic to clay hills just south of Wellington, Carbon Co.” Treated in *AUF2* (Welsh et al. 1993) as a synonym of var. *corymbosum*.

Eriogonum corymbosum Benth. var. divaricatum Torrey & Gray

“Green River buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5T?Q/SSYN

Distribution: EME, GAR, GRA

Notes: Type from Emery Co., near Green River (*Creutzfeldt s.n.* 1853; holotype NY, isotype GH). Endemic to Utah, the county distribution acc. Reveal (in Welsh et al. 1975), who further noted that “[t]his form of *Eriogonum corymbosum* differs from var. *corymbosum* in having small, usually crenulate leaves, smaller more compact stature, and compact inflorescences.” Var. *divaricatum* treated in *AUF2* (Welsh et al. 1993) as a synonym of var. *corymbosum*, without comment.

Eriogonum corymbosum Benth. var. erectum Reveal & Brotherson

“Brotherson’s buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5T?Q/S?

Distribution: DUC, SUM?, UIN, WAS; WY

Notes: For original description see Great Basin Nat. 27: 213. 1967 [1968]. Type from Wasatch Co., along U.S. Hwy. 40, 5.5 miles east of Strawberry Reservoir (*N. Holmgren & Reveal 3022*; holotype UTC, isotypes ARIZ, BRY, CAS, DS, GH, MO, NY, RM, RSA, UC, US). Reveal (1973) cited the distribution of var. *erectum* as “[m]ostly in pinyon-juniper woodlands above 6000 feet in Duchesne, Utah [= Wasatch ???] and Uintah cos.; disjunctly in Sweetwater Co., Wyoming.” Var. *erectum* treated in *AUF2* (Welsh et al. 1993) as a synonym of var. *corymbosum*, without comment.

Eriogonum corymbosum Benth. var. humivagans (Reveal) Welsh

“Monticello buckwheat” Polygonaceae

Federal Status: (3B) **UTNHP Rank:** G5T1Q/S1

Distribution: SNJ

Notes: For original description see Madroño 19: 291. 1968 [1969]. For current treatment see Great Basin Nat. 44: 534. 1984. Type from San Juan Co., 13.5 miles east of Monticello (*N. Holmgren &*

Status Category: *Taxonomic Problems*

Reveal 3001; holotype UTC, isotypes BRY, ISC, NY, RM, UT, UTC). Endemic to Utah, the distribution cited by Reveal (1973) as “[k]nown only from low clay hills e. of Monticello, San Juan Co.” Later regarded by Reveal (1989b) and in *AUF2* (Welsh et al. 1993) as a synonym of *E. lonchophyllum* Torrey & Gray var. *l.*

Eriogonum corymbosum Benth. var. velutinum Reveal

“velvet buckwheat”

Polygonaceae

Federal Status: None

UTNHP Rank: G5T?/SR

Distribution: SNJ; AZ, CO, NM

Notes: For original description see *Great Basin Nat.* 27: 224. 1967 [1968]. San Juan Co. record as reported by Reveal (1973). The distribution was later cited by Reveal (1976) as “[u]sually on clay soils or rocky outcrops of se. Utah, sw. Colo., e. Ariz., and nw. N.M.; from Apache Co., Ariz. e. to Sandoval and Santa Fe cos. s. to Socorro Co., N.M.” Acc. *AUF2* (Welsh et al. 1993), “[m]aterials designated as var. *velutinum* Reveal are transitional between var. *orbiculatum* (Stokes) Reveal & Brotherson and var. *corymbosum*, at least in Utah specimens. I see no way of separating them, either morphologically, edaphically, or geographically.”

Eriogonum grayi Reveal

“Lake Blanche buckwheat”

Polygonaceae

Federal Status: (3B)

UTNHP Rank: G?Q/S?

Distribution: BOX, CAC, JUA, MIL?, SAL, TOO, UTA, WEB

Notes: For original description see *Phytologia* 25: 193. 1973. Type from Salt Lake Co., Lake Blanche (*A. Holmgren et al. 7121*; holotype UTC, isotypes BRY, ISC, UC). Endemic to Utah, the distribution cited by Reveal (1973) as “[a]lpine regions of n-central Utah from Mt. Nebo n. to the Alta area, and onward in very scattered locations to s. Box Elder Co., mostly above 10,000 feet elevation.” The same author later cited the Utah distribution as including Juab, Salt Lake, Utah, and Weber cos. (Reveal in Welsh et al. 1975). County distribution otherwise as given in *AUF2* (Welsh et al. 1993) for *E. brevicaule* var. *nanum* (Reveal) Welsh, for which *E. grayi* was listed as a synonym.

Eriogonum grayi Reveal var. maguirei Reveal, ined.

No common name

Polygonaceae

Federal Status: None

UTNHP Rank: GU?/SU

Distribution: CAC

Notes: Acc. Reveal (1969), *E. grayi* var. *maguirei* is known only from the type area at 8500 to 9000 feet elevation on Mt. Naomi, Bear River Range, Cache Co. Not treated by Reveal (1973), and apparently this name has never been published. Are these the plants from higher elevations in the Bear River Range that have subsequently been annotated by Reveal as *E. loganum* A. Nelson [= *E. brevicaule* var. *loganum* (A. Nelson) Welsh]?

Eriogonum grayi Reveal var. stansburyense Reveal, ined.

No common name Polygonaceae

Federal Status: None **UTNHP Rank:** GUQ/SU

Distribution: TOO

Notes: Acc. Reveal (1969), *E. grayi* var. *stansburyense* is known only from the type area at 7500 to 8500 feet elevation in the Stansbury Mtns., Tooele Co. Not treated by Reveal (1973), and evidently this name has never been published.

Eriogonum lancifolium Reveal & Brotherson

“lance-lvd. buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G2Q/SSYN

Distribution: CAR

Notes: For original description see Great Basin Nat. 27: 187. 1967 [1968]. Type from Carbon Co., 5 miles east of Wellington (*Reveal & Davidse 956*; holotype UTC, isotypes ARIZ, BRY, CAS, DS, GH, MO, NY, RM, RSA, UC, US). Acc. Reveal (1967), *E. lancifolium* is “[k]nown only from the Mancos Shale hills 3-6 miles east of Wellington and 5.5 miles south of Wellington, Carbon Co., Utah.... On most of the early collections, the location data were given simply as ‘Price’ or ‘Near Price.’ Attempts to find this species near the Price area have been without success, and it is thus suggested that all of the collections came from the Wellington area, and the use of ‘Price’ was simply to indicate the largest city in this general area.” Reveal (1973) cited the distribution as “[e]ndemic to clay hills in the Price and Wellington area, Carbon Co.” Treated in *AUF2* Welsh et al. 1993) as a synonym of *E. corymbosum* Benth. var. *corymbosum*.

Eriogonum lewisii Reveal

“Mont Lewis’ buckwheat” Polygonaceae

Federal Status: (C2) **UTNHP Rank:** G2Q/SRF

Distribution: BOX; ID?, NV

Notes: For original description see Great Basin Nat. 45: 277. 1985. Reveal (1985b) cited one paratype from Utah: Copper Mtn., Box Elder Co. (*Cottam 3089*; BRY, F). This collection was later annotated by Welsh [1984 and again in 1993] as *E. brevicaule* var. *desertorum* (Maguire) Welsh, and by Reveal [1992] as *E. brevicaule* var. *laxifolium* (Torrey & Gray) Reveal. Acc. Morefield (1996), *E. lewisii* is “endemic to north-central Elko County and northern Eureka County, Nevada, in the Bull Run, Independence, and Tuscarora Mountains and the Jarbidge Mountains complex.... It is fairly likely that *Eriogonum lewisii* will eventually be documented in extreme southern Idaho and possibly in northwestern Utah.... *Eriogonum lewisii* and its apparent closest relative, *E. desertorum* (Maguire) R.J. Davis, appear ... to be only varietally distinct from each other and possibly from Welsh’s (1984c) *Eriogonum brevicaule* Nutt. complex, particularly *laxifolium* (Torrey & A. Gray) Reveal.”

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***Eriogonum lonchophyllum* Torrey & Gray var. *intermontanum* (Reveal) Reveal**

“Roan Cliffs buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G4T?Q/S?

Distribution: GRA, UIN?, ?

Notes: For original description see Madroño 19: 293. 1968 [1969]. For current treatment see Phytologia 66: 252. 1989. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *E. lonchophyllum* Torrey & Gray var. *l.* Type from Grand Co., Roan Cliffs, ca. 1.5 miles south of the Uintah Co. line at the head of Middle Canyon of Westwater Creek drainage (*N. Holmgren et al.* 2278; holotype UTC, isotypes BRY, ISC, RM, UT). Endemic to Utah, the distribution cited by Reveal (1973) as “[d]ry sandy-loam places atop the Roan Cliffs, Grand Co.” Acc. Reveal (1968), this buckwheat “occurs on gravelly loam soils above 8000 feet elevation.”

***Eriogonum marcusii* Reveal, ined.**

No common name Polygonaceae

Federal Status: None **UTNHP Rank:** GUQ/SU

Distribution: CAR, GRA, ?

Notes: Reveal (1969) cited the distribution as “Mounds, Carbon Co. and near Moab, Grand Co., Utah. Rare.” Acc. Reveal (1973, p. 187), “[s]ome forms [of *E. brevicaulis* Nutt.] which are worthy of formal recognition are not announced at this time primarily due to a paucity of material. One, a new species, was collected by M.E. Jones in eastern Utah in two locations, but repeated attempts to discover this plant has [sic] resulted in failure. This plant has yellow flowers, a cymose-umbellate inflorescence with tomentose to floccose stems and branches and broadly elliptical leaves 1-2 cm long and 8-12 mm wide.” Evidently this name has not yet been published.

***Eriogonum panguicense* (M.E. Jones) Reveal var. *alpestre* (Stokes) Reveal**

“Cedar Breaks buckwheat” Polygonaceae

Federal Status: (3C) **UTNHP Rank:** G3T2T3Q/SSYN

Distribution: IRO, ?

Notes: For current treatment see Proc. Utah Acad. 42: 292. 1966. *AUF2* (Welsh et al. 1993) did not recognize var. *alpestre*, treating it instead as a synonym of *E. panguicense* (sensu lato). Type from Iron Co., Cedar Breaks (*Goodman & Hitchcock 1601*; holotype CAS; isotypes NY, UTC). Endemic to Utah, the distribution cited by Reveal (1973) as “[w]hitish clay outcrops on the upper rim of Cedar Break[s] and near the base of Brian Head, Iron Co.” Specimens collected away from the type area, even from nearby Cascade Falls at the southern end of the Markagunt Plateau in Kane Co., have been annotated by Reveal to var. *panguicense*.

***Eriogonum umbellatum* Torr. var. *desereticum* Reveal**

“Deseret buckwheat” Polygonaceae

Federal Status: None **UTNHP Rank:** G5T?Q/S?

Distribution: JUA, SAL, SNP, TOO, UTA, WAS

Status Category: *Taxonomic Problems*

Notes: For original description see Great Basin Nat. 35: 365. 1975. Type from Utah Co., east of Mt. Timpanogos, along the Timpooneke Road, 1 mile northwest of Utah Hwy. 80, near Timpooneke Campground (*Reveal 3702*; holotype US, isotypes BRY, CAS, GH, MARY, MO, NY, OKL, UTC). County distribution as given by Reveal (in Welsh et al. 1975). Treated in *AUF2* (Welsh et al. 1993) as a synonym of var. *majus* Hook.

Galium emeryense Dempster & Ehrend. ssp. emeryense

“San Rafael bed-straw” Rubiaceae

Federal Status: None **UTNHP Rank:** G?QT?Q/S?

Distribution: EME, GAR, SNJ

Notes: For original description of *G. hypotrichium* ssp. *scabriusculum* Ehrend., see Contr. Dudley Herb. 5: 13. 1956. For alternative treatment as *G. coloradoense* var. *s.* (Ehrend.) Dempster, see Brittonia 11: 120. 1959. For alternative treatment as *G. s.* (Ehrend.) Dempster & Ehrend., see Brittonia 17: 312. 1965 [not Dalla Torre & Sarnth., 1912]. For current treatment see Great Basin Nat. 37: 510. 1977 [1978]. Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as a synonym of *G. multiflorum* Kellogg var. *m.* Type from Emery Co., San Rafael Swell, 3 miles up Calf Springs Wash (*Maguire 18437*; holotype GH, isotypes CAS, NY, UC, UTC, WTU). Endemic to southeastern Utah, the following collections cited by Dempster (unpubl.): Emery Co., Calf Springs Wash (*Maguire 18318*; CAS, NY, UTC), Buckhorn Mtns. (*Harrison 8087*; US, UTC), Buckhorn Wash (*Harrison 8127* [CAS, UC, UT], *9645* [UC, US, UT]), *Ehrendorfer & Stutz 5952, 5953* (UC?); Garfield Co., Escalante (*Cottam 4411*; POM, UT); San Juan Co., exact locality vague (*Eastwood 34*; GH, US). Dempster and Ehrendorfer (1965) noted that *G. scabriusculum* ssp. *s.* [= *G. emeryense* ssp. *e.*] is a tetraploid that most closely resembles the diploid *G. scabriusculum* ssp. *protoscabriusculum* Dempster & Ehrend. [= *G. emeryense* ssp. *p.* (Dempster & Ehrend.) Dempster & Ehrend.]. They further suggested that *G. stellatum* Kellogg is probably the other diploid parent and that genes from the diploid *G. coloradoense* might have been contributed through ssp. *protoscabriusculum*.

Galium emeryense Dempster & Ehrend.

ssp. protoscabriusculum (Dempster & Ehrend.) Dempster & Ehrend.

“Castle Dale bed-straw” Rubiaceae

Federal Status: None **UTNHP Rank:** G?QT?Q/S?

Distribution: CAR

Notes: For original description see Brittonia 17: 312. 1965. For current treatment see Great Basin Nat. 37: 510. 1977 [1978]. Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as a synonym of *G. multiflorum* Kellogg var. *m.* Type from Carbon Co., side canyon (southwest of main valley) ca. 1 mile northwest of Castle Gate (*Ehrendorfer & Stutz 5954*; holotype UC, isotypes RM, UTC). Dempster and Ehrendorfer (1965) cited the distribution of *G. scabriusculum* ssp. *p.* Dempster & Ehrend. as “east of the Wasatch Plateau, near Castle Gate in Carbon Co. Steep north slopes with open grassy and herbaceous cover among open *Pinus ponderosa* stands.” The same authors noted that it is diploid that “is almost certainly parental to the tetraploid subsp. *scabriusculum* [*G.*

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emeryense ssp. *emeryense*], which is quite similar. Subsp. *protoscabriusculum* is somewhat the taller, its indumentum finer and less dense, the leaves are somewhat smaller, narrower and thinner in texture; the habitat is decidedly less xeric. On the diploid level subsp. *protoscabriusculum* is rather clearly related to *G. coloradoense* Wight and *G. watsonii* (A. Gray) Heller.”

Galium hypotrichium A. Gray ssp. nevadense Dempster & Ehrend.

“Toiyabe bed-straw”

Rubiaceae

Federal Status: None

UTNHP Rank: G5T?Q/SR

Distribution: BOX; NV

Notes: For original description see Brittonia 17: 316. 1965. Not treated (not even in synonymy) in *AUF2* (Higgins and Welsh in Welsh et al. 1993). Treated by Cronquist et al. (1984) as synonym of *G. multiflorum* var. *subalpinum* (Hilend & Howell) Cronquist. Dempster and Ehrendorfer (1965) cited the distribution as “[e]astern and central Nev. from the Bull Run Mts. south to the Charleston [Spring] Mts. Eastward to the Pilot Range, western Box Elder Co., Utah. Partially shaded places, in sandy, gravelly, or rocky soil under *Cercocarpus*, *Pinus*, or *Populus*; 7000-10,300 ft.” The following Utah collection was cited by Dempster (unpubl.): Box Elder Co., Copper Mtn. (*Cottam 3096*; ARIZ, UT). Acc. Dempster and Ehrendorfer (1965), “[t]he collection from Box Elder Co., Utah (Copper Mt., near Nevada border, *Cottam 3096*) has much longer hairs than all other material included in this subspecies, although the plants still do not appear hispid to the naked eye. Probably this population, too, should bear a subspecific name, but there is only one collection, and that fragmentary.... A not very distant relationship should probably be assumed between subsp. *nevadense* and *G. watsonii* (A. Gray) Heller of Utah.”

Galium magnifolium (Dempster) Dempster

“large-lvd. bed-straw”

Rubiaceae

Federal Status: None

UTNHP Rank: G4/SP

Distribution: SNJ?, WSH; NV

Notes: For original description of *G. munzii* forma *glabrum* Ehrend., see Contr. Dudley Herb. 5: 9. 1956. For alternative treatment as *G. matthewsii* var. *magnifolium* Dempster, see Brittonia 10: 189. 1958. For current treatment see Brittonia 11: 111. 1959. Not treated (not even in synonymy) in *AUF2* (Higgins and Welsh in Welsh et al. 1993). Treated by Cronquist et al. (1984) as a synonym of *G. multiflorum* Kellogg var. *m.* The distribution was cited by Dempster and Ehrendorfer (1965) as “[s]outhern Nev. in the Charleston, Sheep, and Mormon Mts.; southern Utah in Washington and western San Juan cos. Canyon sides and steep rocky north slopes, in the juniper belt, 2700-7000 ft. ... The population from San Juan Co., Utah, is of unknown ploidy. Should it prove to be tetraploid, it might be more appropriate to include it with *G. munzii* subsp. *ambivalens* Dempster & Ehrend. “ The following Utah collections were cited by Dempster (unpubl.): Washington Co., *Maguire & Blood 1565* (UC, UTC), *Maguire 4481* (UTC), *Galway 8816* (ARIZ, UT), *Ehrendorfer & Dempster 5979* (UC?); San Juan Co., Rainbow Bridge, *Howell 24612* (ARIZ, CAS, WS), *Darrow 2778* (ARIZ, UC); Monument Pass, *Eastwood & Howell 6688* (CAS). Dempster and Ehrendorfer (1965) noted that *G. magnifolium* is a diploid that is apparently related to *G. matthewsii* A. Gray (s. Sierra Nevada

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and n. desert mtns. of Calif., diploid) and *G. munzii* ssp. *ambivalens* Dempster & Ehrend. (Grand Canyon region of Arizona, tetraploid).

***Galium munzii* Hilend & Howell ssp. *ambivalens* Dempster & Ehrend.**

“Grand Canyon bed-straw” Rubiaceae

Federal Status: None **UTNHP Rank:** G4T?/SP

Distribution: SNJ?; AZ

Notes: For original description see Brittonia 17: 309. 1965. Not treated (not even in synonymy) in *AUF2* (Higgins and Welsh in Welsh et al. 1993). Treated by Cronquist et al. (1984) as a synonym of *G. multiflorum* Kellogg var. *m.* Dempster and Ehrendorfer (1965) cited the distribution as “Coconino Co., Ariz.: Grand Canyon of the Colorado River, and eastward on the Little Colorado River. Rock crevices and rocky slopes, 4200-7500 ft. ... It remains a possibility that the population from San Juan Co., Utah [treated by these authors under *G. magnifolium* (Dempster) Dempster], may belong here, but the collections include no hairy plants, and the ploidy level is unknown.” The same authors noted that ssp. *ambivalens* is a tetraploid that “is morphologically intermediate between the hispid subsp. *munzii* [tetraploid] and the glabrous *G. magnifolium* [diploid].” They further noted that ssp. *ambivalens* is “geographically well removed from any other member of the *G. multiflorum* complex, with the exception of *G. stellatum*.”

Galium munzii* Hilend & Howell ssp. *munzii

“Munz’ bed-straw” Rubiaceae

Federal Status: None **UTNHP Rank:** G4T?/S?

Distribution: TOO?, WSH; AZ, NV +

Notes: For original description see Leaflet West. Bot. 1: 135. 1934. Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as a synonym of *G. multiflorum* var. *m.* Dempster and Ehrendorfer (1965) cited the distribution as “Charleston [= Providence?] and New York Mts., Calif.; Meadow Valley Wash and valley of the Virgin River in Nev., Ariz., and Utah; mountains of northwestern Utah. Crevices of rocks and cliffs, rocky north- or east-facing slopes and shady canyon bottoms, 3500-7000 ft. ... The inclusion of plants from the Granite Mts., Tooele Co., Utah [= Granite Peak, U.S. Army Dugway Proving Ground], under subsp. *munzii* must be considered provisional. Only two collections are available, and they perhaps represent phenotypic extremes. More material would quite possibly show the population to be subspecifically distinct.” The following Utah collections were cited by Dempster (unpubl.): Washington Co., Springdale (*Jones 5249s*; POM, US), Cedar City (*Jones 5204f*; POM, US), Zion Natl. Park, *Braem 820 & 821* (DS), *Degener & Peiler 16546* (NY), *Cottam 973z* (UT), *Barkley 3122* (WTU), *Jones* (POM); Tooele Co., Granite Mtns., *Flowers* (UT), *Jones* (POM). Dempster and Ehrendorfer (1965) noted that *G. munzii* is a tetraploid that is closely related to the diploid *G. magnifolium* (Dempster) Dempster. They further suggested that the diploid desert species *G. stellatum* Kellogg is probably the other parent and that the population from Washington Co., Utah, is intermediate between typical ssp. *munzii* and the ssp. *ambivalens* Dempster & Ehrend. of the Grand Canyon region.

***Galium watsonii* (A. Gray) Heller**

“Wasatch bed-straw”

Rubiaceae

Federal Status: None

UTNHP Rank: G?Q/S?

Distribution: BOX, CAC, DAV, SAL, TOO, UTA, WEB

Notes: Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as a synonym of *G. multiflorum* Kellogg var. *multiflorum*. Lectotype from Wasatch Mts., Utah (*Watson 484*, GH; isolectotypes NY, US), designated by Heller (see Cronquist 1957). Dempster and Ehrendorfer (1965) cited the distribution as “[n]orth central Utah: Wasatch Range from Logan, Cache Co. to Provo, Utah Co.; a variant is found on Stansbury I., Tooele Co. Rock crevices and steep north slopes, 5000-9500 ft.” The following collections were cited by Dempster (unpubl.): Cache Co., Providence Canyon, *Maguire 21668* (CAS, UTC), Logan, *Shear 3163* (NY, UC, US), *Rydberg* (NY); Weber Co., Ogden, *Letterman* (NY, US), *Jones* (POM), *Tracy & Evans* (NY), *Coulter* (F), *Hayden* (US); Davis Co., Farmington, *Jones* (POM, CAS, NY); Salt Lake Co., *Jones* (POM), *Garrett 1213, 1931, 2136, 2328, 2732* (all UT); Utah Co., Timpanogos, *Garrett 3879* (UT), *Maguire 12333* (CAS, GH, NY, UC, UTC, WTU), *Palmer 38018* (NY, US), American Fork Canyon, *Jones 1970* (CAS, F, IND, NY, US, UTC), Rock Creek Canyon, *Garrett 3879 & 3932* (F); Tooele Co., Stansbury Island, *Cottam 9178* (RSA, UT), *Saccomanno 7654* (UT). Box Elder Co. record as reported in Welsh et al. (1975). Dempster and Ehrendorfer (1965) noted that plants from Utah and Salt Lake cos. are diploid but that plants in the Ogden area (Weber Co.) are probably tetraploid. The same authors noted that “[m]aterial from Stansbury I., Tooele Co., is inadequate for proper evaluation. The indumentum is decidedly coarser, and the possibly immature fruits are small and rather sparsely hairy for the species, the pedicels apparently straight. Habit, leaves, and flowers are normal for *G. watsonii*, except that the corollas have longer hairs.” They further noted an apparent close relationship with the vicarious diploids *G. hypotrichium* A. Gray, *G. scabriusculum* ssp. *protoscabriusculum* Dempster & Ehrend. [= *G. emeryense* ssp. *p.* (Dempster & Ehrend.) Dempster & Ehrend.], and *G. desereticum* Dempster & Ehrend.

***Geranium marginale* Rydb. in Hanks & Small**

“Aquarius crane’s-bill”

Geraniaceae

Federal Status: (3C)

UTNHP Rank: GUQ/SSYN

Distribution: GAR, SEV, WAY

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *G. caespitosum* James. Type from Garfield Co., Aquarius Plateau, head of Poison Creek (*Rydberg & Carlton 7401*; holotype NY). Nebeker (1974) cited the following specimens other than the type: Wayne Co., Aquarius Plateau, 35 miles north of Escalante, *N. Holmgren et al. 2080* (BRY); Garfield Co., Aquarius Plateau, Cottam 9113 (UT), *Van Cott 1196a* (BRY), Bryce Canyon (*Weight B-31/26*, UT); Sevier Co., 2 miles north of Fish Lake (*Van Cott 933*, BRY). Of *G. caespitosum* as a whole, N. Holmgren (in Cronquist et al. 1997) wrote, “[i]f there are any ecological or geographical correlations with morphology, I have been unable to recognize them.... The array of morphological variation does not lend itself to taxonomic segregation.”

***Gilia mcvickeræ* M.E. Jones**

“Marysvale gilia”

Polemoniaceae

Federal Status: (3B)

UTNHP Rank: G3Q/SSYN

Distribution: DAG?, EME, GAR, IRO, KAN, PIU, SEV, UIN?

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *G. pinnatifida* Nutt. ex A. Gray. Type from Piute Co., near Marysvale (*Jones 5378*; holotype POM, isotypes BRY, CAS, NY, RM, US). Welsh et al. (1975) cited the distribution as Piute, Sevier, and Uintah cos. County distribution otherwise as reported in *AUF2* (Welsh et al. 1993) for *G. pinnatifida*. Cronquist et al. (1984) noted that, “[e]xcept for plants in northeastern Uintah Co., along the border of Colorado, ... plants of *G. pinnatifida* [in the Intermountain region] belong to the chiefly western, sparsely but coarsely glandular phase of the species that was separated by Marcus E. Jones as *G. mcvickeræ*. The distinction is not sharp, however, and plants similar to the *mcvickeræ* phase also occur here and there in the more eastern part of the range of the species. It is conceivable that monographic study may warrant some infraspecific recognition of the *mcvickeræ* phase, which also tends to have a more nearly naked stem than typical *G. pinnatifida*.”

***Hedysarum boreale* Nutt. var. *gremiale* (Rollins) Northstrom & Welsh**

“spiny-fruited sweet-vetch”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G5T1/S1

Distribution: DUC?, UIN

Notes: For original description see *Rhodora* 42: 230. 1940. For current treatment see *Great Basin Nat.* 30: 125. 1970. Type from Uintah Co., 14 miles west of Vernal (*Rollins 1733*; holotype GH, isotypes CAS, OKL, PH, RM, US, UTC). Acc. Goodrich and Neese (1986), “[p]lants referable to var. *gremiale* ... are endemic from Tridell [Uintah Co., eastward] to Dinosaur National Monument from 5,500-5,800 ft.” *AUF2* (Welsh et al. 1993) also treated var. *gremiale* as a Uintah Co. endemic. Northstrom and Welsh (1970) cited one specimen of var. *gremiale* from Duchesne Co., north of Myton (*Pennell 22497*, PH); the current disposition of this specimen is unknown. Barneby (1989) did not recognize var. *gremiale*, stating that it is “poorly differentiated.” Acc. *AUF2*, “[t]he spines on loment segments vary from few (or none) to numerous, indicating a complete transition with var. *boreale*. Incipient spines on the loment article reticulum are present in specimens of var. *boreale* from outside of Utah, but nowhere are the spines so well or so consistently developed as in Uintah County.”

***Hedysarum occidentale* E. Greene var. *canone* Welsh**

“canyon sweet-vetch”

Fabaceae

Federal Status: (C2), FS, BLM

UTNHP Rank: G5T2Q/S2

Distribution: CAR, DUC, EME

Notes: For original description see *Great Basin Nat.* 38: 314. 1978. Type from Carbon Co., 14 miles ENE of Helper, Soldier Creek (*Welsh & Taylor 15256*; holotype BRY, isotype NY). Acc. Tuhy (1990b), “[w]ith the exception of one location near Tabiona in the Uinta Basin, the canyon sweetvetch is restricted to canyons draining the highlands that form a semi-circle around the northern

end of Castle Valley in parts of Emery and Carbon Counties, Utah.... Its most abundant known occurrences are in and between Straight, Cottonwood and Huntington Canyons that drain from the Wasatch Plateau on the Manti-LaSal National Forest. The canyon sweetvetch also occurs sporadically in canyons that drain from the Book Cliffs, from near Helper past Sunnyside to north-northeast of Woodside.” Barneby (1989) did not recognize the var. *canone*, noting that “[t]he populations found in relatively hot and dry environment on the sources of the Duchesne, Price, and San Rafael rivers, recently segregated as var. *canone*, and those on the Bear River in sw. Wyoming, described long ago as *H. uintahense* A. Nelson, have relatively broad, obtuse leaflets, open racemes, and calyx-teeth not over 2 mm long, but these characters occur separately elsewhere in the whole range of *H. occidentale* and do not form a convincing diagnostic syndrome.” Acc. Tuhy (1990b), var. *canone* differs from var. *occidentale* in its later flowering time; flower color paler pink-purple (vs. darker red-purple); herbage color paler yellowish green (vs. darker bright green); and leaflet shape large, ovate, almost orbicular, tending to have notched tip (vs. lanceolate, tip not notched in var. *occidentale*). Acc. *AUF2* (Welsh et al. 1993), there is also a difference in the size of the flowers (mainly 20-24 mm long in var. *canone* vs. mainly less than 20 mm long in var. *occidentale*).

Helianthus deserticola Heiser

“desert sunflower”

Asteraceae

Federal Status: (3B)

UTNHP Rank: G2Q/SSYN

Distribution: WSH; AZ, NV

Notes: For original description see Proc. Indiana Acad. Sci. 70: 209. 1960. Type from Washington Co., 3.3 miles west of Hurricane (*Stoutamire 2574*; holotype IND). Heiser (1960) reported *H. deserticola* as restricted to “[s]outhwestern Utah [Washington Co.], northwestern Arizona [Mohave Co.], and Nevada [Clark and Churchill cos.]” Additional Utah collections cited, both from Washington Co.: La Verkin (*Jones 5183m*, US), Virgin City (*Jones 5215*, US). Rare in Nevada (Kartesz 1987). Also reported by Warrick (1987, as *H. anomalus* S.F. Blake) as rare on sand dunes north of Leeds (*Warrick 3212*, BRY). Acc. Heiser (1960), *H. deserticola* “is apparently most closely related to *H. anomalus*.... [I]t is distinguished by its smaller size which it maintains under greenhouse conditions, the green or red hispid stem in contrast to the whitish less pubescent stem of *H. anomalus*, the more numerous heads, the much shorter and more densely pubescent phyllaries, the smaller achenes which bear shorter hairs, and the shorter squamellae which are ovate instead of linear. Although only a small number of collections are known from both species, it appears that the two species are allopatric and that *H. deserticol[a]*, in general, grows at lower altitudes.” *AUF2* (Welsh et al. 1993) treated *H. deserticola* as a synonym of *H. anomalus*. Acc. Cronquist (1994), “[o]ur material simply does not sort into the two species recognized by Heiser.”

Hermidium alipes S. Watson var. pallidum C.L. Porter

No common name

Nyctaginaceae

Federal Status: (3B)

UTNHP Rank: G3G4T?Q/S3

Distribution: DUC?, UIN; CO?, NV

Status Category: *Taxonomic Problems*

Notes: For original description see *Rhodora* 54: 158. 1952. Type from Uintah Co., 5 miles south [southwest?] of Vernal (*Porter 5308*; holotype RM, isotypes CAS, MO, RSA, SMU, TEX, UC). Acc. Pilz (1978), “I have observed several populations of plants in Pershing, Washoe, and Nye counties, Nevada (*Pilz 1113, 1127, 1128, 1276-79*; all in UC), which possess creamy white perianths and are referable to Porter’s var. *pallidum* from northeastern Utah. These occur, in this region, in populations with plants possessing purple perianths and a wide range of intermediate colors. They do not appear distinct enough to warrant varietal status.” Goodrich and Neese (1986) reported *Mirabilis alipes* (S. Watson) Pilz (with *H. alipes* var. *pallidum* listed as a synonym) as “[c]ommon in Uintah and Rio Blanco Cos., rare w. to Wells Draw, Duchesne Co., mostly s. of Hwy. 40 to the flank of the Tavaputs Plateau; desert shrub and pinyon-juniper communities; 4,700-6,350 ft.” *AUF2* (Welsh et al. 1993) also treated *H. alipes* var. *pallidum* as a synonym of *Mirabilis alipes*. For a discussion of the rationale for placing the monotypic genus *Hermidium* within the larger genus *Mirabilis*, see Pilz (1978).

Heterotheca pumila (E. Greene) Semple

“low golden-aster”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S?

Distribution: GRA, SNJ; CO, WY

Notes: For current treatment see *Brittonia* 39: 383. 1987. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Semple (1996) cited the overall distribution as “[s]ubalpine and alpine sites in the Rocky Mts. of Colorado and very rare in adjacent Wyoming and southeastern Utah; granitic outcrops, roadsides, rocky soils, clay or shale soils; (9,500)-10,000-12,500 ft. elevation.” The representative specimens cited are all from Colorado and Wyoming, but several additional specimens were reported by Semple as “aff. *pumila* [lower elevation forms close to *H. villosa* var. *minor* (Hook.) Semple or higher elevation forms of var. *minor*],” including the following specimens from Utah: La Sal Mtns., *E. & L. Payson 4013* (DS, GH, RM, UC); Grand Co., Beaver Basin, *Franklin 2279* (BRY, CAN, NY), *4103* (BRY); San Juan Co., Abajo Mtns., *Cottam 14389* (RSA), Dark Canyon, *Franklin 906* (BRY, NY), NNW of Mt. Peale, *Franklin 4289* (BRY, NY, RM).

Heterotheca villosa (Pursh) Shinn. var. foliosa (Nutt.) Harms

“plains golden-aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/S?

Distribution: DAV, DUC, SAL, SNJ?, UTA, WEB; AZ?, CO, ID, NM, WY +

Notes: For current treatment see *Wrightia* 4: 15. 1968. County distribution as reported in *AUF2* (Welsh et al. 1993). The overall range of var. *foliosa* was cited by Semple (1996) as “[w]estern Great Plains and foothills and lower elevations of Rocky Mts. from southern British Columbia to north central New Mexico.... The variety is most common near the base of the Front Range of the Rocky Mts. in Colorado and Wyoming, but occurs scattered across the northern part of the range of the species in the mountains and western prairies.” Specimens were cited from the following states or provinces: Alberta, British Columbia, Saskatchewan, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oregon, South Dakota, Washington, and Wyoming; no Utah

Status Category: *Taxonomic Problems*

specimens cited or mapped. Questionable Arizona record based on a Kearney and Peebles (1951) report of *C. foliosa* Nutt. from “White Mountains (southern Apache and Navajo counties), near Flagstaff and Tuba (Coconino County), Pinaleno Mountains (Graham County), Pine Creek and Pinal Mountains (Gila County), Galiuro Mountains (Pinal County).” Semple is presumably aware of the collections forming the basis of the Utah records, the unavoidable conclusion being that he no longer regards them as belonging to this taxon.

Heterotheca villosa* (Pursh) Shinn. var. *villosa

“Nuttall’s golden-aster”

Asteraceae

Federal Status: None**UTNHP Rank:** G5/S?**Distribution:** GAR, KAN, WSH, WAY; AZ?, CO, ID, NM?, NV?, WY ++

Notes: For current treatment see Field & Lab. 19: 71. 1951. Semple (1990) selected a Nuttall collection from 1811 as the neotype; Nuttall’s field label indicates that the type was collected in “Missouri.” County distribution as reported in *AUF2* (Welsh et al. 1993). The overall range of var. *villosa* was cited by Semple (1996) as “[w]estern mountains at lower elevations and northern Great Plains.... As treated here var. *villosa* is found only in the northern half of the range of the species. Other authors have lumped into the variety any member of the species (and often members of other species) that had numerous hairs on the leaves and were not obviously glandular and hispid.” Specimens cited from the following states or provinces: Alberta, British Columbia, Manitoba, Saskatchewan, Colorado, Idaho, Kansas, Michigan, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, Washington, and Wyoming (no Utah specimens cited or mapped). Questionable Arizona, New Mexico, and Nevada records acc. Kearney and Peebles (1951), Kartesz (1987), Roalson and Allred (no date). Semple is presumably aware of the collections forming the basis of the Utah records, the unavoidable conclusion being that he no longer regards them as belonging to this taxon.

***Hymenoxys helenioides* (Rydb.) Cockerell**

“intermediate gold-flower”

Asteraceae

Federal Status: (3B)**UTNHP Rank:** G3Q/S3**Distribution:** CAR, EME, GAR, SNP, SEV; AZ, CO, NM, NV

Notes: County distribution as reported in *AUF2* (Welsh et al. 1993). Nevada state record as reported by Kartesz (1987). Acc. Anderson et al. (1996), “*Hymenoxys helenioides* ... is a poorly known taxon, occurring in small, widely scattered populations of 20 individuals or fewer in the central Rocky Mountains of Colorado, Utah, Arizona, and New Mexico. These small populations always co-occur with large populations of two related members of the Heliantheae, *H. richardsonii* (Hook.) Cockerell and *H. hoopesii* (A. Gray) Bierner. These two species only infrequently occur together, usually growing in different habitats and elevations. Chromosome number, morphological intermediacy, pollen sterility, and an additive pattern in nuclear molecular markers show that *H. helenioides* is a largely sterile hybrid of independent origin at each locality.”

Status Category: Taxonomic Problems

Ivesia gordonii (Hook.) Torrey & Gray “wasatchensis phase”

“Wasatch ivesia” Rosaceae

Federal Status: None **UTNHP Rank:** G4?T?Q/S?**Distribution:** CAC?, DAV?, JUA?, SAL?, SUM?, TOO?, UTA?, WAS?, WEB?

Notes: Acc. *AUF2* (Welsh et al. 1993), “[s]pecimens from the Wasatch Mts. are more robust than those of other places, but do not seem worthy of taxonomic recognition.” N. Holmgren (in Cronquist et al. 1997) reported three morpho-geographic races of *I. gordonii* as recognizable in the Intermountain region. He further cited the distribution of the “wasatchensis” phase as “Wasatch Range and adjacent w. Uinta Mts.” A 1995 collection (*Stone 1854*, UT) from the Oquirrh Mtns., Tooele Co., also apparently belongs to this phase. The *I. gordonii* complex is currently being studied by Dr. Barbara Ertter (UC), and a taxonomic treatment is anticipated.

Lepidium montanum Nutt. ex Torrey & Gray var. stellae Welsh & Reveal

“Stella’s pepper-wort” Brassicaceae

Federal Status: (3C) **UTNHP Rank:** G5?T2/S2**Distribution:** GAR, KAN

Notes: For original description see *Great Basin Nat.* 37: 334. 1977. Type from Kane Co., 6.4 miles south of Cannonville along Cottonwood Wash road (*J. & C. Reveal 4454*; holotype BRY, isotypes ARIZ, BM, CAS, COLO, F, GH, MARY, MICH, MO, NY, RM, RSA, US, UTC, WIS). Rollins (1993) did not recognize var. *stellae*, treating it instead as a synonym of the widespread var. *cinereum* (C.L. Hitchc.) Rollins, *Harvard Papers Bot.* 4: 47. 1993. Acc. Franklin (1990d), “[t]he narrowly restricted *L. m.* var. *stellae* does not occur on the white, bare shale on which *Lesquerella tumulosa* (Barneby) Reveal is found but 1) on associated gypsiferous layers, 2) on down-slope soils influenced by those layers (sometimes sandy wash bottoms), and, less frequently, 3) on accumulated duff under pinyons and along drainage channels (occurs on duff that is overlaying the white shale but not directly on the shale...)” Acc. Welsh and Eliason (1995), “[t]he variety was found in two locations during the current investigation; on the Moenkopi Formation ca 6 miles east of Johnson Canyon, and on the gypsiferous outcrops of the Carmel Formation on the Skutumpah Terrace. The plants were locally common in each of those localities.” Garfield Co. record as reported in *AUF2* (Welsh et al. 1993).

Leymus triticoides (Buckley) Pilger var. pubescens (A. Hitchc.) auth.

“beardless wild-rye” Poaceae

Federal Status: None **UTNHP Rank:** GUQ/SU**Distribution:** TOO; ID, NV +

Notes: Acc. *AUF2* (Arnou in Welsh et al. 1993, p. 821), “[p]lants tentatively identified as *Elymus flavescens* Scribner & Smith have been collected from Tooele County (*Taye 746*, UTC), but they are unlike typical specimens of that species in having spikelets solitary rather than paired at each node of the rachis, the lemmas rounded on the back rather than mostly laterally compressed, and awn-tipped rather than acute. The Utah material appears to be a pubescent phase of *E. triticoides*.” *Taye* (1983) reported *E. flavescens* in the flora of the Stansbury Mountains (Tooele Co.):

Status Category: Taxonomic Problems

“[i]nfrequent; locally common in sandy areas of Skull Valley and nearby foothills. 637.” Hitchcock and Chase (1951) cited the overall distribution of *Elymus triticoides* var. *pubescens* A. Hitchc. as “Oregon, California, Nevada; rare.” Also rare in Idaho acc. Davis (1952). Neither Barkworth and Atkins (1984) nor Löve (1984) recognized *E. triticoides* var. *pubescens* except as a synonym of *Leymus triticoides* (sensu lato), and apparently the appropriate combination transferring this taxon to the genus *Leymus* has not been made.

Ligusticum porteri Coulter & Rose var. brevilobum (Rydb.) Mathias & Constance

“Aquarius lovage”

Apiaceae

Federal Status: (3B)

UTNHP Rank: G4G5T3/SSYN

Distribution: GAR?, ?; NV?

Notes: For current treatment see Bull. Torrey Bot. Club 68: 123. 1941. Type from Aquarius Plateau, Garfield Co.? (Rydberg & Carlton 7473; holotype NY, isotype US). Reported by Kartesz (1987) as occurring in Nevada, in the same habitats and geographic range as var. *porteri*. *AUF2* (Goodrich in Welsh et al. 1993) did not recognize var. *brevilobum*, treating it instead as a synonym of *L. porteri* (sensu lato). Acc. Cronquist et al. (1997), “[m]any of the plants from southeastern Utah have the leaves dissected in such a way that the ultimate segments appear to be small, short (under 1 cm), broad, and entire. These have been called var. *brevilobum*, but they are not well distinguished from more typical material with larger and more cleft segments, and similar plants occur elsewhere in the range of the species.”

Lupinus jonesii Rydb.

“Jones’ lupine”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G5T2/S2

Distribution: KAN, WSH

Notes: Type from Washington Co., Silver Reef (*Jones 5143*; holotype US, isotypes BRY, NY, RM). County distribution as reported in *AUF2* (Welsh et al. 1993). Barneby (1989) treated *L. jonesii* as a synonym of *L. sericeus* Pursh, noting that “[w]hile the segregate nomenclature ... may be locally useful and meaningful, its formal adoption puts undue emphasis on a few of the visually arresting points on the scale of variation in the species and tends to conceal its continuous nature.” Treated in *AUF2* as *L. sericeus* var. *jonesii* (Rydb.) Welsh, but apparently this nomenclatural combination has not been effectively and validly published.

Lupinus kingii S. Watson var. argillaceus (Wooton & Standley) C.P. Smith

“Standley’s annual lupine”

Fabaceae

Federal Status: None

UTNHP Rank: G3G4T?/S1

Distribution: GAR, GRA?, KAN?, PIU?, SNJ?, UTA?, WSH?, ?; AZ?, CO, NM

Notes: When *L. argillaceus* Wooton & Standley was originally described, it was known only from the type region in northern New Mexico (Wooton and Standley 1913). C.P. Smith (1919) later reduced *L. argillaceus* to a variety of *L. kingii*, citing an additional specimen from Mesa Co., Colorado, and noting that it “[d]iffers from the typical form of the species in the pubescence being

shorter and subappressed, especially that of the calyx and pedicels being appressed and inconspicuous.” *AUF2* (Welsh et al. 1993) did not mention any pubescence characters but instead emphasized the obsolete peduncles and sessile racemes as distinguishing var. *argillaceus* from typical *L. kingii*; it further reported var. *argillaceus* as known in Utah only from the Henry Mtns. and the Sevier-Paunsaugunt Plateau, Garfield Co. The following additional collections at UTC have been tentatively identified as var. *argillaceus* by an unknown authority (Utah Natural Heritage Program, unpubl. data): Garfield Co., Aquarius Plateau, 1 mile above Box Ranger Station (*Maguire 20421*), 9.5 road miles west of Boulder, Hell’s Backbone Bridge road (*N. Holmgren et al. 2104*); Grand Co., 5 miles south of Crescent Junction (*A. Holmgren & Hansen 3296*); Kane Co., 1 mile west of Glen Canyon City [= Big Water] (*Cronquist 10148*); Piute Co.: ca. 4 miles due west of Marysville (*Welsh et al. 17011*); San Juan Co., Comb Reef between Bluff and Mexican Hat (*A. Holmgren & Hansen 3416*); Utah Co., B.Y.U. campus, Provo (*Harrison 8283*); Washington Co., vicinity of Anderson’s Ranch (*Maguire 20414, 20417*). Barneby (1989) did not recognize var. *argillaceus*, treating it instead as a synonym of *L. kingii* (sensu lato). Acc. *AUF2*, the var. *argillaceus* “might be no more than an occasional variant within the larger and more usual species, possibly not warranting taxonomic recognition.”

Lupinus sericeus Pursh var. marianus (Rydb.) Welsh

“Marysville lupine”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G5T3/S3

Distribution: BEA, GAR, PIU, SEV

Notes: For current treatment see *Great Basin Nat.* 38: 332. 1978. For alternative treatment as ssp. *marianus* (Rydb.) Fleak & Dunn, see *Trans. Missouri Acad. Sci.* 5: 86. 1971. Type from Piute Co., along Bullion Creek above Marysville (*Rydberg & Carlton 7024*; holotype NY, isotypes RM, US). County distribution as reported in *AUF2* (Welsh et al. 1993). Barneby (1989) did not recognize infraspecific taxa under *L. sericeus*, noting that “[w]hile the segregate nomenclature ... may be locally useful and meaningful, its formal adoption puts undue emphasis on a few of the visually arresting points on the scale of variation in the species and tends to conceal its continuous nature.”

Lygodesmia grandiflora (Nutt.) Torrey & Gray var. doloresensis (Tomb) Welsh

“Dolores skeleton-weed”

Asteraceae

Federal Status: (C2), BLM

UTNHP Rank: G4G5T1/S1

Distribution: GRA; CO

Notes: For original description see *Syst. Bot. Monogr.* 1: 48. 1980. For current treatment see *Rhodora* 95: 399. 1993 [1994]. Endemic to the Dolores River valley in Mesa Co., Colorado, and adjacent Grand Co., Utah (Tomb 1980, Welsh et al. 1993, Weber and Wittmann 1996a). Acc. Tomb (1980), “*Lygodesmia doloresensis* has the most restricted distribution in the genus and must be considered a threatened species.” The same author reported that “*Lygodesmia doloresensis* is closest to *L. dianthopsis* (D.C. Eaton) Tomb from which it can easily be distinguished by the very narrow leaves and much branched base of the former.” Acc. Welsh (1993), “this is the least convincing of the infraspecific taxa [of *L. grandiflora* in Utah], the plant simulates var. *dianthopsis* (D.C. Eaton)

Welsh.... Perhaps it would best be treated as a synonym.” Cronquist (1994) treated *L. doloresensis* as a synonym of *L. grandiflora* var. *dianthopsis*.

Lygodesmia grandiflora (Nutt.) Torrey & Gray var. stricta Maguire

“Price skeleton-weed”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G4G5T?Q/SSYN

Distribution: CAR

Notes: For original description see Amer. Midl. Naturalist 37: 145. 1947. Type from Carbon Co., 1 mile south of Price, frequent on adobe clay (*Maguire 18417*; holotype NY, isotypes US, UTC). Acc. Maguire (1947a), “[t]he var. *stricta* is a habitat variant distinguished from the polymorphous var. *grandiflora* altogether by the unbranched slender stems and strictly ascending narrow leaves. The population seems to be localized in Carbon County, Utah, but numerous intermediate plants are found in herbaria.” Several recent authors (Tomb 1980, Welsh et al. 1993, Cronquist 1994) have treated var. *stricta* as a synonym of var. *grandiflora*.

Mentzelia humilis (A. Gray) Darlington

“Pecos stick-leaf”

Loasaceae

Federal Status: None

UTNHP Rank: G4/SR

Distribution: ?; CO?, NM +

Notes: Not treated (not even in synonymy) in *AUF2* (Thorne and Welsh in Welsh et al. 1993). Three Utah collections at BRY have been labeled as belonging to this species (B. Franklin 1996, pers. comm.). *Nuttallia humilis* (A. Gray) Rydb. occurs in the “Four Corners area” of southwestern Colorado acc. Weber and Wittmann (1996a). Acc. Prigge (1996, pers. comm.), “I have no records from Utah, and was suspicious of Weber’s Four-Corners location for this species. ... In Weber and Wittmann’s *Catalog of the Colorado flora* (1992), *M. humilis* is listed as out-of-range.” Acc. Thompson (in Thompson and Prigge 1984, unpubl.), “*Mentzelia humilis* is NOT in Utah, it occurs in the drainage of the Pecos River in southeastern New Mexico and western Texas, largely confined to limestone.”

Mentzelia laciniata (Rydb.) Darlington

“Pagosa Springs stick-leaf”

Loasaceae

Federal Status: None

UTNHP Rank: G4?/SRF

Distribution: SNJ; CO, NM

Notes: Acc. *AUF1* (Thorne and Welsh in Welsh et al. 1987, not 1993), *M. laciniata* is not definitely known from Utah but is to be sought in the eastern part of the state. Not treated (not even in synonymy) in *AUF2* (Thorne and Welsh in Welsh et al. 1993). Acc. Thompson (in Thompson and Prigge 1984, unpubl.), with regard to the collection *Purpus 8091* (MO, UC) from the La Sal Mtns., “I have not looked at this Purpus collection since about 1967 when I called it *laciniata* but at that time I did not know about ‘Utah-11’ [= *M. pumila* var. *lagarosa* Thorne].” A dot map provided in the same unpublished source places the location of the Purpus collection in northeastern San Juan Co.

***Mentzelia nitens* E. Greene**

“shining stick-leaf”

Loasaceae

Federal Status: None

UTNHP Rank: G4/SR

Distribution: WSH; AZ?, NV +

Notes: *AUF1* (Thorne and Welsh in Welsh et al. 1987) treated *M. californica* Thompson & Roberts (Phytologia 21: 279. 1971) as occurring in Washington Co. *AUF2* (Thorne and Welsh in Welsh et al. 1993) reduced *M. californica* to synonymy under *M. nitens* E. Greene. Prigge (in Hickman 1993) reported the distribution of *M. nitens* as northern Mojave Desert and eastern Sierra Nevada regions of California; also southern Nevada. Questionable Arizona record for *M. nitens* based on a report from “White Mountains (Apache County) and Mohave, southern Yavapai, Maricopa, Pinal, Pima, and Yuma counties” (Kearney and Peebles 1951). Acc. Prigge (1996, pers. comm.), “I have been treating [*M. californica*] under *M. jonesii* (Urb. & Gilg) Thompson & Roberts because I could find no morphological characters to distinguish the two species. *M. californica* is a hexaploid ($n = 27$) while *M. jonesii* is a tetraploid ($n = 18$).” The Washington Co. specimens at BRY need to be critically reexamined to determine whether they belong to *M. nitens* or *M. jonesii*.

***Mertensia lanceolata* (Pursh) DC. var. *coriacea* (A. Nelson) Higgins & Welsh**

“Medicine Bow bluebell”

Boraginaceae

Federal Status: (3C)

UTNHP Rank: G5T?/S?

Distribution: DAG, SUM, UIN; CO, WY

Notes: For current treatment see Rhodora 95: 393. 1993. Acc. Higgins and Welsh (in Welsh 1993), the epithet “*coriacea*” is a tautonym created by the publication of Nelson’s *M. coriacea* var. *dilatata*. Federal status as reported by USFWS (1985a) for *M. viridis* var. *dilatata* (A. Nelson) L.O. Williams. The distribution of var. *dilatata* was cited by Williams (1937) as “mountains of southeastern Wyoming, adjacent Colorado, and Uinta Mountains, Utah.” Cronquist et al. (1984) did not recognize var. *dilatata*, treating it instead as a synonym of a broadly defined *M. viridis* (A. Nelson) A. Nelson. Weber and Wittmann (1996a) regarded *M. lanceolata* as “[a] variable and complex species, separable into alpine and lowland, pubescent and glabrous, broad- and narrow-leaved races, all evidently merging and recombining in puzzling ways.”

***Mertensia viridis* (A. Nelson) A. Nelson var. *cana* (Rydb.) L.O. Williams**

“Berthoud Pass bluebell”

Boraginaceae

Federal Status: (3C)

UTNHP Rank: G4Q/SSYN

Distribution: DAG, DUC, SUM; CO

Notes: County distribution as given in Welsh (1979c) status report. Williams (1937) cited the distribution of var. *cana* as “north-central Colorado and Bald Mountain, Utah.” Harrington (1964) cited the distribution as “Colorado and Utah... [Colorado] records from central, westcentral and northcentral Colorado at 9000-12,000 feet.” Cronquist et al. (1984) did not recognize var. *cana*, treating it instead as a synonym of *M. viridis* (sensu lato). Treated by Weber and Wittmann (1992) as a synonym of *M. lanceolata* var. *viridis* A. Nelson. Treated in *AUF2* (Higgins in Welsh et al. 1993) as a synonym of *M. lanceolata* var. *nivalis* (S. Watson) Higgins.

Status Category: *Taxonomic Problems*

Mirabilis linearis (Pursh) Heimerl var. decipiens (Standley) Welsh

“narrow-lvd. four-o’clock” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G5T5/S2?

Distribution: GAR, PIU, SNJ; AZ, CO, NM +?

Notes: For current treatment see Great Basin Nat. 46: 258. 1986. County distribution as reported in *AUF2* (Welsh et al. 1993). Weber and Wittmann (1992) treated *Oxybaphus linearis* var. *decipiens* (Standley) Kearney & Peebles as a synonym of *O. linearis* (Pursh) Robinson (sensu lato). Roalson and Allred (no date) listed *O. linearis* var. *decipiens* listed as a synonym of *Mirabilis linearis*. Turner (1993) did not recognize infraspecific taxa under *M. linearis*, although he did not list var. *decipiens* as a synonym.

Monardella odoratissima Benth. var. parvifolia (E. Greene) Jepson

“southwestern mtn.-pennyroyal” Lamiaceae

Federal Status: None **UTNHP Rank:** G4G5T?Q/S?

Distribution: ?; AZ, CO, NM, NV +

Notes: For current treatment see Fl. Calif. 3(2): 437. 1943. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *M. odoratissima* (sensu lato). Acc. Cronquist and Reveal (in Cronquist et al. 1984), “[p]lants from Colorado, New Mexico, and Arizona, and some of those from southern Utah and southern Nevada tend to differ from typical var. *glauca* (E. Greene) St. John in having the leaves sparsely scabrous-puberulent on the lower surface when viewed at 10x. The name *M. odoratissima* var. *parvifolia* is available for this phase, but the distinction is tenuous, and similar plants are found occasionally throughout the range of var. *glauca*.” Epling (1925) cited no Utah collections of his ssp. *parvifolia*, but specimens were reported from California, Nevada, Arizona, Colorado, and New Mexico.

Muhlenbergia curtifolia Scribner

“short-lvd. muhly” Poaceae

Federal Status: None **UTNHP Rank:** G2G3Q/S?

Distribution: GAR, KAN, SNJ, WSH; AZ, NV

Notes: Type from Kane Co., between Kanab and Carmel (*Jones 6047j*; holotype? US). County distribution as reported in Welsh et al. (1975). Hitchcock and Chase (1951) cited the distribution as “[r]ocky soil, southern Utah, southern Nevada, and northern Arizona.” Arizona distribution cited by Gould (in Kearney and Peebles 1951) as “Apache and Coconino counties, ... rare.” Also rare in southern Nevada acc. Kartesz (1987), who noted *M. thurberi* Rydb. as occurring in the same region. *AUF2* (Arnou in Welsh et al. 1993) treated *M. curtifolia* as a synonym of *M. thurberi*.

Muhlenbergia polycaulis Scribner

“many-stemmed muhly” Poaceae

Federal Status: None **UTNHP Rank:** G5/SRF

Distribution: ?; AZ, NM +

Status Category: Taxonomic Problems

Notes: Gould and Reeder (in Gould 1951) cited the overall distribution as “[d]ry rocky slopes, ... Texas to [southern] Arizona and northern Mexico.” *M. polycaulis* was reported from Utah by Chase (in Tidestrom 1925), but Arnow (in Welsh et al. 1993, p. 844) has seen no specimens matching the description. Acc. A. and N. Holmgren (in Cronquist et al. 1977, p. 414), “[t]he report of *M. polycaulis* from southeastern Utah by Rydberg (1922) and by Chase (in Tidestrom 1925) was probably based on *Rydberg & Garrett 9498*, a paratype of Hitchcock’s *M. arsenei*.”

Opuntia basilaris Engelm. & Bigelow var. treleasei (Coulter) Coulter ex Toumey

“Bakersfield cactus” Cactaceae

Federal Status: LE **UTNHP Rank:** G5T2/SRF

Distribution: WSH; AZ? +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Acc. B. Franklin (1996, pers. comm.), var. *treleasei* was reported from the Beaver Dam Wash area (Washington Co.) in Gary Baird’s master’s thesis at Brigham Young University. Benson (1982) cited the distribution as “California in San Joaquin Valley (Kern Co. on plains and foothills NE, E, and SE of Bakersfield) and in Turtle Mts. in E Mojave Desert in San Bernardino Co.; NW Arizona near Colorado R. ... A specimen (*E. Wiegand 134* in 1950, POM) collected near Big Pine Recreation Area, San Gabriel Mts., on the border between Los Angeles and San Bernardino Cos., has similar spines, and it appears to represent this variety.” Parfitt and Baker (in Hickman 1993) considered var. *treleasei* as endemic on arid plains of the southeastern San Joaquin Valley and adjacent foothills of the Tehachapi Mtns., Kern Co., Calif.

Opuntia basilaris Engelm. & Bigelow var. woodburyi Earle

“Woodbury’s cactus” Cactaceae

Federal Status: (3B) **UTNHP Rank:** G5T1T3Q/SSYN

Distribution: WSH

Notes: For original description see *Saguaroland Bull.* 34: 15. 1980. Type from Washington Co., Fort Pearce Wash (*Earle s.n.* in year?; syntypes ASU, DES). Welsh (1982b) reported (erroneously) a collection at BRY (*Woodbury 2060a*) as the type specimen. Earle (1980) cited the distribution of var. *woodburyi* as “Fort Pierce [sic] Wash, south-southwest of Hurricane, Utah and adjoining red sandy washes at 1341 meters to 1402 meters elevation.... The plant is well established in an area approximately 2.4 km by 9.8 km in southwestern Utah.” *AUF2* (Welsh et al. 1993, p. 99) suggested that *O. basilaris* var. *woodburyi* is based on a hybrid between *O. macrorhiza* Engelm. and *O. phaeacantha* var. *discata* (Griffiths) Benson & Walkington. More recently, Parfitt (1997) has recognized the plants named earlier as *O. basilaris* var. *woodburyi* as belonging to *O. pinkavae* Parfitt, a distinct species of northwestern Arizona and adjacent southwestern Utah.

Opuntia erinacea Engelm. & Bigelow var. ursina (Weber) Parish

“grizzly bear cactus” Cactaceae

Federal Status: None **UTNHP Rank:** G4T2T3Q/S1

Distribution: WSH; AZ, NV +

Status Category: Taxonomic Problems

Notes: Benson (1982, p. 921) cited the following specimens of var. *ursina* from Washington Co.: St. George, *Palmer 3* (MO, the type of *O. rubrifolia* Engelm. ex Coulter), *Griffiths 10753* (POM, US), *10755* (POM, US); 10 miles northwest of St. George, *E. Benson 314* (POM). Reported by Warrick (1987) as uncommon at the southern base of the Pine Valley Mtns. (road between Leeds cemetery and Harrisburg, *Warrick 2656*, BRY). The overall distribution was reported by Benson (1982, p. 409) as “California in Mojave Desert region from White Mts., Inyo Co., to N Riverside Co.; Nevada in S Mineral, S Eureka, Nye, Clark, and Lincoln Cos.; Utah in Washington Co.; Arizona from Mohave Co. to Navajo Co. ... This novelty is desirable in cultivation, and consequently the plant has become scarce in the desert.” Parfitt and Baker (in Hickman 1993) treated var. *ursina* as taxonomically indistinct from var. *erinacea*; additional information needed.

Opuntia martiniana (L. Benson) Parfitt

“Hualpai prickly-pear” Cactaceae

Federal Status: None **UTNHP Rank:** G2G3/SRF

Distribution: SNJ, WSH; AZ, NV? +?

Notes: For original description see *Cacti Ariz.* ed. 2. 64. 1950. For current treatment see *Syst. Bot.* 5: 416. 1980 [1981]. Treated in *AUF2* (Welsh et al. 1993) as *O. littoralis* var. *martiniana* (L. Benson) L. Benson, *Ann. Missouri Bot. Gard.* 52: 270. 1965. Benson (1982) cited the distribution as “California in the region of New York Mts., E San Bernardino Co.; Nevada in Lincoln and Clark Cos.; Utah along Arizona border [incl. Washington and San Juan cos.]; Arizona from Mohave Co. to Coconino, N Navajo, and Yavapai Cos.” More recently, Parfitt (1980) described the range as “NW Arizona in the eastern and northern foothills of the Hualapai Mountains. The distribution here is much reduced in comparison to Benson because several discordant elements have been excluded in the present treatment.” The disposition of Utah plants is not clear from Parfitt’s treatment, but they perhaps belong with one of the varieties of *O. phaeacantha* Engelm.

Opuntia phaeacantha Engelm. var. discata (Griffiths) Benson & Walkington

“Engelmann’s prickly-pear” Cactaceae

Federal Status: None **UTNHP Rank:** G5TU/S2

Distribution: SNJ?, WSH; AZ, NM, NV +

Notes: For current treatment see *Ann. Missouri Bot. Gard.* 52: 265. 1965. In Utah known only from Washington Co. (Parfitt 1980, Benson 1982). Reported by Warrick (1987) from the southeastern base of the Pine Valley Mtns. where locally common along road to Wet Sandy trailhead. Questionable San Juan Co. record as reported in *AUF2* (Welsh et al. 1993). Southern Nevada record as reported by Parfitt (1980; cf. Benson 1982, Kartesz 1987). Benson (1982) reported that var. *discata* “occurs almost always near or with var. *major* Engelm. ... Almost everywhere var. *discata* has been investigated most plants are intergrading forms with a host of character combinations. The variety is unstable, and it is commonly a population-fringe extreme occurring with the ubiquitous populations of var. *major*, which has a greater geographical range and is more abundant.”

Opuntia whipplei Engelm. & Bigelow var. multigeniculata (Clokey) L. Benson

“Whipple’s cholla”

Cactaceae

Federal Status: None

UTNHP Rank: G3G4T?/SRF

Distribution: WSH; AZ, NV

Notes: For original description see Madroño 7: 69. pl. 4, f. A. 1943. For current treatment see Cacti Ariz. ed. 3. 20, 38. 1969. For alternative treatment as *Cylindropuntia m.* (Clokey) Backeberg, see Cactaceae 1: 186. 1958. Benson (1982) cited the distribution as “Mojavean Desert. Nevada on Nevada Test Site in Nye Co. and Charleston (Spring) Mts. NW of Las Vegas, Clark Co.; Utah in Washington Co. (plants perhaps approaching this variety); Arizona in Peach Springs Canyon, Mohave Co.” The same author (1982, p. 246) considered var. *multigeniculata* to be threatened but “[n]ot collected; too rare to be found readily, or unsuitable for growing.” Acc. *AUF2* (Welsh et al. 1993), Utah plants belong to var. *whipplei*. “Specimens with short terminal joints have been regarded tentatively as var. *multigeniculata*, but they fit in a graded series with *O. whipplei* in a strict sense.... *O. multigeniculata* in its narrowest sense, is evidently restricted to the Spring (Charleston) Mountains and vicinity in southern Nevada.”

Orobanche multiflora Nutt.

“sand broom-rape”

Orobanchaceae

Federal Status: None

UTNHP Rank: G5/S1S2

Distribution: GRA, SNJ, WSH; AZ?, CO, NM +

Notes: Acc. *AUF2* (Higgins in Welsh et al. 1993), “[t]he [Utah] specimens tentatively assigned here have the technical features of [*O. multiflora*]. However, they have been mistaken for the similar *O. ludoviciana* Nutt., and more work is indicated.” Munz (1930) cited the distribution of *O. multiflora* var. *typica* as “New Mexico and adjacent Texas and Mexico. Characterized chiefly by the large size of the corollas and the copious long hair on the anthers.” In eastern Colorado acc. Weber and Whittmann (1996b), “[l]ocally abundant in sand dune areas on the plains, parasitic on *Ambrosia* and *Oligosporus* [= *Artemisia*].” Acc. Kearney and Peebles (1951), “[m]ost of the Arizona specimens belong to var. *arenosa* (Suksd.) Munz [= *O. ludoviciana* var. *arenosa* (Suksd.) Cronquist].”

Papaver radicum Rottb. ssp. kluanense (D. Löve) D. Murray

“alpine poppy”

Papaveraceae

Federal Status: FS

UTNHP Rank: G5T3?/S1

Distribution: DUC, SUM; CO, ID, NM, WY +

Notes: For original description see Bot. Not. 109: 178. 1956. For current treatment see Novon 5: 294. 1995. These are the plants that were treated in *AUF2* (Welsh et al. 1993) as *P. radicum* var. *pygmaeum* (Rydb.) Welsh, Great Basin Nat. 46: 259. 1986. *P. radicum* in Utah “is known to occur at various locations across the barren, alpine ridges of the Uinta Mountains: from Mount Agassiz on the west to Gilbert Peak on the east” (Franklin 1991c). The species is circumboreal in distribution, and the ssp. *kluanense*, which is hexaploid or octoploid ($2n = 42, 56$), ranges from Alaska and Yukon southward along the Rocky Mountains to British Columbia, Alberta, southern Montana, Idaho, Wyoming, Utah, Colorado, and New Mexico (Lesica and Shelly 1991, Murray 1995, Kiger

Status Category: *Taxonomic Problems*

and Murray in Morin 1997). The Utah plants are not closely related to *P. pygmaeum* Rydb. which is restricted to the vicinity of Waterton and Glacier national parks in northwestern Montana, southwestern Alberta, and northeastern British Columbia; it is a diploid ($2n = 14$) that is allied to the European *P. alpinum* L. group (Löve 1969, Murray 1995, Kiger and Murray in Morin 1997). Löve (1969) could not easily place the Utah population into the *P. radicum* complex and instead considered that “it may represent a distinct complex to which *P. alaskanum* Hultén and [the Siberian] *P. pulvinatum* Tolmachev may also belong.” Additional study needed.

***Pectocarya anisocarpa* Veno, ined.**

“Veno’s combseed”

Boraginaceae

Federal Status: None

UTNHP Rank: G?Q/S?

Distribution: WSH; AZ, NV? +

Notes: Cronquist et al. (1984) cited the distribution as “c. and s. Calif. to n. Baja Calif., e. into w. and s. Ariz. and Washington Co., Utah.” Acc. the same authors, “Veno considers this species to have originated by hybridization of *P. penicillata* (Hook. & Arn.) A. DC. and *P. heterocarpa* (I.M. Johnston) I.M. Johnston, followed by doubling of the number of chromosomes. Absent such an interpretation, the specimens might appear to be intermediate between *P. penicillata* and *P. platycarpa*.” Apparently this name has not yet been published (see discussion under *P. penicillata* by Messick and Veno in Hickman 1993).

***Pediocactus simpsonii* (Engelm.) Britton & Rose var. *minor* (Engelm.) Cockerell**

“Rocky Mtn. pincushion-cactus”

Cactaceae

Federal Status: None

UTNHP Rank: G4T?Q/S?

Distribution: BEA?, DUC, SNJ; CO, NM

Notes: *AUF2* (Welsh et al. 1993) did not recognize var. *minor*, treating it instead as a synonym of *P. simpsonii* (sensu lato). Benson (1982) cited the distribution of var. *minor* as “[d]ry areas of Rocky Mountain system. Utah in Duchesne Co. and La Sal Mts.; Colorado from Garfield Co. to Larimer, Mineral, and Huerfano Cos.; New Mexico from E Rio Arriba and Taos Cos. to Bernalillo Co.” Utah collections cited: Duchesne Co., Fruitland (*R.L. Benson s.n.* in 1963, POM); San Juan Co., north of Slick Rock, La Sal Mtns. (*Knowlton s.n.* in 1956, POM), south side of La Sal Mtns. (*L. Benson et al. 16504*, POM). Questionable Beaver Co. record based on the distribution map in Benson (1982, p. 753). Acc. Benson (1982), “[f]urther field study of var. *minor* is needed to determine its limits of occurrence and degree of distinction from var. *simpsonii*.”

***Penstemon acaulis* L.O. Williams var. *yampaensis* (Penland) Neese**

“Brown’s Park beard-tongue”

Scrophulariaceae

Federal Status: (3C)

UTNHP Rank: G3T3/S1

Distribution: DAG; CO

Notes: For original description see Madroño 14: 156. 1958. For current treatment see Great Basin Nat. 46: 459. 1986. The main population of var. *yampaensis* is found in the vicinity of Greystone, just east of Dinosaur Natl. Mon. in Moffat Co., Colorado (N. Holmgren in Cronquist et al. 1984).

Plants from Browns Park, Daggett Co., Utah, are geographically and morphologically transitional to var. *acaulis* (Franklin 1992d, Neese in Welsh et al. 1993).

Penstemon barbatus* (Cav.) Roth var. *barbatus

“beard-lipped penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5T4/S2

Distribution: GAR, KAN, WSH, WAY; AZ, NM +

Notes: N. Holmgren (in Cronquist et al. 1984) reported that “[t]ypical *P. barbatus* with a densely yellow-bearded palate is the common form in Mexico. Northward in the United States, however, the occurrence of bearded forms gradually decreases along with a gradual decrease in the amount of pubescence.” The same author excluded Utah and Colorado from the distribution of var. *barbatus* and noted that most of the plants in the northern part of the range of *P. barbatus* are referable to var. *torreyi* (Benth.) A. Gray, which he characterized as having glabrous anthers and corolla palate glabrous to sparsely bearded with whitish hairs. The occurrence of var. *torreyi* in Utah was questioned in *AUF2* (Neese in Welsh et al. 1993), which reported only var. *barbatus* and var. *trichander* A. Gray from the state. Has the name var. *barbatus* simply been misapplied to Utah plants of var. *torreyi*? The existing specimens need to be critically reexamined.

***Penstemon leptanthus* Pennell**

“lost beard-tongue” Scrophulariaceae

Federal Status: (C2*), BLM **UTNHP Rank:** GHQ/SH

Distribution: SEV?, SNP?

Notes: The type collection, *L.F. Ward 280* (holotype US, isotype GH), was thought by Pennell (1920) to be from Twelvemile Canyon, near Mayfield, Sanpete Co. Acc. N. Holmgren (in Cronquist et al. 1984), the label on Ward’s isotype at GH reads: “near Glenwood [Sevier Co.], Utah, 7000 ft.” Treated in *AUF2* (Neese in Welsh et al. 1993) as a synonym of *P. tidesstromii* Pennell, further noting that “[t]he range of flower and anther size reported [for *P. tidesstromii*], as well as of remaining morphological features, encompasses that designated for *P. leptanthus*, known definitely only from the type, which was taken from within or closely adjacent to the narrow geographic range of *P. tidesstromii*. I can detect only one taxon in our material.” Stone and Franklin (1994) reported that “[t]he only specimens of *P. leptanthus* existing in Utah herbaria are two collections from ‘Sanpete County, lower Dry Canyon, Gunnison Plateau [= San Pitch Mtns.], Manti-La Sal National Forest’ (*Mont E. Lewis 5439*, 8 June 1978, BRY OGDF; *Lewis s.n.*, 9 June 1978, UTC). According to the information on the specimen labels, these collections were examined by Noel Holmgren in 1978 and determined by him as *P. leptanthus*. However, in his more recent treatment of *Penstemon* for the Intermountain Flora, N. Holmgren (in Cronquist et al. 1984) retreated to the position that *P. leptanthus* is known only from the type collection.... Thus it is clear that he no longer regards the Lewis collections cited above as *P. leptanthus*.”

***Penstemon linarioides* A. Gray ex Torrey var. *sileri* A. Gray**

“Siler’s beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4T3?/S3?

Distribution: GAR?, IRO, KAN, WSH; AZ

Notes: Lectotype from Kane Co., Osmer (*Siler 90*, MO; isoelectotypes GH, NY), designated by Keck (1937). *AUF2* (Neese in Welsh et al. 1993) treated all Utah plants as belonging to var. *sileri*, noting further that “plants at the eastern margin of the Utah distribution tend to be more compact and less erect than the more westerly ones and may deserve taxonomic recognition.” The eastern plants seem to be the ones called the “plateau form” by N. Holmgren (in Cronquist et al. 1984), which he considered to include the type of var. *sileri*. If Holmgren’s interpretation is true, it seems that the more erect, westerly plants in Utah (rather than the more compact, easterly ones) may be in need of a name. County distribution as reported by N. Holmgren (in Cronquist et al. 1984) for his “plateau form” and by Cottam et al. (1940) for *P. sileri* (A. Gray) Pennell [but note that the specimen from Pine Valley, Washington Co., is probably of Holmgren’s unnamed “mountain form”]. Questionable Garfield Co. record as reported in *AUF2*. Additional study needed.

***Penstemon thompsoniae* (A. Gray) Rydb. var. *desperatus* Neese**

No common name Scrophulariaceae

Federal Status: None **UTNHP Rank:** G4T?/S2

Distribution: BEA, IRO; NV

Notes: For original description see Great Basin Nat. 46: 460. 1986. Type from Beaver Co., Indian Peak Range ca. 8 miles southwest of Sawtooth Peak (*Welsh et al. 13287*; holotype BRY). Neese (1986) cited the distribution of var. *desperatus* as “[s]agebrush and pinyon-juniper communities at 1,800 to 2,075 m in Beaver and Iron counties; Nevada.” Additional Utah specimens cited: Beaver Co., Hamblin Valley (*Ostler & Anderson 1197*, BRY), Wah Wah Mtns. (*Ostler 1465*, BRY); Iron Co., Hamblin Valley (*Ostler & Anderson 1407*, BRY), ca. 21 km west of Enterprise (*L. & E. Higgins 15725*, BRY), Enterprise-Panaca road, 6 km east of the Nevada border (*N. & P. Holmgren 10445*, BRY). *AUF2* (Neese in Welsh et al. 1993) did not recognize var. *desperatus*, treating it instead as a synonym of *P. thompsoniae* (sensu lato). Acc. N. Holmgren (in Cronquist et al. 1984), “*Penstemon thompsoniae* is a complex species with four or five geographical races that, at least in the Intermountain region, appear to be too variable to recognize taxonomically.”

***Petradoria pumila* (Nutt.) E. Greene var. *graminea* (Wooton & Standley) Welsh**

“grass-lvd. rock-goldenrod” Asteraceae

Federal Status: None **UTNHP Rank:** G5T?/S1

Distribution: EME, GAR, KAN, MIL?, SNP; AZ, NM

Notes: For current treatment see Great Basin Nat. 43: 324. 1983. For alternative treatment as ssp. *graminea* (Wooton & Standley) L.C. Anderson, see Trans. Kansas Acad. Sci. 66: 682. 1963 [1964]. Acc. *AUF2* (Welsh et al. 1993), “[m]ost [Utah] specimens belong to the broad-leaved var. *pumila*, but a few specimens from Emery County seem to be clearly allied to var. *graminea*.” Anderson (1963) cited the distribution of ssp. *graminea* as “[n]orthwestern New Mexico and adjoining

Arizona; the high plateau area north of the Grand Canyon in Arizona; 6500-8000 feet.... Blake (1931) cites *Pickford 28* [USFS] from Millard County, Utah, as belonging to this taxon. No good material of this subspecies has been seen from Utah.” The same author reported that “*Petradoria pumila* ssp. *pumila* does show some intergradation with *P. pumila* ssp. *graminea*” and cited the following Utah collections as intermediates between the two subspecies: Garfield Co., Bryce Canyon (*Weight 86*, US); Kane Co., 35 miles east of Kanab, 7 miles east of Buckskin Gulch, elev. 5400 ft., limestone ridge in juniper sage (*Anderson 2133*, RSA); Sanpete Co., Manti (*Garrett 2605*, NY).

Phacelia demissa A. Gray var. heterotricha J.T. Howell

“Marysvale phacelia”

Hydrophyllaceae

Federal Status: (3C)

UTNHP Rank: G5T3Q/SSYN

Distribution: PIU, SEV, WAY

Notes: For original description see Amer. Midl. Nat. 29: 8. 1943. Type from Piute Co., Marysvale (*Jones 5388o*; holotype POM, isotypes MO, US). Additional collections cited by Howell (1943): Belknap, Sevier Co., *Stokes s.n.* in 1900 (DS); Marysvale, Piute Co., *Jones s.n.* in 1916 (POM); Caineville, Wayne Co., *Jones 5656b* (POM), *5696h* (US); Hanksville, Wayne Co., *Parry s.n.* in year? (UTC). Howell (1943) distinguished var. *heterotricha* on the basis of stems glandular-villous (vs. glandular-puberulent) and styles 2.5-4 mm. long (vs. 1.5-2 mm. long). *AUF2* (Atwood in Welsh et al. 1993) treated var. *heterotricha* as a synonym of var. *demissa*.

Phacelia glandulosa Nutt.

“shale phacelia”

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: GRA, UIN; CO, ID, WY +

Notes: In Utah restricted to the East Tavaputs Plateau in southeastern Uintah Co. and northeastern Grand Co. (Albee et al. 1988). Outside the state, *P. glandulosa* ranges from southwestern and western Wyoming to southwestern Montana, central Idaho, and western Colorado (Atwood 1975, Cronquist et al. 1984). Acc. Frank Smith (1997, pers. comm.), plants identified as *P. glandulosa* from Green River shale in northeastern Utah and adjacent Garfield and Rio Blanco cos., Colorado, have the seeds excavated on only one side of the ventral ridge, suggesting that they might properly belong to *P. argillacea* Atwood; additional research is indicated.

Phacelia orbicularis Rydb.

“round-lvd. phacelia”

Hydrophyllaceae

Federal Status: None

UTNHP Rank: G1?/S1?

Distribution: WAY, ???

Notes: Type from “Marvin Laccelite” [= Table Mtn., Henry Mtns., Wayne Co. acc. Lenz (1986)], (*Jones 5663*; holotype US, isotype NY). Frank Smith (1998, pers. comm.) reported that he has seen a 1961 collection from Wayne Co. (near Fremont River, 23 miles west-southwest of Hanksville, *Cronquist 9187*, filed under *P. crenulata* Torrey at UTC) that is possibly referable to *P. orbicularis*. This taxon has been treated by past authors as a synonym of *P. corrugata* A. Nelson (Atwood 1975)

Status Category: Taxonomic Problems

or *P. crenulata* (Cronquist et al. 1984, Atwood in Welsh et al. 1993), but its lvs. (which are roundish in outline) and its seed characteristics are apparently unique. Nonetheless, its distinctions from and relationships with other members of the *P. crenulata* complex need clarification. A 1998 collection (*Stone 2280*, UT), from semi-barren clay soils in the desert ca. 8.5 airmiles southwest of Hanksville, agrees with Rydberg's protologue and may be from near the type locality. Is *P. orbicularis* a narrow endemic in Wayne Co.?

Phacelia petrosa Atwood, F. Smith & T. Knight, ined.

"talus phacelia" Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G?/S1?

Distribution: WSH; AZ, NV

Notes: These are the plants that were treated as *P. minutiflora* Voss in *AUF2* (Atwood in Welsh et al. 1993). Frank Smith (1998, pers. comm.) indicated that he and Dr. Duane Atwood believe the plants from southern Utah (San Juan and Washington cos.), northwestern Arizona, and southern Nevada (Clark Co.) are not *P. minutiflora* but rather an undescribed species. Perhaps the most distinctive aspect of the new species is its seed characteristics which are consistent throughout the geographic range and which serve to separate it from other members of the *P. crenulata* Torrey complex. Although annual in habit and fairly wide ranging, the new species evidently occurs in small, widely scattered populations.

Phlox grahamii Wherry

"intermediate phlox" Polemoniaceae

Federal Status: (3B) **UTNHP Rank:** G?Q/S?

Distribution: DUC?, UIN?

Notes: For original description see *Brittonia* 5: 63. 1943. Known only by the type collection from Uintah Co., talus slopes on west side of Green River south of the mouth of Sand Wash (*Graham 7884*; holotype CM). *AUF2* (Welsh et al. 1993) gave the type locality (erroneously?) as Minnie Maud Creek, Duchesne Co. Wherry (1943, 1955) suggested that *P. grahamii* may be a relictual species, i.e., a descendant from an extinct intermediate between the genera *Microsteris* and *Phlox*. *P. grahamii* treated by Cronquist et al. (1984) and *AUF2* as a synonym of *P. longifolia* Nutt. The former publication noted that the type specimen consists of "[a] teratological, rust-infested individual."

Phlox hoodii Richardson var. hoodii

"carpet phlox" Polemoniaceae

Federal Status: None **UTNHP Rank:** G5T?/SR

Distribution: DAG, DUC?, UIN; CO?, ID, WY +

Notes: *AUF2* (Welsh et al. 1993) treated all Utah plants as var. *canescens* (Torrey & Gray) M. Peck. Acc. Cronquist et al. (1984), "*Phlox hoodii* consists of two geographically significant but morphologically confluent varieties, the more western var. *canescens*, and the more eastern and northern var. *hoodii*. Nearly all of our material belongs to the var. *canescens*, but some of the plants

Status Category: Taxonomic Problems

from southeast Idaho (as in Caribou Co.) and northeastern Utah (Daggett and Uintah cos.) are better referred to var. *hoodii*.” Goodrich and Neese (1986) did not recognize infraspecific taxa of *P. hoodii* in the Uinta Basin flora. Wherry (1955) did not include Utah in the range of ssp. *hoodii* but reported the taxon from as far south as Gunnison in western Colorado. Weber and Wittmann (1996a,b) treated all of the Colorado plants as belonging to ssp. *canescens* (Torrey & Gray) Wherry.

Physaria chambersii Rollins var. sobolifera Welsh

“Widtsøe twinpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G4T1/S1

Distribution: GAR

Notes: For original description see Great Basin Nat. 46: 255. 1986. Type from Garfield Co., east of Widtsøe, head of Sweetwater Creek, bristlecone pine community on Wasatch [= Claron] Limestone Formation (*Atwood 8164*; holotype BRY). Rollins (1993) did not recognize var. *sobolifera*, treating it instead as a synonym of *P. chambersii* (sensu lato).

Physocarpus monogynus (Torrey) Coulter

“Rocky Mtn. nine-bark” Rosaceae

Federal Status: None **UTNHP Rank:** G4/SR

Distribution: CAR, UTA, WAS; AZ, CO, NM, NV?, WY +

Notes: County distribution as reported in *AUF2* (Welsh et al. 1993). In Nevada reported from Lamoille Canyon, Ruby Mtns., Elko Co. (Kartesz 1987). Acc. N. Holmgren (in Cronquist et al. 1997), “*Physocarpus monogynus* has been reported from Utah and Nevada, but I have not seen a specimen. The reports may have been based on misidentified, exceptionally large-leaved specimens of *P. alternans* (M.E. Jones) J.T. Howell.”

Polygonum utahense Brenckle & Cottam

“Utah knotweed” Polygonaceae

Federal Status: (3B) **UTNHP Rank:** G?Q/S?

Distribution: GAR, KAN, WSH; ???

Notes: For original description see Bull. Univ. Utah Biol. Ser. 4(4): 3, tab. 1. 1940. Type from Garfield Co., 6 miles north of Escalante (*Cottam 6507*; holotype UT, isotypes BRY, CAS, RM, US, UTC). Acc. Brenckle and Cottam (1940), *P. utahense* at its type locality “was found growing in great abundance along sandy ravines on the rocky Navajo sandstone spur which projects southward from the Aquarius Plateau. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *P. douglasii* var. *johnstonii* Munz, with the following note: “A phase with flowers almost completely white or pink, that tend to open wide (apparently *P. utahense*, sens. str.), occurs in sandy soils in the ponderosa pine and adjacent plant communities in eastern Washington and western Kane and Garfield counties. Possibly these plants are worthy of taxonomic recognition. More work is indicated, but similar plants occur elsewhere within the range of var. *johnstonii*.”

Status Category: *Taxonomic Problems*

Potentilla concinna Richardson var. modesta (Rydb.) Welsh & Johnston

“modest cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G5?T?Q/S?

Distribution: CAR, DUC, EME, GAR, PIU, SNP, SEV, UTA, WAS, WAY

Notes: For current treatment see Great Basin Nat. 42: 25. 1982. Type from Piute Co., Tushar Mtns., Mt. Barrette (*Rydberg & Carlton 7261*; holotype NY). Endemic to the mtns. of central Utah, the county distribution as reported in *AUF2* (Welsh et al. 1993). N. Holmgren (in Cronquist et al. 1997) did not recognize var. *modesta*, placing it instead in synonymy under the widespread *P. rubricaulis* Lehm.

Potentilla diversifolia Lehm. var. perdissecta (Rydb.) C.L. Hitchc.

“Spanish Peaks cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G5T?/SRF

Distribution: ?; WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(3): 137. 1961. Acc. *AUF2* (Welsh et al. 1993), “[r]eports of var. *perdissecta* from the Uinta Mts. appear to be based on plants with pinnately disposed leaflets intermediate between var. *diversifolia* and other taxa.” Acc. N. Holmgren (in Cronquist et al. 1997), “[v]ariety *perdissecta* has been reported from the Uinta Mountains, but the report may have been based on what appears to be a hybrid between *P. diversifolia* and *P. ovina* Macoun ex J.M. Macoun.”

Potentilla drummondii Lehm. var. bruceae (Rydb.) N. Holmgren

“Mrs. Bruce’s cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G5T3T4Q/S?

Distribution: ?; CO?, ID?, NV, WY? +

Notes: For current treatment see Intermt. Fl. 3A: 94. 1997. For alternative treatment as ssp. *bruceae* (Rydb.) Keck, see Publ. Carnegie Inst. Wash. 520: 180. 1940. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). N. Holmgren (in Cronquist et al. 1997) cited the distribution of var. *bruceae* as “s. Wash. to n. and Sierran Calif., e. to Nev. and Utah.” Acc. Ertter (1992), *P. bruceae* “occurs throughout most of the range of the other two members of the complex [i.e., *P. drummondii* Lehm. and *P. breweri* S. Watson].... [A]ll my attempts to circumscribe *bruceae* as a coherent entity have met with frustration. Its affiliation with *drummondii* vs. *breweri* is likewise unresolved. I suspect that *bruceae* actually represents a catch-all category for a complicated conglomerate of hybrids between the two extremes, and probably members of the *P. gracilis* complex as well.”

Potentilla glandulosa Lindley var. micropetala (Rydb.) Welsh & Johnston

“Wasatch cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G5T?/S2

Distribution: CAC, SAL, SNP, SEV, SUM, WEB; ID, NV, WY?

Notes: For current treatment see Great Basin Nat. 42: 27. 1982. For alternative treatment as ssp. *micropetala* (Rydb.) Keck, see Carnegie Inst. Wash. Pub. 520: 41. 1940. Type from Salt Lake Co.,

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City Creek Canyon (*Rydberg 6153*; holotype NY; isotypes GH, US). Acc. Keck (in Clausen et al. 1940), “[t]his form occurs at elevations of 1500 to 2900 m. in the Wasatch Mountains of Utah, and possibly in adjacent Idaho; also in Yellowstone Park, but perhaps only in atypical form.” Occurs in Idaho (*Rydberg 1922*, *Davis 1952*). In Nevada, known only from Spruce Mtn., Elko Co. (*Kartesz 1987*). N. Holmgren (in *Cronquist et al. 1997*) did not recognize var. *micropetala*, treating it instead as a synonym of the more widespread var. *pseudorupestris* (*Rydb.*) *Breitung*.

Potentilla pensylvanica L. var. paucijuga (Rydb.) Welsh & Johnston

“alpine cinquefoil”

Rosaceae

Federal Status: None**UTNHP Rank:** G5T1T2/S1**Distribution:** BEA, DUC, GRA, JUA, PIU, SNJ, SUM; CO?

Notes: For current treatment see *Great Basin Nat.* 42: 31. 1982. Type from La Sal Mtns. (*Purpus 251*, in part; holotype US, isotype [fragment] at NY). An alpine plant, evidently of sporadic distribution in the high mtns. of Utah; possibly endemic to the state. The following collections were found during a recent survey of Utah herbaria: Beaver-Piute county line, Tushar Mtns., frequent at summit of Delano Peak (*Maguire 19717*, UTC); Duchesne Co., Uinta Mtns., 6 miles due north of Hanna (*Goodrich 20592*, BRY); Grand Co., La Sal Mtns., ridge northwest of Mt. Tomasaki (*Johnston 2149*, BRY); Juab Co., Deep Creek Mtns., Iapah Azimuth peak (*Goodrich 19022*, BRY); San Juan Co., La Sal Mtns., northern flank of Mt. Mellenthin (*Harrison 12507*, BRY), pass at northeastern corner of Mt. Mellenthin (*Franklin 768*, BRY), ridge at southeastern corner of Mt. Mellenthin (*Franklin 926*, BRY); Summit Co., Uinta Mtns., Bald Mtn. (*Ostler & McKnight 1615*, BRY). Also reported from Colorado (see *Weber and Wittmann 1996a,b*; cf. *Weber and Wittmann 1992*). N. Holmgren (in *Cronquist et al. 1997*) did not recognize var. *paucijuga*, placing it instead in synonymy under the widespread *P. rubricaulis* *Lehm.*

Prunus valida (Wooton & Standley) Rydb.

No common name

Rosaceae

Federal Status: None**UTNHP Rank:** G?/SRF**Distribution:** SNJ; NM

Notes: Acc. N. Holmgren (in *Cronquist et al. 1997*, p. 145), “[a] specimen at NY (*Rydberg & Garrett 9667*, Johnson Creek, Abajo Mts., San Juan Co., Utah) was determined by Rydberg to be *P. valida*. It consists of a branch with a few leaves and a raceme rachis bearing only pedicel scars. The specimen is too sparse to distinguish from *P. virginiana* L.” Acc. *Martin and Hutchins (1980)*, *P. valida* is a synonym of *P. virginiana* var. *melanocarpa* (A. Nelson) *Sargent.* ! *Roalson and Allred* (no date).

Psoralidium lanceolatum (Pursh) Rydb. var. stenophyllum (Rydb.) Welsh

“Canyonlands scurf-pea”

Fabaceae

Federal Status: None**UTNHP Rank:** G5T3?Q/S3?**Distribution:** EME, GAR, GRA, KAN, SNJ, WAY

Status Category: Taxonomic Problems

Notes: For current treatment see Great Basin Nat. 46: 257. 1986. For alternative treatment as *Psoralea lanceolata* var. *stenophylla* (Rydb.) Toft & Welsh, see Great Basin Nat. 32: 85. 1972. Type from Grand Co., near Wilson Mesa (Rydberg & Garrett 8367; holotype NY). Endemic to Utah, the distribution cited by Toft and Welsh (1972) as “[k]nown only from arid regions of southern and eastern Utah, ... almost always found growing in sandy soils.” These authors further noted that “[r]ecords for *Psoralea lanceolata* var. *stenophylla* and those for *P. juncea* Eastw., an endemic plant of southeastern Utah and northern Arizona[,] are largely sympatric. This range correlation and a similarity in morphology, where var. *stenophylla* appears to be intermediate in raceme length between *P. Juncea* and *P. lanceolata* var. *lanceolata*, suggest the possibility that var. *stenophylla* may be the product of hybridization between these two.” More recently, var. *stenophyllum* was treated by Barneby (1989) and Grimes (1990) as a synonym of *P. lanceolatum* (sensu lato).

Psoralidium lanceolatum (Pursh) Rydb. var. stenostachys (Rydb.) Welsh

“Bonneville scurf-pea” Fabaceae

Federal Status: None **UTNHP Rank:** G5T3?Q/S3?

Distribution: DAV, JUA, MIL, SAL, TOO, UTA?, WEB

Notes: For current treatment see Great Basin Nat. 46: 257. 1986. Type from Tooele Co., Government Well (Jones 6221; holotype NY, isotypes BRY, CAS, POM, RM, US). Questionable Utah Co. record as mapped in Albee et al. (1988). Possibly extinct in Salt Lake and Weber cos. acc. *AUF1* (Welsh et al. 1987, not 1993). Treated by Barneby (1989) and Grimes (1990) as a synonym of *P. lanceolatum* (sensu lato).

Quercus gambelii Nutt. var. bonina Welsh

“Goodhope Bay oak” Fagaceae

Federal Status: None **UTNHP Rank:** G5T1Q/S1

Distribution: SNJ

Notes: For original description see Great Basin Nat. 46: 108. 1986. Type from San Juan Co., eastern side of Lake Powell, Goodhope Bay (Welsh & Neese 22575; holotype BRY). Acc. Welsh (1986c), the Goodhope oak clusters about several springs on the eastern side of Goodhope Bay in Glen Canyon Natl. Recreation Area. Acc. *AUF2* (Welsh et al. 1993), “[s]eedlings of the Goodhope oak grew twice as fast as those grown from acorns from Wasatch Front localities. At nine years of age one of the plants is ca 4 m tall, has a central trunk, and shows no sign of becoming clonal.” Acc. Nixon and Muller (in Morin 1997), “[o]ne population from San Juan County, Utah, with larger fruit but otherwise not differing from typical *Quercus gambelii*, has been recognized as *Q. gambelii* var. *bonina* Welsh. Unless other characters are found to support this segregation, the plants are best not treated as a formal taxon, particularly considering the extensive variation and hybridization associated with *Q. gambelii* throughout its range.”

Status Category: *Taxonomic Problems*

Ranunculus aquatilis L. var. longirostris (Godron) Lawson

“long-beaked water-buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5T5Q/S2S3

Distribution: CAC, DAV, DUC, GRA, PIU, SAL, RIC, SEV, SUM, UTA, WAS; CO, ID, NM, NV, WY ++

Notes: Benson (1948) cited the distribution of *R. longirostris* Godron as “[a]quatic in sluggish fresh water or sometimes in running streams. Southern Saskatchewan and Manitoba (rare) to the St. Lawrence River in Quebec and southwestward and southward to Idaho (rare), northeastern Nevada (rare), New Mexico, Texas, Arkansas, Alabama, and Delaware. Rare in the Western States.” Utah specimens cited: Cache Co., Logan Junction, *C.P. Smith 2026* (RM, UTC), Logan, *Maguire 20400* (GH, RM, UTC, WS, WTU), *20401* (UTC, WS), *20402* (UTC); Piute Co., Marysville, Sevier River Valley, *Rydberg & Carlton 6930* (NY, RM); Salt Lake Co., Salt Lake City, *Jones s.n.* in 1880 (UTC), *Leonard s.n.* in 1884 (DS, NY, POM), *Garrett 1049* (NY), *Clemens s.n.* in 1908 (PH), Fort Douglas, *Clemens s.n.* in 1908 (DS), Jordan Valley, *Watson 15* (GH, NY); Utah Co., Provo Canyon, *Garrett 3170* (POM). County distribution otherwise as reported in *AUF2*. Treated by Whitemore (in Morin 1997) as a synonym of *R. aquatilis* var. *diffusus* Withering. “Populations of *Ranunculus aquatilis* var. *diffusus* with long achene beaks are not known from the Old World. In North America, beak length varies continuously over the whole range given for the variety, and separation of plants with unusually long beaks as *R. longirostris* is not tenable.”

Ranunculus oregonus E. Greene

No common name Ranunculaceae

Federal Status: None **UTNHP Rank:** G3?/S1

Distribution: KAN, SNJ, WSH; AZ, CO, NM

Notes: Type from Gunnison Co., Colorado, “... at Cerro Summit above Cimarron” (*Baker 50*; holotype NDG, photograph POM). Benson (1948) cited the distribution as “[o]pen dry ground under yellow pines at 7,000-8,000 feet elevation; ... Southern Utah; Coconino County, Arizona; Rio Arriba County, New Mexico.” Utah collections cited: “Southern Utah” (*Siler 37*; GH, MO); Kane Co., Bryce Canyon (*Rodd s.n.* in 1923, UC); San Juan Co., 20 miles west of Blanding, Abajo Mtns. (*Harrison & Williams 5894*; ARIZ, UT). Washington Co. record based on *Welsh and Clark 24161*, BRY (collected in Zion Natl. Park?). Acc. Whitemore (in Morin 1997), *R. oregonus* is a synonym of *R. glaberrimus* var. *ellipticus* (E. Greene) E. Greene. “Depauperate plants of *R. glaberrimus* Hook. (*Ranunculus* sect. *Epirotes*) may have few or none of the leaves lobed. Such plants were formerly treated under the name *R. oregonus* and referred to *Ranunculus* sect. *Flammula*.”

Rosa neomexicana Cockerell

“New Mexico rose” Rosaceae

Federal Status: None **UTNHP Rank:** G?Q/S1S2

Distribution: GAR, SNJ; AZ?, CO?, NM

Notes: *AUF2* (Welsh et al. 1993, p. 614) reported that “[t]here are plants from Garfield and San Juan counties, especially, which have very coarse internodal as well as infrastipular spines. These

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would key to *R. neomexicana*, but gradient specimens tie these striking exceptions to the mass of variation within *R. woodsii* var. *ultramontana* (S. Watson) Jepson.” Martin and Hutchins (1980) reported *R. woodsii* var. *neomexicana* as “widespread” in New Mexico and with rangewide distribution including “Colorado and Utah to New Mexico and Arizona.” Treated at species level by Roalson and Allred (no date), who noted that the combination *R. woodsii* var. *neomexicana* (Cockerell) Martin & Hutchins has not been validly published. Acc. Kearney and Peebles (1951), “[t]he Arizona specimens are scarcely typical, seemingly approaching *R. arizonica* Rydb.” Not treated (not even in synonymy) as part of the Colorado flora by Weber and Wittmann (1992). Acc. Roalson and Allred (1995b), *R. neomexicana* is a synonym of *R. woodsii* Lindley var. *w.*

Salix commutata Bebb

No common name

Salicaceae

Federal Status: None**UTNHP Rank:** G5/SRF**Distribution:** CAC; ID +

Notes: A collection from White Pine Lake, Bear River Range, Cache Co. (*Maguire et al. 14104*; NA, RM, UC, UTC) was identified as *S. commutata* by Dr. Carleton Ball in 1940 (Youngberg 1969) and later served as the basis of the report by Hitchcock and Cronquist (1964) of *S. commutata* from northern Utah. Youngberg (1969) regarded these specimens as belonging to *S. wolfii* Bebb, a conclusion with which Dorn (1975, p. 1508) and *AUF2* (Goodrich in Welsh et al. 1993) agreed [see also discussion under *S. wolfii* var. *idahoensis* C. Ball]. Outside of Utah, the range of *S. commutata* was reported by Dorn (1975) as “[m]oist meadows and stream banks especially near snowfields or glaciers from sea level in Alaska to alpine inland Alaska east to District of Mackenzie south to Oregon, Idaho, and western Montana.”

Salix eriocephala Michaux var. *mackenzieana* (Hook.) Dorn

“Mackenzie’s willow”

Salicaceae

Federal Status: None**UTNHP Rank:** G5T5/SRF**Distribution:** ?; ID, NV, WY ++

Notes: For current treatment see Brittonia 47: 168. 1995. For alternative treatment as *S. cordata* ssp. *mackenzieana* (Hook.) E. Murray, see Kalmia 12: 24. 1982. Various authors have reported *S. prolixa* Andersson or *S. mackenzieana* (Hook.) Barratt ex Andersson from northern Utah (e.g., Ball in Davis 1952, Argus in Hickman 1993). The source of these reports is not known, and neither species is treated (not even in synonymy) in *AUF2* (Goodrich in Welsh et al. 1993). Dorn (1995) cited the range of *S. eriocephala* var. *mackenzieana* as “NE California to NW Wyoming N to S Yukon and Northwest Territories from sea level to 2255 m elevation.” The same author cited representative specimens from Alberta, B.C., Northwest Territories, Yukon, California, Idaho, Montana, Nevada, Oregon, Washington, and Wyoming (but not Utah). Are the earlier reports of this taxon based on specimens referable to *S. eriocephala* var. *ligulifolia* (C. Ball) Dorn?

Salix exigua* Nutt. var. *exigua

“narrow-lvd. willow”

Salicaceae

Federal Status: None

UTNHP Rank: G5T?Q/SR

Distribution: ?; AZ?, CO, NM, NV, ID, WY +

Notes: Acc. *AUF2* (Goodrich in Welsh et al. 1993), most Utah plants belong to the var. *stenophylla* (Rydb.) Schneider, but “[s]ome specimens from the northern part of the state have pubescent capsules and might be referable to var. *exigua*.” Hitchcock and Cronquist (1964) reported that “[i]n [the Pacific Northwest] the ssp. *exigua* is represented chiefly by var. *exigua*, with the ovaries and capsules more or less hairy. Southward, in the Great Basin region and the southern Rocky Mts., it gives way to the var. *stenophylla*, with the ovaries glabrous or nearly so from the first. The ranges of the two varieties overlap considerably: var. *stenophylla* extends n. occasionally as far as the lower part of the Clearwater R. in Ida.; and var. *exigua* is occasionally found as far s. as n. Utah and n. Nev., even as far as Reno.” Various authors (e.g., Dorn 1977, Argus 1986) have pointed out the difficulty of recognizing infraspecific taxa in *S. exigua*.

***Salix exigua* Nutt. ssp. *interior* (Rowlee) Cronquist**

“eastern narrow-lvd. willow”

Salicaceae

Federal Status: None

UTNHP Rank: G5T?Q/S?

Distribution: WSH; CO, NM, WY ++

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(2): 51. 1964. Not treated (not even in synonymy) in *AUF2* (Goodrich in Welsh et al. 1993). Cottam et al. (1940) cited a location for *S. interior* Rowlee “[s]outhwest of St. George, Washington Co.” (based on a specimen at BRY). Argus (1986) treated *S. interior* as a synonym of *S. exigua*, adding that, “[i]n general, the eastern phase (*S. interior*) differs from the western phase (*S. exigua*) in having leaves less densely sericeous, more distinctly toothed, and more veiny. The capsules of the eastern phase tend to be longer (5-9 mm) than those of the western phase [3-5(-6) mm], and the aments are more loosely flowered due to longer stipes in the eastern plants (0.4-1.5 mm). All of these characteristics, however, are highly variable, especially where the phases are sympatric.... Until this section can be carefully studied it seems preferable to treat *S. exigua* in a broad sense and not to recognize infraspecific taxa.”

Salix planifolia* Pursh var. *planifolia

“Labrador willow”

Salicaceae

Federal Status: None

UTNHP Rank: G5T5/S2?

Distribution: ?; CO?, ID, WY ++

Notes: Acc. *AUF2* (Goodrich in Welsh et al. 1993), most Utah plants fall within the concept of the var. *monica* (Bebb) Jepson but “some taller plants having larger leaves at moderate elevations in the Uinta Mts. are apparently the var. *planifolia*.” Dorn (1976, 1977) treated var. *monica* as a synonym of *S. planifolia* (sensu lato). Acc. Kartesz (1987), var. *monica* “is a weakly defined variety and may actually represent nothing more than a high alpine dwarf form of the species.”

Status Category: *Taxonomic Problems*

***Salix wolfii* Bebb var. *idahoensis* C. Ball**

“Idaho willow” Salicaceae

Federal Status: None **UTNHP Rank:** G5?T?Q/S1

Distribution: CAC; CO?, ID, NV?, WY +

Notes: For alternative treatment as ssp. *idahoensis* (Ball) E. Murray, see Kalmia 13: 31. 1983. Acc. *AUF2* (Goodrich in Welsh et al. 1993), reports of var. *idahoensis* from Utah are based on a single specimen (*Maguire et al. 14104*; NA, RM, UC, UTC) from White Pine Lake, Bear River Range, Cache Co. Dorn (1976, 1977) treated var. *idahoensis* as a synonym of *S. wolfii* (sensu lato), without discussion.

***Salvia dorrii* (Kellogg) Abrams ssp. *argentea* (Rydb.) Munz**

“Mokiak sage” Lamiaceae

Federal Status: None **UTNHP Rank:** G5T?/SRF

Distribution: WSH; AZ, ID, NV +

Notes: For current treatment see *Aliso* 4: 97. 1958. For alternative treatment as var. *argentea* (Rydb.) L. Benson, see *Trees & Shrubs Southwest. Deserts* 208. 1981. Acc. *AUF2* (Welsh et al. 1993), most Utah specimens are referable to ssp. *dorrii*, but some plants from Washington Co. approach ssp. *argentea* in having nearly glabrous bracts. Strachan (1982) treated ssp. *argentea* as a synonym of var. *dorrii*. The same author also recognized a Mojavean variety, var. *pilosa* (A. Gray) Strachan & Reveal, with long hairs on the abaxial surface of the bracts and calyx and margins long-ciliate. The distribution of the var. *pilosa* was cited as “[d]esert slopes and washes throughout much of the Mohave Desert of southeastern California, southern Nevada and northwestern Arizona, with disjunct populations in northeastern California and northwestern Nevada.” Although var. *pilosa* is not currently known from Utah, it may eventually be found in Washington Co.

Senecio dimorphophyllus* E. Greene var. *dimorphophyllus

“Pagosa butterweed” Asteraceae

Federal Status: None **UTNHP Rank:** G4/S2

Distribution: DUC, EME, IRO, SEV?, SNP, SUM, UTA; CO, NM, WY

Notes: For alternative treatment as *Packera dimorphophylla* (E. Greene) Weber & Löve, see *Phytologia* 49: 46. 1981. Acc. *AUF2* (Welsh et al. 1993), var. *dimorphophyllus* in Utah is found in the Uinta Mtns. and on the Wasatch Plateau. Questionable Sevier Co. record as mapped in Albee et al. (1988). Barkley (1962), followed by Cronquist (1994), considered var. *dimorphophyllus* as restricted to the southern Rocky Mountains in Colorado and adjacent Wyoming. Var. *dimorphophyllus* also occurs in New Mexico acc. Spellenberg et al. (1986), citing a specimen from Wheeler Peak Cirque, Taos Co. (*Fletcher 4690*; ALBU, UNM). Some of the plants from the Uinta Mtns. may be referable to var. *paysonii* T.M. Barkley, reported there by Cronquist (1994) but not treated (not even in synonymy) in *AUF2*. The remainder of the Utah plants may be referable to *S. crocatus* Rydb., as acknowledged in *AUF2*.

Silene parryi (S. Watson) Hitchc. & Maguire

“Parry’s campion” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5/SRF

Distribution: BOX; ID, WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 13: 36. 1947. Hitchcock and Cronquist (1964) cited the overall distribution as “[m]ontane, from B.C. s. to the Olympic and the Cascade mts. of Wash., e. in B.C. to the Rocky Mts. and s. to c. Ida. and n.w. Wyo.” *AUF2* (Welsh et al. 1993) cited a specimen from Box Elder Co. (*Atwood & Goodrich 8333*, BRY) under *S. douglasii* Hook. and noted that it approaches *S. parryi* in having 4-lobed petal blades. Additional study needed?

Sphaeralcea digitata (E. Greene) Rydb.

“cut-lvd. globe-mallow” Malvaceae

Federal Status: None **UTNHP Rank:** G4G5/SRF

Distribution: SNJ; AZ, NM

Notes: Kearney (1935) cited the overall distribution as “[c]entral and western New Mexico to southeastern Utah and eastern Arizona, at elevations of 4000-7000 feet. Inhabits well-drained slopes, sometimes among junipers or pines.” Utah specimens cited: San Juan Co., Bluff, *Rydberg & Garrett 9907* (NY, US), *9957* (NY). Not in Colorado acc. Weber and Wittmann (1992). Acc. *AUF2* (Welsh et al. 1993), the Utah record of *S. digitata* is apparently based on misidentified specimens of *S. grossulariifolia* (Hook. & Arn.) Rydb.

Sporobolus airoides (Torrey) Torrey var. wrightii (Munro ex Scribner) Gould

“sacaton” Poaceae

Federal Status: None **UTNHP Rank:** G5T5Q/S1

Distribution: WSH; AZ, NM +

Notes: For current treatment see Madroño 10: 94. 1949. Acc. *AUF2* (Arnold in Welsh et al. 1993), var. *wrightii* in Utah is known only from Washington Co. Outside the state, the variety ranges from southern California to western Texas and central Mexico (Gould in Kearney and Peebles 1951, Hitchcock and Chase 1951, A. and N. Holmgren in Cronquist et al. 1977). Curto (in Hickman 1993) did not recognize var. *wrightii* as distinct from *S. airoides* (sensu lato).

Streptanthus oliganthus Rollins

“Masonic Mtn. jewel-flower” Brassicaceae

Federal Status: (C2) **UTNHP Rank:** G3/SRF

Distribution: MIL?; NV +

Notes: For original description see Contr. Dudley Herb. 3: 372. 1946. *AUF2* (Welsh et al. 1993) noted under *S. cordatus* Nutt. ex Torrey & Gray that “a specimen collected near Kanosh, Millard County, by *Pickford (130-OGDF)* is definitely rhizomatous.” This specimen needs to be critically reexamined. *S. oliganthus* is otherwise known from the Sweetwater, Masonic, and northern White Mtns. in eastern Calif. and adjacent west-central Nevada (Kartesz 1987, Buck in Hickman 1993, Rollins 1993).

***Tanacetum douglasii* DC.**

“dune tansy”

Asteraceae

Federal Status: None

UTNHP Rank: G5/SRF

Distribution: SAL; ??? +

Notes: Albee et al. (1988, p. 613) cited the Utah occurrence as “native perennial herb, disturbed site, Salt Lake Co. (UTC).” Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Cronquist (1955) cited the distribution as “[s]and dunes along the coast; B.C. to n. Calif.” The same author reported that “*T. douglasii* has ... been confused with *T. huronense* Nutt., a more e. and n. species with the ultimate segments of the leaves more pointed, and with mostly fewer heads and slightly better developed rays.” Acc. Cronquist (1994), “Rauschert discards the name *Matricaria matricarioides* (Less.) Porter, maintaining that it was an avowed substitute for the cited synonym *Tanacetum pauciflorum* Richardson ex R. Brown. If that were so, then of course *Artemisia matricarioides* Less. would have to take the same type as *Tanacetum pauciflorum*, and both names would fall into taxonomic synonymy under *Tanacetum huronense* Nutt.” Is the report of *T. douglasii* from Utah based on a misidentified specimen of *Matricaria matricoides* (Less.) Porter [= *Chamomilla suaveolens* (Pursh) Rydb.]? This species is a weedy native that is widespread if not common in northern Utah.

***Thlaspi montanum* L. var. *fendleri* (A. Gray) P. Holmgren**

“Fendler’s penny-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T?/SRF

Distribution: ?; AZ, CO?, NM +

Notes: For current treatment see Mem. New York Bot. Gard. 21(2): 87. 1971. Acc. *AUF2* (Welsh et al. 1993), some specimens from the southern part of Utah approach var. *fendleri*. P. Holmgren (1971) cited the distribution of var. *fendleri* as “mountains of Arizona, New Mexico, and Texas.” Her map on p. 89 indicates that some plants from southern Utah and southwestern Colorado are intermediate between var. *fendleri* and var. *montanum*.

***Trifolium longipes* Nutt. in Torrey & Gray var. *hansenii* (E. Greene) Jepson**

“Hansen’s clover”

Fabaceae

Federal Status: None

UTNHP Rank: G4T?/S1

Distribution: JUA; NEV +

Notes: For alternative treatment ssp. *hansenii* (E. Greene) J.M. Gillett, see Canad. J. Bot. 47: 109. 1969. Acc. Barneby (1989), “[a]round [the] western and northwestern periphery [of the Intermountain region] in Nevada, California, and the Lake Section of Oregon[,] *T. longipes* is represented by the ... var. *hansenii*, which extends weakly through mountainous central Nevada to the Deep Creek Mountains in Juab Co., Utah.” Acc. *AUF2* (Welsh et al. 1993), “[t]he material from the Deep Creek Mountains [was] assigned by Barneby (1989) to the weakly, if at all, separable var. *hansenii*.... Plants examined by me do not differ appreciably from those in the Wasatch and Uinta Mountains, and are herein retained with var. *reflexum* A. Nelson.”

Status Category: *Taxonomic Problems*

***Trisetum spicatum* (L.) Richter ssp. *montanum* (Vasey) W.A. Weber**

“Rocky Mtn. trisetum”

Poaceae

Federal Status: None

UTNHP Rank: G4G5T?/SR

Distribution: SNJ, ?; AZ, CO, NM

Notes: For current treatment see *Phytologia* 33: 106. 1976. Acc. *AUF2* (Arnow in Welsh et al. 1993), specimens referable to *T. montanum* Vasey are known in Utah from the Abajo Mtns., San Juan Co. (e.g., *Rydberg and Garrett 9861*, UT), but these specimens appear to be unusual variants selected from an otherwise typical population of *T. spicatum* (e.g., *Rydberg and Garrett 9860*). Also reported as occurring in the Uinta Mtns. (A. and N. Holmgren in Cronquist et al. 1977). *T. montanum* Vasey in eastern slope Colorado flora acc. Weber and Wittmann (1996b), “[a] rather delicate species in forested areas at low altitudes in the outer foothills. Evidently endemic in eastern Colorado and New Mexico.” Arizona record from the Pinaleno Mtns., Graham Co. (Kearney and Peebles 1951). Acc. *AUF2*, “*T. montanum* differs from *T. spicatum* only in having panicles loose rather than spikelike. Occasionally, within populations of otherwise typical *T. spicatum*, however, plants with spreading branches as much as 4 cm long do occur. Although panicle branches for the species average much shorter in length, such plants occurring as they do within populations of *T. spicatum* and differing in no other way, must be treated as being within the range of variation of the species.... Unless additional information concerning these plants ultimately proves otherwise, their presence within normal populations of *T. spicatum*, the infrequency with which they occur, their similarity to *T. spicatum*, and the presence of intermediates suggest that they do not constitute a distinct species. *T. montanum* has been reported from much of the southwestern U.S., but plants so identified usually prove to be loose-panicled *T. spicatum*.”

***Verbena gracilis* Desf.**

“slender vervain”

Verbenaceae

Federal Status: None

UTNHP Rank: G5?/SR

Distribution: SNJ; AZ, NM +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Acc. Cronquist et al. (1984), “[t]he more southern species *V. gracilis*, chiefly of Mexico and southern Arizona, was reported from Utah by Perry on the basis of a single specimen, *Rydberg & Bessey 9201*, east of Monticello, San Juan Co. (NY). The specimen is here interpreted with some hesitation as a form of *V. bracteata* Lag. & Rodr. with more than usually dissected bracts.” New Mexico record acc. Roalson and Allred (no date), who cited two specimens from Hidalgo County (*McIntosh 3060*, *Moir 112*; both NMC). Acc. Perry (1933), “*V. gracilis* is probably a relative of *V. canescens* Kunth and *V. neomexicana* (A. Gray) Small. It is easily recognized by its slender habit, usually long-attenuate bracts, tiny flowers, and essentially scrobiculate nutlets. The specimen from Utah is atypical, but for practical purposes seems better referred here.”

Viola purpurea Kellogg ssp. atriplicifolia (E. Greene) Baker & Clausen

“mountain violet”

Violaceae

Federal Status: None

UTNHP Rank: G5T?/SR

Distribution: ?; ID, NV, WY +

Notes: For current treatment see Madroño 10: 126. 1949. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Acc. Baker (1949a), “[t]his subspecies has a wide distribution, mostly at fairly high elevations from 6000 to 10,000 feet (rarely as low as 5000 or even 4500 feet), from Wyoming to Idaho and southeastern Washington, southward through eastern Oregon and Nevada to Ashland Butte, the Warner Mountains of California and the eastern slopes of the Sierra Nevada as far south as Inyo County, California.” Acc. H. Ballard (1996, pers. comm.), “*V. purpurea* ssp. *atriplicifolia* might occur in Utah but ... I don’t put much stock in Baker & Clausen’s incessant splitting of the latter into subspecies, in part because they commonly confused their own subspecies concepts on specimens, with duplicates sometimes bearing more than one name. Extremes are distinctive in certain cases (not ALL cases) but many specimens can’t be reliably assigned to a particular taxon.”

Woodsia franciscana Windham, ined.

“Markagunt cliff fern”

Dryopteridaceae

Federal Status: None

UTNHP Rank: G?/S1

Distribution: KAN; AZ, NM, ???

Notes: The only known Utah location for this undescribed species is near Navajo Lake, Kane Co., specifically south of Hwy. 14 near the Duck Creek ranger station (Dixie Natl. Forest), at the mouth of an ice cave in T38S R8W S14 NE¼, elev. 8820 ft. (M. Windham 1995, pers. comm.). Outside the state it is known from.... [GET THE DETAILS FROM DR. WINDHAM]

Xylorhiza cronquistii Welsh & Atwood

“Cronquist’s woody-aster”

Asteraceae

Federal Status: (C2*), BLM

UTNHP Rank: G1Q/S1

Distribution: KAN

Notes: For original description see *Brittonia* 33: 302. 1981. For alternative treatment as *Machaeranthera c.* (Welsh & Atwood) Cronquist, see *Intermt. Fl.* 5: 275. 1994. Type from Kane Co., southern end of Horse Mtn. (*S. & S. Welsh 12819*; holotype BRV). Not relocated during 1989 and 1990 field surveys (Franklin 1990d,g). Acc. Stone (1995b), *X. cronquistii* was rediscovered in 1993 at the presumed type locality by Dr. T.J. Watson (University of Texas, Austin). Dr. Watson also believes that plants referable to *X. cronquistii* are first-generation hybrids between *X. tortifolia* (Torrey & Gray) E. Greene and *X. confertifolia* (Cronquist) T.J. Watson. Both putative parents are present in the immediate vicinity, and *X. cronquistii* occurs in a habitat that is intermediate between the two. Therese Meyer, a grad. student at the Univ. of Utah, is currently investigating this hypothesis using enzyme genetic techniques.

***Yucca baccata* Torrey var. *vespertina* McKelvey**

“Peach Springs yucca” Liliaceae

Federal Status: None **UTNHP Rank:** G5T?Q/S2?**Distribution:** KAN?, WSH; AZ, NV +

Notes: Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Y. vespertina* (McKelvey) Welsh, *Rhodora* 95: 417. 1993 [1994]. The distribution of var. *vespertina* overlaps the range of typical *Y. baccata* in the eastern Mojave Desert from Washington Co. to northwestern Arizona, southern Nevada, and southeastern Calif. (McMinn 1939, Kearney and Peebles 1951, Kartesz 1987, Higgins in Welsh et al. 1993). Questionable Kane Co. record as reported by Reveal (in Cronquist et al. 1977). Welsh (1993) considered *vespertina* sufficiently distinct to stand at species level, but Webber (1953) regarded it as a blue (glaucous) form of *Y. baccata* and noted that such forms are found in other fleshy-fruited yuccas (including *Y. torreyi* Shafer and *Y. schidigera* Roezl ex Ortgies). McKinney and Hickman (in Hickman 1993) also treated var. *vespertina* as a synonym of *Y. baccata* (sensu lato).

***Yucca harrimaniae* Trel. var. *gilbertiana* Trel.**

“Gilbert’s yucca” Liliaceae

Federal Status: None **UTNHP Rank:** G4G5T?Q/S2?**Distribution:** BEA?, IRO?, JUA, MIL; NV

Notes: Type from Juab Co., northern end of Fish Springs Range (*Gilbert s.n.* in 1901; holotype US). *Y. harrimaniae* is widespread in the Colorado River drainage, but plants from the Great Basin desert of western Utah and adjacent Nevada have been called var. *gilbertiana*. Acc. *AUF2* (Higgins in Welsh et al. 1993), “except for their more robust size they seem not to differ substantially from the typical variety.” Reveal (in Cronquist et al. 1977) also did not recognize var. *gilbertiana* as distinct from *Y. harrimaniae* in a broad sense. Webber (1953) treated this taxon at the species level, as *Y. gilbertiana* (Trel.) Rydb., and cited the distribution as “Burbank and Garrison, southwestern Millard County, north to Fish Springs, Juab County, Utah.”

Status Category:

Additional Data Needed

Status Category: *Additional Data Needed*

***Acer glabrum* Torrey var. *diffusum* (E. Greene) Smiley**

“Great Basin maple” Aceraceae

Federal Status: None **UTNHP Rank:** G4G5T?/S2?

Distribution: BEA, GAR, IRO, JUA, MIL, TOO; AZ, ID, NV +

Notes: Keller (1942) reported the overall distribution of var. *diffusum* as “W. Utah to the mts. of central and southern California and northern Arizona.” The same author cited the following Utah collections: Deep Creek Mtns. (*Maguire & Becraft* 2687, UC); Iron Co., 10 miles east of Cedar City (*Hitchcock et al.* 4622; NY, UCLA); Tooele Co., Gold Hill (*Jones s.n.* in 1891, POM). Additional records from Beaver, Juab, and Millard cos. as reported in *AUF2* (Welsh et al. 1993). Acc. Cronquist et al. (1997), var. *diffusum* is a “Great Basin and sw. var., irregularly widespread in Nev. and as far e. as Millard, Iron, and w. Garfield cos., Utah, n. to Owyhee Co., Idaho, and sw. to s. Calif.” Var. *diffusum* is perhaps an uncommon peripheral where it occurs in Utah; additional distribution and abundance data needed.

***Achnatherum occidentale* (Thurber) Barkworth ssp. *pubescens* (Vasey) Barkworth**

“western needlegrass” Poaceae

Federal Status: None **UTNHP Rank:** G5T4/SR

Distribution: ?; ID, NV, WY? +

Notes: For current taxonomic treatment see *Phytologia* 74: 10. 1993. For alternative treatment as *Stipa occidentalis* var. *p.* (Vasey) Maze, Taylor and MacBryde, see *Canad. J. Bot.* 56: 193. 1978. Barkworth (in Hickman 1993) reported ssp. *pubescens* as ranging from the mtns. of California north to Washington and eastward to Idaho and Utah. Also in northwestern Nevada (Kartesz 1987). Questionable Wyoming record acc. Dorn (1992), perhaps based on misidentified collections. Acc. Barkworth (1993), *A. occidentale* “is interpreted as comprising only plants with pilose awns.” Arnow (in Welsh et al. 1993, p. 878) has seen no Utah collections with awn pubescence longer than 0.5 mm and referred all of these specimens to *Stipa nelsonii* Scribner [= *Achnatherum n.* (Scribner) Barkworth]. Additional data needed on distribution and abundance in Utah; taxonomic problem?

Achnatherum parishii* (Vasey) Barkworth ssp. *parishii

“Parish’s needlegrass” Poaceae

Federal Status: None **UTNHP Rank:** G?/SR

Distribution: GAR?, KAN?, SNJ?; AZ, NV +

Notes: For current treatment see *Phytologia* 74: 11. 1993. Treated in *AUF2* (Arnow in Welsh et al. 1993) as *Stipa coronata* var. [ssp.!] *p.* (Vasey) A. Hitchc., with distribution reported as Garfield, Kane, and San Juan cos. Barkworth (1993) cited the distribution of ssp. *parishii* as “from the San Bernardino Mountains [California, the type locality] east to Nevada and Arizona.” Not in Arizona acc. Gould (1951), Kearney and Peebles (1951), Howell and McClintock (1960). Not in Nevada acc. Kartesz (1987). Do the plants from southern Utah belong to *A. parishii*, *A. scribneri* (Vasey) Barkworth, or both?

Status Category: *Additional Data Needed*

Achnatherum scribneri (Vasey) Barkworth

“Scribner’s needlegrass” Poaceae

Federal Status: None **UTNHP Rank:** G4/SR

Distribution: GAR?, KAN?, SNJ?; AZ, CO, NM

Notes: For current taxonomic treatment see Phytologia 74: 13. 1993. Reported from Utah acc. Johnson (1972), A. and N. Holmgren (in Cronquist et al. 1977); otherwise known from Arizona, Colorado, and New Mexico (Gould 1951; Kearney and Peebles 1951; A. and N. Holmgren in Cronquist et al. 1977; Martin and Hutchins 1980; Weber and Wittmann 1996a, b; Roalson and Allred, no date). Reported (erroneously) from Nevada (Kartesz 1987), apparently based on misidentifications of *A. parishii* (Vasey) Barkworth ssp. *parishii*. Arnow (in Welsh et al. 1993) has seen no Utah specimens and suggested that the earlier reports are based on misidentified specimens of *Stipa coronata* var. [ssp.!] *parishii* (Vasey) A. Hitchc. [= *Achnatherum parishii* ssp. *p.*]. Acc. Barkworth (1993), “[b]oth [*A. scribneri* and *A. parishii*] have longer hairs at the lemma apex than below and are ciliate at the top of the leaf sheath, but *A. scribneri* has an elongate, sharp callus and *A. parishii* has a blunt callus.” Do the plants from southern Utah belong to *A. parishii*, *A. scribneri* (Vasey) Barkworth, or both?

Agrostis idahoensis Nash

“Idaho bent-grass” Poaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: ?; AZ, CO, ID, NM, NV, WY +

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the overall distribution as “s. B.C. to Mont. and s. to Calif., Nev., n. Ariz. and n. N.M.” *AUF2* (Arnow in Welsh et al. 1993) stated that “[t]he binomial *A. idahoensis* has long been employed in umbrella-like fashion to cover a number of otherwise indeterminate elements. The name, which may be readily applicable to a single collection confined to a herbarium sheet, does not appear to apply to populations. In Utah, *A. idahoensis* is reported only from areas where *A. scabra* Willd., *A. exarata* Trin., or *A. variabilis* Rydb. are also growing, and may represent intergradation among these species. It is relatively infrequent and, to my knowledge, does not form pure stands.” Additional data needed on distribution and abundance in Utah; taxonomic problem?

Agrostis mertensii Trin.

“northern bent-grass” Poaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: ?; CO, WY ++

Notes: *A. borealis* C.J. Hartman was reported for Utah by Hitchcock and Chase (1951) and later by Hitchcock et al. (1969), but A. and N. Holmgren (in Cronquist et al. 1977) and Arnow (in Welsh et al. 1993) have seen no specimens. This circumboreal, arctic-alpine grass has also been reported (as *A. mertensii*) from Colorado and Wyoming (Dorn 1992; Weber and Wittmann 1996a,b). Widén (1971) provided a detailed taxonomic discussion and concluded that *A. borealis* is younger synonym of *A. mertensii*.

Status Category: *Additional Data Needed*

Agrostis oregonensis Vasey

“Oregon bent-grass”

Poaceae

Federal Status: None

UTNHP Rank: G4/SRF

Distribution: ?; ID, NV, WY +

Notes: Not treated (not even in synonymy) in *AUF2* (Arnow in Welsh et al. 1993). Acc. A. and N. Holmgren (in Cronquist et al. 1977), “*Agrostis oregonensis* ... has been reported from the [Intermountain] region, but we have not seen any specimens.” What is the basis of this report?

Allium geyeri S. Watson var. *tenerum* M.E. Jones

No common name

Liliaceae

Federal Status: None

UTNHP Rank: G4G5T?/SR

Distribution: CAC, SAL, SUM, ?; AZ, CO, ID, NM, NV, WY +

Notes: For alternative treatment as ssp. *tenerum* (M.E. Jones) Traub & Ownbey, see Pl. Life 23: 110. 1967. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Ownbey and Aase (1955) cited the distribution of var. *tenerum* as “[m]eadows and along streams, northwestern New Mexico and eastern Arizona, northward through the Rocky Mountains to southern Alberta, west to northeastern Nevada and eastern Oregon, with outlying stations in the Wenatchee Mountains and on Vancouver Island.” Utah collections cited: Cache Co., near Tony Grove Lake, 25 miles up Logan Canyon (*Snell 21724*, UTC); Salt Lake Co., Big Cottonwood Canyon, below Silver Lake (*Rydberg & Carlton 6605*; GH, NY, RM, US); Summit Co., Bear River, elev. 8000 ft. (*E. & L. Payson 4850*; DS, MO, NY, PH, RM, US, WS). Acc. Ownbey & Aase (1955), “[t]here is good reason to believe that variety *tenerum* is a series of asexual polyploid derivatives from var. *geyeri*. The plants correspond almost detail for detail with var. *geyeri*, differing only in the replacement of the flowering pedicels by bulbils, and in some clones in the more widely spreading perianth. The few flowers which are produced are almost invariably sterile--perhaps always so. [There] are undoubtedly several clones included in var. *tenerum*. On chromosomal evidence alone, there are tetraploid, pentaploid, and hexaploid races. It is probable that the pentaploid race is a single clone, extending from northern Colorado to Utah, Idaho, Montana, and probably southern Alberta. It is among these pentaploids that the perianth is more widely spreading.” Var. *tenerum* and var. *geyeri* are evidently parapatric; i.e., although their areas of distribution more-or-less overlap, they grow in separate colonies (see Ownbey and Aase 1955, Cronquist and Ownbey in Cronquist et al. 1977). Additional data needed on distribution and status in Utah; move to peripherals list?

Allophyllum gilioides (Benth.) A. & V. Grant ssp. *violaceum* (Heller) A. Day

No common name

Polemoniaceae

Federal Status: None

UTNHP Rank: G4G5T4T5/S1

Distribution: WSH; NV +

Notes: For current treatment see Novon 3: 331. 1993. For alternative treatment as *Allophyllum v.* (Heller) A. & V. Grant, see Aliso 3: 106. 1955. Treated in *AUF2* (Welsh et al. 1993) as *Gilia gilioides* (Benth.) E. Greene, without varietal designation. In Utah known by two collections (*Higgins 15737, 16829*; both BRY) from west of Enterprise, Washington Co. Ssp. *violaceum* was

Status Category: *Additional Data Needed*

reported to range through the Sierra Nevada to the mtns. of southern Calif., with outliers on the Magruder and Stonewall mtns. of Esmeralda and Nye cos., Nevada, and the Wassuk Range, Mineral Co., Nevada (A. and V. Grant 1955, Cronquist et al. 1984). The distribution of ssp. *gilioides* was reported as southern Oregon through the mtns. of Calif., with outliers in the mtns. of central and south-central Arizona (A. and V. Grant 1955). Do the Utah plants belong to ssp. *gilioides* or ssp. *violaceum*? Move to peripherals list?

***Alsinanthe macrantha* (Rydb.) W.A. Weber**

“large-fl. sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G2G3/S1?

Distribution: DUC, UIN, ?; CO, WY?

Notes: For current treatment see Phytologia 51: 369. 1982. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Reported from Utah by Dr. Ron Hartman, based on two collections from the Uinta Mtns.: Duchesne Co., south rim of South Fork Rock Creek, 14 miles north of Tabiona, elev. 10,700 ft. with clumps of Engelmann spruce krummholz on gravelly ground (*Goodrich & Jepson 15904*, RM); Uintah Co., Dyer Mine, rocky crests of hills (*Goodding 1256* in part, RM). Common in alpine areas of Colorado acc. Weber and Wittmann (1996a,b). Not in Wyoming acc. Dorn (1992). Additional data needed on distribution and abundance in Utah and throughout the geographic range.

***Amaranthus palmeri* S. Watson**

“Palmer’s amaranth” Amaranthaceae

Federal Status: None **UTNHP Rank:** G5/SE?

Distribution: WSH; AZ, (CO), NM, NV +

Notes: Reported in *AUF2* (Welsh et al. 1993) as “adventive from the southwestern U.S.” Sauer (1955) mapped the coherent range of *A. palmeri* from southern Calif. eastward to Texas, Oklahoma, and Louisiana, and southward well into Mexico. He cited specimens from Arizona and New Mexico but not from Colorado, Nevada, or Utah, noting that “[t]his is probably the weediest of all the dioecious amaranths and the only one in which collections from natural habitats are outnumbered by collections from artificial habitats: irrigation ditches, roadsides, railroads, dumps, fields, and gardens. Such sites are reported for almost all collections made on the margins or outside the coherent range of the species as well as for more than half of the collections from the heart of the range.” Adventive in Colorado (Weber and Wittmann 1992). Rare in southern Nevada, known only from the Muddy Mtns., Clark Co. (Kartesz 1987). Is *A. palmeri* a weedy native in Washington Co.?

***Amaranthus powellii* S. Watson**

“Powell’s amaranth” Amaranthaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: GAR, PIU, SNJ, UTA, WSH; AZ, CO, ID, NM, NV, WY ++

Notes: County distribution as mapped in Albee et al. (1988); additional data needed on distribution and abundance in Utah. *AUF2* (Welsh et al. 1993, p. 49) reported that “*A. powellii* might occur in

Status Category: *Additional Data Needed*

portions of the state” and added that “differences among Utah materials might not indicate more than variation within [*A. retroflexus* L.]” Sauer (1950, p. 611) reported that he had seen specimens of typical *A. powellii* from Utah; he cited its overall distribution as “common ... over much of the western United States and northern Mexico ... mostly at high elevations, often between 2,000 and 3,000 meters, in dry regions.” The same author (p. 612) also described a “cordilleran” race of *A. powellii* (differing in length and shape of the tepals and style branches) and reported it as “common ... in California and has been collected infrequently but very widely in Latin America, particularly at high elevations.” Acc. Tucker and Sauer (1958), “*A. powellii* appears to be native to the western United States. It is now mainly a weed of artificial habitats, but it is still found in what may have been its original habitat: naturally open sites along stream channels.” Sauer (1950) clearly regarded *A. powellii* as a distinct species and discussed its relationships with *A. retroflexus*. Tucker and Sauer (1958) also found that *A. powellii* hybridizes complexly in central Calif. with *A. hybridus* L. (probable origin in tropical America) and *A. retroflexus* (probable origin in eastern North America).

***Amsinckia intermedia* Fischer & Meyer**

“fiddleneck”

Boraginaceae

Federal Status: None

UTNHP Rank: G5?/S2?

Distribution: BOX?, DAV?, MIL?, RIC?, TOO?, WSH; AZ, NM?, NV, ID +

Notes: For alternative treatment as *A. menziesii* var. *i.* (Fischer & Meyer) Ganders, see [LITERATURE CITATION TO BE ADDED]. Weedy native annual, reportedly most abundant in California but also widespread elsewhere in the Pacific states “from British Columbia to Baja California and eastward, sporadically as far as the Great Plains” (Ray and Chisaki 1957a). In Utah, *A. intermedia* has been reported to occur in Washington Co. (Cronquist et al. 1984, Warrick 1987); the questionable records from Box Elder, Davis, Millard, Rich, and Tooele cos. are as mapped in Albee et al. (1988) or cited in *AUF2* (Higgins in Welsh et al. 1993). Questionable New Mexico record as reported by Cronquist et al. (1984; cf. Roalson and Allred, no date). Acc. *AUF2*, “[t]he [Utah] material from north of Washington County is apparently somewhat intermediate to *A. tessellata* A. Gray.” However, this assertion is probably false because *A. intermedia* and *A. tessellata* belong in different sections of the genus (the *Muricatae* and *Tessellatae*, respectively) and “no success has attended numerous attempts to hybridize various members of the *Muricatae* with species outside the section” (Ray and Chisaki 1957b). Additional data needed on distribution and abundance in Utah; taxonomic problem?

***Amsonia tomentosa* Torrey & Frémont**

“ghost-flower”

Apocynaceae

Federal Status: None

UTNHP Rank: G4/S3

Distribution: WSH?; AZ, NV +

Notes: N. Holmgren (in Cronquist et al. 1984) cited the overall distribution as “s. Calif. in the n. Colorado Desert and s. and e. Mojave Desert, e. across s. Nev. (Clark, s. Nye, and s. Lincoln cos.) to sw. Utah (Washington Co.) and nw. Ariz. (n. Mohave Co.)” *AUF2* (Higgins in Welsh et al. 1993) gave no Washington Co. records for *A. tomentosa* and further stated that “[Utah] material belongs

Status Category: *Additional Data Needed*

to var. *stenophylla* Kearney & Peebles [= *A. eastwoodiana* Rydb.; see N. Holmgren (in Cronquist et al. 1984)]. The typical variety of the species occurs to the south ... in Mohave County, Arizona and should be sought in Washington County.” What is the basis of the Washington Co. record for *A. tomentosa* (sensu stricto)?

***Anemone multifida* Poirlet var. *tetonensis* (T.C. Porter ex Britton) C.L. Hitchc.**

“Teton wind-flower”

Ranunculaceae

Federal Status: None

UTNHP Rank: G5TG4?/S3S4

Distribution: ?; ID, NV, WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 17(2): 327. 1964. Dutton et al. (in Morin 1997) cited the overall distribution of var. *tetonensis* as “[t]alus slopes, canyons; 2200-3700 m; Idaho, Mont., Nev., Oreg., Utah, Wyo.” *AUF2* (Welsh et al. 1993) reported that most Utah specimens belong to this variety, but acc. Dutton et al. (in Morin 1997) most Utah plants are var. *multifida*, with var. *tetonensis* restricted to the northernmost part of the state. Additional data needed on distribution and abundance in Utah; taxonomic problem?

***Anemone piperi* Britton ex Rydb.**

“Piper’s wind-flower”

Ranunculaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC, SAL; ID +

Notes: For alternative treatment as *Anemonoides p.* (Britton ex Rydb.) Holub, see Folia Geobot. Phytotax. 8: 166. 1973. These are the plants that were treated (erroneously) in *AUF2* (Welsh et al. 1993) as *A. quinquefolia* L. var. *lyallii* (Britton) Robinson. Acc. *AUF2*, the Salt Lake Co. record is based on a collection at BRY (*Cottam et al., s.n.* in year?). Dutton et al. (in Morin 1997) cited the distribution of *A. piperi* as “[s]haded, moist woods; 400-3000 m; B.C.; Idaho, Mont., Oreg., Utah, Wash.” The range map provided by the same authors shows that the Utah plants are widely disjunct, with the main distribution in a limited area of southeastern Washington, northeastern Oregon, and adjacent Idaho, extending barely into western Montana. Overall, the species appears to be of rather limited range; additional status information needed.

Apocynum cannabinum* L. var. *cannabinum

“dogbane”

Apocynaceae

Federal Status: None

UTNHP Rank: G5T5/S1?

Distribution: CAC; NM ++

Notes: *AUF2* (Higgins in Welsh et al. 1993) did not recognize infraspecific taxa under *A. cannabinum*. Woodson (1930) cited the distribution of var. *cannabinum* as “generally throughout the eastern half of the United States, infrequent in New England; a common field and roadside weed in the central states.” Acc. N. Holmgren (in Cronquist et al. 1984), the var. *cannabinum* occurs “predominantly e. of the Rocky Mts., entering the [Intermountain] region in Cache Co., Utah.” He further noted that “[m]ost of our material is completely glabrous which would place it in var. *glaberrimum* A. DC. A specimen (*C.P. Smith 2257*; at NY) from the mouth of Logan Canyon,

Cache Co., Utah, is pubescent on the undersides of the leaves as in the typical variety, which has not been thought to extend west of the Rocky Mountains.” Taxonomic problem? Move to peripherals list?

***Aquilegia coerulea* E. James var. *pinetorum* (Tidestrom) Payson ex Kearney & Peebles**

“Kaibab columbine” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5/S?

Distribution: KAN?, SNJ?, WSH?, ?; AZ

Notes: *AUF2* (Welsh et al. 1993) treated *A. pinetorum* Tidestrom as a synonym of *A. coerulea* var. *coerulea*. Whittemore (in Morin 1997) cited the distribution of var. *pinetorum* as “[r]ocky slopes or near streams, in open woodland or herbland; 1800-3400 m; Ariz., Utah.” The Arizona distribution was cited by Kearney and Peebles (1951) as “Tunitcha and Lukachukai mountains (Apache County), Kaibab Plateau, North Rim of Grand Canyon, and San Francisco Peaks (Coconino County), 8,000 to 11,000 feet.... The type of *A. pinetorum* came from the Kaibab Plateau, Coconino County (*Tidestrom 2328*).” Information needed on distribution and status in Utah.

***Arabis beckwithii* S. Watson**

“Beckwith’s rock-cress” Brassicaceae

Federal Status: None **UTNHP Rank:** G2?/SR

Distribution: MIL?, ?; NV

Notes: Rollins (1941), followed by Kartesz (1987) and *AUF2* (Welsh et al. 1993), treated *A. beckwithii* as a synonym of *A. puberula* Nutt. ex Torrey & Gray. More recently, Rollins (1993) recognized *A. beckwithii* as distinct from *A. puberula*, with the remark that “[n]ow there are seven collections that fit the type quite well;” he further cited the overall range as “Nevada and Utah.” Kartesz (1987, p.418) reported the type locality as Quartz Mtns., Nye Co., Nevada, but the directions “west of Great Salt Lake” on Beckwith’s original specimen label suggest that the Nye Co. location is incorrect. Two specimens from Millard Co., Utah, have been tentatively assigned to this species: near King Top, Confusion Range (*Goodrich 12416*, BRY) and Desert Experimental Range (*Goodrich 16546*, BRY). Additional study needed.

***Arabis columbiana* Macoun**

“Columbia rock-cress” Brassicaceae

Federal Status: None **UTNHP Rank:** G5?/S1?

Distribution: SAL, UIN, ?; ID, NV, WY +

Notes: For alternative treatment as *A. sparsiflora* var. *c.* (Macoun) Rollins, see *Rhodora* 43: 405. 1941. Type of *A. stokesiae* Rydb. from Salt Lake Co., Wasatch Mtns., Parley’s Canyon, elev. 5000 ft. (*Stokes s.n.* in 1901; holotype US, isotypes GH, NY). *A. stokesiae* treated by Rollins (1941, 1993) as a synonym of *A. divaricarpa* A. Nelson and in *AUF2* (Welsh et al. 1993) as a synonym of *A. holboellii* Hornem. Mulligan (1995) treated *A. stokesiae* and *A. sparsiflora* var. *subvillosa* (S. Watson) Rollins as synonyms of *A. columbiana* and cited the overall distribution as “Yukon, British Columbia, Washington, Idaho, Oregon, California, Nevada and Utah.” Rollins (1941) cited one

Status Category: *Additional Data Needed*

Utah collection under *A. sparsiflora* var. *subvillosa*: Uintah Co., 18 miles north of Vernal (Rollins 1760; DS, GH, Rollins herbarium). Rollins (1993) cited the distribution of *A. sparsiflora* var. *columbiana* as “western Montana, British Columbia, and Yukon.” *A. sparsiflora* var. *subvillosa* in Wyoming acc. Dorn (1992). Additional data needed on distribution and abundance in Utah. Taxonomic problem? Move to peripherals list?

Arabis divaricarpa A. Nelson

“perplexing rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5/S?

Distribution: CAC, SAL?, SUM, UIN, ?; CO, ID, NM, NV, WY ++

Notes: For alternative treatment as *Boechea d.* (A. Nelson) Á. & D. Löve, see Bot. Not. 128: 513. 1976. Welsh and Reveal (1977) provided a detailed justification for their use of the name *A. confinis* S. Watson for the species long known as *A. divaricarpa*, a conclusion with which Dorn (1988, p. 302) agreed. Rollins (1941) cited the following collections of *A. divaricarpa* from Utah: Cache Co., Mt. Naomi region, inlet to White Pine Lake (Hoyt 15267; GH, Rollins herbarium); Salt Lake Co., Wasatch Mtns., Parley’s Canyon (Stokes *s.n.* in 1901, the type of *A. stokesiae* Rydb.); Summit Co., Uinta Mtns., Stillwater Fork (E. & L. Payson 4967, GH); Uintah Co., 18 miles north of Vernal (Rollins 1760a; DS, GH, Rollins herbarium), 25 miles south of Manila (Rollins 1767; DS, GH, Rollins herbarium). AUF2 (Welsh et al. 1993) treated *A. divaricarpa* and *A. stokesiae* as synonyms of *A. holboellii* Hornem. Rollins (1983b, 1993) provided a detailed discussion in support of his conclusion that *A. divaricarpa* is a hybrid involving *A. drummondii* A. Gray and one or another of the varieties of *A. holboellii*; he pointed especially to apomictic seed production as a mechanism for stabilizing hybrid populations. Mulligan (1995) recognized both var. *divaricarpa* and var. *dacotica* (E. Greene) Boivin in his treatment of the Canadian species and noted that they seem to have somewhat different habitats and geographical distributions (var. *divaricarpa* southward particularly in the eastern U.S., var. *dacotica* particularly from Minnesota westward). He further noted that the genetics and breeding system of *A. divaricarpa* are apparently very complex with some of the diploids probably sexual selfers, the triploids apomictic, and at least some of the tetraploids probably also apomictic. He concluded that “I have observed no morphological evidence of any recent interspecific hybridization in our *Arabis* species.” Additional data needed on distribution and abundance in Utah; taxonomic problem?

Arabis fendleri (S. Watson) E. Greene var. spatifolia (Rydb.) Rollins

“Estes Park rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T4/S1?

Distribution: DAG, ?; CO, NM, WY

Notes: For current treatment see Rhodora 43: 394. 1941. For alternative treatment as *Boechea fendleri* ssp. *s.* (Rydb.) W.A. Weber, see Phytologia 51: 370. 1982. Acc. Martin and Hutchins (1980), “[d]iffering from the typical variety in the entire basal leaves and the white petals.” Treated in AUF2 (Welsh et al. 1993) as a synonym of *A. holboellii* var. *fendleri* S. Watson. Rollins (1993) cited the overall distribution of var. *spatifolia* as “New Mexico to Wyoming, west to Utah.” One

Status Category: *Additional Data Needed*

Utah specimen cited earlier by Rollins (1941): Daggett Co., 12 miles southwest of Manila, near Sheep Creek (*Rollins 2266*; GH, RM). Additional data needed on distribution and abundance in Utah (no Utah collections found at BRY on June 27, 1996).

Arabis gracilipes E. Greene

“Flagstaff rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G3?/SR

Distribution: KAN?, WSH?, ?; AZ, NV

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Rollins (1993) cited the overall distribution as “open woods and rocky slopes, sandy canyons; ponderosa pine and piñon pine-juniper associations; northern Arizona, southern Nevada, and southern Utah.” The Arizona distribution was cited by Rollins (in Kearney and Peebles 1951) as “Coconino, Mohave, Gila, and Yavapai counties, hot, sandy canyons and lower mountain slopes (rarely up to 8,000 feet), seldom collected, ... type of *A. gracilipes* from near Flagstaff, type of *A. arcuata* var. *longipes* S. Watson from near Fort Mohave.” *A. gracilipes* rare in southern Nevada, known only from Big Tooth Canyon, Virgin Mtns., Clark Co. (Kartesz 1987). Information needed on distribution and abundance in Utah (no Utah material found at BRY on July 11, 1996).

Arabis holboellii Hornem. var. consanguinea (E. Greene) G. Mulligan

“Baker’s rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T?Q/SR

Distribution: ?; CO, ID?, NV, WY? +

Notes: For current treatment see *Rhodora* 97: 155. 1995. Rollins (1941, 1993) treated *A. consanguinea* E. Greene as a synonym of *A. holboellii* var. *retrofracta* (Graham) Rydb. *AUF2* (Welsh et al. 1993) treated *A. consanguinea* as a synonym of *A. holboellii* var. *secunda* (Howell) Jepson. Mulligan (1995) cited the distribution of var. *consanguinea* as “[o]pen grassland and scrub in Alaska (rare), Yukon (rare), Saskatchewan (rare), Alberta, British Columbia, Washington, Oregon, California, Nevada, Colorado and Utah.” Information needed on distribution and abundance in Utah; taxonomic problem?

Arabis holboellii Hornem. var. secunda (Howell) Jepson

“Mt. Adams rock-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T?Q/SR

Distribution: ?; ID, ??? +

Notes: Rollins (1941, 1993) treated *A. secunda* E. Greene as a synonym of *A. holboellii* var. *retrofracta* (Graham) Rydb. *AUF2* (Welsh et al. 1993) recognized *A. holboellii* var. *secunda* but treated var. *retrofracta* as a synonym. Mulligan (1995) maintained var. *secunda* and var. *retrofracta* as distinct taxa and cited the distribution of var. *secunda* as “Alaska, Yukon, Mackenzie District, Quebec (rare, but common in Gaspé), Ontario (rare), Saskatchewan, Alberta, British Columbia and southward. Specimens were seen from Washington, Idaho, Montana and Utah. It probably occurs

elsewhere in the western United States.” Information needed on distribution and abundance in Utah; taxonomic problem?

***Arabis lemmonii* S. Watson var. *drepanoloba* (E. Greene) Rollins**

“Banff rock-cress” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T5/S?

Distribution: ?; CO?, ID?, NV, WY +

Notes: For current treatment see Rhodora 43: 384. 1941. Acc. *AUF2* (Welsh et al. 1993), “Utah plants belong to var. *lemmonii*,” the var. *drepanoloba* was not mentioned (not even in synonymy). Acc. Mulligan (1995), *A. drepanoloba* E. Greene “is most similar to *A. lemmonii* but I think that the two entities should be treated as separate species because of the much larger trichomes and siliques in *A. drepanoloba*.” Rollins (1993) cited the overall distribution of var. *drepanoloba* as “mountains, Alberta to Wyoming, Utah, and Nevada.” The range of *A. drepanoloba* was reported by Mulligan (1995) as “[a]lpine meadows and ridges in Colorado, Wyoming, Montana, southwest Alberta, southeast British Columbia and disjunct to southwest Yukon.” Information needed on distribution and status in Utah.

***Arabis lignifera* A. Nelson**

“woody-footed rock-cress” Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S4?

Distribution: BEA?, BOX?, CAR, DAG, DUC?, EME?, GRA?, IRO, JUA, MIL?, SAL, SNJ?, SNP?, TOO, UIN, ?; AZ?, CO, ID, NM, NV, WY

Notes: For alternative treatment as *Boechea l.* (A. Nelson) W.A. Weber, see Phytologia 51: 370. 1982. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. holboellii* var. *pinetorum* (Tidestrom) Rollins. Rollins (1993) cited the overall distribution of *A. lignifera* as “Idaho and Wyoming to Colorado and west to Nevada.” Also in Apache Co., Arizona acc. Rollins (in Kearney and Peebles 1951) and in New Mexico acc. Roalson and Allred (no date), citing a collection from Rio Arriba County (*Wilken 14717*, NMC). Utah specimens cited by Rollins (1941): Carbon Co., Scofield (*Jones s.n.* in 1904, POM); Daggett Co., 15 miles southeast of Manila (*Rollins 2274*; GH, RM); Iron Co., Cedar City (*Jones 5204ad*, POM); Juab Co., Mammoth (*Jones s.n.* in 1910, POM); Salt Lake Co., Alta (*Jones s.n.* in 1910, POM; this possibly better referred to *A. lasiocarpa* Rollins, Syst. Bot. 6: 58. 1981); Tooele Co., Stansbury Island (*Watson 76*, GH), Deep Creek (*Jones s.n.* in 1891, POM), Gold Hill (*Jones s.n.* in 1917, POM), Clifton (*Jones s.n.* in 1917, POM); Uintah Co., 10 miles north of Vernal (*Rollins 1753*; GH, RM). Questionable Beaver, Box Elder, Duchesne, Emery, Grand, Millard, San Juan, and Sanpete county records as mapped in Albee et al. (1988). *A. lignifera* is probably too common and widespread in Utah to be included in this inventory, but proper documentation is needed.

Status Category: *Additional Data Needed*

Arabis pendulina E. Greene var. russeola (Rollins) Rollins

“Uinta rock-cress” Brassicaceae

Federal Status: (3C) **UTNHP Rank:** G5T3/S3?

Distribution: BOX, DAG, GAR, KAN, MIL, UIN, WSH, ?; CO, WY

Notes: For original description see Rhodora 43: 387. 1941. For current treatment see Contr. Gray Herb. 212: 105. 1982. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. demissa* E. Greene. Type from Uintah Co., 18 miles north of Vernal (*Rollins 1757*; holotype GH, isotypes BRY, CAS, NY, RM, US, UTC). One additional Utah specimen cited by Rollins (1941): Daggett Co., vicinity of Flaming Gorge (*Rollins 2272*; GH, RM). Acc. Rollins (1982a), “[t]he geographic range of [var. *russeola*] has been much expanded by recent collections. It is now known from extreme northwestern Utah as well as from central Wyoming, and from much farther south in Utah than was previously recognized.” The same author reported var. *russeola* from Moffat Co., Colorado, and cited the following additional Utah collections: Box Elder Co., 4 miles south of Lynn (*R. & K. Rollins 81-283*, GH); Daggett Co., vicinity of Flaming Gorge (*Williams 459*; GH, RM); Garfield Co., ca. 4 miles southwest of Cannonville (*Reveal et al. 776*; COLO, GH, RM), 1 mile south of Cannonville (*R. & K. Rollins 79-171*, GH), between Bryce Canyon and Red Canyon (*R. & K. Rollins 79-172*, GH); Kane Co., 4 miles south of Cannonville (*Cronquist 10080*; COLO, GH, RM); Millard Co., near Oak City (*Goodrich 14363*, GH); Uintah Co., 12 miles north of Maeser (*Neese & Moore 7783*, RM); Washington Co., Zion Natl. Park, Horse Pasture Plateau (*N. Holmgren et al. 1986*, GH). Probably too common and widespread in Utah to be included in this inventory, but proper documentation is needed; taxonomic problem?

Aralia racemosa L. ssp. bicrenata (Wooton & Standley) Welsh & Atwood

“southwestern spikenard” Araliaceae

Federal Status: None **UTNHP Rank:** G5T5/S1

Distribution: KAN, WSH; AZ, CO, NM +?

Notes: For current treatment see Great Basin Nat. 75: 333. 1975. *A. bicrenata* Wooton & Standley treated by Smith (1944) and by Cronquist et al. (1997) as a synonym of *A. racemosa* (sensu lato). Acc. Cronquist et al. (1997), *A. racemosa* is “[a] characteristic species of rich deciduous woods; common in e. U.S. and adjacent Can., ... extending w. in favorable habitats to Ariz. and Utah; in [Utah] known only from Zion Natl. Park, in Orderville Canyon and the narrows of Zion Canyon, and from nearby sw. Kane Co., Utah.” Kearney and Peebles (1951) cited the Arizona distribution of *A. racemosa* as “Apache, Navajo, and Coconino counties to Cochise and Pima counties, 5,000 to 9,500 feet, rich soil in coniferous forests, preferring shade, ... type of *A. arizonica* Eastw. from the Chiricahua Mountains. ... The phase occurring in Arizona (*A. bicrenata*) [has] more deeply serrate margins of the leaflets and a more ample inflorescence than in most specimens from the eastern United States.” Ssp. *bicrenata* in Colorado acc. Weber and Wittmann (1992, 1996b), “[a]n eastern woodland relictual species occurring sporadically in New Mexico[,] Texas, Utah, and in western Colorado, always infrequent or rare.” Rangewide status information needed; if ssp. *bicrenata* is not a distinct taxon, then *A. racemosa* should be moved to the peripherals list.

Status Category: *Additional Data Needed*

Arctomecon californica Torrey & Frémont

“yellow-fl. bearclaw-poppy” Papaveraceae

Federal Status: (C2) **UTNHP Rank:** G3/SE?

Distribution: WSH; AZ, NV

Notes: *A. californica* occurs primarily on gypsum substrates (see Meyer 1986) and is “found in mostly small populations ranging from the vicinity of Las Vegas, Nevada, eastward to extreme northwestern Arizona near Lake Mead” (Meyer in Morin 1997). Although implied by its name, the species does not occur in California. In Utah it is known only from Washington Co. where various authors have regarded it as “apparently introduced” (Nelson and Welsh 1993, p. 204), “apparently ... in cultivation on private property” (Welsh et al. 1993), and “an artificially established population” (Meyer in Morin 1997), based on a 1986 collection from the Clint Isom ranch on Coalpits Mesa road (Warrick 2039, BRY). *Arctomecon* species are notoriously difficult to grow, however, and the situation warrants additional investigation.

Arenaria congesta Nutt. ex Torrey & Gray var. lithophila Rydb.

“Spanish Peaks sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5T?/S1?

Distribution: SAL, ?; CO, ID, WY +

Notes: Maguire (1951) cited the overall distribution of var. *lithophila* as “[s]lopes and hillsides to 10,000 feet, Latah and Clearwater Counties, Idaho, Missoula to Meagher Counties, Montana, south in the mountains to Sheridan and Sweetwater Counties, Wyoming, Routt County, Colorado, and Salt Lake County, Utah.” The same author reported that var. *lithophila* represents “[a] strong population but intergradient with the var. *congesta*. The type of *A. lithophila*, Flodman 437 from the Madison Range, Montana, is a depauperate series of specimens, but undoubtedly of the extensive population var. *lithophila* as here defined.” AUF2 (Welsh et al. 1993) treated var. *lithophila* as a synonym of var. *congesta*. Additional data needed on distribution and abundance in Utah; taxonomic problem?

Arenaria hookeri Nutt. ex Torrey & Gray var. desertorum Maguire

“cushion sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G4G5T3T4/S2S3

Distribution: CAR, DUC, UIN, EME?, SUM?, UIN?, UTA?, WAY?; CO, WY

Notes: For original description see Amer. Midl. Nat. 46: 506. 1951. For alternative treatment as ssp. *desertorum* (Maguire) W.A. Weber, see Southwestern Nat. 18: 318. 1973. For alternative treatment as *Eremogone h. ssp. d.* (Maguire) W.A. Weber, see Brittonia 33: 326. 1981. Type from Duchesne Co., 4 miles southwest of Duchesne, white shale benches and bare hilltops (Ripley & Barneby 8701; holotype NY, isotype US). Additional Utah specimens cited by Maguire (1951): Carbon Co., 5 miles east of Hiawatha (Ripley & Barneby 8685); Uintah Co., 6 miles southeast of Jensen, ledges of white sandstone (Ripley & Barneby 7799, NY), 36 miles southeast of Ouray, white shale (Ripley & Barneby 8752). *A. hookeri* occasional and locally common in the Uinta Basin, usually on nearly barren ground of harsh substrates (Goodrich and Neese 1986). Otherwise known from Sweetwater Co., Wyoming (Maguire 1951) and Moffat Co., Colorado (Weber 1973, Weber

Status Category: *Additional Data Needed*

and Wittmann 1992). The other two varieties of *A. hookeri* are from east of the Continental Divide (Maguire 1951). If the specimens from south of Carbon, Duchesne, and Uintah cos. are correctly identified, then *A. hookeri* no longer meets the basic criteria for inclusion in this inventory. If not, move to watch list?

***Arenaria kingii* (S. Watson) M.E. Jones var. *glabrescens* (S. Watson) Maguire**

“Toiyabe sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G4G5T?/S?

Distribution: BEA, IRO, ?; ID, NV, WY? +

Notes: For current treatment see Bull. Torrey Bot. Club 74: 53. 1947. *AUF2* (Welsh et al. 1993) treated this taxon as *A. fendleri* var. *glabrescens* S. Watson and included as synonyms *A. kingii* (S. Watson) M.E. Jones, *A. uintahensis* A. Nelson, and *A. kingii* ssp. *plateauensis* Maguire. The distribution of var. *glabrescens* was cited by Maguire (1951) as “[d]ry hills and slopes to 8000 feet, southeastern Oregon, southwestern Idaho, south to Esmeralda County, Nevada, and Inyo County, California, and in the Basin ranges to Beaver and Iron Counties, Utah.” Questionable Wyoming record as reported by Dorn (1992), who did not consider var. *uintahensis* to be distinct (see Dorn 1988, p. 302). Additional data needed on distribution and abundance in Utah; taxonomic problem?

Arenaria kingii* (S. Watson) M.E. Jones var. *kingii

“Great Basin sandwort” Caryophyllaceae

Federal Status: None **UTNHP Rank:** G4T4?/S?

Distribution: ?; NV

Notes: *A. kingii* treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. fendleri* var. *glabrescens* S. Watson. Maguire (1951) cited the distribution of var. *kingii* as “[d]ry slopes of the Great Basin ranges, particularly in eastern Nevada and west-central Utah.” Var. *kingii* in Nevada acc. Kartesz (1987), “an infrequent to common expression found on dry slopes and mountain ranges in the Great Basin. It is most abundant from eastern to central Nevada and readily told by its bifid petals.” Information needed on distribution and status in Utah; taxonomic problem?

***Aristida purpurea* Nutt. var. *nealleyi* (Vasey) Allred**

“Nealley’s three-awn” Poaceae

Federal Status: None **UTNHP Rank:** G5T5/S?

Distribution: ?; AZ, CO?, NM, NV +

Notes: For current treatment see Brittonia 36: 391. 1984. *AUF2* (Arnou in Welsh et al. 1993) did not recognize infraspecific taxa in the *A. purpurea* complex. Allred (1984) cited the distribution of var. *nealleyi* as “[s]outhern Utah, Nevada, and California, east to Oklahoma and Texas, south to northern Mexico.” Not in Colorado acc. Weber and Wittmann (1992). Information needed on distribution and status in Utah; move to peripherals list?

Status Category: *Additional Data Needed*

Aristida purpurea* Nutt. var. *purpurea

“purple three-awn” Poaceae

Federal Status: None **UTNHP Rank:** G5T?/S?

Distribution: ?; AZ, CO, NM, NV ++

Notes: *AUF2* (Arnow in Welsh et al. 1993) did not recognize infraspecific taxa in the *A. purpurea* complex. Allred (1984) cited the distribution of var. *purpurea* as “Kansas, Arkansas, and Louisiana, south to northern Mexico, Cuba, west to southern Utah, Nevada, and California.” Information needed on distribution and status in Utah; move to peripherals list?

***Aristida purpurea* Nutt. var. *wrightii* (Nash) Allred**

“Wright’s three-awn” Poaceae

Federal Status: None **UTNHP Rank:** G5T?/S?

Distribution: ?; AZ, CO, NM, NV +

Notes: For current treatment see *Brittonia* 36: 393. 1984. *AUF2* (Arnow in Welsh et al. 1993) did not recognize infraspecific taxa in the *A. purpurea* complex. Allred (1984) cited the distribution of var. *wrightii* as “[s]outhern Utah, Colorado, and Oklahoma, south to northern Mexico, west to southern California, east through central Texas.” Information needed on distribution and status in Utah; move to peripherals list?

***Asclepias rusbyi* (Vail) Woodson**

“Rusby’s milkweed” Asclepiadaceae

Federal Status: None **UTNHP Rank:** G4?/S1

Distribution: GRA, SNJ, WSH; AZ, NV

Notes: For current treatment see *Ann. Missouri Bot. Gard.* 41: 183. 1954. For alternative treatment as *A. engelmanniana* var. *r.* (Vail) Kearney, see *Leafl. West. Bot.* 5: 197. 1949. The overall range of *A. rusbyi* was cited by P. and N. Holmgren (in Cronquist et al. 1984) as “infrequent to rare in e. Nev. (Clover Mts., Lincoln Co.) and s. Utah (Grand, Washington, and San Juan cos.), s. to n. and e. Ariz.” The Arizona distribution was cited by Howell and McClintock (1960) as “[r]ocky slopes in open oak forest, Coconino, Gila, and Mohave counties.” Reports of *A. rusbyi* from New Mexico and Colorado (e.g., Martin and Hutchins 1981) are apparently based on misidentified specimens of *A. engelmanniana* Woodson. Additional information needed on distribution and status in Arizona.

***Asplenium trichomanes-ramosum* L.**

“green spleenwort” Aspleniaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: CAC, DUC, SAL, UIN, UTA; CO, ID, NV, WY ++

Notes: Not treated (not even in synonymy) by Windham (1993a) or in *AUF2* (Higgins in Welsh et al. 1993), which regarded the Utah plants as belonging to *A. trichomanes* L. (Wasatch Mtns.) and *A. viride* Hudson (Uinta and Wasatch mtns.). Wagner et al. (in Morin 1993) treated the Utah plants as *A. trichomanes-ramosum* with *A. viride* given as a synonym. These authors also reported *A. trichomanes* as occurring in Arizona, Colorado, New Mexico, Wyoming, and elsewhere (but not

Status Category: *Additional Data Needed*

Utah). If Dr. Michael Windham (UT) agrees that the Utah plants are best referred to *A. trichomanes-ramosum*, then this species no longer meets the basic criteria for inclusion in this inventory.

Astragalus amphioxys A. Gray var. modestus Barneby

“Toroweap milk-vetch”

Fabaceae

Federal Status: None

UTNHP Rank: G5T?/SR

Distribution: WSH?; AZ, NV

Notes: For original description see Leaflet. West. Bot. 9: 89. 1960. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Barneby (1960) reported that “[t]he range of the var. *modestus* ... lies within the drainage of the Colorado River below the Grand Canyon, where it is recorded as locally plentiful ... from several stations in northern Mohave County, Arizona, and Lincoln County, Nevada.” Barneby (1964) further noted that “the range of var. *modestus* lies entirely within that of var. *amphioxys*.... It may possibly consist of no more than an arbitrary selection of small-flowered populations. It should be noted, however, that var. *amphioxys* reaches its greatest known flower-size in southern Nevada, and it is necessary to turn to Arizona south of the Colorado or to New Mexico to find specimens approaching var. *modestus* in length of petals and calyx. There is some evidence that var. *modestus* occurs at somewhat greater elevations than var. *amphioxys* in their common area.” The distribution of var. *modestus* was described more recently by Barneby (1989) as “se. [= southwestern?] Utah and nw. Ariz.” Is Barneby’s report of this variety from Utah in error? Taxonomic problem?

Atriplex cornuta M.E. Jones

“Jones’ saltwort”

Chenopodiaceae

Federal Status: None

UTNHP Rank: G1G2Q/S1S2

Distribution: EME?, ?; CO?, ???

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *A. saccaria* S. Watson. Stutz et al. (1994) continued to regard *A. cornuta* as a distinct species. Type from Emery Co.?, “Green River, Utah, 4500 [ft.] alt., in clay” (*Jones 5481*; holotype POM, isotype US). Acc. Hall and Clements (1923), *A. cornuta* “is exactly the same as *A. saccaria*, as determined after an earlier comparison of the types, except that the fruiting bracts are covered with long appendages. Complete type material of *cornuta* is not at hand at this writing, but in specimens from the type locality, and indicated by Jones as *cornuta*, the bracts vary from large and bur-like, as described for *cornuta*, to narrow, cuneate, and smooth-faced.” Additional distribution and status information needed; taxonomic problem?

Atriplex navajoensis Hanson

“Navajo saltbush”

Chenopodiaceae

Federal Status: None

UTNHP Rank: GU/SRF

Distribution: ?; AZ

***Balsamorhiza incana* Nutt.**

“woolly balsam-root”

Asteraceae

Federal Status: None

UTNHP Rank: G4/SH

Distribution: ?; ID, WY +

Notes: Cronquist (1955) cited the distribution as “[m]eadows and other moderately moist to moderately dry open places ... ; moderate elevations in the mts. of n.e. Oreg. and s.e. Wash., e. through n. Ida. to n. and w.c. Wyo. and s.e. Mont.” Acc. *AUF2* (Welsh et al. 1993), “[a] lone Utah collection ... (*Leidig 235*, BRY) would key to this taxon; the species is otherwise known from far to the north of our range. The plant has the features of *B. hookeri* Nutt., but the herbage is canescent throughout. Perhaps it is mislabeled?”

***Berberis fendleri* A. Gray**

“Fendler’s barberry”

Berberidaceae

Federal Status: None

UTNHP Rank: G5/S2

Distribution: GRA?, SNJ; CO, NM

Notes: Whittemore (in Morin 1997) cited the overall distribution as “[s]lopes and canyon bottoms; 1300-2700 m; Colo., N.Mex., Utah.” Rare in Utah, restricted to seeps and hanging gardens (Welsh et al. 1975). Questionable Grand Co. record as mapped in Albee et al. (1988) and reported in *AUF2* (Welsh et al. 1993). Reportedly common in the river valleys of southwestern Colorado (Weber and Wittmann 1996a). In northern New Mexico at 6500 to 8500 feet elev. (Martin and Hutchins 1980). Rangewide status information needed; move to watch list?

***Boehmeria cylindrica* (L.) Swartz**

“false nettle”

Urticaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: ?; AZ, NM ++

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Boufford (in Morin 1997) reported *B. cylindrica* as occurring in Utah and neighboring Arizona and New Mexico; otherwise widespread in eastern North America southward to the west Indies, Central America, and disjunct in southern South America. The same author described the habitat as “[a]lluvial or moist, deciduous woods, swamps, bogs, marshes, wet meadows, ditches.” Information needed on distribution and status in Utah; move to peripherals list?

***Botrychium lineare* W.H. Wagner**

“slender moonwort”

Ophioglossaceae

Federal Status: (C2)

UTNHP Rank: G1G2/SR

Distribution: SAL?, ?; CO, ID +

Notes: For original description see Amer. Fern J. 84: 5. 1994. Questionable Salt Lake Co. record based on a collection from meadow bordering Silver Lake, Big Cottonwood Canyon (*Garrett 1519*, UT), a mixed sheet with one plant identified as *B. lineare* (W. Wagner, 1987). The species was reported (erroneously) by USFWS (1993a) as endemic to Utah, but the type collection is from the

Status Category: *Additional Data Needed*

Wallowa Mtns. of Oregon, and additional specimens were reported by W. and F. Wagner (1994) from Idaho, Oregon, Montana, California, Colorado, Quebec, and New Brunswick (but not Utah!). Additional data needed on occurrence and status in Utah; move to rare list?

Bouteloua curtispindula (Michaux) Torrey var. curtispindula

“side-oats grama”

Poaceae

Federal Status: None

UTNHP Rank: G5T5/S3?

Distribution: SNJ?, ?; AZ, CO, NM, WY +

Notes: *AUF2* (Arnow in Welsh et al. 1993) did not recognize infraspecific taxa in *B. curtispindula*. Gould and Kapadia (1964) cited the range of var. *curtispindula* as “[s]outheastern Canada through the prairie and plains regions of central U.S. to Colorado, southern Utah, Texas, New Mexico, Arizona and north-central Mexico.” These authors cited no Utah specimens, but their distribution map showed the range of var. *curtispindula* as limited to the southeastern corner of the state. Information needed on distribution and status in Utah; move to peripherals list?

Bouteloua uniflora Vasey

No common name

Poaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: WSH; +

Notes: Gould and Kapadia (1964) cited the distribution of var. *uniflora* as “fertile, usually rocky soils, in dry or moderately humid sites, southwestern Utah (one collection), central and southwestern Texas.” Utah collection cited: Zion Natl. Park, Washington Co. (*Silveus* 3339, TEX). *B. uniflora* not in Utah acc. Gould (1979). Acc. *AUF2* (Arnow in Welsh et al. 1993), *B. uniflora* “differs from *B. curtispindula* (Michaux) Torrey chiefly in having only one spikelet per branch of the inflorescence, a condition occasionally encountered in *B. curtispindula*.” Dr. Gary Baird (1998, pers. comm.) has reexamined the *Silveus* collection at TEX and, in his opinion, it is *B. uniflora*. He also noted, however, that the Utah record may represent a waif or that the specimen may have been mislabeled.

Bromus ciliatus L.

“fringed brome-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: ?; CO, ID, NV, WY ++

Notes: For alternative treatment as *Bromopsis ciliata* (L.) Holub, see *Folia Geobot. Phytotax.* 8: 167. 1973. Acc. Wagon (1952), *Bromus ciliatus* (sensu stricto) is a diploid ($2n = 14$) with geographic range from “Alaska, Canada, and the northern United States, extending [rather sporadically] southward along the Appalachians, the Rocky Mountains, and the Sierra Nevada.... [U]sually restricted to marl soil of bogs and wet meadows or damp thickets.” The same author provided a distribution map (p. 451) that shows a location for *B. ciliatus* in northern Utah. Robust, tetraploid plants ($2n = 28$), which are evidently common and widespread in Utah, are referable to *B. richardsonii* Link [*Bromopsis r.* (Link) Holub, *Folia Geobot. Phytotax.* 8: 168. 1973], a taxon that was treated in *AUF2* (Arnow in Welsh et al. 1993) as a synonym of *Bromus ciliatus* (sensu lato).

Status Category: *Additional Data Needed*

Wagnon (1952) noted the close resemblance between *Bromus ciliatus* (sensu stricto) and *B. richardsonii* but added that “the difference in chromosome number is effective in preventing fertile hybrids.... Morphologically, *B. ciliatus* may be distinguished from [*B. richardsonii*] by its shorter anther, usually pubescent to pilose blades, and pubescence at least on the upper nodes.” Information needed on distribution and status in Utah; taxonomic problem?

***Bromus frondosus* (Shear) Wootton & Standley**

“weeping brome-grass” Poaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: GAR, KAN, WSH, ?; AZ, CO, NM +

Notes: For alternative treatment as *Bromopsis frondosa* (Shear) Holub, see Folia Geobot. Phytotax. 8: 167. 1973. The overall range was cited by Wagnon (1952) as “mountains, often shady sites, in New Mexico, Arizona, and northern Mexico, at 1400 to 2500 m. elevation.... [Of] rather limited distribution.” Also reported from the mountains of Colorado (Harrington 1964). Cottam et al. (1940) cited Utah locations at “Kanab, Kane Co.; Zion Park, Washington Co.; Bryce Canyon, Garfield Co.” (based on specimens at BRY, UT). Acc. Wagnon (1952), *Bromus frondosus* “can be recognized by the glabrous and frequently glaucous blades of the culm leaves, and the glabrous 3-nerved glumes.” AUF2 (Arnow in Welsh et al. 1993) noted that “[s]egregation of *B. frondosus* from *B. anomalus* Rupr. ex Fourn. has been based on glabrous sheaths and panicles more than 1 dm long, characters not necessarily correlated in [Utah] material.” Additional data needed on distribution and status in Utah; taxonomic problem?

***Bromus pumpellianus* Scribner**

“smooth brome-grass (native race)” Poaceae

Federal Status: None **UTNHP Rank:** G4/SR

Distribution: ?; CO, ID, WY +

Notes: For alternative treatment as *B. inermis* ssp. *p.* (Scribner) Wagnon, see Rhodora 52: 211. 1950. For alternative treatment as *Bromopsis pumpelliana* (Scribner) Holub, see Folia Geobot. Phytotax. 8: 168. 1973. For alternative treatment as *Bromopsis inermis* ssp. *p.* (Scribner) W.A. Weber, see Phytologia 33: 105. 1976. *Bromus pumpellianus* is the native American counterpart of the Eurasian *B. inermis* Leysser. Acc. Elliott (1949), “*B. pumpellianus* ... ranges northward from the Intermountain Region into Canada and Alaska as far as the Seward Peninsula [as indicated by herbarium specimens collected during the period 1860-1947].... In recent years more aggressive introduced grasses, including *B. inermis*, have largely replaced *B. pumpellianus* and certain other native species in the more fertile areas within the range of the latter.” The single Utah locality mapped by Elliott (1949) is in the southwestern corner of the state. Acc. AUF2 (Arnow in Welsh et al. 1993), “I have seen no material that could be identified as belonging to the native strain.” Information needed on distribution and status in Utah.

Status Category: *Additional Data Needed*

Caesalpinia repens Eastw.

“creeping rush-pea”

Fabaceae

Federal Status: None

UTNHP Rank: G2/S2

Distribution: EME, GAR, GRA, SNJ, WAY; CO?

Notes: Barneby (1989) cited the overall range as “[d]unes and sandy or pebbly clay draws in low hills, sometimes in packed soil of roadbeds ...; locally plentiful; endemic to the Canyonlands of ec. Utah, on lower Price, San Rafael, Fremont, and adj. Green and lower Grand rivers in Emery, Wayne, e. Garfield, Grand, and San Juan cos.” The distribution was reported in *AUF2* (Welsh et al. 1993) as extending into Colorado, but acc. Weber and Wittmann (1992) the species has not yet been found in that state. Does this species occur in Colorado? Move to watch list?

Calamagrostis montanensis (Scribner) Scribner

“plains reed-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5/SRF

Distribution: ?; CO, ID, WY +

Notes: Not treated (not even in synonymy) in *AUF2* (Arnow in Welsh et al. 1993). Hitchcock (in Hitchcock et al. 1969) cited the overall distribution as “[g]rassland and sagebrush benchland into the lower mountains, especially on heavy soil; s.e. B.C. and Alta. to Man., s. to Mont., Colo., S.D., and Minn.” In Colorado known only by two historical collections from the Laramie River valley (Weber and Wittmann 1992). Occurs in Idaho (Hitchcock and Chase 1951, Davis 1952) and apparently rather widespread in Wyoming (Dorn 1992). Acc. A. and N. Holmgren (in Cronquist et al. 1977, p. 270), “*Calamagrostis montanensis* has been reported from Utah. We have not seen any specimens of this more northern species, but if it does appear it would key to *C. rubescens* Buckley.” What is the basis of this report?

Calyptridium parryi A. Gray

No common name

Portulacaceae

Federal Status: None

UTNHP Rank: G3G4/S1

Distribution: SEV; AZ, NV +

Notes: For alternative treatment as *Cistanthe p.* (A. Gray) Hershkovitz, see *Phytologia* 68: 268. 1990. In Utah known only by two collections from Sevier Co. (*Albee 4850* and *Franklin 7220*; both at BRY), a locality that is widely disjunct from other known populations of this species. The Utah specimens need to be reexamined to determine whether they belong to var. *arizonicum* J.T. Howell, *Leafl. West. Bot.* 4: 215. 1945 [= *Cistanthe p.* var. *a.* (J.T. Howell) Kartesz & Gandhi, *Phytologia* 71: 62. 1991] or var. *nevadense*, *Leafl. West. Bot.* 4: 216. 1945 [= *Cistanthe p.* var. *n.* (J.T. Howell) Kartesz & Gandhi, *Phytologia* 71: 62. 1991]. Another distinct possibility is that the Utah collections represent a new variety in need of a name.

Status Category: *Additional Data Needed*

Camissonia bairdii Welsh

“Baird’s evening-primrose”

Onagraceae

Federal Status: (C2+), BLM

UTNHP Rank: G1/S1

Distribution: WSH

Notes: For original description see *Rhodora* 95: 408. 1993 [1994]. Type from Washington Co., ca. 3 km east of Gunlock, between Manganese Wash and Miner’s Canyon (*Baird & Franklin 2657*; holotype BRY). Endemic to Washington Co., the following additional collections at BRY cited by Welsh (1993): topotype (*Franklin & Baird 4700A*), along dirt road south of Rockville and at the west base of Smithsonian Butte (*Atwood 5139*), north of Rockville, Petrified Forest, head of Huber Wash (*Welsh & Clark 24281*). Acc. Welsh (1993), *C. bairdii* is apparently most closely allied to *C. scapoidea* (Torrey & Gray) Raven. Cronquist et al. (1997) did not recognize *C. bairdii*, placing it instead in synonymy under *C. scapoidea* var. *macrocarpa* (Raven) Cronquist [a taxon otherwise known from northeastern Arizona in Apache, Navajo, and northeastern Coconino cos. (see Raven 1969)]. Taxonomic problem? Move to rare list?

Camissonia boothii (Douglas ex Lehm.) Raven var. villosa (S. Watson) Cronquist

No common name

Onagraceae

Federal Status: None

UTNHP Rank: G5T?Q/S2S3

Distribution: BEA?, JUA, SAL, TOO?, UTA; AZ, NV +

Notes: For current treatment see *Great Basin Nat.* 46:258. 1986. For alternative treatment as *C. b. ssp. intermedia* (Munz) Raven, *Contr. U. S. Natl. Herb.* 37(5): 364. 1969. Lectotype from “[n]ear Salt Lake, Utah” (*Stansbury s.n.* in 1850, GH; isolectotype NY), designated by Raven (1969). Cronquist et al. (1997) cited the distribution of var. *villosa* as “widespread in Nev., and extending to Oregon (Malheur Co.), Utah (Salt Lake, Utah, and Juab cos.), and Ariz. (n. Mohave Co.)” Type of *Sphaerostigma utahense* Small from Milford, Beaver Co. (*Jones s.n.* in 1880; lectotypified by Raven, at NY [= var. *villosa* (Cronquist et al. 1997)]. Type of *Oenothera gauraeflora* var. *hitchcockii* H. Lév. from Simpson’s Park, Tooele Co.? [collector not specified and type not relocated by Cronquist et al. (1997), questionably referred by them to var. *villosa*]. *AUF2* (Welsh et al. 1993) reported a wider range for var. *villosa* in western Utah, but the concept of these authors included plants later distinguished by Cronquist et al. (1997) as var. *alyssoides* (Hook. & Arn.) N. & P. Holmgren. Additional data needed on distribution and status in Utah; taxonomic problem? (see discussion in Cronquist et al. 1997).

Camissonia multijuga (S. Watson) Raven

“Ellen’s evening-primrose”

Onagraceae

Federal Status: None

UTNHP Rank: G3?/S2

Distribution: JUA?, KAN?, MIL?, TOO?, WSH; AZ, NV

Notes: For current treatment see *Brittonia* 16: 281. 1964. Type from “Northern Arizona” (*Thompson s.n.* in 1872; holotype GH), perhaps actually from near Kanab, Kane Co., Utah. The overall distribution was cited by Raven (1969) as “Washington County, Utah, and southern Lincoln County, Nevada, to northern Mohave County, Arizona.” Cronquist et al. (1997) later reported the

Status Category: *Additional Data Needed*

range as “Washington Co. and adjacent Kane Co., Utah, to Mohave Co., Ariz., and Clark and Lincoln cos., Nev.; also at scattered stations northward through Millard and Juab cos. to Tooele Co., Utah, where growing with *Atriplex* near Wendover, at 1650 m.” The Juab and Tooele county localities were also mapped in Albee et al. (1988). If the specimens from north of Kane and Washington cos. are correctly identified, then *C. multijuga* no longer meets the basic criteria for inclusion in this inventory. If not, move to watch list?

Canotia holacantha Torrey

No common name

Celastraceae

Federal Status: None

UTNHP Rank: G?/SR

Distribution: KAN?, SNJ?, AZ +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Acc. Johnston (1975), “[t]he distribution, as mapped in detail by Hastings et al. (1972), lies almost exclusively in Arizona where it is extensive, with one outlying station in extreme southern Utah. Only two Mexican localities are known, both in Sonora.” The distribution map provided by Petrides (1992, p. 150) shows the Utah locality in the Lake Powell region of southeastern Kane County or southwestern San Juan County. Ditypic genus (see Johnston 1975). Additional information needed on occurrence and status in Utah; move to peripherals list?

Cardamine cordifolia A. Gray var. incana A. Gray ex M.E. Jones

“hoary bitter-cress”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T?Q/SR

Distribution: ?; CO

Notes: Var. *incana* not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). The overall distribution was cited by Rollins (1993) as “stream margins, cold springs, creek bottoms; Colorado and Utah.” Weber and Wittmann (1992) treated var. *incana* as a synonym of *C. cordifolia* (sensu lato), but later the same authors (Weber and Wittmann 1996a) noted that populations of *C. cordifolia* from southwestern Colorado have strongly pubescent leaves. Additional data needed on distribution and abundance in Utah and throughout the geographic range; taxonomic problem?

Carex arapahoensis Clokey

“Arapaho sedge”

Cyperaceae

Federal Status: 3B

UTNHP Rank: G2G3/S1

Distribution: GAR?, GRA, SNJ; CO

Notes: Acc. *AUF2* (Goodrich in Welsh et al. 1993), *C. arapahoensis* in Utah is known only from alpine areas in the La Sal Mtns., Grand and San Juan cos. Is the Garfield Co. report by the same source merely a typographical error? The species is otherwise “[o]ccasionally frequent on dry mountainsides and in tundra in central Colorado at 11,500-12,600 ft.” (Hermann 1970). Plants from the Medicine Bow Mtns., Albany Co., Wyoming, once considered as *C. arapahoensis* (e.g., Cronquist et al. 1977), were recognized by Hermann (1970) as belonging to the circumboreal *C. macloviana* Urv. Additional data needed on distribution and status in Colorado; move to watch list?

Status Category: *Additional Data Needed*

Carex stenoptila F. Hermann

“slender-wand sedge”

Cyperaceae

Federal Status: None

UTNHP Rank: G3?/SR

Distribution: BEA; CO, WY +

Notes: For original description see Leaflet. West. Bot. 4: 194. 1945. Acc. *AUF2* (Goodrich in Welsh et al. 1993), a specimen from the Tushar Mtns., Beaver Co. (*Goodrich 21380*, BRY) keys to this species, but “[m]ore work is needed to verify whether this material is from a breeding population, or whether it is merely an unusual specimen.” The overall distribution was cited by Hermann (1970) as “[a] local species of rocky openings and dry, coniferous woods in the mountains and on high plateaus, at 8,000-9,500 ft. Colorado (Montrose County), Wyoming (Carbon County and Yellowstone National Park), and Montana (Gallatin County).” Apparently *C. stenoptila* is rather widespread in mountainous central and western Wyoming (Dorn 1992).

Castilleja aff. pilosa (S. Watson) Rydb.

“Antelope Island paint-brush”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G4?/SR

Distribution: DAV; ???

Notes: Dr. Noel Holmgren (1995, pers. comm.) has uncovered a Sereno Watson collection from Antelope Island (Davis Co.) that is similar to *C. pilosa*, a species not otherwise known to occur in Utah. The overall range of *C. pilosa* has been reported as “[d]ry sagebrush and juniper communities, 1200-2200 (3300) m elev.; se. Oregon, ec. and ne. Calif., and nw. Nev., across c. Idaho to sw. Mont. and nw. Wyo.” (N. Holmgren in Cronquist et al. 1984). An unsuccessful attempt to relocate this plant was made on June 11, 1996 (R.D. Stone, unpubl. data). Antelope Island has a long history of anthropogenic disturbance including grazing by domestic livestock, frequent fires, and invasion by exotic plant species. Although the population represented by Watson’s collection may now be extirpated, it seems at least equally possible that it is mislabeled.

Cerastium nutans Raf.

“nodding chickweed”

Caryophyllaceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: BOX, DAG, DUC, IRO, SNJ, SNP, SUM, UIN, WSH; AZ, CO, ID, NM, WY ++

Notes: County distribution as reported in *AUF2* (Welsh et al. 1993); apparently of sporadic occurrence in mtns. throughout Utah. Acc. Hitchcock and Cronquist (1964), *C. nutans* is “[o]ften separated, largely on the basis of pedicel length, into two almost completely sympatric and very dubiously distinctive varieties, var. *nutans*, with pedicels well over twice as long as the calyx and tending to be sharply deflexed, and var. *brachypodum* Engelm. ex A. Gray, with pedicels not over twice so long as the calyx and less sharply deflexed.” Other western authors, notably Dorn (1992) and Weber and Wittmann (1992; 1996a,b), have recognized *brachypodum* as distinct from typical *C. nutans* at the varietal or even the species level [as *C. brachypodum* (Engelm. ex A. Gray) Robinson ex Britton]. The Utah specimens need to be critically reexamined to determine if more than one taxon is present.

Status Category: *Additional Data Needed*

Cirsium neomexicanum A. Gray var. utahense (Petrak) Welsh

“Utah thistle”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?Q/S3?

Distribution: CAC, CAR, DAV, EME, GRA, MIL, RIC, SAL, SEV, TOO, UTA, WSH; AZ?, ID?, NV? +?

Notes: For current treatment see Great Basin Nat. 43: 251. 1983. Type from Washington Co., Silver Reef (*Jones 5163q*; holotype G, isotypes POM, US). Acc. *AUF2* (Welsh et al. 1993), the main distribution of this variety is in the Wasatch Mtns. of northern Utah. Cronquist (1994) did not recognize infraspecific taxa in *C. neomexicanum* but noted that “[t]here is some tendency for the more southern material [i.e., var. *neomexicanum*] to have longer involucre spines than the plants from [the Intermountain region].... The name *C. neomexicanum* var. *utahense* is available for our plants, should a distinction be made.” *C. utahense* Petrak cited by Howell and McClintock (1960) as not definitely known but to be looked for in northern Arizona. *C. utahense* has also been reported from Idaho (Davis 1952) and Nevada (Kartesz 1987), but there is a serious question about whether these plants actually represent misidentified specimens of *C. subniveum* Rydb. Is *C. neomexicanum* var. *utahense* a Utah endemic? Move to watch list? Taxonomic problem?

Cirsium rothrockii (A. Gray) Petrak

“Rothrock’s thistle”

Asteraceae

Federal Status: None

UTNHP Rank: G3?/S1

Distribution: SNJ; AZ, NM?

Notes: Acc. Moore and Frankton (1974), “*Cirsium rothrockii* occurs in eastern Arizona and southeastern Utah and is to be expected in adjacent New Mexico.” The distribution was later reported by Cronquist (1994) as “[o]pen or brushy places and open woods, from the oak and juniper zones up through the ponderosa pine zone to the spruce-fir zone ...; s. San Juan Co., Utah, to se. Ariz.” Kearney and Peebles (1951) cited the Arizona distribution as “Grand Canyon (Coconino County) and in southern Navajo, Gila, and Cochise counties, ... type from central Arizona.” Acc. Weber and Wittmann (1992), reports of *C. rothrockii* from Colorado apply to *C. calcareum* (M.E. Jones) Wooton & Standley. *C. rothrockii* not in New Mexico acc. Roalson and Allred (no date; 1995a,b). Additional information needed on distribution and status in Arizona; move to watch list?

Cirsium scariosum Nutt. var. thorneae Welsh

“Kaye’s thistle”

Asteraceae

Federal Status: None

UTNHP Rank: G5T2T3Q/S2S3

Distribution: BEA, GAR, IRO, KAN, MIL, PIU; AZ?, NV?

Notes: For original description see Great Basin Naturalist 42: 261. 1982. Type from Piute Co., 6.5 miles north of Angle, Grass Valley, margin of Otter Creek (*S. & S. Welsh 14369*; holotype BRY). Additional collections cited by Welsh (1982c), all at BRY: Beaver Co., Needle Range, Vances Spring (*Welsh & Holmgren 13903*), Wah Wah Spring (*Welsh et al. 20157*); Garfield Co., Pine Lake (*Neese & White 3830*); Iron Co., Cedar Mtn., near Navajo Lake (*Higgins 4669*); Kane Co., along Skutumpa Creek (*Welsh et al. 14250*); Millard Co., Pavant Range (*Welsh & Henriod 18031*); Piute

Status Category: *Additional Data Needed*

Co., 1 mile east of Kingston (*Welsh & Moore 3352*), 2 miles west of Kingston (*Welsh & Taylor 14443*). Cronquist (1994) did not recognize var. *thorneae*, noting that “S.L. Welsh has described some strongly spiny plants from southern Utah as *C. scariosum* var. *thorneae*. One can sympathize with his feeling that these plants are different enough to need a name, but strongly spiny plants are widely (though thinly) scattered elsewhere in the range of the species.... Welsh emphasizes the narrow, undilated tips of the involucre bracts in var. *thorneae*, but as Moore and Frankton [1967] have shown, this feature is indiscriminately variable within the species.” Is var. *thorneae* a Utah endemic? Move to watch list? Taxonomic problem?

Cladium californicum (S. Watson) O’Neill

“saw-grass”

Cyperaceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: KAN, SNJ; AZ, NV +

Notes: For current treatment see Fl. Ariz. New Mex. 773. 1941. Acc. *AUF2* (Goodrich in Welsh et al. 1993), *C. californicum* in Utah is restricted to hanging gardens in the canyonlands along Lake Powell, Kane and San Juan cos. Driftwood Canyon (Kane Co.) was mentioned as a specific locality. The same source noted that “[m]ost of the sites discovered for this plant have been drowned by the rising water of Lake Powell. The few surviving relics are perched just above the high water mark of the lake.” Arizona distribution reported by Kearney and Peebles (1951) as “[b]ottom of the Grand Canyon (Coconino County), near Columbine (Emory) Falls (Mohave County).” Rare in Nevada, known from the Ash Meadows area, Nye Co., and Rogers Spring, Clark Co. (Kartesz 1987). Uncommon in southern Calif. (Cranfill in Hickman 1973). Rangewide distribution and status information needed. Does the range of this species as currently circumscribed extend southward into Mexico? Central America?

Cleome serrulata Pursh var. angusta (M.E. Jones) Tidestrom

No common name

Capparaceae

Federal Status: None

UTNHP Rank: G5T4?Q/S3?

Distribution: PIU, ?; AZ, CO, NV, NM

Notes: Type from Piute Co., Marysville (*Jones 6057*; holotype POM, isotype US). Var. *angusta* was not recognized by some recent authors (Kartesz 1987, Weber and Wittmann 1992) who treated it instead as a synonym of *C. serrulata* (sensu lato). Acc. *AUF2* (Welsh et al. 1993), var. *angusta* “is restricted to southern counties in Utah” but intergrades morphologically with var. *serrulata*. Rydberg (1922) cited the range of *Peritoma angusta* (M.E. Jones) Rydb. as including Utah, Arizona, and New Mexico. Tidestrom (1925) reported the distribution of var. *angusta* as “Utah and Nevada.” Acc. Harrington (1964), var. *angusta* “intergrades some with the species in [Colorado].... Our few records from western Colorado, as far east as Jackson and Gunnison Counties, at 6000-8000 feet.” Additional data needed on distribution and status in Utah; taxonomic problem?

***Crataegus chrysocarpa* Ashe**

“yellow-fruited hawthorn”

Rosaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC; CO, WY +

Notes: For alternative treatment as *C. columbiana* var. *chrysocarpa* (Ashe) Dorn, see Vasc. Pls. Wyoming 299. 1988. N. Holmgren (in Cronquist et al. 1997) treated *C. chrysocarpa* as a “midwestern U.S. species, cultivated for ornament [in the Intermountain region].” The same author treated *C. columbiana* Howell as a native species in “[w]et places along streams, around meadows, and in seepages; s. parts of B.C., Alta., and adjacent Sask., s. to e. Wash., e. Oregon, n. and se. Idaho, and w. Mont.; entering [the Intermountain region] in Bonneville Co., Idaho, and acc. to Little (1976), in Oregon on Steens Mt. in Harney Co. and in c. Malheur Co.” Acc. *AUF2* (Welsh et al. 1993), *C. chrysocarpa* is known in Utah by a single collection from the Blacksmith Fork river, Cache Co. This specimen needs to be reexamined to determine if it is typical *C. columbiana* and not *C. chrysocarpa*. If it does prove to be *C. chrysocarpa*, then the Blacksmith Fork population probably represents an escape from cultivation. Phipps (1995) lectotypified the name *C. columbiana* and regarded it as a synonym of *C. douglasii* Lindley; he further noted that *C. piperi* Britton is now the correct name for the plants previously called *C. columbiana*.

***Crataegus succulenta* Schrader ex Link var. *occidentalis* (Britton) Palmer**

“red-fruited hawthorn”

Rosaceae

Federal Status: None

UTNHP Rank: G5T5/S1

Distribution: UTA, ?; CO, WY ++

Notes: For alternative treatment as *C. columbiana* var. *o.* (Britton) Dorn, see Vasc. Pls. Wyoming 299. 1988. N. Holmgren (in Cronquist et al. 1997) treated *C. succulenta* as a “midwestern and ne. U.S. species, cultivated for ornament [in the Intermountain region].” *AUF2* (Welsh et al. 1993) reported *C. succulenta* in Utah as “[i]ndigenous in riparian habitats, mainly in Provo Canyon, Utah County.” Fernald (1950) cited the overall distribution of var. *occidentalis* as “Mich. to Man. and Mont., s. to Neb. and Colo.” Barnes (1943) reported that the Utah plants were identified by E.J. Palmer as *C. colorado* Ashe, and cited the location as “growing on the north side of Provo Canyon at an altitude of 5200 feet, at a point about one quarter mile up the main canyon from the entrance to Timpanogos drive.... Since discovering the original tree Miss Atkinson and I have found more than twenty other similar trees in the same locality, all within a hundred yards distance. The original tree actually hangs over the very edge of the highway.” Does the Provo Canyon population represent a widely disjunct, natural occurrence or an escape from cultivation?

***Cryptantha alpicola* Cronquist**

“sky-island cryptantha”

Boraginaceae

Federal Status: None

UTNHP Rank: G4?/S1?

Distribution: UTA, ?; NV +

Notes: For original description see Intermt. Fl. 4: 248. 1984. Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). Cronquist et al. (1984) cited the overall distribution as

Status Category: *Additional Data Needed*

and Wittmann 1992, 1996a), although Harrington (1964) noted it as expected in the western portion of the state. Occurs in southeastern Idaho acc. Davis (1952), based on a specimen cited by Detling from Fremont Co. In northern New Mexico, mapped in Valencia and Santa Fe cos. (Martin and Hutchins 1980; ! Roalson and Allred, no date). Also in Sweetwater Co., Wyoming, including the type locality (Detling 1939, Dorn 1992). Although seemingly a distinctive variety, ssp. *paysonii* is evidently uncommon throughout its range. Move to watch list?

Draba paysonii J.F. Macbr. var. treleasei (O. Schulz) C.L. Hitchc.

“Trelease’s draba”

Brassicaceae

Federal Status: None

UTNHP Rank: G5T4?/SR

Distribution: JUA?, ?; ID, NV, WY +

Notes: For current treatment see Univ. Wash. Publ. Biol. 11: 65. 1941. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Var. *treleasei* was reported from Utah by Hitchcock and Cronquist (1964), who cited the distribution of as “[c]ommon and quite widespread on rocky ridges near timberline and above in our western mountains from Wyoming to Alberta; west to British Columbia, the Cascade and Olympic Mountains of Washington; south to the region of Lake Tahoe, California, and Mt. Rose, Nevada.” More recently, Dr. Noel Holmgren (NY) has identified a specimen from Ibapah Azimuth Peak, Deep Creek Mtns., Juab Co., as belonging to this taxon, but similar if not identical collections from that vicinity appear to be *D. densifolia* Nutt. ex Torrey & Gray [e.g., *A. Holmgren et al. 16450* (UTC); *Goodrich 19010* (BRY); *Stone 1922, 1928, 1930 & 1945* (all at UT)].

Elatine brachysperma A. Gray

“midwestern water-wort”

Elatinaceae

Federal Status: None

UTNHP Rank: G5/SP

Distribution: CAC, DUC; AZ, CO?, ID?, NM, NV ++

Notes: County distribution in Utah as mapped by Albee et al. (1988). Treated as possibly occurring in the state acc. *AUF2* (Welsh et al. 1993), which noted that “[t]he two specimens ... examined by me seem to fit best into *E. triandra* Schkuhr.” Mason (1956, 1957), followed by Tucker (in Hickman 1993; cf. Tucker 1986), regarded *E. triandra* as a strictly Eurasian species and treated the plants from western North America as belonging to *E. rubella* Rydb. Acc. Tucker (in Hickman 1993), *E. brachysperma* can be distinguished from *E. rubella* by the number of seed pits per row (10-15 in *brachysperma* vs. 16-35 in *rubella*). The few existing Utah specimens need to be critically reexamined.

Elymus multisetus (J.G. Smith) Burt Davy

“big squirrel-tail”

Poaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: MIL, SAL, UTA, WSH, ?; AZ, CO, ID, NV +

Notes: County distribution in Utah as reported by Cottam et al. (1940) for *Sitanion jubatum* J.G. Smith, based on specimens at BRY, UT. *AUF2* (Arnow in Welsh et al. 1993, p. 816) reported that

Status Category: *Additional Data Needed*

“[a]n occasional plant in our area, with some glumes 3-cleft, has been referred to *E. multisetus*. Wilson (1963) claims that in general this species is restricted to California, parts of Nevada, and the three northwestern states.” Other recent authors (incl. A. and N. Holmgren in Cronquist et al. 1977, Barkworth in Hickman 1993) have cited a wider overall range that includes Utah and extends as far south as northwestern Arizona and east to the Rocky Mtns. Additional data needed on distribution and abundance in Utah.

Epilobium oregonense Hausskn.

“Oregon willow-herb”

Onagraceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: SUM, ?; AZ?, CO?, ID, NV, WY +

Notes: The overall distribution was cited by Cronquist et al. (1997) as “[b]oggy places in the mts., 1500-3200 m; B.C. and Mont. to s. Calif., Nev. (Washoe, Douglas, Esmeralda, and Elko cos.), Utah (Uinta Mts.), and Colo.” Albee et al. (1988, p. 617) reported that the Utah record is from Summit Co., based on a specimen at UTC. Acc. *AUF2* (Welsh et al. 1993, in key on p. 498), *E. oregonense* is not definitely known from the state but is to be sought in the Uinta Mtns. Not in Colorado (Weber and Wittmann 1992). A report of this species from Arizona (Kearney and Peebles 1951) is apparently based on misidentified specimens of *E. halleanum* Hausskn. The specimen at UTC needs to be critically reexamined.

Erigeron abajoensis Cronquist

“Abajo Mtns. daisy”

Asteraceae

Federal Status: (3C), FS

UTNHP Rank: G1G2/S1S2

Distribution: GAR, PIU, SEV?, SNJ, SNP?, WAY

Notes: For original description see Brittonia 6: 168. 1947. Type from San Juan Co., Abajo Mtns., eastern range (Rydberg & Garrett 9755; holotype NY, isotypes RM, UC, US, UT). Endemic to Utah, but unusual in its widely scattered occurrence in mtns. of the central and southeastern portions of the state. Welsh (1979d) cited the following collections in addition to the type: Garfield Co., 15 miles north of Escalante, Posy Lake, elev. 8800 ft. (*N. Holmgren et al., s.n.?* in 1965, BRY); Piute Co., northeast of Antimony (*Welsh et al. 14122*, BRY). Questionable Sevier Co. record based on a collection from Monroe Peak, elev. 11,200 ft. (*Welsh et al. 17815*, BRY; cited by Welsh 1979c). Questionable Sanpete Co. record as reported by Cronquist (1994). Cronquist (1994) also included in his concept of *E. abajoensis* those plants from Garfield and Wayne cos. that have been described as *E. awapensis* Welsh. Taxonomic problem? Move to watch list?

Erigeron concinnus (Hook. & Arn.) Torrey & Gray var. subglaber (Cronquist) Nesom

“Monticello daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G4G5T?/S?

Distribution: GRA?, SNJ; AZ, CO, NM

Notes: For original description see Brittonia 6: 183. 1947. For current treatment see Sida 10: 165. 1983. Type from San Juan Co., meadow south of Monticello, elev. 2100 m (Rydberg & Garrett

Status Category: *Additional Data Needed*

9141; holotype NY, isotypes RM, UC, US, UT). Acc. Nesom (1983), var. *subglaber* is “[a] sparsely pubescent to glabrous form [that] occurs primarily in west-central and southwestern Colorado, northwestern New Mexico, and the La Sal Mountains of eastern Utah.” Cronquist (1994) cited the distribution of *E. pumilus* var. *subglaber* Cronquist as “se. Utah and adj. parts of Colo., N.M., and Ariz.” Acc. *AUF2* (Welsh et al. 1993, p. 212), “[s]ome plants from Grand and San Juan counties are only sparingly hairy; they form the basis of var. *subglaber* but intergrade completely with var. *concinoides* Cronquist [= *E. concinnus* var. *concinus* in Nesom’s (1983) treatment]. Rangewide distribution and status information needed. Taxonomic problem?

***Erigeron nanus* Nutt.**

“dwarf daisy”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: BOX, DAG; ID, WY

Notes: Cronquist (1994) cited the overall distribution as “[d]ry places in the foothills and mts., 2000-3200 m elev.; sw. Wyo. and adj. Daggett Co., Utah, w. across se. Idaho to the Albion and Goose Creek mts. in Cassia Co. (where several times collected), and in the Raft River and Grouse Creek mts. of n. Box Elder Co., Utah.” Rangewide distribution and status information needed. Move to watch list?

***Eriochloa acuminata* (C. Presl) Kunth**

“slender cup-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: WSH; AZ, NM +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Albee et al. (1988, p. 618) reported the Utah distribution of *E. gracilis* (Fourn.) A. Hitchc. as “native annual, disturbed sites, Washington Co. (pers. comm., L. Higgins, 1988, BRY).” Shaw and Webster (1987) found the name *E. acuminata* to have priority over *E. gracilis*, and cited the overall distribution of var. *acuminata* as “[o]ften growing as a weed in ditches, fields, road right-of-ways, and other disturbed areas, common throughout the southwestern United States and most of Mexico, and becoming established and spreading throughout the southeastern U.S.” The same authors cited specimens from Arizona and New Mexico (but not Utah). Occurrence of this species in Washington Co. needs to be confirmed. Is *E. acuminata* a weedy native or merely adventive in Utah?

***Escobaria missouriensis* (Sweet) D. Hunt var. *marstonii* (Clover) D. Hunt**

“Kaibab beehive-cactus”

Cactaceae

Federal Status: 3B

UTNHP Rank: G5TUQ/SSYN

Distribution: GAR?, KAN; AZ

Notes: For current treatment see *Cactus Succ. J. Gr. Brit.* 40: 13. 1978. Treated in *AUF2* (Welsh et al. 1993) as *Coryphantha missouriensis* var. *marstonii* (Clover) L. Benson, *Cacti Ariz.* ed. 3. 26, 204. 1969. At the time of the original description, *C. marstonii* Clover was “[k]nown only from the type locality, ‘Hell’s Backbone,’ a mountain ridge near Boulder, Garfield Co., Utah” [Benson

Status Category: *Additional Data Needed*

(1982), who noted that the type specimen (*Clover 1909*, MICH?) was not preserved]. Neotype from Kane Co., east side of Buckskin Mtns., elev. 5200 ft. (*L. & R. Benson 15205*, POM), designated by Benson (1969). The distribution of var. *marstonii* was cited by Benson (1982) as “Utah from S side of Aquarius Plateau to S Kane Co.; Arizona on Kaibab Plateau (known, also, as Buckskin Mts.)” Acc. Franklin (1989b), recent studies by Dr. Allen Zimmerman (Desert Bot. Gard., Phoenix, AZ) indicate that Clover’s original description was based on misinterpretation of a poor specimen of *E. vivipara* (Nutt.) F. Buxb. Supporting this conclusion is Franklin’s own field work in 1989 in the Hell’s Backbone area, during which only *E. vivipara* was found. Dr. Zimmerman also does not recognize var. *marstonii*, treating all specimens of *E. missouriensis* from southern Utah and northern Arizona as var. *missouriensis*. Taxonomic problem? Move to peripherals list?

Euphorbia palmeri Engelm. ex S. Watson

“Palmer’s spurge” Euphorbiaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: ?; AZ, NV +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). The overall distribution of *E. palmeri* was recently described by Koutnik (in Hickman 1993) as southwestern California to Utah and Arizona. Uncommon to rare in southern Nevada (Kartesz 1987). Cronquist et al. (1997) treated *E. palmeri* as a synonym of *E. brachycera* Engelm., but the type locality of *E. palmeri* (Cuyamaca Mtns., San Diego Co., Calif.) is outside the geographic range of *E. brachycera* as described by these authors. Information needed on distribution and status of *E. palmeri* in Utah. Evidently there is also a taxonomic problem involving *E. palmeri*, *E. brachycera*, and *E. incisa* Engelm.

Festuca rubra L.

“red fescue” Poaceae

Federal Status: None **UTNHP Rank:** G5/SE?

Distribution: CAC?, SAL?, SUM?, UTA?, WSH?; AZ, CO, ID, NM, NV, WY ++

Notes: Acc. *AUF2* (Arnold in Welsh et al. 1993), “native races circumboreal, south through the U.S., except in the Great Plains and the Southeast; South America.” From the information provided, it is unclear which if any of the Utah localities represent indigenous populations. The species has also been widely introduced in lawngrass mixes, pasture plantings, and revegetation efforts.

Festuca sororia Piper

“ravine fescue” Poaceae

Federal Status: None **UTNHP Rank:** G4/S2

Distribution: EME, IRO, SNJ, UTA; AZ, CO, NM

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the overall distribution as “[o]pen woods and meadows from middle elevs. to the subalpine zone; s. Utah (Abajo Mts.), s. Colo., N.M. and Ariz.” Evidently this perennial grass is of sporadic occurrence in the mtns. of central and southern Utah. The Arizona distribution was cited by Gould (1951) as “[m]oist, shaded canyons and high

Status Category: *Additional Data Needed*

Utah need to be critically reexamined. Is *F. thermalis* a rare plant throughout its range? Taxonomic problem?

Fraxinus cuspidata Torrey ssp. macropetala (Eastw.) E. Murray

“fragrant ash”

Oleaceae

Federal Status: None

UTNHP Rank: G4?T?Q/SR

Distribution: WSH; AZ, NM? +?

Notes: For current treatment see Kalmia 12: 20. 1982. *F. cuspidata* (sensu lato) is known in scattered localities from northern Arizona to Texas and northern Mexico (N. Holmgren in Cronquist et al. 1984, Petrides 1992), and the report from Washington Co., Utah, cited by Miller (1955) as *F. dipetala* Hook. & Arn., is here assumed to be based on a misidentified specimen(s) of *F. cuspidata*. The Grand Canyon is evidently the center of distribution for var. *macropetala* (Eastw.) Rehder (see Rehder 1917), but the taxon has also been found elsewhere in northern Arizona from western Navajo to Coconino and northern Mohave cos. (Kearney and Peebles 1951). Acc. Rehder (1917), var. *macropetala* “differs from [typical *F. cuspidata*] chiefly in its 3-5-, rarely 7-foliolate leaves with broader, often ovate, entire leaflets; occasionally with simple leaves at the base of the branchlets.” Little (1952) regarded var. *macropetala* as a distinct taxon, but more recent authors (Miller 1955, N. Holmgren in Cronquist et al. 1984) have not recognized it, treating it instead as a synonym under *F. cuspidata* (sensu lato). Additional information needed on occurrence and status in Utah and throughout the geographic range; taxonomic problem?

Gilia brecciarum M.E. Jones ssp. brecciarum

“”

Polemoniaceae

Federal Status: None

UTNHP Rank: G4T4?/SR

Distribution: ?; NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *G. inconspicua* (J.E. Smith) Sweet. Day (in Hickman 1993) reported the distribution of ssp. *brecciarum* as extending to Utah. The range is otherwise across Nevada to southeastern Oregon and eastern and southern Calif. (A. and V. Grant 1956, Day in Hickman 1993). Acc. Grant (1964) and Day (in Hickman 1993), *G. brecciarum* is a diploid ($n = 9$) whereas *G. inconspicua* is a tetraploid ($n = 18$). *G. brecciarum* is further distinguished from *G. inconspicua* by its densely glandular pedicels and calyx, fls. generally borne in clusters, and calyx ribs wider than the intervening membrane; *G. brecciarum* is further distinguished by its somewhat irregular leaf dissection, the lobes not linear, and by the cauline lvs. often with a broad rachis, the terminal lobe much broader than the lateral ones (A. and V. Grant 1956, Day in Hickman 1993). Information needed on distribution and status in Utah; taxonomic problem?

Gilia clokeyi H. Mason

“Clokey’s gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G5/S?

Distribution: GRA, SNJ, WSH, ?; AZ, CO, NM, NV +

Status Category: *Additional Data Needed*

Notes: For original description see Madroño 6: 202. 1942. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *G. inconspicua* (J.E. Smith) Sweet. V. and A. Grant (1960) cited the following collections from Utah: San Juan Co., La Sal Mtns. (*V. & A. Grant 10152*), Mexican Hat (*V. & A. Grant 10154*); Washington Co.: south of Hurricane (*Gould 1687*). The same authors cited the overall distribution of *G. clokeyi* as “[l]ower slopes of desert mountains below the pinyon zone and in the washes. Eastern California, through southern Nevada, in the southern half of Utah (Washington, Grand and San Juan cos.), northern Arizona, to northwestern New Mexico.” Colorado state record as reported by Day (in Hickman 1993). Acc. V. and A. Grant (1960), Grant (1964), and Day (in Hickman 1993), *G. clokeyi* is a diploid ($n = 9$) whereas *G. inconspicua* is a tetraploid ($n = 18$). Acc. V. and A. Grant (1960) and Day (in Hickman 1993), *G. clokeyi* is distinguished by its glabrous or cobwebby calyx (vs. somewhat glandular in *G. inconspicua*); it is further distinguished from *G. ophthalmoides* Brand by its generally smaller flowers; corolla throat pale yellow below, white above (vs. bright yellow above in *ophthalmoides*); and short-pointed calyx lobes (vs. acuminate in *ophthalmoides*). Perhaps too common and widespread in Utah to be included in this inventory, but proper documentation is needed; taxonomic problem?

Gilia flavocincta A. Nelson ssp. flavocincta

“yellow-throated gilia”

Polemoniaceae

Federal Status: None

UTNHP Rank: G3G5/S1

Distribution: KAN; AZ

Notes: For alternative treatment as *G. ophthalmoides* ssp. *f.* (A. Nelson) A. & V. Grant, see Aliso 3: 262. 1956. *G. flavocincta* is known in Utah by a single collection from Kane Co. (*Atwood 4547*, BRY). This specimen was treated in *AUF2* (Welsh et al. 1993) as belonging to ssp. *australis* (A. & V. Grant) A. Day & V. Grant, but this taxon was earlier cited as restricted to southern Arizona and southwestern New Mexico (A. and V. Grant 1956). On distributional grounds, it seems more likely that the Kane Co. specimen represents the ssp. *flavocincta*, which ranges northward in Arizona as far as Coconino Co. (A. and V. Grant 1956). These authors further noted that, “[i]n the northern part of the range of *G. ophthalmoides flavocincta*, small-flowered plants may be found which fit the description of *G. o. australis* in having a short tube and short style. If the geographical position of this race is taken into account, however, it more probably represents an independently derived autogamous form of *G. o. flavocincta* than a widely disjunct population of *G. o. australis*.” The Utah specimen needs to be critically reexamined. Move to watch list?

Gilia ophthalmoides Brand

“”

Polemoniaceae

Federal Status: None

UTNHP Rank: G5/S?

Distribution: UIN, WSH, ?; AZ, CO, NM, NV +

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *G. inconspicua* (J.E. Smith) Sweet. A. and V. Grant (1956) cited a single collection from Washington Co.: 3 miles east of Pine Valley (*Gould 1838*). Additional Utah collections cited by Grant (1964): Uintah Co., Dinosaur Natl. Monument (*V. Grant 9705*, RSA); Washington Co., Beaver Dam Mtns. (*V. Grant 9969*, RSA). The

Status Category: *Additional Data Needed*

overall distribution of *G. ophthalmoides* was cited by Grant (1964) as “[p]inyon woodland in mountains from eastern California to Colorado and New Mexico.” Acc. Grant (1964) and Day (in Hickman 1993), *G. ophthalmoides* and *G. inconspicua* are both tetraploids ($n = 18$). Acc. A. and V. Grant (1956) and Day (in Hickman 1993), *G. ophthalmoides* is distinguished by its glabrous or cobwebby calyx (vs. somewhat glandular in *G. inconspicua*) and by its broadly ovoid capsule (vs. oblong-ovoid in *G. inconspicua*). Additional data needed on distribution and status in Utah; taxonomic problem?

***Helictotrichon mortonianum* (Scribner) Henrard**

“alpine oat” Poaceae

Federal Status: None **UTNHP Rank:** G4/S2

Distribution: DAG, DUC, SUM, UIN; CO, NM

Notes: For current treatment see *Blumea* 3: 429. 1940. For alternative treatment as *Arrhenatherum m.* (Scribner) Potz. et al., see *Willdenowia* 4: 400. 1968. The overall distribution was cited by A. and N. Holmgren (in Cronquist et al. 1977) as “[a]lpine meadows; S. Rocky Mts. of Colo. and n. N.M. and in the Uinta Mts. of Utah.” In New Mexico known only from Taos Co. (Martin and Hutchins 1980). Additional information needed on distribution and status in Colorado; move to watch list?

***Heterotheca zionensis* Semple**

“Zion golden-aster” Asteraceae

Federal Status: None **UTNHP Rank:** G2G3Q/S1S2

Distribution: BOX?, DAV?, GAR?, KAN, SAL?, SNJ?, UTA?, WAS?, WAY?, WEB?, WSH; AZ, CO?, ID?, NM?

Notes: For original description see *Brittonia* 39: 384. 1987. Type from Washington Co., west of Leeds along road to Silver Reef Campgrounds (*Semple & Heard 7859*; holotype NY, isotypes ASU, DAO, UTC, WAT). Semple (1987) originally treated this diploid species as endemic to sand dunes and other sandy soils in Washington Co. and “[j]ust east of Zion National Park” in adjacent Kane Co. At the same time, however, he noted that “[n]on-glandular forms of *H. zionensis* occur in north-central Utah; glandular and non-glandular forms occur in the Utah-Arizona border region.” The same author has more recently expanded his species concept to include plants occurring widely in Utah and Arizona and introduced (in one case well established) in Colorado, Idaho, and New Mexico; the questionable Utah county records are all cited in his recent monograph (Semple 1996). This treatment is evidently not followed in *AUF2* (Welsh et al. 1993), which recognized *H. zionensis* but noted that “[s]pecimens from as far north as Utah County have been annotated as belonging to this taxon; they appear to be portions of *H. villosa*, however.” The specimens annotated by Semple at BRY need to be critically reexamined.

***Hordeum pusillum* Nutt. var. *pubens* A. Hitchc.**

“La Verkin barley” Poaceae

Federal Status: None **UTNHP Rank:** G5T?Q/S?

Distribution: WSH; AZ, NM? +

Status Category: *Additional Data Needed*

Notes: For original description see J. Wash. Acad. Sci. 23: 453. 1933. Var. *pubens* treated in *AUF2* (Arnow in Welsh et al. 1993) as a synonym of *H. pusillum* (sensu lato). Type from Washington Co., La Verkin (*Jones 5196w*; holotype US, isotype POM). Another Washington Co. collection is from Springdale (*Jones 5253*, US?); the other specimens cited in the protologue (Hitchcock 1933) are from Arizona and Texas. Acc. A. and N. Holmgren (in Cronquist et al. 1977), “var. *pubens* may be an acceptable variety with pubescent glumes and lemmas and with a distribution in the Southwest, entering [the Intermountain region] in southern Utah.” Not treated (not even in synonymy) by Löve (1984); apparently the appropriate combination in the segregate genus *Critesion* has not yet been made. Rangewide distribution and status information needed; taxonomic problem?

Hymenopappus filifolius Hook. var. tomentosus (Rydb.) B.L. Turner

“woolly cutleaf”

Asteraceae

Federal Status: (3C)

UTNHP Rank: G5T2T4/S?

Distribution: EME?, KAN, WSH, ?; AZ, NV

Notes: For current treatment see *Rhodora* 58: 237. 1956. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *H. f. var. cinereus* (Rydb.) I.M. Johnston. Type from Washington Co., St. George (*Palmer 270*; holotype NY, isotypes BRY, GH, ISC, MO, UC). Additional collections cited by Turner (1956): Kane Co., 1 mile south of Glendale, Hwy. 89 (*Preece & Turner 2503*, WS); Washington Co., near Canaan Ranch (*Jones 5262c*; MO, POM, UC). Turner (1956) cited the overall distribution of var. *tomentosus* as “[s]andy soil on rocky limestone hills and mesa tops, 3500-7000 ft.; known only from collections in Washington and western Kane counties, Utah.” More recently, Cronquist (1994) cited the range as “sw. Utah and adj. Nev. and Ariz., n. occasionally to Emery Co., Utah.” Rare in southern Nevada, from St. Thomas Gap area, southwest of Whitney Ridge, 0.8 km north of Grand Gulch, Clark Co. (Kartesz 1987). Rangewide distribution and status information needed.

Hymenoxys subintegra Cockerell

“Kaibab gold-flower”

Asteraceae

Federal Status: None

UTNHP Rank: G4/S1

Distribution: SNP, WSH; AZ

Notes: Acc. *AUF2* (Welsh et al. 1993), *H. subintegra* is known in Utah by a collection from Sanpete Co. (*Maguire 20049*, BRY) and a report from Washington Co. (Meyer 1976). The overall distribution was cited by Cronquist (1994) as “[d]ry meadows and openings in the ponderosa pine forest, sometimes along roadsides ...; on the top and sides of the Kaibab Plateau in n. Ariz.” Information needed on status in Arizona. Are the Utah plants correctly identified?

Juncus macrophyllus Cov.

“long-lvd. rush”

Juncaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: WSH; AZ, NV +

Status Category: *Additional Data Needed*

Notes: Acc. *AUF2* (Goodrich in Welsh et al. 1993), *J. macrophyllus* is known in Utah only from Washington Co. (mainly in Beaver Dam Wash). Rare in Arizona, known from Yavapai, Maricopa, and Pinal cos. (Kearney and Peebles 1951). Rare in southern Nevada, known only from the Spring (Charleston) Mtns., Clark Co. (Kartesz 1987). Uncommon in the mtns. of southern Calif. (Swab in Hickman 1993). Also in northern Baja Calif. acc. Wiggins (1980), who cited a single location ca. 40 km east of Tijuana. Rangewide status information needed; move to watch list?

***Juncus tweedyi* Rydb.**

“hot-springs rush”

Juncaceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: BOX; CO, ID, WY +?

Notes: Known in Utah by a single collection from near Corinne (Box Elder Co.), i.e., the type of *J. canadensis* var. *kuntzei* Buchenau (*Kuntze 3133*, NY). Outside of Utah, *J. tweedyi* occurs in “[w]et places around hot springs, lakes, and river margins. Known from Yellowstone National Park, Wyoming; eastern Idaho; and possibly south-central Montana” (Hurd et al. 1994). In northwestern and south-central Montana (Dorn 1984). In Colorado acc. Weber and Wittmann (1992), who cited a single location from Larimer Co., Rocky Mtn. Natl. Park, Moraine Park. Evidently *J. tweedyi* has not been collected in Utah for more than 100 years; possibly it is no longer a part of the flora. Additional distribution and status information needed (especially from Wyoming and Montana).

***Juncus vaseyi* Engelm.**

“Vasey’s rush”

Juncaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: ?; CO, ID, WY ++

Notes: Not treated (not even in synonymy) in *AUF2* (Atwood in Welsh et al. 1993). Acc. Cronquist et al. (1977, p. 49), “*Juncus vaseyi*, a species of Canada and northern U.S., has been reported from Utah, but we have seen no specimens.” The source of the Utah report has yet to be determined.

***Kallstroemia californica* (S. Watson) Vail**

“golondrina”

Zygophyllaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: GRA, KAN; AZ, CO?, NM, NV? +

Notes: In Utah known only from Grand and eastern Kane cos. (Welsh et al. 1993, Cronquist et al. 1997). *K. californica* otherwise occurs in “[f]lat sandy and disturbed areas of the Sonoran Desert across the northern Chihuahuan Desert to the semiarid grasslands of Tamaulipas and southern Texas; also along the west coast of Mexico to southern Sinaloa and the Tres Marias Islands, and extending into northern Arizona and southern Baja California” (Porter 1969). Acc. Harrington (1964), *K. brachystylis* Vail [= *K. californica*] “has been reported from southern Colorado but no specimens seen;” not reported from Colorado by Weber and Wittmann (1992, 1996a,b). Questionably native in Nevada, known only from disturbed sites at Mercury Valley, Nye Co. (Kartesz 1987). Is this species a weedy native or merely adventive where it occurs in Utah?

***Lemna turionifera* Landolt**

“winter-bud duckweed”

Lemnaceae

Federal Status: None

UTNHP Rank: G5/SR?

Distribution: ?; AZ, CO, ??? ++

Notes: For original description see Aquatic Bot. 1: 355. 1975. Not treated (not even in synonymy) in *AUF2* (Atwood in Welsh et al. 1993). A tiny floating aquatic plant, *L. turionifera* is widely distributed through much of temperate North America and also occurs in eastern Asia; it is reportedly common in the Pacific Northwest (Landolt 1975, Armstrong 1997). It can be separated from the closely related *L. minor* L. (and all other *Lemna* species in North America) by its formation of dark green or brownish, starch-filled winter buds or turions (Landolt 1975, Armstrong in Hickman 1993, Armstrong 1997). Acc. Landolt (1975), “*L. turionifera* ... endures medium January temperatures of -20 [degrees] C and occurs even in very dry regions.... It seems that *L. turionifera* is the only species from the group of *L. minor* that occurs in the northern part as well as in higher mountains of North America.” *L. turionifera* has been reported from Arizona (Landolt 1992) and Colorado (Weber and Wittmann 1996a,b) and in western North America is probably more widespread than *L. minor* (Armstrong 1997). Does *L. turionifera* occur in Utah? Existing specimens identified as *L. minor* need to be reexamined.

Lepidium alyssoides* A. Gray var. *alyssoides

“Fendler’s pepper-wort”

Brassicaceae

Federal Status: None

UTNHP Rank: G5?/SR

Distribution: SEV?, ?; AZ?, CO, NM, WY +?

Notes: For alternative treatment as *L. montanum* ssp. *a.* (A. Gray) C.L. Hitchc., see Madroño 10: 158. 1950. *AUF2* (Welsh et al. 1993) treated *L. montanum* var. *a.* (A. Gray) M.E. Jones (at least as it has been applied to Utah plants) as a synonym of *L. montanum* var. *spathulatum* (Robinson) C.L. Hitchc. The overall range of *L. alyssoides* var. *a.* was recently cited by Rollins (1993) as “New Mexico to Utah and Wyoming; adventive in Michigan.” Representative specimens of *L. montanum* var. *a.* were earlier cited (Hitchcock 1936) from Texas, New Mexico, Arizona, Colorado, and Utah. The Utah specimens cited are both from Sevier Co. [Glenwood (*Ward 160*, MO), Sevier Valley near Richfield (*Ward 253*; F, GH, MO)] but are probably best referred to *L. integrifolium* Nutt. ex Torrey & Gray or to *L. integrifolium* var. *heterophyllum* S. Watson. Does var. *alyssoides* occur in Utah? What is the basis of the report by Rollins (1993)?

***Lepidium alyssoides* A. Gray var. *eastwoodiae* (Wooton) Rollins**

“Eastwood’s pepper-wort”

Brassicaceae

Federal Status: None

UTNHP Rank: G5?/SR

Distribution: GRA, SNJ; AZ?, CO, NM +

Notes: For current treatment see Cruciferae Continental N. Amer. 546. 1993. For alternative treatment as *L. montanum* var. *e.* (Wooton) C.L. Hitchc., see Madroño 3: 311. 1936. *AUF2* (Welsh et al. 1993) treated *L. montanum* var. *e.* (at least as it has been applied to Utah plants) as a synonym of *L. montanum* var. *spathulatum* (Robinson) C.L. Hitchc. The overall range of *L. alyssoides* var.

Status Category: *Additional Data Needed*

e. was recently cited by Rollins (1993) as “Colorado and Utah to northern Mexico.” Hitchcock (1936) earlier cited several specimens from Grand and San Juan cos. as intermediate between *L. montanum* var. *e.* and var. *spathulatum*. Does var. *eastwoodiae* occur in Utah? What is the basis of the report by Rollins (1993)?

***Lepidium crenatum* (E. Greene) Rydb.**

“Mancos pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G4?/S3?

Distribution: GRA, SNJ?, UIN?, ?; CO, NM?

Notes: Treated in *AUF2* (Welsh et al. 1993) as *L. montanum* var. *spathulatum* (Robinson) C.L. Hitchc., *Madroño* 3: 312. 1936. The same authors noted that the correct name at species level is *L. crenatum*. For alternative treatment as *L. montanum* ssp. *spathulatum* (Robinson) C.L. Hitchc., see *Madroño* 10: 158. 1950. The overall range of *L. crenatum* was recently cited by Rollins (1993) as “Colorado and Utah to New Mexico.” Hitchcock (1936) earlier reported the distribution of *L. montanum* var. *spathulatum* as limited to “[s]outhwestern Colorado and adjacent Utah.” The same author cited the following specimens from Utah: La Sal Mtns. (*Rydberg & Garrett 8561*; NY, RM); Grand Co., Moab (*Rydberg & Garrett 8471*; NY, RM). Welsh and Goodrich (1995) also described *L. montanum* var. *spathulatum* as “rather common in Uintah County and elsewhere in eastern Utah.” Additional data needed on distribution and status in Utah and throughout the geographic range.

***Lepidium densiflorum* Schrader var. *macrocarpum* G. Mulligan**

“Mulligan’s pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T5/S?

Distribution: ?; AZ, CO, ID, WY ++

Notes: For current treatment see *Madroño* 16: 86. 1961. Treated in *AUF2* (Welsh et al. 1993) as a synonym of *L. densiflorum* var. *d.* (a common taxon). Var. *macrocarpum* was proposed by Mulligan (1961) as a new name for the plants treated earlier by Hitchcock (1936) as *L. densiflorum* var. *bourgeauanum* (which do not correspond to the type collection of *L. bourgeauanum* Thell.). The overall range of var. *macrocarpum* was recently cited by Rollins (1993) as “Minnesota and Saskatchewan to California and British Columbia.” Arizona and Colorado state records as reported by Hitchcock and Cronquist (1964); also in Idaho (Hitchcock 1936, as *L. densiflorum* var. *bourgeauanum*) and Wyoming (Dorn 1992). Information needed on occurrence and status in Utah.

***Lepidium ramosissimum* A. Nelson var. *bourgeauanum* (Thell.) Rollins**

“Saskatchewan pepper-wort” Brassicaceae

Federal Status: None **UTNHP Rank:** G5T5/SR

Distribution: ?; CO, WY, ??? ++

Notes: For current treatment see *Harvard Papers Bot.* 4: 47. 1993. *L. densiflorum* var. *b.* (Thell.) C.L. Hitchc. treated in *AUF2* (Welsh et al. 1993) as a synonym of *L. densiflorum* var. *d.* (a common taxon). Mulligan (1961), followed by Rollins (1993), treated plants of *L. bourgeauanum* Thell. (sensu Hitchcock 1936) as *L. densiflorum* var. *macrocarpum* Mulligan. Rollins (1993) further cited

Status Category: *Additional Data Needed*

the overall range of his *L. ramosissimum* var. *bourgeauanum* as “Newfoundland to New Brunswick west to Alaska and British Columbia, south to California and Colorado. Most abundant in the prairie provinces of Canada and the states of Montana, Wyoming, and Colorado.” Information needed on occurrence and status in Utah.

***Leptochloa uninervia* (C. Presl) Hitchc. & Chase**

“Mexican sprangletop” Poaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: UTA; AZ, CO?, NM, NV ++

Notes: Acc. *AUF2* (Arnow in Welsh et al. 1993), *L. uninervia* is known in Utah by a single collection from North Park, Provo, Utah Co. (*Menzies 80001*, BRY). Elsewhere this annual grass is found in moist places (including irrigation ditches and roadsides) from southern Calif. (where reported as a weedy native) eastward through the southern portion of the U.S. and southward into Mexico, disjunctly in South America from Peru to Argentina (Hitchcock and Chase 1951, Gould 1951, Smith in Hickman 1993). Reported as adventive in Colorado (Weber and Wittmann 1992). Is *L. uninervia* native or adventive in Utah?

***Lesquerella prostrata* A. Nelson**

“Uinta bladderpod” Brassicaceae

Federal Status: None **UTNHP Rank:** G3/S1

Distribution: RIC; ID, WY

Notes: In Utah known only from Rich Co. (Rollins and Shaw 1973, Welsh et al. 1993), the earlier authors citing collections from 7 miles southeast of Lake City, toward Randolph (*Rollins 3070*; DS, UC) and 4 miles south of Woodruff (*Rollins 3072*; DS, GH, RM, UC). Outside the state, the species was reported by Rollins and Shaw (1973) as ranging to central and southeastern Idaho (Bear Lake, Blaine, and Custer cos.) and southwestern Wyoming (Uinta and Lincoln cos.). Rangewide status information needed; move to watch list?

***Lewisia brachycalyx* Engelm. ex A. Gray**

“southwestern lewisia” Portulacaceae

Federal Status: None **UTNHP Rank:** G4G5/S1

Distribution: WSH; AZ, NM?, NV? +

Notes: In Utah known only from Washington Co. where mapped by Albee et al. (1988) from Zion Natl. Park west to the Pine Valley and Bull Valley mtns. In the Pine Valley Mtns. reported by Warrick (1987) as “[l]ocally common in moist washes in a sagebrush community” (near Brown’s Point trailhead, *Warrick 1256*, BRY). Acc. *AUF2* (Higgins and Welsh in Welsh et al. 1993), “[i]n the North Gate Peaks area of Zion Canyon the meadows in ponderosa pine are carpeted in white when both *L. brachycalyx* and *L. pygmaea* (A. Gray) Robinson are in flower.” In Arizona the species has been reported from Apache, Navajo, Coconino, Gila, and Yavapai cos. (Kearney and Peebles 1951). Questionable New Mexico record as reported in *AUF2* and Dempster (in Hickman 1993); cf. Martin and Hutchins (1980), Roalson and Allred (no date, 1995a,b). Questionable Nevada

Status Category: *Additional Data Needed*

record as reported in *AUF2* (cf. Kartesz 1987). Also reported as uncommon in the mtns. of southern Calif. (Dempster in Hickman 1993) and southward to the Sierra Juarez in northern Baja Calif. (Wiggins 1980). Rangewide distribution and status information needed; move to watch list?

***Linanthus arenicola* (M.E. Jones) Jepson & Bailey**

“sand-dune linanthus”

Polemoniaceae

Federal Status: (3C)

UTNHP Rank: G3?/SR

Distribution: ?; NV +

Notes: For current treatment see Fl. Calif. 3(2): 205. 1943. Not treated (not even in synonymy) in *AUF2* Flora, 2nd ed. (Welsh et al. 1993). A diminutive desert annual of “widely scattered stations ...; se. Calif. and s. Nev. (n. to Esmeralda, Churchill, and n. Nye cos.), and reputedly extending into sw. Utah” (Cronquist et al. 1984). Rare on the Mojave Desert of Calif. (Patterson in Hickman 1993). In Nevada the species is “[i]nfrequent or possibly more common but overlooked due to its inconspicuousness” (Kartesz 1987). The habitat has been variously described as “shifting sand-dunes and sandy flats, at least sometimes on gypsum” (Cronquist et al. 1984); “[d]esert sand dunes on alkaline soil of gypsum type” (Kartesz 1987); and “[s]aline flats in gypsum soils” (Patterson in Hickman 1993). The source of the Utah state record has yet to be identified.

***Linum lewisii* Pursh var. *alpicola* Jepson**

“alpine blue flax”

Linaceae

Federal Status: None

UTNHP Rank: G4G5T4?/S?

Distribution: ?; ID, NV +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). The overall distribution was cited by Rogers (1984) as “alpine situations, California, Nevada, Utah and perhaps elsewhere.” Var. *alpicola* also occurs in the mtns. of central Idaho (Cronquist et al. 1997). Rare in northern Nevada (Kartesz 1987). In Calif. restricted to the high Sierra Nevada (McCarten in Hickman 1993). Acc. Rogers (1984), var. *alpicola* is “[p]robably not sharply distinct from var. *lewisii* at moderately high elevations, but in need of further study.” Information needed on occurrence and status in Utah and throughout the geographic range; taxonomic problem?

***Listera cordata* (L.) R. Brown**

“heart-lvd. twayblade”

Orchidaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: DUC, SUM, WAS; CO, ID, NV?, NM, WY ++

Notes: In Utah known only from the western Uinta Mtns.? Goodrich and Neese (1986) cited one locality in South Fork Rock Creek drainage, Duchesne Co., “boggy places in shade of conifer trees.” *Listera cordata* is a circumboreal orchid that ranges southward in the western U.S. to Calif., Nevada, and New Mexico (A. Holmgren in Cronquist et al. 1977). Kartesz (1987) questioned the Nevada report, noting that he had seen no specimens. Acc. Luer (1975), “[t]he flowers of the minute typical variety of *Listera cordata* vary commonly from green to deep ruby red, and all shades in between may be represented in a single colony. In the mountains of the West a robust variety [i.e., var. *nephrophylla*

Status Category: *Additional Data Needed*

(Rydb.) Hultén] occurs which apparently always bears green flowers. The leaves and flowers of mature plants seem significantly larger and the leaves more intensely reticulated. The plants, sometimes growing in great masses with their large leaves over-lapping, grow in the shaded humus of rich, well-drained forests at moderate to high elevations.... Very likely this variety largely replaces the typical variety in the mountains of the West.” For alternative treatment as ssp. *nephrophylla* (Rydb.) Á. & D. Löve, see Univ. Colorado Stud. Biol. Ser. 17: 19. 1965. Additional data needed on distribution and status of var. *nephrophylla*; taxonomic problem? For a study of pollination biology in *L. cordata*, see Ackerman and Mesler (1979).

Loeflingia squarrosa Nutt. in Torrey & Gray var. artemisiarum (Barneby & Twisselm.) Dorn

No common name Caryophyllaceae

Federal Status: None **UTNHP Rank:** G5T3T4/S1

Distribution: WSH; AZ?, ID?, NV, WY +

Notes: For original description see Madroño 20: 406. 1970. For current treatment see Vasc. Pls. Wyoming 123, 296. 1988. Acc *AUF2* (Welsh et al. 1993), *L. squarrosa* is known in Utah by a single collection from Washington Co. (*Atwood 5025*, BRY). Barneby and Twisselmann (1970) cited the overall distribution of their ssp. *artemisiarum* as “Intermountain United States, southwestern Wyoming to southeastern Oregon and northeastern California, and on the western Mojave Desert in Kern and Inyo counties, California.” Also reported as rare in northwestern Nevada (Kartesz 1987). Plants from southern Arizona and adjacent Sonora, México, have been distinguished as ssp. *cactorum* Barneby & Twisselm., Madroño 20: 407. 1970. The Utah specimen needs to be reexamined to determine whether it belongs to var. *artemisiarum* or ssp. *cactorum*.

Lonicera ciliosa (Pursh) Poir. ex DC.

“orange-fl. honeysuckle” Caprifoliaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: ?; ID +

Notes: Rehder (1940) cited the overall distribution as “B.C. to Calif., Mont. and Utah.” The basis of this Utah report is not known, and the range was cited more recently by Cronquist (in Hitchcock et al. 1959) as “s. B.C. to n. Calif., especially w. of the Cascade summits, extending e. to w. Mont.”

Lupinus argenteus Pursh var. fulvomaculatus (Payson) Barneby

“Uncompahgre lupine” Fabaceae

Federal Status: None **UTNHP Rank:** G5?T?/S1

Distribution: GRA, SNJ; CO, NM?

Notes: For current treatment see Great Basin Nat. 46: 257. 1986. For alternative treatment as *L. parviflorus* var. *f.* (Payson) Harmon, see Trans. Missouri Acad. Sci. 6: 162. 1972 [1973]. In Utah known from the La Sal and Abajo mtns. (Barneby 1989), the overall distribution cited by Harmon (1972) as “scattered through the higher elevations of southwestern Colorado and southeastern Utah between 7400 and 9500 ft.” Questionable New Mexico record based on *L. ingratus* E. Greene [lectotype from Chama, Rio Arriba Co. (*Baker 438*, US), designated by Harmon], which Barneby

Status Category: *Additional Data Needed*

(1989) treated as a synonym of var. *fulvomaculatus*. Rangewide status information needed (especially from Colorado).

Lupinus caudatus Kellogg var. cutleri (Eastw.) Welsh

“Cutler’s spurred lupine” Fabaceae

Federal Status: None **UTNHP Rank:** G5T2/S1

Distribution: KAN; AZ, CO?, NM

Notes: For current treatment see Great Basin Nat. 38: 329. 1978. For alternative treatment as ssp. *cutleri* (Eastw.) Hess & Dunn, see Rhodora 72: 113. 1970. Acc. *AUF2* (Welsh et al. 1993), var. *cutleri* in Utah is known from the vicinity of The Cockscomb in Kane Co. Welsh and Eliason (1995) cited the following collections, all at BRY: south of Hwy. 89, The Cockscomb (*Welsh & Thorne 24983*), T42S R2W S2 NW¼ [= north of Hwy. 89 along Paria townsite rd.] (*Kass & White 3357*), north of Fourmile Bench (*Welsh 25271*), Cads Crotch (*Welsh 25286*). The overall distribution of ssp. *cutleri* was cited by Hess and Dunn (1970) as “restricted to the mountains of ... southeastern Utah, northern Arizona, and northwestern New Mexico.” In Arizona it has been reported from Apache Co. (Kearney and Peebles 1951), and in New Mexico it was mapped in San Juan, Taos, and Grant cos. (Martin and Hutchins 1980). Evidently this taxon has not yet been found in Colorado, but it might be expected to occur there. Additional data needed on distribution and status in Arizona and New Mexico.

Lupinus polyphyllus Lindley var. humicola (A. Nelson) Barneby

“Rocky Mtn. meadow lupine” Fabaceae

Federal Status: None **UTNHP Rank:** G5T5/S3?

Distribution: DUC?, GAR, KAN, SNP?, SEV?, UIN?, WSH; CO, ID, WY +

Notes: For current treatment see Great Basin Nat. 46: 257. 1986. Barneby (1989) cited the overall distribution as “widespread and locally abundant ... at middle and high-montane elev. in the Rocky Mts., from s. Alta. and B.C. to Colo.; feebly entering [the Intermountain region] in the Uinta Basin and on the s. Utah Plateaus in Uintah, Garfield, and Kane cos., Utah, and ... on the Silver Peak and Grapevine ranges in Esmeralda and Nye cos. in sw. Nev. and adj. Calif.” [Note: the Nevada and adjacent Calif. plants are here recognized as a separate species, *L. holmgrenanus* C.P. Smith]. Acc. *AUF2* (Welsh et al. 1993), the report from Washington Co. is based on a collection from near the summit of the Beaver Dam Mtns. (*Higgins 658*, BRY). Reports of var. *humicola* from lower elevations in the Uinta Basin (Duchesne and Uintah cos.) may be based on misidentified specimens of var. *ammophilus* (E. Greene) Barneby. Questionable Sanpete and Sevier county records as mapped by Albee et al. (1988) for *L. polyphyllus*. The plants from Utah’s southern High Plateaus, being disjunct as they are from the main distribution of var. *humicola* in the Rocky Mtns., may be an unnamed variant or have affinities with *L. holmgrenanus*; additional study needed.

Status Category: *Additional Data Needed*

Lycopodium annotinum L.

“bristly club-moss”

Lycopodiaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: DUC?; AZ, CO, ID, NM, WY ++

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Reported from Utah by Wagner and Beitel (in Morin 1993). A recent article by Van Pelt (1994) made reference to “clubmosses previously unknown in Utah” from a spruce bog in the Ashley Natl. Forest’s proposed South Fork Rock Creek Botanical Area (Uinta Mtns., Duchesne Co.), based on field work by Dr. Sherel Goodrich. This could be the source of the Utah state record, but additional information is needed to verify it.

Mentzelia pumila (Nutt.) Torrey & Gray

“Wyoming stick-leaf”

Loasaceae

Federal Status: None

UTNHP Rank: G4/S2

Distribution: DAG, DUC?; CO?, WY

Notes: *M. pumila* has been reported by various authors from several western states, but acc. Prigge (1996, pers. comm.), “[t]he older floras did not have a good understanding of the genus and had some very broad species concepts.” Acc. Hill (1977), “[t]horough herbarium research reveals that *M. pumila* is confined to the Red Desert, Great Divide Basin of Wyoming.” More recently, Thompson and Prigge (1984, unpubl.) mapped the distribution of *M. pumila* as almost entirely endemic to Wyoming, with one locality in Daggett Co., Utah. Acc. Goodrich and Neese (1986), “[t]he few specimens seen [in the Uinta Basin] are from the vicinity of Sheep Creek, Daggett Co.” Questionable Duchesne Co. record as reported in *AUF2* (Thorne and Welsh in Welsh et al. 1993). The same source reported *M. pumila* from Colorado, but Weber and Wittmann (1992) cited the species as “[o]ut of range.” Additional data needed on distribution and status in Wyoming.

Mimulus glabratus Kunth ssp. utahensis Pennell

“Utah monkey-flower”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G5T5/S3?

Distribution: PIU, MIL, SAL, UTA, ?; CO, NV, WY?

Notes: Type from Millard Co., “along brook, Preuss Lake, near Clay’s Ranch” (*Tidestrom 11180*; holotype PH). Additional Utah collections cited by Pennell (1935): Piute Co., Marysvale (*Rydberg & Carlton 6989*, NY?); Salt Lake Co., Salt Lake City (*Pennell 5968*; NY?, PH); Utah Co., near Utah Lake (*Bryan Exped.*, MO?). The same author cited the overall distribution as “[s]pringheads and cool streams, western Colorado to western Nevada. In the Great Basin and the valley of the Colorado River.” Dorn (1992) reported *M. glabratus* var. *jamesii* (Torrey & Gray ex Benth.) A. Gray [= ssp. *fremontii* (Benth.) Pennell] from southwestern Wyoming, but the plants from that region are doubtfully referable to the Great Plains form. Ssp. *utahensis* is probably too common and widespread in Utah to be included in this inventory, but proper documentation is needed. N. Holmgren (in Cronquist et al. 1984) questioned its morphological distinction from *M. guttatus* DC.,

but artificial hybrids between the two taxa are nearly sterile (Mukherjee and Vickery 1962), and they have different chromosome numbers (Lindsay and Vickery 1967).

Mirabilis multiflora (Torrey) A. Gray var. multiflora

“James’ four-o’clock” Nyctaginaceae

Federal Status: None **UTNHP Rank:** G5T5/S?

Distribution: SNJ?, ?; AZ, CO, NM +

Notes: Pilz (1978) reported the overall distribution of var. *multiflora* as extending from Arizona, Colorado, and New Mexico to Texas and southward occasionally to México in the states of Chihuahua, Coahuila, Nuevo León, and San Luis Potosí. The distribution map provided by the same author (p. 129) shows that he considered most of the plants from southeastern Utah as belonging to var. *glandulosa* (Standley) Macbr., but the map also shows a single location for var. *multiflora* in the extreme southeastern portion of the state. *AUF2* (Welsh et al. 1993) reported both var. *glandulosa* and var. *multiflora* as occurring in southeastern Utah but provided no other information on distribution or abundance. Acc. Pilz (1978), “[t]he nature of the mature fruit is the most consistent character for distinguishing the varieties of *Mirabilis multiflora*.”

Muhlenbergia arsenei A. Hitchc.

“tough muhly” Poaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: GAR?, KAN?, MIL?, SNJ, WSH?; AZ?, NV?, NM +

Notes: In addition to the type collection from Sandoval Co., New Mexico, the original description (Hitchcock 1928) cited another collection from southeastern Utah: San Juan Co., “Armstrong and White Canyons, near the Natural Bridges, altitude 1600 to 1800 meters” (*Rydberg & Garrett 9498*; NY?, UT). This collection was identified as *M. pauciflora* Buckley in *AUF2* (Arnow in Welsh et al. 1993), with the further suggestion that *M. arsenei* may have been based on a hybrid between *M. pauciflora* and *M. thurberi* Rydb. Questionable Garfield Co. record as reported by Cottam et al. (1940), based on a collection from “East Fault Mt. five miles north of Escalante” (specimens at BRY, UT). Questionable Millard Co. record based on a report by Goodrich (1986b) from the Desert Experimental Range, “[i]nfrequent, rocky slopes of Warm Cove Ridge.” Questionable Kane and Washington county records as reported by Welsh et al. (1975). Outside of Utah, Skinner and Pavlik (1994) reported *M. arsenei* as rare in southeastern Calif. (Clark and New York mtns., San Bernardino Co.), to Arizona, Baja Calif., New Mexico, Nevada, and Utah. A record from northern Baja Calif. (Sierra San Pedro Mártir) was also reported by Gould and Moran (1981). Additional distribution and status information needed; a species with a puzzlingly sporadic pattern of occurrence. Taxonomic problem?

Muhlenbergia depauperata Scribner

“six-weeks muhly” Poaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BEA, SNJ; AZ, CO, NM +

Status Category: *Additional Data Needed*

Notes: Acc. *AUF2* (Arnow in Welsh et al. 1993), *M. depauperata* in Utah is known only from Beaver and San Juan cos. The species has also been reported from Arizona, Colorado, New Mexico, Texas, and northern México (Hitchcock and Chase 1951, Gould 1951, Gould in Kearney and Peebles 1951, Martin and Hutchins 1980). In western Colorado, it is “[k]nown from one collection in Colorado National Monument, restricted to small depressions in sandstone rimrock that fill seasonally with shallow water pools” (Weber and Wittmann 1996a). *AUF2* has suggested that this taxon might best be treated in the genus *Lycurus*, as *L. schaffneri* (Fourn.) Mez. Of sporadic distribution throughout its range, or just poorly known? Additional distribution and status information needed; move to watch list?

Muhlenbergia filiculmis Vasey

“slim-stem muhly”

Poaceae

Federal Status: None

UTNHP Rank: G4/SR

Distribution: ?; AZ, CO, NM, WY

Notes: This tufted perennial grass has been reported from Utah (e.g., Hitchcock and Chase 1951, A. and N. Holmgren in Cronquist et al. 1977), but its main distribution is evidently on the eastern slope of the Rocky Mtns. from Wyoming south to New Mexico (Martin and Hutchins 1980; Dorn 1992; Weber and Wittmann 1996a,b). Gould (1951) discussed a report from northern Arizona, based on a collection from the Kaibab Plateau, Coconino Co. (*Goodding* in 1935), but suggested that it may represent depauperate specimens of *M. montana* (Nutt.) A. Hitchc. *AUF2* (Arnow in Welsh et al 1993) indicated that the same may be true for the Utah reports.

Oenothera cavernae Munz

“Gypsum Cave evening-primrose”

Onagraceae

Federal Status: None

UTNHP Rank: G3/S1

Distribution: KAN?, SNJ, WSH; AZ, NV

Notes: For original description see Leaflet West. Bot. 3: 50. 1941. Cronquist et al. (1997) cited the distribution as “[d]ry, rocky, often calcareous slopes, 450-1700 m; n. Ariz. (especially about the n. side of the Grand Canyon) to s. Utah (w. San Juan Co. to Washington Co.) and s. Nev. (Clark and Lincoln cos.)” Utah specimens cited by Wagner et al. (1985): San Juan Co., Glen Canyon, 2 miles below Last Chance Creek (*Gaines 981*; MNA, WS); Washington Co., near St. George (*Parry 65*; G, GH, MO, PH). Questionable Kane Co. record as reported in *AUF2* (Welsh et al. 1993). Regarded by Wagner et al. (1985) as extirpated in Glen Canyon and perhaps in Washington Co. (the locality of Parry’s collection obscure). Rare in Nevada (Kartesz 1987). Additional information needed to verify occurrence in Utah and to determine rangewide status.

Oenothera pallida Lindley var. runcinata (Engelm.) Cronquist

“Santa Fe evening-primrose”

Onagraceae

Federal Status: None

UTNHP Rank: G5T5/SR

Distribution: ?; AZ, CO, NM, NV +

Status Category: *Additional Data Needed*

Notes: For current treatment see Great Basin Nat. 52: 77. 1992. For alternative treatment as *O. pallida* ssp. *runcinata* (Engelm.) Munz & Klein, see N. Amer. Fl. II. 5: 119. 1965. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Cronquist et al. (1997) cited the distribution of var. *runcinata* as “mainly from Ariz. to w. Texas and n. Mex., but also extending into [the Intermountain region] in s. Utah (n. in forms transitional to var. *pallida* as far as Carbon Co.), and n. to c. Nye Co., Nev.” Ssp. *runcinata* reportedly in eastern Colorado, “[a]bundant in sand dunes in the San Luis Valley.” (Weber and Wittmann 1996b). Information needed on distribution and status in Utah; move to peripherals list?

Oenothera villosa* Thunb. var. *villosa

“hairy evening-primrose” Onagraceae

Federal Status: None **UTNHP Rank:** G5T5/SR

Distribution: ?; WY, ???

Notes: Cronquist et al. (1997) cited the distribution of *O. villosa* as “[s]treambanks, roadsides, and open slopes, somewhat weedy, often in disturbed habitats; c. and w. U.S. and sw. Can.; scattered across the n. part of [the Intermountain region], but not very abundant.... Most of [the Intermountain] plants belong to the primarily Rocky Mountain var. *strigosa* (Rydb.) Dorn.... Variety *villosa*, the more hairy phase of the species, grows mostly east of our range.” Utah plants treated in *AUF2* (Welsh et al. 1993) as *O. biennis* var. *strigosa* Rydb. Information needed to verify occurrence and to determine status in Utah.

Opuntia acanthocarpa* Engelm. & Bigelow var. *acanthocarpa

“buckhorn cholla” Cactaceae

Federal Status: None **UTNHP Rank:** G4T4/S1

Distribution: WSH; AZ, NV?

Notes: Acc. Benson (1982), var. *acanthocarpa* is one of two varieties of *O. acanthocarpa* in Utah (the other being var. *coloradensis* L. Benson). The same author cited a collection of var. *acanthocarpa* from north of Virgin, Washington Co. (*Benson 16021*, POM), and reported the distribution otherwise as “Mojavean Desert.... Arizona in central and E central Mohave Co. and in SW Yavapai Co. from Hualpai and Cottonwood Mts. to McCloud Mts.” Questionable Nevada record as discussed by Benson (1982); to be looked for in Clark Co. (Kartesz 1987). Rangewide distribution and status information needed.

***Opuntia chlorotica* Engelm. & Bigelow**

“pancake prickly-pear” Cactaceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: WSH; AZ, NM, NV +

Notes: Reported by Benson (1982) from Zion Canyon (Washington Co.); additional reports from Beaver Dam Wash, Snow Canyon, Veyo, and the southern base of the Pine Valley Mtns. (Warrick 1987, Albee et al. 1988, Welsh et al. 1993). Other authorities, however, did not include Utah within this species’ range which extends from the Calif. deserts to southern Nevada, Arizona, southwestern

New Mexico, and northwestern México (Parfitt 1980, Parfitt and Baker in Hickman 1993). Are the Utah reports based on misidentified specimens of *O. phaeacantha* Engelm.?

***Opuntia fragilis* (Nutt.) Haw. var. *brachyarthra* (Engelm. & Bigelow) Coulter**

“Zuni prickly-pear”

Cactaceae

Federal Status: None

UTNHP Rank: G4G5T3T4/S?

Distribution: CAR?, EME?, SEV?, SNP?, ?; AZ, CO, NM

Notes: For alternative treatment as ssp. *brachyarthra* (Engelm. & Bigelow) W.A. Weber, see Phytologia 51: 374. 1982. *AUF2* (Welsh et al. 1993) did not recognize var. *brachyarthra*, treating it instead as a synonym of *O. fragilis* (sensu lato). Benson (1982) did not mention Utah in his range description for var. *brachyarthra*, but his distribution map (p. 395) shows two locations in Utah, one straddling the Sanpete-Sevier county line and the other in southwestern Carbon Co. near the Emery Co. line. Otherwise known from western Colorado, northwestern New Mexico, and northern Arizona, where reportedly rare (Benson 1982). Rangewide distribution and status information needed; taxonomic problem?

***Oreostemma alpigenum* (Torrey & Gray) E. Greene var. *haydenii* (T.C. Porter) Nesom**

“alpine aster”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/SR

Distribution: ?; ID, NV, WY +

Notes: For current treatment see Phytologia 74: 313. 1993. For alternative treatment as *Aster alpigenum* var. *h.* (T.C. Porter) Cronquist, see Univ. Wash. Publ. Biol. 17(5): 76. 1955. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Reported from Utah by Nesom (1994, p. 195), based on a single collection (*Recker 4255*, US) that is reportedly unusual in having spinulose leaf margins. The overall distribution of var. *haydenii* was cited by Cronquist (1994) as “[o]pen places in the mts., mostly in alpine or subalpine habitats[;] ... e. of the Cascade-Sierran axis; in [the Intermountain region] found on Steens Mt. in Oregon, in the mts. of Elko Co., Nev., and on Mt. Harrison in Cassia Co., Idaho; also in the Wallowa Mts. of Oregon, and the mts. of c. Idaho, w. Mont., and w. Wyo.” Additional data needed to confirm occurrence and status in Utah; move to peripherals list?

***Oxytropis besseyi* (Rydb.) Blank. var. *obnapiformis* (C.L. Porter) Welsh**

“Maybell loco-weed”

Fabaceae

Federal Status: (3C)

UTNHP Rank: G5T3/S2

Distribution: DAG; CO, WY

Notes: For original description see Madroño 9: 133. 1947. For current treatment see Great Basin Nat. 38: 337. 1978. For alternative treatment as *O. nana* var. *o.* (C.L. Porter) Isely, see Syst. Bot. 8: 425. 1983. Barneby (1989) cited the overall distribution of var. *obnapiformis* as “along Green River in Daggett Co., Utah and adj. Wyo. and Colo.” Utah specimen cited by Barneby (1952): Daggett Co., Sheep Creek Canyon (*Williams 9159*; GH, NY). In western Colorado, var. *obnapiformis* is restricted to “[s]andy areas, [Moffat Co.]” (Weber and Wittmann 1996a). In central

Status Category: *Additional Data Needed*

and southwestern Wyoming (Dorn 1992). Additional distribution and status information needed (especially from Wyoming).

***Panicum bulbosum* Kunth**

“bulb panic-grass”

Poaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: ?; AZ, NM +

Notes: A. and N. Holmgren (in Cronquist et al. 1997) cited the distribution as “[m]oist meadows in canyons and on slopes in the mts., often in ponderosa pine woods; s. Utah and Ariz. to Texas, s. to c. Mex.” *AUF2* (Arnow in Welsh et al. 1993, p. 847) questioned the report of *P. bulbosum* in Utah. What is the original source of this report?

***Pedicularis parryi* A. Gray var. *purpurea* Parry**

“Yellowstone lousewort”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: CAC; ID, WY +

Notes: For alternative treatment as ssp. *purpurea* (Parry) G. Carr, see Brittonia 23: 289. 1971. In Utah known by a single collection from Cache Co., Bear River Range, ridge southeast of Mt. Naomi (*Carr 467*; NY, PH, RM, UWM). The Utah locality for var. *purpurea* is evidently disjunct from the main distribution in central and southwestern Montana, eastern Idaho, and northwestern Wyoming (Carr 1971, N. Holmgren in Cronquist et al. 1984). The habitat of ssp. *purpurea* was described as “primarily on exposed, well-drained, rocky slopes at 8000-10000 feet” (Carr 1971). Rangewide distribution and status information needed.

***Penstemon humilis* Nutt. ex A. Gray var. *desereticus* Welsh**

“Deseret beard-tongue”

Scrophulariaceae

Federal Status: None

UTNHP Rank: G5T2?/S2?

Distribution: BEA, IRO, JUA, MIL, TOO; NV?

Notes: For original description see Rhodora 95: 416. 1993 [1994]. Type from Juab Co., west flank of Deep Creek Mtns., Rock Spring Canyon, ca. 7 miles SSE of Ibapah (*Welsh et al. 16858*; holotype BRY). Var. *desereticus* includes plants from the Indian Peak, Needle, Mountain Home, Tunnel Spring, Wah Wah, and Deep Creek ranges (Welsh 1993). Acc. *AUF2* (Neese in Welsh et al. 1993), the variety is distinguished from typical *P. humilis* primarily by its longer corollas (12-13 mm in var. *humilis* vs. 15-19 mm in var. *desereticus*). Are the plants from western Utah that Welsh (1993) distinguished as var. *desereticus* the same as those from Lincoln Co., Nevada, described earlier at the species level as *P. decurvus* Pennell ex Crosswhite? If so, then var. *desereticus* would no longer be considered a Utah endemic and would not meet the criteria for inclusion in this inventory.

Status Category: *Additional Data Needed*

Penstemon procerus Douglas ex Graham var. aberrans (M.E. Jones) A. Nelson

“Soldier Summit penstemon” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5T3?/S3?

Distribution: BEA, CAR?, DUC?, EME, GAR, GRA?, KAN?, PIU?, SEV, SNP, UTA, WAS, WAY?, WSH?

Notes: For alternative treatment as ssp. *aberrans* (M.E. Jones) Keck, see Amer. Midl. Nat. 33: 146. 1945. Lectotype from Utah-Wasatch county line, Soldier Summit, 7300 ft. (*Jones 5601i*, POM; isolectotype US), designated by Pennell (1920). Acc. N. Holmgren (in Cronquist et al. 1984), var. *aberrans* is “endemic to the Utah Plateaus from Soldier Summit of the Wasatch Plateau to the Tushar and Aquarius plateaus.” Acc. *AUF2* (Neese in Welsh et al. 1993), plants from the southern Wasatch Mtns. also belong with this variety. Keck (1945) noted that it is “[s]eldom found in extensive stands” and cited the following collections in addition to the type: Soldier Summit (*Keck 787*); Beaver Co., 5 miles west of Puffer Lake (*Keck 643*); Emery Co., summit of Huntington Canyon (*Keck 706*); Garfield Co., Aquarius Plateau (*Cottam 9105*); Sanpete Co., east of Fairview, Gooseberry Meadow (*Keck 698*); Sevier Co., Fish Lake (*Jones 5740*). Additional data needed on distribution and status.

Penstemon rydbergii A. Nelson var. rydbergii

“Rydberg’s beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G5T5/SR

Distribution: DUC, UIN, ?; AZ?, CO, ID, NM, NV, WY +

Notes: *AUF2* (Neese in Welsh et al. 1993) did not recognize infraspecific taxa in *P. rydbergii*. Acc. N. Holmgren (in Cronquist et al. 1984), most of the Utah plants (i.e., from the Wasatch Mtns. and the Utah High Plateaus) belong to var. *aggregatus* (Pennell) N. Holmgren. The same author cited the overall range of var. *rydbergii* as “se. Wash., ne. Oregon (and on Steens Mt.), extreme ne. corner of Nev., Idaho to sw. Mont., Wyo. (except sw. corner), ne. Utah (Uinta Mtns.), Colo., and n. N.M.” Keck (1940) earlier cited the following Utah collections of his *P. rydbergii* ssp. *typicus*: Duchesne Co., between Mt. Emmons and Chain Lakes (*Graham 8475*); Uintah Co., Youngs Springs (*Goodding 1196*). Additional data needed on distribution and status in Utah; move to peripherals list?

Penstemon saxosorum Pennell

“Medicine Bow beard-tongue” Scrophulariaceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: SUM, UIN; CO, WY

Notes: Not treated (not even in synonymy) in *AUF2* (Neese in Welsh et al 1993). New Utah state record based on a 1995 collection from Summit Co., north slope Uinta Mtns., Henry’s Fork trail, elev. 10,360 ft. (*Refsdal 6761*, RM). A 1983 collection from Uintah Co. has also been found (*Dorn 3881*, RM; see Refsdal 1996). Previously known from the mtns. of south-central Wyoming and in Colorado from Larimer Co. west to Moffat Co. in the northwestern corner of the state (Pennell 1920; Penland in Harrington 1964; Dorn 1992; Weber and Wittmann 1992a,b). Are the Utah reports of

Status Category: *Additional Data Needed*

P. saxosorum based on misidentified specimens of *P. uintahensis* Pennell? The voucher specimens cited by Refsdal (1996) need to be critically reexamined.

***Phacelia crenulata* Torrey in S. Watson var. *angustifolia* Atwood**

“Wupatki phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5T?/S2?

Distribution: BEA, GAR, KAN; AZ

Notes: For original description see Great Basin Nat. 35: 158. 1975. *AUF2* (Atwood in Welsh et al. 1993) reported var. *angustifolia* (erroneously) as endemic to eastern Kane Co. The overall distribution was cited earlier by Atwood (1975) as “Coconino Co., Arizona [type from Wupatki Natl. Monument], north to Kane, Garfield, and Beaver cos., Utah.” Rangewide distribution and status information needed; taxonomic problem?

Phacelia pulchella* A. Gray var. *pulchella

“beautiful phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5T?/SR

Distribution: WSH; AZ, NV?

Notes: Type from Washington Co., gypseous clay knolls near St. George (*Parry 182*; holotype GH, isotypes BR, Y, F, MO, NY, POM, US). Howell (1943) reported *P. pulchella* var. *typica* as restricted to southwestern Utah and northwestern Arizona. The same author cited the following Washington Co. collections in addition to the type: near St. George (*Eastwood & Howell 9145*; ARIZ, CAS, GH, NY, POM, RM, US), near Shivwits Village (*Eastwood & Howell 9086*; CAS, DS, US), Rockville (*Eastwood & Howell 9325*; CAS, GH), La Verkin (*Jones 5183r*, POM), 2.5 miles west of Hurricane (*Maguire 20484*; CAS, UTC). Two Kane Co. collections were also mentioned by Howell (1943), but these are probably referable to the recently described var. *atwoodii* Welsh. Acc. Kartesz (1987), most of the Nevada plants belong to var. *gooddingii* (Brand) J.T. Howell, but var. *pulchella* has been reported from Clark Co. Cronquist et al. (1984) cited the habitat as “[o]n or associated with barren (gypseous) clays in the valleys and foothills, fairly common in its specialized habitat.” Perhaps too common to be included in this inventory, but better documentation is needed.

Phacelia sericea* (Graham) A. Gray var. *sericea

“silky phacelia” Hydrophyllaceae

Federal Status: None **UTNHP Rank:** G5T5/SRF

Distribution: GRA?, SNJ?; CO, ID, NM?, WY +

Notes: Most of the Utah plants belong to var. *ciliosa* Rydb., but var. *sericea* is rare in the La Sal Mtns. where var. *ciliosa* also occurs (Cronquist et al. 1984; cf. Atwood in Welsh et al. 1993). Outside the state, the distribution of var. *sericea* “centers on the higher elevations of the Rocky Mountains, northern Cascade Range, and Olympic Range, occurring from 4500 ft. in the Canadian Rockies to 12,000 and 13,000 ft. in Idaho and Colorado” (Gillett 1961). Questionable New Mexico record as reported by Roalson and Allred (no date), without infraspecific designation. The

specimens forming the basis of the Utah report need to be critically reexamined; move to peripherals list?

***Phlox austromontana* Cov. var. *prostrata* E. Nelson**

“Silver Reef phlox” Polemoniaceae

Federal Status: None **UTNHP Rank:** G5T3?/S2?

Distribution: KAN, WSH; AZ?, NV?

Notes: Type from Washington Co., Silver Reef (*Jones 5163y-z*; holotype RM, isotypes BRY, NY, POM, US). *AUF2* (Welsh et al. 1993) treated var. *prostrata* as a southwestern Utah endemic, noting that “[p]lants from much of the range of [*P. austromontana*] simulate these sprawling, open-growing plants, but never so common as in Washington County.” Kearney and Peebles (1951) reported ssp. *prostrata* (E. Nelson) Wherry from Arizona in “Coconino, Mohave, and southern Graham counties, type of *P. acerba* A. Nelson from Oak Creek Canyon, Coconino County.” Acc. Kartesz (1987), ssp. *prostrata* “may be expected in Nevada but as of now, no specimens have been seen.” Additional distribution and status information needed; taxonomic problem?

***Plagiobothrys kingii* (S. Watson) A. Gray var. *harknessii* (E. Greene) Jepson**

“Great Basin popcorn-flower” Boraginaceae

Federal Status: None **UTNHP Rank:** G4T4/S1?

Distribution: BOX?; NV +

Notes: Cronquist et al. (1984) cited the overall distribution as “chiefly in se. Oregon, ne. Calif., n. Nev., and adj. Utah, but extending s. to c. Nye Co., Nev., and to Mono Co., Calif.” Albee et al. (1988, p. 613) cited the Utah occurrence as “native annual, shadscale, sagebrush, juniper communities; Box Elder Co. (Cronquist et al., 1984).” *AUF2* (Higgins in Welsh et al. 1993) provided no additional information. Occurrence and status in Utah need to be confirmed; move to peripherals list?

***Plantago major* L. var. *pachyphylla* Pilger**

“Aven Nelson’s plantain” Plantaginaceae

Federal Status: None **UTNHP Rank:** G5T?/S?

Distribution: SAL, ?; WY, ???

Notes: *AUF2* (Higgins in Welsh et al. 1993) did not recognize var. *pachyphylla*, treating it instead as a synonym of *P. major* (sensu lato). A collection from Salt Lake Co., Salt Lake City (*Jones 1030*; POM, UT) is the first of two specimens cited in the original description (Pilger 1922); the second collection is from Laramie, Wyoming (*Nelson 7673*, RM). Cronquist et al. (1984) noted that, “[i]n addition to our introduced, weedy forms, we have a native, scarcely weedy type, occurring chiefly in moist, saline habitats, which tends to have succulent leaves. The name *P. major* var. *pachyphylla* is available for these latter plants, but, at least in the herbarium, they are very difficult to distinguish from the introduced forms.” The same authors reported the name *P. nitrophila* A. Nelson [type from near Manville, Converse Co., Wyoming (*Nelson 8417*, holotype RM) as a synonym of *P. major* var. *pachyphylla*. Rangewide distribution and status information needed; taxonomic problem?

***Plantago maritima* L.**

“seaside plantain”

Plantaginaceae

Federal Status: None

UTNHP Rank: G5/SH

Distribution: BOX?, DAV?, SAL?, TOO?, WEB?; ++

Notes: Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). Acc. Cronquist (in Hitchcock et al. 1959), *P. maritima* is “[a] widespread and variable maritime species, very rarely occurring in salty places in the continental interior (e.g., reported from Great Salt Lake, Utah).” Occurrence in Utah needs to be verified; perhaps introduced by migratory birds and not a permanent member of the flora.

***Plantago virginica* L.**

“dwarf plantain”

Plantaginaceae

Federal Status: None

UTNHP Rank: G5/SE

Distribution: SAL; AZ, NM ++

Notes: Albee et al. (1988) cited the Utah distribution as “native annual, disturbed site, Salt Lake Co. (UT).” Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). *P. virginica* probably not native and perhaps not even persisting as part of the Utah flora. The specimen at UT needs to be reexamined.

***Platanthera sparsiflora* (S. Watson) Schlechter var. *ensifolia* (Rydb.) Luer**

“grass-lvd. bog-orchid”

Orchidaceae

Federal Status: None

UTNHP Rank: G4G5T3?/S3?

Distribution: ?; AZ, NM, ??? +

Notes: For current treatment see Native Orchids U.S. & Canada 242. 1975. Not treated (not even in synonymy) in *AUF2* (Higgins in Welsh et al. 1993). Acc. Luer (1975), “[t]he range of [var. *ensifolia*] probably does not exceed that of the typical variety,” which is found in the mtns. of the western U.S. and southward into México. The type of var. *ensifolia* is from the San Francisco Mtns. in northern Arizona, and the variety has also been reported from Oregon (Luer 1975, p. 240) and New Mexico (Roalson and Allred 1995b). Again acc. Luer (1975), “[t]he most distinctive feature [of var. *ensifolia*] is the shorter spike of much more closely spaced flowers, which are not as crowded as they often are in typical *P. limosa* Lindley or *P. hyperborea* (L.) Lindley, but decidedly congested when compared to the remotely flowered stems of typical *P. sparsiflora*. Another distinguishing characteristic is furnished by the appearance of the leaves, which are grass-like, long and narrow, and clustered near the base of the stem. The plants grow in similar habitats, as along the damp banks of partially shaded streams.” Information needed on occurrence and status in Utah.

***Platanthera stricta* Lindley**

“slender bog-orchid”

Orchidaceae

Federal Status: None

UTNHP Rank: G5/S2S3

Distribution: DUC, JUA, MIL, SAL, SUM, WAS; ID, NV, WY +

Status Category: *Additional Data Needed*

Notes: Treated in *AUF2* (Higgins in Welsh et al. 1993) as *Habenaria saccata* E. Greene [= *P. saccata* (E. Greene) Hultén, Madroño 19: 223. 1968, *Limnorchis saccata* (E. Greene) Á. Löve & Simon, Southwest. Nat. 13: 339. 1968]. County distribution as reported in *AUF2*. Acc. Luer (1975), *P. stricta* “grows where moisture is available, usually in damp meadows or along streams. It is common and widely distributed in the mountains of the West.” The same author mapped the distribution as extending from Alaska southward in the Pacific states to northern Calif. and in the Rocky Mtn. cordillera to Idaho, northeastern Nevada, and western Wyoming (but not Utah!). Reports of *P. stricta* from further south may be referable to *P. hyperborea* var. *gracilis* (Lindley) Luer or *P. h.* var. *purpurascens* (Rydb.) Luer. The Utah specimens need to be critically reexamined. Taxonomic problem? Move to peripherals list?

***Poa agassizensis* Boivin & D. Löve**

“Kentucky bluegrass (native race)” Poaceae

Federal Status: None **UTNHP Rank:** G5Q/S?

Distribution: ?; CO, ID?, NM, NV, WY? +

Notes: For original description see *Naturaliste Canad.* 87: 176. 1960. For alternative treatment as *P. pratensis* ssp. *a.* (Boivin & D. Löve) Taylor & MacBryde, see *Canad. J. Bot.* 56: 193. 1978. Treated in *AUF2* (Arnow in Welsh et al. 1993) as a synonym of *P. pratensis* L. (sensu lato). Acc. A. and N. Holmgren (in Cronquist et al. 1977), “*Poa pratensis* is considered to be entirely a European introduction by many botanists, but its occurrence on remote meadows in areas like the Uinta Mountains and numerous places throughout the [Intermountain] region must be by native populations.... Our apparent native stands cannot, however, be separated from the introduced material with any degree of satisfaction.” Boivin and Löve (1960) noted that “*Poa pratensis* is often considered truly indigenous only in the northern parts of the North American continent.... Further west the situation is very different, and it is at once evident that the native *Poa pratensis* is dominant, the introduced being more or less confined to lawns, cultivated fields, roadsides, etc. ... [I]t became evident that this ... *Poa* was practically ever-present on dry grassland in southern Manitoba, and later [we] have found it to be widespread not only over the Western Plains, but over large parts of United States and Canada.... The species is the dominant prairie grass between Red River and the Manitoba escarpment.” These authors also cited collection localities from the following neighboring states: Colorado, New Mexico, and Nevada. Information needed on distribution and status in Utah.

***Poa arctica* R. Brown ssp. *aperta* (Scribner & Merrill) R. Soreng**

“Telluride bluegrass” Poaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: ?; CO, NM

Notes: For current treatment see *Great Basin Nat.* 45: 404. 1985. Not treated (not even in synonymy) in *AUF2* (Arnow in Welsh et al. 1993). The range of ssp. *aperta* was reported by Soreng (1985) as limited to the southern Rocky Mtns. in central and southern Colorado, northern New Mexico, and southern Utah; the same author cited the habitat as “[s]pruce-fir forest to alpine meadows and grasslands, mostly 2440-3800 m. ... Occurring from deep, rich soils to rocky places.”

Status Category: *Additional Data Needed*

Soreng (1985) further noted that ssp. *aperta* “is markedly different [from typical *P. arctica*] in its more tufted and stricter habit, with fewer sterile shoots and proportionally more flowering shoots, more pale or glauc[o]us foliage, and more southerly and often subalpine habitat. It may introgress with *Poa secunda* J. Presl, but it shows strong affinity to *P. arctica* and grades into that species.” Information needed on distribution and status in Utah.

***Poa cusickii* Vasey ssp. *pallida* R. Soreng**

“Yellowstone bluegrass” Poaceae

Federal Status: None **UTNHP Rank:** G5T5/SR

Distribution: SEV, ?; CO, ID, NV, WY +

Notes: For original description see Syst. Bot. 16: 518. 1991. Not treated (not even in synonymy) in *AUF2* (Arnow in Welsh et al. 1993). Soreng (1991b) cited the distribution of ssp. *pallida* as e. B.C., Alta., Man., Sask., s. Yukon, e. Calif. (White Mts.), n. Colo., Idaho, Montana, w. N.D., n. Nev., e. Oregon, (w. S.D.?), n. Utah (to Sevier Co., Mt. Marvin, *Rydberg & Carlton 7557*) and Wyoming.” “Plants of the N Great Plains, Rocky Mts., and interior Great Basin, extending to high peaks of the W Great Basin.” Utah distribution inferred from Soreng’s map would include the Uinta Mts., n. Wasatch and Bear River ranges, and possibly the Raft River Mts., with a disjunct outlier on the southern Utah plateaus (the Sevier Co. collection cited above?). Information needed on distribution and status in Utah.

***Poa stenantha* Trin.**

No common name Poaceae

Federal Status: None **UTNHP Rank:** G5/SRF

Distribution: ?; CO, ID +

Notes: Soreng (1985) reported the distribution of this bluegrass as mtn. slopes from Alaska [the type region] and southwestern Canada southward to northern Utah and central Colorado (where rare). His concept includes those plants that have been called *P. macroclada* Rydb. [type from Rogers, Gunnison watershed, Colorado]. *AUF2* (Arnow in Welsh et al. 1993, p. 853) questioned the Utah report and noted that no specimens of this poorly understood taxon have been seen from south of Idaho. Information needed on distribution and status in Utah; taxonomic problem?

***Populus deltoides* Bartram ex Marshall ssp. *wislizeni* (S. Watson) Eckenwalder**

“Rio Grande cottonwood” Salicaceae

Federal Status: None **UTNHP Rank:** G5T5/S1?

Distribution: EME, ?; AZ, CO, NM, WY? +

Notes: For current treatment see J. Arnold Arbor. 58: 205. 1977. For alternative treatment as var. *wislizeni* (S. Watson) Dorn, see Vasc. Pls. Wyoming 299. 1988. Treated in *AUF2* (Goodrich and Welsh in Welsh et al. 1993) as *P. fremontii* var. *w.* S. Watson. Acc. Eckenwalder (1977), the range of *P. deltoides* ssp. *wislizeni* “occupies the upper Rio Grande drainage from near El Paso [Texas] northward and extends to the Colorado River drainage in northeastern Arizona, eastern Utah, and western Colorado. While the southwestern boundary between this subspecies and *P. fremontii* S.

Status Category: *Additional Data Needed*

Watson is quite sharp, there is a narrow zone of intergradation between these taxa in eastern Utah.” Emery Co. record as reported in *AUF2*. The Uinta Basin plants belong to *P. fremontii* (Goodrich and Neese 1986); questionable Wyoming record as reported by Dorn (1992). Additional information needed on distribution and status in Utah.

Portulaca parvula A. Gray

“dwarf purslane”

Portulacaceae

Federal Status: None

UTNHP Rank: G5/S1

Distribution: KAN, SNJ; AZ, CO, NM, NV +

Notes: Treated in *AUF1* (Higgins and Welsh in Welsh et al. 1987) as *P. parvula*. Treated in *AUF2* (Higgins and Welsh in Welsh et al. 1993) as *P. halimoides* L., with *P. parvula* given as a synonym. The Utah specimens need to be critically reexamined. If they are red-fld., then the correct name is *P. pilosa* L. [*P. mundula* I. M. Johnston is a synonym; see Matthews et al. (1992)]. If they are yellow-fld., then the correct name is *P. parvula* [or possibly *P. halimoides*; see Matthews and Levins (1985)].

Portulaca retusa Engelm.

“notch-lvd. purslane”

Portulacaceae

Federal Status: None

UTNHP Rank: G?/SR

Distribution: KAN?, SNJ?, WSH?, ?; AZ, CO?, NM +

Notes: Several authors (incl. Kearney and Peebles 1951, Martin and Hutchins 1980) have reported the distribution of *P. retusa* as extending into Utah, but *AUF2* (Higgins and Welsh in Welsh et al. 1993) cited the species as not definitely known from the state but to be expected in the southern counties. The difficulty in distinguishing *P. retusa* from *P. oleracea* L. except by the surface ornamentation of the seeds has been noted (Kearney and Peebles 1951, Weber and Wittmann 1992). Utah specimens identified as *P. oleracea* need to be critically reexamined.

Potamogeton latifolius (Robbins) Morong

“Nevada pond-weed”

Potamogetonaceae

Federal Status: None

UTNHP Rank: G3G4/SR

Distribution: BOX; AZ, NV +

Notes: Treated in *AUF2* (Higgins in Welsh et al. 1993) as *P. filiformis* var. *l.* (Robbins) Reveal, Intermt. Fl. 6: 26. 1977. The distribution of this submersed aquatic was cited by Reveal (in Cronquist et al. 1977) as “nw. Utah, n. Nev., ne. Calif. and se. Oregon.” Also (disjunct?) in Arizona and Texas (St. John 1916, Thorne in Hickman 1993). Acc. Kartesz (1987), *P. latifolius* is known in Nevada mostly from the northwestern part of the state (localities reported from Churchill, Lyon, Pershing, Washoe, and White Pine cos.). Reported as “[v]ery uncommon” in Calif. but “[m]ay be locally abundant” (Thorne in Hickman 1993). Additional distribution and status information needed (especially from southeastern Oregon). Acc. Reveal (in Cronquist et al. 1977), “[t]he reduction of *P. latifolius* to a variety of *P. filiformis* Pers. is due primarily to the intergradation seen between various populations of [*P. filiformis*] var. *occidentalis* (Robbins) Morong and *P. latifolius*. At their

Status Category: *Additional Data Needed*

respective extremes, the two are quite distinct, but across the broad range of variation, the two forms gradually merge in nearly all features. The distinction between the two in northern Nevada and northwestern Utah is extremely difficult to make.”

Potentilla bipinnatifida Douglas ex Hook.

“Dakota cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G5/SR

Distribution: DAG?, DUC?, BEA?, PIU?; CO, ID, WY +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). N. Holmgren (in Cronquist et al. 1997) treated *P. bipinnatifida* as distinct from *P. pensylvanica* L. and cited the distribution as “[s]agebrush and grassy meadows on the high plains and in valleys and canyons, 1500-2900 m; Alta. to Man., s. through e. Idaho, Mont., Wyo., N.D., and Minn. to Utah (vicinity of Uinta and Tushar mts.) and Colo.” Information needed on distribution and status in Utah; taxonomic problem?

Potentilla drummondii Lehm. var. breweri (S. Watson) N. Holmgren

“Brewer’s cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G5T5/S2?

Distribution: ?; CO?, ID?, NV, WY? +

Notes: For current treatment see *Intermt. Fl.* 3A: 93. 1997. For alternative treatment as ssp. *breweri* (S. Watson) B. Ertter, see *Brittonia* 44: 430. 1992. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Keck (in Clausen et al. 1940) reported the main distribution of *P. breweri* S. Watson as along the Sierran-Cascade axis from Calif. north to Oregon, but he noted further that “Certain elements from the Rocky Mountains of Wyoming, Colorado, and Utah probably should also be included [in the *P. drummondii* - *P. breweri* species complex].” Later in the same paper, Keck added that “certain scarcely distinguishable forms” from the Uinta Mtns. of Utah probably belong to this species complex. Most recently, N. Holmgren (in Cronquist et al. 1997) cited the distribution of *P. drummondii* var. *breweri* as “s. Wash. to n. and Sierran Calif., e. to Nev. and Utah.” Information needed on distribution and status in Utah.

Potentilla glandulosa Lindley var. pseudorupestris (Rydb.) Breitung

“sticky cinquefoil” Rosaceae

Federal Status: None **UTNHP Rank:** G5T5/S1S2

Distribution: CAC?, ?; ID, NV, WY +

Notes: For current treatment see *Canad. Field-Nat.* 78: 58. 1957. For alternative treatment as ssp. *pseudorupestris* (Rydb.) Keck, see *Carnegie Inst. Wash. Publ.* 520: 41. 1940. Keck (in Clausen et al. 1940) cited the overall range as “[s]outhern Alberta and British Columbia, through western Montana and Wyoming to northernmost Utah and Nevada, to Idaho; less frequent in Washington and on the Cascades of Oregon, to Mount Eddy, California; usually at high elevations.” N. Holmgren (in Cronquist et al. 1997) defined var. *pseudorupestris* more broadly and reported the distribution as extending southward through Utah and Nevada to Arizona. *AUF2* (Welsh et al. 1993) evidently

Status Category: *Additional Data Needed*

applied a similar concept but used a different name, *P. glandulosa* var. *intermedia* (Rydb.) C.L. Hitchc. Information needed on distribution and status in Utah; taxonomic problem?

***Ptelea trifoliata* L. var. *pallida* (E. Greene) V. Bailey**

“southwestern hop-tree” Rutaceae

Federal Status: None **UTNHP Rank:** G5T?/SH

Distribution: WSH?; AZ, NM

Notes: For current treatment see Brittonia 14: 23. 1962. The range of var. *pallida* was cited by Bailey (1962) as “[i]nfrequent in desert ranges or plateaus of western Arizona and in the Rio Grande region of southern New Mexico.” In Arizona, the distribution of var. *pallida* is known to extend into northwestern Mohave Co. (Bailey 1962, Cronquist et al. 1997), not far from its common boundary with Washington Co., Utah. The Washington Co. record for var. *lutescens* (E. Greene) V. Bailey, cited in *AUF2* (Higgins and Welsh in Welsh et al. 1993), is perhaps based on *P. ambigens* E. Greene (type from “Southern Utah,” Palmer 73, US), which was regarded by Bailey (1962) as a synonym of var. *pallida*. However, she also noted that the Palmer collection was probably made at Mokiak Pass, Mohave Co., Arizona. If the Washington Co. record is based on a more recent collection, then on distributional grounds it seems likely to represent var. *pallida* (not var. *lutescens* as reported in *AUF2*).

***Ranunculus eschscholtzii* Schlecht. var. *trisectus* (Eastw. ex B. Robinson) L. Benson**

“Wallowa Mtns. buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G5T3?/SR

Distribution: ?; ID, WY +

Notes: *AUF2* (Welsh et al. 1993) reported that var. *trisectus* occurs in Utah, but the county distribution was not specified. Benson (1948), however, had earlier cited var. *trisectus* as “[e]ssentially a plant of Eastern Oregon,” and most recently Whittemore (in Morin 1997) gave the overall range of var. *trisectus* as “[o]pen rocky slopes and meadows; 900-3500 m; Idaho, Oreg., Wyo.” Information needed on distribution and status in Utah; taxonomic problem?

***Ranunculus ranunculinus* (Nutt.) Rydb.**

“tiny buttercup” Ranunculaceae

Federal Status: None **UTNHP Rank:** G3G4/S1

Distribution: CAC, ?; CO, NM, WY

Notes: *AUF2* (Welsh et al. 1993) reported the Utah distribution as restricted to Cache Co. where “often in crevices in limestone cliffs.” Benson (1948), however, had earlier cited another Utah specimen from “Granite Canyon, Uintah Mountains” (*Krause s.n.* in 1881, US). Whittemore (in Morin 1997) cited the overall distribution as “[o]pen grassy or brushy slopes; 1700-2600 m; Colo., N.Mex., Utah, Wyo.” Rangelwide distribution and status information needed; move to watch list? Kapoor and Löve (1970) noted that *R. ranunculinus* is perhaps better placed in the segregate genus *Cyrtorhyncha* (as *C. ranunculina* Nutt.) based on the size and morphology of its chromosomes.

Status Category: *Additional Data Needed*

Rosa manca E. Greene

“plateau rose”

Rosaceae

Federal Status: None

UTNHP Rank: G?/S2?

Distribution: GRA?, SNJ, ?; AZ?, CO

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *R. woodsii* Lindley. The overall distribution was cited by Cronquist and N. Holmgren (in Cronquist et al. 1997) as “[i]n woods and on moist open slopes at middle elev. in the mts., 2100-3000 m, not above timberline; Colorado Plateau region (including the La Sal and Abajo mts.) of Utah and Colo., extending a little into the Rocky Mts. proper in Colo. and into the Wasatch Mts. in Utah.” Questionable Arizona record as discussed by Kearney and Peebles (1951). Not in New Mexico (Martin and Hutchins 1980; Roalson and Allred, no date, 1995a,b). Acc. Kearney and Peebles (1951), “Erlanson ... regarded *R. manca* as ‘a dwarf hexaploid of the southern Rocky Mountain region, closely allied to *R. nutkana* Presl.’ “ Cronquist and N. Holmgren (in Cronquist et al. 1997) compared *R. manca* to the Californian species *R. pinetorum* Heller; they also noted that it “is not very sharply set off from *R. woodsii* var. *ultramontana* (S. Watson) Jepson, and it evidently hybridizes also with *R. nutkana* var. *hispida* Fern.” Rangewide distribution and status information needed; taxonomic problem?

Rudbeckia occidentalis Nutt. var. montana (A. Gray) Perdue

“mountain cone-flower”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/S1?

Distribution: IRO, WSH; CO +

Notes: For current treatment see *Rhodora* 64: 329. 1962. Treated in *AUF2* (Welsh et al. 1993) at the species level (as *R. montana* A. Gray), with the proviso that it “is probably best regarded as a variety of *R. occidentalis*.” The overall range of var. *montana* was cited by Cronquist (1994) as “mnts. of wc. Colo. and s. Utah (Iron and Washington cos.); also in the Elkhorn Range in Baker Co., Oregon.” Information needed on distribution and status in Colorado; the sporadic occurrence leads one to wonder whether the populations may have arisen independently.

Salix candida Fluegge ex Willd.

“bog willow”

Salicaceae

Federal Status: None

UTNHP Rank: G5/SRF

Distribution: SNJ; CO, ID, WY ++

Notes: Not treated (not even in synonymy) in *AUF2* (Goodrich in Welsh et al. 1993). Cottam et al. (1940) cited a Utah location at “La Sal Ranger Station, San Juan Co.” (based on a specimen at BRY). Dr. Sherel Goodrich is probably aware of this specimen, and thus it seems likely that the earlier report (Cottam et al. 1940) was based on a misidentification. Dorn (1977) reported the overall range of *S. candida* as “Alaska and Canada south to northern Colorado, Iowa, and New Jersey.” The same author noted the distribution in the Rocky Mtns. as “[b]ogs. Very local in Fremont Co., Idaho, Montana, Wyoming, South Dakota, and northern Colorado.”

Status Category: *Additional Data Needed*

Salix eriocephala Michaux var. ligulifolia (C. Ball) Dorn

“strap-lvd. willow”

Salicaceae

Federal Status: None

UTNHP Rank: G5T5/S2?

Distribution: KAN, SNJ, ?; AZ, CO, ID?, NM, NV?, WY +

Notes: For current treatment see Brittonia 47: 168. 1995. *S. lutea* var. *ligulifolia* C. Ball treated in *AUF2* (Goodrich in Welsh et al. 1993) as a synonym of *S. lutea* var. *watsonii* (Bebb) Cronquist. Dorn (1995) cited the overall distribution of var. *ligulifolia* as “S Wyoming to New Mexico W to California and Oregon from 1130 to 3050 m elevation.” Utah specimens cited: Kane Co., north of Kanab, Three Lakes (*Tidestrom 2417*, CAN); San Juan Co., La Sal Mtns., Pole Spring Creek (*Franklin 2988*, NY). Questionable Idaho record as reported by Argus (in Hickman 1993; cf. Dorn 1995). No correctly identified Nevada collections were found by Dorn (1995), but var. *ligulifolia* may eventually be documented for that state. Additional data needed on distribution and status in Utah. Intergrades between var. *ligulifolia* and *S. eriocephala* var. *watsonii* (Bebb) Dorn occur in northwestern Colorado, southern Wyoming, and Utah and again in California (Dorn 1995).

Sambucus racemosa L. var. melanocarpa (A. Gray) McMinn

“black elderberry”

Caprifoliaceae

Federal Status: None

UTNHP Rank: G5T?/SR

Distribution: ?; AZ, CO, ID, NM, NV, WY +

Notes: For alternative treatment as *S. pubens* var. *m.* (A. Gray) Samutina, see Novit. Syst. Plant. Vasc. 23: 173. 1986. *AUF2* (Welsh et al. 1993) referred the Utah plants to var. *microbotrys* (Rydb.) Kearney & Peebles but noted that var. *melanocarpa* might also occur in the state. Dempster (in Hickman 1993) treated the taxon at species level (as *S. melanocarpa* A. Gray) and included Utah in her range description. Acc. Cronquist and A. Holmgren (in Cronquist et al. 1984), var. *melanocarpa* “is the characteristic phase of the species in the northern Rocky Mountains of the U.S. and adjacent Canada, extending west also to Washington and Oregon, and south reputedly sometimes to California, Colorado, and even New Mexico.” Arizona record as reported by Kearney and Peebles (1951). Also in northwestern Nevada (Kartesz 1987). Weber and Wittmann (1992) treated *S. melanocarpa* as a synonym of *S. microbotrys* Rydb., noting that it is a “[b]lack fruited local variant.” Information needed to verify occurrence in Utah; taxonomic problem?

Schoenoplectus subterminalis (Torrey) Soják

“water club-rush”

Cyperaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: ?; ID ++

Notes: For current treatment see Čas. Nár. Mus. Odd. Přír. 140: 127. 1972. Not treated (not even in synonymy) in *AUF2* (Goodrich in Welsh et al. 1993). A submersed aquatic with distally floating stems and leaves, the distribution of *Scirpus s.* Torrey was cited by Cronquist et al. (1977) as “quiet, shallow water commonly 2-8 dm deep; s. Alaska, to s. Oregon, chiefly w. of the Cascade summits, but also extending inland to n. Idaho and nw. Mont.; Newfl. to Ont., s. to S.C., Ga., and Mo.; an

apparently isolated station in Utah.” The original source of the Utah report needs to be determined and verified. Move to peripherals list?

Selinocarpus diffusus A. Gray

“Pecos moon-pod”

Nyctaginaceae

Federal Status: None

UTNHP Rank: G5/S2?

Distribution: SNJ?; NM +

Notes: *AUF2* (Welsh et al. 1993) treated both the Washington Co. collections and the single San Juan Co. specimen as *S. diffusus* ssp. *nevadensis* Standley [= *S. nevadensis* (Standley) Fowler & Turner]. Fowler and Turner (1977) cited the distribution of *S. nevadensis* as “[r]estricted to a small area encompassing Clark County, Nevada, Washington County, Utah, and the northwestern tip of Mohave County, Arizona.” The same authors mapped the distribution of *S. diffusus* (sensu stricto) as widespread across west-central to east-central New Mexico, southward to extreme west Texas along the Rio Grande, and east to the High Plains of west Texas and extreme southwestern Oklahoma. The aforementioned collection from San Juan Co., Utah, is thus more-or-less intermediate geographically between typical *S. diffusus* and *S. nevadensis*. The identity of the San Juan Co. collection as *S. nevadensis* is questionable, and in fact it may be *S. diffusus* (sensu stricto). The specimen needs to be critically reexamined.

Senecio dimorphophyllus E. Greene var. paysonii T.M. Barkley

“Payson’s butterweed”

Asteraceae

Federal Status: None

UTNHP Rank: G4T?/S2?

Distribution: ?; ID, NV, WY +

Notes: For original description see *Trans. Kansas Acad. Sci.* 65: 362. 1962. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). In Utah known only from the Uinta Mtns. (Cronquist 1994); otherwise inhabiting alpine meadows and rocky slopes in the northern Rocky Mtns. of northwestern Wyoming, southwestern Montana, and central and eastern Idaho, also disjunct in the higher mtns. of Elko Co., Nevada (Barkley 1962, 1978; Cronquist 1994). Plants from the Uinta Mtns., referred in *AUF2* to var. *dimorphophyllus* or var. *intermedius* T.M. Barkley, might best be placed with var. *paysonii*. The Utah specimens need to be critically reexamined.

Senecio hartianus Heller

“Hart’s butterweed”

Asteraceae

Federal Status: None

UTNHP Rank: G3G4/S1

Distribution: EME, GAR, KAN; AZ, NM +?

Notes: For alternative treatment as *Packera hartiana* (Heller) Weber & Á. Löve, see *Phytologia* 49: 47. 1981. Cronquist (1994) cited the overall distribution as “[w]ooded alluvial places near streams in canyon-bottoms, or on drier, more open slopes ...; mainly in Ariz. and N.M.; in [the Intermountain region] known only from the upper reaches of the Left Fork of the Virgin River in Kane Co., Utah.” Emery and Garfield co. records as reported in *AUF2* (Welsh et al. 1993). Kearney and Peebles (1951) cited the Arizona distribution as “[m]ountains of Apache, Navajo, Coconino, and Gila

Status Category: *Additional Data Needed*

counties, ... type from Hart Spring, San Francisco Peaks.” In northern and western New Mexico acc. Martin and Hutchins (1981), mapped in San Miguel and Grant counties. The range of *S. hartianus* possibly extends to the Guadalupe Mtns. of western Texas (see Barkley 1978, 1988). Additional distribution and status information needed (especially from Arizona and New Mexico); move to watch list?

Senecio pauperculus Michaux

“”

Asteraceae

Federal Status: None

UTNHP Rank: G5/S1?

Distribution: DAG?, EME?, GAR?, RIC?, SUM, UIN?, WAS?; CO, ID, NM, WY ++

Notes: For alternative treatment as *Packera paupercula* (Michaux) Á. & D. Löve, see Bot. Not. 128: 520. 1975 [1976]. In Utah known only from the Uinta Mtns. (Cronquist 1994), the single Utah specimen cited by Barkley (1962) from Summit Co., Bear River (*E. & L. Payson* 4958; MO, NY, PH, POM, RM, UC, US, WSC). Questionable records from Daggett, Emery, Garfield, Rich, Uintah, and Wasatch cos. as reported in *AUF2* (Welsh et al. 1993), possibly based on misidentified specimens of *S. streptanthifolius* E. Greene. Outside of Utah, *S. pauperculus* ranges widely from Labrador to Georgia and westward to Alaska and Oregon (Barkley 1962, 1978; Cronquist 1994). Acc. Barkley (1962), “*Senecio pauperculus* and *S. streptanthifolius* are frequently difficult to separate in the herbarium. On the other hand, collectors report that there is seldom any problem distinguishing the two in the field. *Var. pauperculus* is usually restricted to wet meadows and streambanks in the valleys and at lower elevations, while *S. streptanthifolius* occurs in drier, more upland areas.” The Utah specimens need to be critically reexamined.

Senecio serra Hook. var. admirabilis (E. Greene) A. Nelson

“saw-toothed butterweed”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/S1

Distribution: GRA, SNJ; CO, NM?, WY

Notes: In Utah known only from the La Sal Mtns., Grand and San Juan cos. (Albee et al. 1988, Welsh et al. 1993, Cronquist 1994). The overall distribution of var. *admirabilis* was cited by Barkley (1978) as “[d]amp or drying grasslands in predominantly coniferous, aspen or sage brush dominated sites, especially in rocky-disturbed places; southern Rocky Mts. from extreme southern Wyoming through the ranges of Colorado to near the New Mexico line. May be expected in northernmost New Mexico.” Additional data needed on distribution and status in Colorado.

Senecio streptanthifolius E. Greene var. oodes (Rydb.) J. Bain

“Leonard’s butterweed”

Asteraceae

Federal Status: None

UTNHP Rank: G5T?/S?

Distribution: UTA, ?; CO, NV, WY

Notes: For current treatment see *Rhodora* 90: 308. 1988. Bain (1988) gave as a synonym of his var. *oodes* the name *S. leonardii* Rydb., type from Utah Co., head of American Fork Canyon, near divide (*Leonard* 143; holotype NY). *AUF2* (Welsh et al. 1993) did not recognize *S. leonardii*, treating it

Status Category: *Additional Data Needed*

instead as a synonym of *S. streptanthifolius* (sensu lato). The overall distribution of var. *oodes* was cited by Bain (1988) as “[d]isturbed open sites at higher elevations in southwestern and central Colorado (Lake, Eagle, and Summit counties); also [southwestern] Wyoming and neighboring Utah as well as Elko Co., Nevada.” Additional data needed on distribution and status in Utah. Bain (1988) also noted that “*Senecio streptanthifolius* remains a complex species but the formal treatment of the phases as varieties presents a more logical means of dealing with the variation encountered. For the most part the varieties are chemically, geographically and ecologically distinct. While they are also usually morphologically distinct, there remain numerous individuals not readily referable to a particular variety.”

***Sisyrinchium radicum* Bicknell**

“Utah blue-eyed grass” Iridaceae

Federal Status: None **UTNHP Rank:** G2?Q/S2?

Distribution: DUC, KAN, WSH; AZ? +?

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *S. demissum* E. Greene. Type from Washington Co., St. George (*Palmer 456*; holotype NY, isotypes GH, ISC). Acc. Cholewa and Henderson (1984), *S. radicum* is “[k]nown only from a few locations in the eastern Intermountain Region: Duchesne Co., on the south side of the Uinta Mountains, and Kane and Washington counties in southern Utah. Associated with *Poa pratensis*, *Juncus* spp., and *Glaux maritima* L., the plants occur in moist meadows or on streambanks. In southern Utah, *S. radicum* may be sympatric with *S. demissum*.” Utah specimens cited: Duchesne Co., Lake Fork River ca. 3.5 miles south of Moon Lake (*Cholewa 177*, ID), Moon Lake road ca. 1 mile north of Mountain Home (*Cholewa 180*, ID), Lake Fork River and Yellowstone road (*Cholewa 470*, ID); Kane Co., ca. 8.5 miles north of Glendale on Hwy. 89 (*Cholewa & Stenback 508*, ID); Washington Co., near Grass Valley Reservoir (*Higgins 7931*, ID). The same authors reported that *S. radicum* “appears to be very closely related to the more southern *S. demissum*.... Apparent differences are in flower color (pale blue in *S. demissum*, blue-violet in *S. radicum*), pedicel length (longer than the spathes in *S. demissum*, subequal in *S. radicum*), and chromosome number ($n = 16$ in *S. demissum*, $n = 32$ in *S. radicum*.)” Acc. Kearney and Peebles (1951), both *S. demissum* and *S. d.* var. *amethystinum* (Bicknell) Kearney & Peebles are found in Arizona; they further noted that var. *amethystinum* appears to be the more common and more widely distributed plant. Do the names *S. radicum* and *S. demissum* var. *amethystinum* refer to the same taxon? Additional study needed.

***Spartina pectinata* Link**

“prairie cord-grass” Poaceae

Federal Status: None **UTNHP Rank:** G5/S?

Distribution: BOX, CAC, GRA, UIN; CO, ID, NM, WY ++

Notes: A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution as “[d]amp to wet meadows, marshes, streambanks, lake and pond shores, floodplains, in both salt and fresh water; B.C. to Newfl., s. in the w. states to Oregon, Idaho, n. Utah and n. N.M., in the c. states to Texas and Ark. and in the e. states to Tenn. and N.C. ... Prairie cordgrass was not collected in Cache Valley

Status Category: *Additional Data Needed*

until the early 1940s and since that time it has been increasing as a weed along roadsides and a worthless grass in pastures.” County distribution otherwise as reported in *AUF2* (Arnow in Welsh et al. 1993). Goodrich and Neese (1986) cited the Uinta Basin distribution as “[o]ccasional to locally common at isolated places along the Green and Yampa Rivers up stream from Jensen.” Is this species adventive in a portion of its range in Utah?

Sphaeralcea rusbyi* A. Gray var. *rusbyi

“Rusby’s globe-mallow” Malvaceae

Federal Status: None **UTNHP Rank:** G4T?/S1

Distribution: WSH; AZ

Notes: The overall distribution of typical *S. rusbyi* was cited by Kearney (1935) as “[s]outhwestern Utah to south-central Arizona, at elevations of 3000-6000 feet, on well-drained slopes, often, at the higher elevations, in openings in yellow-pine forests.” Utah specimens cited, all from Washington Co.: Springdale (*Jones 5238*; DS, F, MO, NY, POM, RM, UC, US), Zion Canyon (*Ballou s.n.* in 1924, DS), Zion Natl. Park (*Eastwood & Howell 1158*; CAS, US). In Arizona, var. *rusbyi* is known from Navajo, Coconino, Yavapai, Graham, Gila, Pinal, and Maricopa cos. (Kearney 1935, Kearney and Peebles 1951). Additional data needed on status in Arizona; move to watch list?

***Stenotus falcatus* Rydb.**

“limestone goldenweed” Asteraceae

Federal Status: None **UTNHP Rank:** G?Q/S?

Distribution: CAC?, SAL, UTA, WEB, ?; ???

Notes: Treated in *AUF2* (Welsh et al. 1993) as a synonym of *Haplopappus acaulis* var. *glabratus* D.C. Eaton. Type from “Red Creek, s. Utah” (*Palmer 202*; holotype NY, isotypes ISC, US). Dr. Michael Windham (1996, pers. comm.) has identified four different cytotypes in the *S. acaulis* (Nutt.) Nutt. complex: (a) diploid *S. acaulis*; (b) another diploid corresponding to the type of *S. falcatus*; (c) tetraploid *S. acaulis* (probably autopolyploid); and (d) another tetraploid, probably an allopolyploid derivative of the diploids *S. acaulis* and *S. falcatus*. The plants here called *S. falcatus* are mostly if not entirely restricted to calcareous substrates in the Great Basin ranges and Wasatch Mtns. of Utah; they differ conspicuously from typical *S. acaulis* in having lvs. well distributed along the flowering stems. The name *S. caespitosus* (Nutt.) Nutt. was published earlier than *S. falcatus* (and thus would have priority), but Dr. Windham suspects that it may not apply to the Utah populations. Another, later name is *S. latifolius* A. Nelson [type from “Wasatch Mts., Provo, Utah” (*Goodding 1111*; holotype RM, isotypes BRY, ISC, NY, US)]. Acc. Dr. Windham, the Great Basin and Wasatch forms are identical except for the narrower leaves of the Great Basin plants. Additional study needed.

***Streptopus fassettii* Á. & D. Löve**

“Fassett’s twisted-stalk” Liliaceae

Federal Status: None **UTNHP Rank:** G5/S3?

Distribution: BEA?, GAR?, GRA?, PIU?, SEV?, SNJ?, ?; AZ, CO, ID, NM, WY? +

Status Category: *Additional Data Needed*

Notes: For current treatment see Taxon 30: 511. 1981. *AUF2* (Welsh et al. 1993) treated all of the Utah plants as *S. amplexifolius* var. *chalazatus* Fassett. Acc. Weber and Wittmann (1992), *S. fassettii* [= *S. amplexifolius* var. *chalazatus*] “is diploid and distinct from the tetraploid *S. amplexifolius* on morphological grounds.” Reveal (in Cronquist et al. 1977) reported that *S. amplexifolius* var. *chalazatus* is found “mostly in the mts. of c. and s. Utah” while *S. amplexifolius* var. *americanus* J.A. Schultes is found “mostly in the mts. of n. Utah.” The provisional county distribution for *S. fassettii* is based largely on southern Utah records for *S. amplexifolius* (L.) DC. (as mapped in Albee et al. 1988); Beaver Co. record as reported in *AUF2*. The Utah collections must be correctly separated into *S. amplexifolius* and *S. fassettii* before status can be determined. The genus *Streptopus* was treated by Weber and Wittmann (1992) in the family Uvulariaceae.

Thalictrum occidentale A. Gray

“western meadow-rue”

Ranunculaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: ?; CO, ID, NV, WY +

Notes: Park and Festerling (in Morin 1997) mapped a wide distribution for *T. occidentale* in northwestern North America, from Alaska and Yukon southward to northern Calif., northeastern Nevada, northern Utah, and Colorado. The same authors reported the habitat as “[o]pen woods, meadows, and copses; 200-3400 m” and added that “*Thalictrum occidentale* is similar to *T. confine* Fern. and *T. venulosum* Trel.; thorough field studies are needed to determine whether or not they should be maintained as separate species. *Thalictrum occidentale* can usually be distinguished by its reflexed achenes.” Acc. *AUF2* (Welsh et al. 1993, p. 584), “[r]eports of *T. occidentale* [from Utah] probably belong [to *T. fendleri* Engelm. ex A. Gray]. [*T. occidentale*] has the achenes spreading to reflexed, usually more than twice longer than wide, stigmas often purplish, with the style 3-4 mm long. None of our numerous specimens [of *T. fendleri*] approaches [*T. occidentale*].” Information needed on distribution and status in Utah; taxonomic problem?

Thalictrum polycarpum (Torrey) S. Watson

“tall western meadow-rue”

Ranunculaceae

Federal Status: None

UTNHP Rank: G?/SR

Distribution: ?; NV +

Notes: Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). The distribution map provided by Park and Festerling (in Morin 1997) indicates that *T. polycarpum* is mainly a species of Calif., western Oregon, and Baja Calif. with disjunct populations in Nevada and Utah. The same authors reported the habitat as “[s]treamsides and other moist places, forests, and open woodlands; 600-3100 m” and added that “*Thalictrum polycarpum* is the only species in sect. *Heterogamia* with anastomosing-reticulate veins on the achene.” Information needed on distribution and status in Utah; move to peripherals list?

Status Category: *Additional Data Needed*

Thelypodium flexuosum B. Robinson

No common name Brassicaceae

Federal Status: None **UTNHP Rank:** G5/S1

Distribution: BEA?, TOO?; NV, ID +

Notes: Acc. *AUF2* (Welsh et al. 1993), *T. flexuosum* is known in Utah by two collections from Beaver and Tooele cos. The species was also reported from Utah by Hitchcock and Cronquist (1964, p. 548), but more recent authors (Al-Shehbaz 1973, Rollins 1993) have cited the distribution as including northern Nevada, northeastern Calif., eastern Oregon, and southwestern Idaho (but not Utah). Acc. Al-Shehbaz (1973), "*T. flexuosum* grows primarily on moderately to strongly alkaline sandy-loam or clayish soils of open deserts. It is unique in the genus in being a weak-stemmed perennial that survives by its thick and woody base. The weak, slender, nearly leafless stems derive their support by being tangled among desert shrubs." The Utah specimens need to be critically reexamined to determine whether they belong to *T. flexuosum* or the closely related *T. sagittatum* (Nutt.) Endl.

Thymophylla acerosa (DC.) Strother

"needle-lvd. glandweed" Asteraceae

Federal Status: None **UTNHP Rank:** G5/S3

Distribution: GAR, KAN?, SNJ, WSH; AZ, NM, NV +

Notes: For current treatment see Sida 11: 376. 1986. Treated in *AUF2* (Welsh et al. 1993) as *Dyssodia a.* DC. Cronquist (1994) cited the overall distribution as "often associated with limestone, but sometimes on sandstone ...; c. Mex. to w. Texas, N.M., and Ariz., n. to s. Utah (San Juan Co. to Garfield and Washington cos.)." If the Kane Co. record mapped in Albee et al. (1988) is valid for this species, then it no longer meets the criteria for inclusion in this inventory.

Townsendia condensata Parry ex D.C. Eaton

"Washakie ground-daisy" Asteraceae

Federal Status: None **UTNHP Rank:** G4/S1

Distribution: BEA, PIU; CO?, ID, WY +

Notes: In Utah, this alpine perennial is known only from the Tushar Mtns., Beaver and Piute cos. (Welsh et al. 1993, Cronquist 1994, Taye 1995). The species is otherwise rare and local in the mtns. of northwestern Wyoming, western Montana, and central Idaho, and disjunct in the Sweetwater and White mtns. of eastern Calif. (Beaman 1957, Cronquist 1994). Questionable Colorado record acc. Allen (in Hickman 1993; cf. Weber and Wittmann 1992, 1996a,b). Rangewide status information needed. The high-elevation populations are apomictic, but a sexual population has been found in Park Co., Wyoming (Beaman 1957).

Triodanis perfoliata (L.) Nieuwl.

"Venus' looking-glass" Campanulaceae

Federal Status: None **UTNHP Rank:** G5/SE?

Distribution: KAN, WSH; AZ, CO, ID, NM, WY ++

Status Category: *Additional Data Needed*

Notes: Acc. *AUF2* (Welsh et al. 1993), *T. perfoliata* is locally common on “gypsum boils” of the Chinle Formation in Kane and Washington cos. However, the report of this species as “adventive from Europe” is in error since the type locality for *Campanula perfoliata* L. is “Habitat in Virginia” (phototype at NY). P. Holmgren (in Cronquist et al. 1984) reported *T. perfoliata* as uncommon in the Intermountain region but noted that it ranges widely in moist, disturbed areas from British Columbia and Ontario south to Venezuela and Ecuador. Treated as adventive in Colorado (Weber and Wittmann 1992) and as a weedy native in California (Morin in Hickman 1993). Is this species adventive or a weedy native in Utah?

***Viola praemorsa* Douglas ex Lindley ssp. *flavovirens* (Pollard) Fabijan**

“Nez Perces violet”

Violaceae

Federal Status: None

UTNHP Rank: G5T2T4/SR

Distribution: ?; ID, WY +

Notes: For current treatment see Canad. J. Bot. 65: 2579. 1987. Not treated (not even in synonymy) in *AUF2* (Welsh et al. 1993). Acc. Fabijan et al. (1987, p. 2573), ssp. *flavovirens* “represents a morphologically distinct taxon which occurs in isolated pockets in the Rocky Mountains within the range of ssp. *linguifolia* (Nutt. ex Torrey & Gray) Baker. These authors (p. 2579) further cited the distribution as “Rocky Mountains of the Idaho panhandle and adjacent Washington and Montana, with a few distant populations in western Wyoming and northern Utah.” Ssp. *flavovirens* was found not differ from ssp. *linguifolia* in chromosome number ($2n = 36, 48$) or flavonoid chemistry; the main morphological difference separating the two is the size and shape of the cauline leaves (60-80 mm long and elliptic in *flavovirens*, 33-62 mm long and ovate to broadly ovate in *linguifolia*), which is apparently correlated with differences in elevational range (900-1200 m for *flavovirens*, 1300-3500 m for *linguifolia*) and flowering period (late April to early or mid June for *flavovirens*, peak flowering from mid-June to early August for *linguifolia*). Information needed on distribution and status in Utah and throughout the geographic range; move to watch list?

Viola sororia* Willd. var. *sororia

“sister violet”

Violaceae

Federal Status: None

UTNHP Rank: G5/SR

Distribution: ?; CO, NM ++

Notes: Acc. McKinney (1992), most of the Utah plants belong to var. *affinis* (LeConte) McKinney [= *V. nephrophylla* sensu auct., non E. Greene] which is the widespread “northern bog violet” of the western U.S. The same author reported the distribution of var. *sororia* as “throughout the Eastern United States and Southern Canada and sporadically occurring west to Montana, Utah, and New Mexico.” His range map (p. 57) shows a single locality for var. *sororia* in Utah and several localities in Colorado and New Mexico. The same author cited representative specimens of var. *sororia* from those neighboring states (but not from Utah). By McKinney’s account, the two varieties differ primarily in leaf shape (cordate-reniform in var. *affinis* vs. very broadly cordate-reniform in var. *sororia*) and in habitat (wet areas for var. *affinis* vs. dry or mesic woods and waste ground for var. *sororia*). Information needed on distribution and status in Utah; taxonomic problem?

Status Category: *Additional Data Needed*

Vulpia microstachys (Nutt.) Munro ex Benth.

var. pauciflora (Scribner ex Beal) Lonard & Gould

“few-flowered fescue” Poaceae

Federal Status: None **UTNHP Rank:** G5T5/SR

Distribution: WSH; AZ, ID, NM, NV +

Notes: For current taxonomic treatment see Madroño 22: 226. 1974. Allard and Kannenberg (1968) found no evidence of hybridization among members of the predominantly cleistogamous *Festuca microstachys* Nutt. complex, suggesting an extreme degree of reproductive isolation. Morphological distinctions are evidently maintained even where two or more “species” occur together, suggesting that the complex has diverged into a number of subunits, each with its own characteristic gene pool. Need to examine specimens from Washington Co. to determine whether they are referable to *Vulpia pacifica* (Piper) Rydb., *V. reflexa* (Buckl.) Rydb., or both.

Vulpia octoflora (Walter) Rydb. var. glauca (Nutt.) Fern.

“six-weeks fescue” Poaceae

Federal Status: None **UTNHP Rank:** G5T5/SRF

Distribution: ?; NM, ??? ++

Notes: Not treated (not even in synonymy) in *AUF2* (Arnow in Welsh et al. 1993). A. and N. Holmgren (in Cronquist et al. 1977) cited the distribution of var. *glauca* as “mostly in e. and c. U.S., and only occasionally in the s. half of w. U.S.” Acc. Lonard and Gould (1974), var. *glauca* is “[m]ost frequent in southern Canada and the northern half of the United States, ranging from southern Quebec, Ontario, and British Columbia to northern Georgia and California. Variety *glauca* is the most common representative of *V. octoflora* from Maine and North Dakota to Virginia and western Kansas.” The report from New Mexico (Allred 1993; cited in Roalson and Allred, no date) is apparently the only reliable record of var. *glauca* from the interior western U.S. Need to check Utah specimens of *V. octoflora* if any are referable to var. *glauca*.

Yucca baileyi Wooton & Standley

“Bailey’s yucca” Liliaceae

Federal Status: None **UTNHP Rank:** G?/SR

Distribution: GAR?, GRA?, KAN, SNJ; AZ, CO?, NM

Notes: In Utah, *Y. baileyi* has been reported from San Juan and eastern Kane cos. (Reveal in Cronquist et al. 1977, Albee et al. 1988). Questionable Garfield and Grand county records as reported in *AUF2* (Higgins in Welsh et al. 1993), perhaps based on misidentified plants of *Y. angustissima* Engelm. ex Trel. *Y. baileyi* is also known from northeastern Arizona in Apache, Navajo, and eastern Coconino cos. (Webber 1953, Kearney and Peebles 1951, Howell and McClintock 1960) and from northwestern New Mexico in McKinley, San Juan, and Valencia cos. (Webber 1953). The species was reported by Webber (1953) from the southwestern Colorado (La Plata, Archuleta, and San Juan cos.), but Reveal (in Cronquist et al. 1977) cited a much wider distribution northward “along the Front Ranges of Colo. to near the Wyo. line.” More recently, Weber and Wittmann (1992, 1996a,b) did not include *Y. baileyi* in the Colorado flora, evidently

referring all such plants to *Y. glauca* Nutt. If the Utah report of *Y. baileyi* from Garfield and Grand cos. is correct, then the species would no longer meet the criteria for inclusion in this inventory. Additional study needed.

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APPENDIX A

Plants with Federal Agency Status

LISTED ENDANGERED

Arctomecon humilis
Glaucocarpum suffrutescens
Lepidium barnebyanum
Lesquerella tumulosa
Pediocactus despainii
Phacelia argillacea
Ranunculus aestivalis
Schoenocrambe barnebyi
Sclerocactus wrightiae

LISTED THREATENED

Asclepias welshii
Astragalus montii
Carex specuicola
Cycladenia jonesii
Erigeron maguirei
Pediocactus sileri
Primula maguirei
Schoenocrambe argillacea
Sclerocactus brevispinus
Sclerocactus wetlandicus
Spiranthes diluvialis
Townsendia aprica

PROPOSED ENDANGERED

Pediocactus winkleri

PROPOSED THREATENED

Astragalus desereticus

ESA LISTING CANDIDATES

Astragalus ampullarioides
Astragalus equisolensis
Astragalus holmgreniorum
Castilleja aquariensis
Gilia caespitosa
Penstemon grahamii

Penstemon scariosus var. *albifluvis*

FORMER CATEGORY 2 CANDIDATES

Achnatherum contractum
Allium geyeri var. *chatterleyi*
Allium passeyi
Ambrosia sandersonii
Arabis falcatoria
Arabis vivariensis
Arctomecon californica
Artemisia campestris var. *petiolata*
Astragalus ampullarius
Astragalus anserinus
Astragalus brandegei
Astragalus cronquistii
Astragalus cutleri
Astragalus hamiltonii
Astragalus lentiginosus var. *pohlii*
Astragalus lentiginosus var. *scorpionis*
Astragalus limnocharis var. *limnocharis*
Astragalus limnocharis var. *tabulaeus*
Astragalus oophorus var. *lonchocalyx*
Astragalus sabulosus
Astragalus serpens
Astragalus subcinereus var. *basalticus*
Astragalus uncialis
Astragalus zionis var. *vigulus*
Atriplex canescens var. *gigantea*
Botrychium crenulatum
Botrychium lineare
Botrychium paradoxum
Camissonia atwoodii
Camissonia bairdii
Camissonia exilis
Camissonia gouldii
Carex haysii
Castilleja parvula
Castilleja revealii
Chrysothamnus nauseosus var. *iridis*
Cirsium ownbeyi
Cirsium virginense
Cryptantha cinerea var. *arenicola*

Cryptantha compacta
Cryptantha creutzfeldtii
Cryptantha ochroleuca
Cryptantha rollinsii
Cuscuta indecora ssp. *warneri*
Cymopterus acaulis var. *higginsii*
Cymopterus beckii
Cymopterus minimus
Cypripedium fasciculatum
Dalea flavescens var. *epica*
Draba kassii
Draba pectinipila
Draba sobolifera
Epilobium nevadense
Ericameria crispera
Ericameria zionis
Erigeron canaani
Erigeron carringtoniae
Erigeron cronquistii
Erigeron kachinensis
Erigeron maguirei var. *harrisonii*
Erigeron mancus
Erigeron sionis
Erigeron untermannii
Erigeron zothecinus
Eriogonum aretioides
Eriogonum corymbosum var. *cronquistii*
Eriogonum corymbosum var. *smithii*
Eriogonum lewisii
Eriogonum nummularae var. *ammophilum*
Eriogonum soledium
Frasera gypsicola
Gilia tenuis
Hackelia ibapensis
Hedysarum occidentale var. *canone*
Hymenoxys acaulis var. *nana*
Iris pariensis
Isocoma humilis
Jamesia americana var. *zionis*
Jamesia tetrapetala
Lepidium ostleri
Lesquerella garrettii
Lomatium graveolens var. *clarkii*
Lomatium latilobum
Lygodesmia grandiflora var. *doloresensis*
Lygodesmia grandiflora var. *entrada*
Mentzelia argillosa
Mentzelia goodrichii
Mentzelia multicaulis var. *librina*
Mentzelia shultziorum
Najas caespitosa
Oreoxis trotteri
Pediomelum aromaticum var. *tuhyi*
Pediomelum epipsilum
Pediomelum pariense
Penstemon acaulis var. *acaulis*
Penstemon ammophilus
Penstemon angustifolius var. *dulcis*
Penstemon bracteatus
Penstemon compactus
Penstemon concinnus
Penstemon crandallii var. *atratus*
Penstemon flowersii
Penstemon franklinii
Penstemon gibbensii
Penstemon goodrichii
Penstemon idahoensis
Penstemon leptanthus
Penstemon nanus
Penstemon navajoa
Penstemon parvus
Penstemon pinorum
Penstemon tidestromii
Penstemon wardii
Perityle specuicola
Phacelia utahensis
Phlox opalensis
Platanthera zothecina
Potentilla angelliae
Potentilla cottamii
Primula domensis
Psoralea polydenius var. *jonesii*
Psoralea thompsoniae var. *whitingii*
Senecio castoreus
Senecio fremontii var. *inexpectatus*
Senecio malmstenii

Senecio musiniensis
Silene petersonii
Sphaeralcea caespitosa
Sphaeralcea leptophylla var. *janeae*
Sphaeralcea psoraloides
Sphaeromeria ruthiae
Streptanthus oliganthus
Talinum thompsonii
Thelesperma caespitosum
Thelesperma subnudum var. *alpinum*
Tonestus kingii var. *barnebyana*
Townsendia jonesii var. *lutea*
Trifolium friscanum
Viola frank-smithii
Viola lithion
Xylorhiza cronquistii

CATEGORY 3B NON-CANDIDATES

Arabis sp. nov. ined. "Gray Knolls, Uintah Co."
Asplenium adiantum-nigrum
Astragalus ensiformis var. *gracilior*
Astragalus lentiginosus var. *ursinus*
Carex arapahoensis
Draba burkei
Echinocereus engelmannii var. *purpureus*
Echinocereus triglochidiatus var. *inermis*
Eriogonum brevicaulum var. *nanum*
Eriogonum corymbosum var. *dauidsei*
Eriogonum corymbosum var. *humivagans*
Eriogonum grayi
Escobaria missouriensis var. *marstonii*
Fimbristylis thermalis
Gilia mcvickeriae
Helianthus deserticola
Hermidium alipes var. *pallidum*
Hymenoxys helenioides
Ligusticum porteri var. *brevilobum*
Opuntia basilaris var. *woodburyi*
Penstemon caespitosus var. *suffruticosus*
Phacelia indecora
Phlox austromontana var. *jonesii*

Phlox grahamii
Polygonum utahense
Silene petersonii var. *minor*

CATEGORY 3C NON-CANDIDATES

Angelica wheeleri
Aquilegia barnebyi
Arabis demissa var. *languida*
Arabis pendulina var. *russeola*
Arabis shockleyi
Asclepias cutleri
Asclepias ruthiae
Astragalus barnebyi
Astragalus callithrix
Astragalus chloödes
Astragalus consobrinus
Astragalus convallarius var. *finitimus*
Astragalus cottamii
Astragalus detritalis
Astragalus duchesnensis
Astragalus ensiformis var. *ensiformis*
Astragalus harrisonii
Astragalus henrimontanensis
Astragalus iselyi
Astragalus lancearius
Astragalus lentiginosus var. *chartaceus*
Astragalus loanus
Astragalus lutosus
Astragalus malacoides
Astragalus monumentalis
Astragalus naturitensis
Astragalus nidularius
Astragalus pardalinus
Astragalus perianus
Astragalus rafaensis
Astragalus saurinus
Astragalus striatiflorus
Astragalus wetherillii
Astragalus woodruffii
Atriplex gardneri var. *welshii*
Camissonia parryi
Carex curatorum

Castilleja scabrida
Chamaechaenactis scaposa
Cirsium hallii
Cirsium rydbergii
Corydalis caseana ssp. *brachycarpa*
Cryptantha barnebyi
Cryptantha breviflora
Cryptantha elata
Cryptantha grahamii
Cryptantha johnstonii
Cryptantha jonesiana
Cryptantha mensana
Cryptantha paradoxa
Cryptantha semiglabra
Cryptantha stricta
Cymopterus basalticus
Cymopterus coulteri
Cymopterus duchesnensis
Cymopterus evertii
Cymopterus newberryi
Cymopterus purpureus var. *rosei*
Draba asprella var. *zionensis*
Draba maguirei
Draba subalpina
Ericameria cervina
Erigeron abajoensis
Erigeron arenarioides
Erigeron garrettii
Erigeron proselyticus
Erigeron religiosus
Eriogonum batemanii var. *eremicum*
Eriogonum batemanii var. *ostlundii*
Eriogonum brevicaule var. *ephedroides*
Eriogonum brevicaule var. *loganum*
Eriogonum brevicaule var. *viridulum*
Eriogonum clavellatum
Eriogonum corymbosum var. *albiflorum*
Eriogonum corymbosum var. *hylophilum*
Eriogonum corymbosum var. *matthewsiae*
Eriogonum corymbosum var. *revelianum*
Eriogonum corymbosum var. *thompsoniae*
Eriogonum jamesii var. *rupicola*
Eriogonum lancifolium
Eriogonum lonchophyllum var.
intermontanum
Eriogonum lonchophyllum var. *saurinum*
Eriogonum nummulare var. *nummulare*
Eriogonum panguicense var. *alpestre*
Eriogonum racemosum var. *zionis*
Eriogonum spathulatum var. *natum*
Eriogonum tumulosum
Euphorbia nephradenia
Festuca dasyclada
Gaillardia flava
Geranium marginale
Gutierrezia petradoria
Gutierrezia pomariensis
Hedysarum boreale var. *gremiale*
Heliomeris soliceps
Hesperodoria scopulorum
Heterotheca jonesii
Hymenopappus filifolius var. *tomentosus*
Hymenoxys lapidicola
Lepidium montanum var. *neeseae*
Lepidium montanum var. *stellae*
Lepidium nanum
Lesquerella rubicundula
Linanthus arenicola
Lomatium minimum
Lomatium ravenii
Lupinus jonesii
Lupinus sericeus var. *marianus*
Lygodesmia grandiflora var. *stricta*
Machaeranthera grindelioides var. *depressa*
Mertensia lanceolata var. *coriacea*
Mertensia viridis var. *cana*
Musineon lineare
Nama retrorsum
Oenothera flava var. *acutissima*
Opuntia pulchella
Oxytropis besseyi var. *obnapiformis*
Oxytropis oreophila var. *jonesii*
Parrya nudicaulis
Parthenium ligulatum
Penstemon abietinus
Penstemon acaulis var. *yampaensis*

Penstemon angustifolius var. *vernalensis*
Penstemon atwoodii
Penstemon humilis var. *brevifolius*
Penstemon humilis var. *obtusifolius*
Penstemon leiophyllus
Penstemon leonardii var. *patricus*
Penstemon pseudoputus
Penstemon scariosus var. *garrettii*
Penstemon uintahensis
Peteria thompsoniae
Phacelia anelsonii
Phacelia cephalotes
Phacelia constancei
Phacelia demissa var. *heterotricha*
Phacelia howelliana
Phacelia mammillarensis
Phacelia rafaelensis
Phlox cluteana
Phlox gladiformis
Physaria acutifolia var. *purpurea*
Physaria grahamii
Primula specuicola
Proatriplex pleiantha
Psorothamnus thompsoniae var. *thompsoniae*
Salix arizonica
Sclerocactus pubispinus
Sclerocactus spinosior
Selaginella utahensis
Senecio dimorphophyllus var. *intermedius*
Sidalcea candida
Thelypodium laxiflorum
Thelypodium sagittatum ssp. *ovalifolium*
Tonestus kingii var. *kingii*
Townsendia mensana
Townsendia minima
Viola charlestonensis
Xylorhiza confertifolia
Yucca toftiae
Zigadenus vaginatus

USDA FOREST SERVICE REGION 4
SENSITIVE SPECIES

Allium geayeri var. *chatterleyi*
Aquilegia flavescens var. *rubicunda*
Aquilegia grahamii
Arabis falcatoria
Artemisia campestris var. *petiolata*
Astragalus anserinus
Astragalus consobrinus
Astragalus diversifolius
Astragalus henrimontanensis
Astragalus jejunus
Astragalus lentiginosus var. *scorpionis*
Astragalus limnocharis var. *limnocharis*
Astragalus limnocharis var. *tabulaeus*
Astragalus uncialis
Astragalus zionis var. *vigulus*
Botrychium crenulatum
Botrychium paradoxum
Castilleja aquariensis
Castilleja parvula
Castilleja revealii
Cryptantha compacta
Cryptantha creutzfeldtii
Cryptantha ochroleuca
Cymopterus beckii
Cymopterus minimus
Cypripedium fasciculatum
Draba burkei
Draba globosa
Draba maguirei
Draba sobolifera
Epilobium nevadense
Ericameria crispa
Erigeron abajoensis
Erigeron carringtoniae
Erigeron cronquistii
Erigeron kachinensis
Erigeron mancus
Erigeron untermannii
Eriogonum aretioides
Eriogonum batemanii var. *ostlundii*

Eriogonum brevicaulle var. *desertorum*
Eriogonum brevicaulle var. *loganum*
Gilia caespitosa
Hedysarum occidentale var. *canone*
Heterotheca jonesii
Jamesia americana var. *macrocalyx*
Jamesia americana var. *zionis*
Jamesia tetrapetala
Lepidium montanum var. *neeseae*
Lesquerella garrettii
Lomatium latilobum
Mentzelia goodrichii
Najas caespitosa
Papaver radicum ssp. *kluanense*
Pediomelum pariense
Penstemon acaulis var. *acaulis*
Penstemon bracteatus
Penstemon compactus
Penstemon concinnus
Penstemon idahoensis
Penstemon parvus
Penstemon pinorum
Penstemon wardii
Potentilla angelliae
Potentilla cottamii
Salix arizonica
Senecio castoreus
Senecio malmstenii
Senecio musiniensis
Silene petersonii
Sphaeralcea caespitosa
Sphaeromeria capitata
Thelesperma caespitosum
Thelesperma subnudum var. *alpinum*
Tonestus kingii var. *barnebyana*
Townsendia jonesii var. *lutea*
Viola frank-smithii
Viola lithion

USDI BUREAU OF LAND
MANAGEMENT, UTAH STATE OFFICE,
INTERIM SENSITIVE PLANT SPECIES

Allium geyeri var. *chatterleyi*
Allium passeyi
Ambrosia sandersonii
Arabis falcatoria
Arabis vivariensis
Astragalus anserinus
Astragalus cronquistii
Astragalus diversifolius
Astragalus equisolensis
Astragalus ampullarioides
Astragalus hamiltonii
Astragalus holmgreniorum
Astragalus lentiginosus var. *pohlii*
Astragalus oophorus var. *lonchocalyx*
Astragalus sabulosus
Astragalus subcinereus var. *basalticus*
Astragalus uncialis
Atriplex canescens var. *gigantea*
Camissonia bairdii
Camissonia exilis
Camissonia gouldii
Castilleja revealii
Chrysothamnus nauseosus var. *iridis*
Cirsium ownbeyi
Cirsium virginense
Cryptantha compacta
Cryptantha creutzfeldtii
Cuscuta indecora ssp. *warneri*
Cymopterus acaulis var. *higginsii*
Cymopterus beckii
Dalea flavescens var. *epica*
Draba kassii
Epilobium nevadense
Ericameria crispa
Ericameria lignumviridis
Ericameria zionis
Erigeron cronquistii
Erigeron kachinensis
Erigeron sionis

Erigeron zothecinus
Eriogonum corymbosum var. *cronquistii*
Eriogonum corymbosum var. *smithii*
Eriogonum nummularae var. *ammophilum*
Eriogonum racemosum var. *nobilis*
Eriogonum soledium
Frasera gypsicola
Gilia caespitosa
Gilia latifolia var. *imperialis*
Gilia tenuis
Hackelia ibapensis
Hedysarum occidentale var. *canone*
Hymenoxys acaulis var. *nana*
Iris pariensis
Isocoma humilis
Ivesia shockleyi var. *ostleri*
Jamesia americana var. *zionis*
Jamesia tetrapetala
Lepidium integrifolium var. *integrifolium*
Lepidium ostleri
Lomatium graveolens var. *clarkii*
Lomatium latilobum
Lygodesmia grandiflora var. *doloresensis*
Lygodesmia grandiflora var. *entrada*
Mentzelia argillosa
Mentzelia goodrichii
Mentzelia multicaulis var. *librina*
Mentzelia shultziorum
Oreoxis trotteri
Pediocactus winkleri
Pediomelum aromaticum var. *tuhyi*
Pediomelum epipsilum
Penstemon acaulis var. *acaulis*
Penstemon ammophilus
Penstemon angustifolius var. *dulcis*
Penstemon compactus
Penstemon concinnus
Penstemon flowersii
Penstemon franklinii
Penstemon gibbensii
Penstemon goodrichii
Penstemon grahamii
Penstemon idahoensis
Penstemon leptanthus
Penstemon parvus
Penstemon pinorum
Penstemon scariosus var. *albifluvis*
Penstemon wardii
Perityle specuicola
Phacelia utahensis
Platanthera zothecina
Potentilla cottamii
Primula domensis
Psoralea polydenius var. *jonesii*
Sclerocactus brevispinus
Senecio castoreus
Senecio fremontii var. *inexpectatus*
Sphaeralcea caespitosa
Sphaeralcea leptophylla var. *janeae*
Sphaeralcea psoraloides
Talinum thompsonii
Thelesperma caespitosum
Thelesperma subnudum var. *alpinum*
Townsendia jonesii var. *lutea*
Trifolium friscanum
Viola lithion
Xylorhiza cronquistii

APPENDIX B

Plants by County

BEAVER COUNTY

- Acer glabrum* var. *diffusum* (D)
Achnatherum nevadense (T)
Agoseris glauca var. *agrestis* (T)
Agoseris glauca var. *cronquistii* (T)
Allium atrorubens var. *atrorubens* (P)
Allium campanulatum (T)
Androsace occidentalis (P)
Arabis lignifera (D)
Arabis shockleyi (W)
Arenaria congesta var. *subcongesta* (P)
Arenaria kingii var. *glabrescens* (D)
Arenaria kingii var. *plateauensis* (T)
Aster welshii (W)
Astragalus chamaemeniscus (W)
Astragalus oophorus var. *lonchocalyx* (R)
Astragalus perianus (W)
Astragalus pinonis (R)
Astragalus platytropis (P)
Astragalus wardii (W)
Botrychium lunaria (I)
Bouteloua simplex (P)
Camissonia andina (P)
Camissonia boothii var. *villosa* (D)
Camissonia claviformis var. *purpurascens* (P)
Camissonia parryi (W)
Camissonia pterosperma (P)
Camissonia pusilla (P)
Cardamine oligosperma var. *oligosperma* (P)
Carex brunnescens (P)
Carex deweyana var. *bolanderi* (I)
Carex jonesii (P)
Carex luzulina (P)
Carex neurophora (P)
Carex stenoptila (D)
Castilleja parvula (R)
Castilleja scabrida var. *barnebyana* (W)
Caulanthus pilosus (P)
Centaurium namophilum var. *nevadense* (T)
Ceratophyllum demersum (I)
Chamaerhodos erecta var. *parviflora* (P)
Chamaesyce revoluta (P)
Cirsium eatonii var. *harrisonii* (R)
Cirsium scariosum var. *thorneae* (D)
Cleomella plocasperma (P)
Collomia tenella (P)
Cryptantha ambigua (P)
Cryptantha cinerea var. *abortiva* (P)
Cryptantha compacta (R)
Cymopterus basalticus (W)
Cymopterus longilobus (D)
Cymopterus purpureus var. *jonesii* (R)
Draba ramulosa (R)
Draba sobolifera (R)
Echinocereus triglochidiatus var. *mojavensis* (P)
Elodea canadensis (I)
Equisetum variegatum (P)
Ericameria cervina (W)
Ericameria watsonii (P)
Erigeron compactus var. *compactus* (W)
Erigeron humilis (P)
Eriogonum baileyi (P)
Eriogonum batemanii var. *eremicum* (W)
Eriogonum cernuum var. *viminale* (P)
Eriogonum nutans (W)
Eriogonum pharnaceoides var. *cervinum* (R)
Eriogonum soledium (R)
Euphorbia exstipulata (P)
Gilia tenerrima (P)
Hackelia patens var. *harrisonii* (W)
Hymenoxys lemmonii (W)
Ipomopsis congesta ssp. *palmifrons* (P)
Ipomopsis depressa (P)
Ivesia shockleyi var. *ostleri* (R)
Lathyrus eucosmus (P)
Lepidium integrifolium var. *integrifolium* (R)
Lepidium ostleri (R)
Lomatium foeniculaceum var. *fimbriatum* (P)
Lupinus sericeus var. *marianus* (T)

Machaeranthera grindelioides var. *depressa* (W)
Menodora scabra (P)
Mimulus primuloides (P)
Muhlenbergia depauperata (D)
Muhlenbergia minutissima (I)
Oenothera deltoides var. *deltoides* (P)
Opuntia echinocarpa (P)
Panicum hallii (P)
Pediocactus simpsonii var. *minor* (T)
Penstemon caespitosus var. *desertipicti* (W)
Penstemon caespitosus var. *suffruticosus* (W)
Penstemon concinnus (W)
Penstemon humilis var. *desereticus* (D)
Penstemon humilis var. *obtusifolius* (W)
Penstemon nanus (W)
Penstemon procerus var. *aberrans* (D)
Penstemon thompsoniae var. *desperatus* (T)
Phacelia crenulata var. *angustifolia* (D)
Phacelia lemmonii (P)
Phlox griseola (W)
Phlox tumulosa (W)
Poa pattersonii (I)
Potentilla bipinnatifida (D)
Potentilla pensylvanica var. *paucijuga* (T)
Ranunculus aquatilis var. *hispidulus* (P)
Saxifraga adscendens var. *oregonensis* (P)
Sclerocactus pubispinus (W)
Sclerocactus spinosior (W)
Senecio castoreus (R)
Silene verecunda ssp. *andersonii* (P)
Sphaeralcea caespitosa (R)
Streptopus fassettii (D)
Taraxacum ceratophorum (P)
(P)^*Thelypodium flexuosum* (D)
Thelypodium laxiflorum (W)
Thelypodium rollinsii (W)
Thelypodium sagittatum ssp. *ovalifolium* (R)
Thelypodium wrightii ssp. *wrightii* (P)
Townsendia condensata (D)

Tragia ramosa (P)
Trifolium eriocephalum var. *villiferum* (R)
Trifolium friscanum (R)
Yucca harrimaniae var. *gilbertiana* (T)

BOX ELDER COUNTY

Achnatherum thurberianum (P)
Ageratina occidentalis (P)
Allium passeyi (R)
Amelanchier alnifolia var. *cusickii* (P)
Amsinckia intermedia (D)
Apocynum sibiricum var. *salignum* (T)
Arabis exilis (P)
Arabis falcatoria (R)
Arabis lasiocarpa (W)
Arabis lignifera (D)
Arabis nuttallii (P)
Arabis pendulina var. *russeola* (D)
Arabis puberula (P)
Arenaria aculeata (P)
Artemisia ludoviciana var. *latiloba* (P)
Artemisia tripartita (P)
Aster ericoides var. *commutatus* (P)
Astragalus alpinus (P)
Astragalus anserinus (R)
Astragalus beckwithii var. *weiserensis* (P)
Astragalus canadensis var. *brevidens* (P)
Astragalus filipes (P)
Astragalus iodanthus (P)
Astragalus purshii var. *glareosus* (P)
Astragalus toanus (P)
Besseyia wyomingensis (P)
Bolboschoenus fluviatilis (I)
Calochortus bruneaunis (P)
Calochortus eurycarpus (P)
Calystegia sepium var. *angulata* (P)
Carex scopulorum (P)
Cerastium nutans (D)
Ceratophyllum demersum (I)
Cercocarpus ledifolius var. *ledifolius* (P)

Chrysothamnus nauseosus var. *salicifolius* (W)
Chrysothamnus viscidiflorus var. *latifolius* (T)
Cryptantha ambigua (P)
Cryptantha interrupta (W)
Cryptantha scoparia (P)
Cryptantha spiculifera (P)
Cusickiella douglasii (P)
Cymopterus globosus (P)
Draba burkei (R)
Draba incerta (P)
Epilobium anagallidifolium (P)
Ericameria obovata (W)
Erigeron arenarioides (W)
Erigeron bloomeri (P)
Erigeron compactus var. *compactus* (W)
Erigeron linearis (P)
Erigeron nanus (D)
Eriogonum brevicaule var. *desertorum* (W)
Eriogonum brevicaule var. *loganum* (R)
Eriogonum brevicaule var. *nanum* (T)
Eriogonum grayi (T)
Eriogonum lewisii (T)
Eriogonum ovalifolium var. *nivale* (P)
Eriophyllum lanatum var. *integrifolium* (P)
Galium hypotrichium ssp. *nevadense* (T)
Galium watsonii (T)
Gayophytum diffusum ssp. *diffusum* (P)
Heterotheca zionensis (D)
Hydrophyllum capitatum var. *alpinum* (P)
Ionactis alpina (P)
Ipomopsis congesta ssp. *palmifrons* (P)
Juncus tweedyi (D)
Leersia oryzoides (I)
Lepidium densiflorum var. *pubicarpum* (P)
Lesquerella hemiphysaria var. *hemiphysaria* (W)
Lesquerella multiceps (W)
Leymus salina ssp. *salmonis* (W)
Ligusticum grayi (P)
Lomatium cous (P)

Lomatium nudicaule (P)
Lupinus argenteus var. *parviflorus* (P)
Lupinus lepidus var. *aridus* (P)
Mimulus breweri (P)
Musineon lineare (W)
Najas marina (P)
Nothocalais troximoides (P)
Opuntia pulchella (W)
Orthocarpus tolmiei ssp. *holmgreniorum* (W)
Paeonia brownii (P)
Pedicularis contorta (P)
Penstemon cyananthus var. *subglaber* (W)
Penstemon deustus var. *pedicellatus* (P)
Penstemon idahoensis (R)
Penstemon speciosus (P)
Perideridia bolanderi (P)
Phacelia ivesiana var. *glandulifera* (P)
Plagiobothrys kingii var. *harknessii* (D)
Plantago elongata (P)
Plantago maritima (D)
Polystichum kruckebergii (P)
Populus balsamifera ssp. *trichocarpa* (P)
Potamogeton latifolius (D)
Potentilla cottamii (R)
Potentilla multisecta (W)
Potentilla plattensis (P)
Pyrrocoma hirta (P)
Pyrrocoma racemosa var. *paniculata* (P)
Ranunculus glaberrimus var. *glaberrimus* (P)
Salicornia utahensis (W)
Sclerocactus pubispinus (W)
Sedum rosea var. *integrifolium* (P)
Senecio hydrophiloides (P)
Silene parryi (T)
Sparganium eurycarpum (I)
Spartina pectinata (D)
Thelypodium milleflorum (P)
Tonestus kingii var. *kingii* (W)
Townsendia scapigera (P)
Trifolium variegatum (P)
Trifolium wormskioldii var. *wormskioldii*

(I)
Viola beckwithii (P)
Viola lithion (R)

CACHE COUNTY

Abronia mellifera (P)
Achnatherum lemmonii (P)
Ageratina occidentalis (P)
Agoseris grandiflora (P)
Agoseris heterophylla (I)
Allium geyeri var. tenerum (D)
Amaranthus californicus (P)
Amelanchier alnifolia var. cusickii (P)
Androsace filiformis (P)
Anemone multifida var. stylosa (R)
Anemone piperi (D)
Angelica wheeleri (R)
Apocynum cannabinum var. cannabinum (D)
Arabis divaricarpa (D)
Arabis glabra var. furcatipilis (R)
Arabis lasiocarpa (W)
Arabis nuttallii (P)
Arnica latifolia var. gracilis (P)
Arnica sororia (P)
Artemisia ludoviciana var. latiloba (P)
Artemisia tridentata var. vaseyana (sensu stricto) (T)
Artemisia tripartita (P)
Asplenium trichomanes-ramosum (D)
Astragalus canadensis var. brevidens (P)
Astragalus canadensis var. canadensis (P)
Athyrium alpestre var. americanum (P)
Azolla mexicana (P)
Betula X utahensis (T)
Bolboschoenus fluviatilis (I)
Botrychium lunaria (I)
Calystegia sepium var. angulata (P)
Camissonia andina (P)
Carex backii (P)

Carex breweri var. paddoensis (D)
Carex deweyana var. bolanderi (I)
Carex multicosata (P)
Carex neurophora (P)
Castilleja leonardii (T)
Ceratophyllum demersum (I)
Cercocarpus ledifolius var. ledifolius (P)
Cheilanthes gracillima (P)
Chrysothamnus nauseosus var. salicifolius (W)
Cirsium neomexicanum var. utahense (D)
Claytonia cordifolia (P)
Collomia tenella (P)
Crataegus chrysocarpa (D)
Cryptantha affinis (P)
Cuscuta cephalanthi (I)
Cuscuta megalocarpa (P)
Cypripedium calceolus var. pubescens (P)
Cypripedium fasciculatum (R)
Downingia laeta (P)
Draba burkei (R)
Draba incerta (P)
Draba maguirei (R)
Elatine brachysperma (D)
Elatine californica (P)
Elodea canadensis (I)
Epilobium densiflorum (P)
Epilobium pygmaeum (P)
Ericameria obovata (W)
Erigeron cronquistii (R)
Erigeron filifolius (P)
Erigeron pumilus var. gracilior (P)
Eriogonum brevicaule var. loganum (R)
Eriogonum brevicaule var. nanum (T)
Eriogonum grayi (T)
Eriogonum grayi var. maguirei (T)
Eriophyllum lanatum var. integrifolium (P)
Festuca rubra (D)
Galium mexicanum var. asperulum (P)
Galium watsonii (T)
Gayophytum diffusum ssp. diffusum (P)
Gayophytum humile (P)

Geranium bicknellii (P)
Gilia capillaris (P)
Gilia tenerrima (P)
Gratiola neglecta (I)
Isoetes melanopoda (P)
Ivesia gordonii "wasatchensis phase" (T)
Lemna trisulca (I)
Lemna valdiviana (I)
Lesquerella multiceps (W)
Lewisia triphylla (P)
Linanthus harknessii (P)
Listera borealis (P)
Lupinus argenteus var. parviflorus (P)
Lysimachia ciliata (P)
Lysimachia thyrsoflora (P)
Marsilea oligospora (P)
Micranthes nidifica (P)
Musineon lineare (W)
Myosurus minimus (I)
Najas guadalupensis (I)
Najas marina (P)
Nemophila parviflora var. austiniae (P)
Nothocalais troximoides (P)
Orthocarpus tolmiei ssp. holmgreniorum (W)
Pedicularis parryi var. purpurea (D)
Penstemon compactus (R)
Physostegia parviflora (P)
Plantago elongata (P)
Poa bolanderi (P)
Polemonium micranthum (P)
Populus balsamifera ssp. trichocarpa (P)
Potamogeton foliosus var. fibrillosus (R)
Potamogeton illinoensis (P)
Potentilla glandulosa var. micropetala (T)
Potentilla glandulosa var. pseudorupestris (D)
Primula maguirei (R)
Psilocarphus brevissimus (P)
Pyrola picta (I)
Pyrrocoma racemosa var. paniculata (P)
Ranunculus aquatilis var. hispidulus (P)

Ranunculus aquatilis var. longirostris (T)
Ranunculus flabellaris (P)
Ranunculus ranunculinus (D)
Salix commutata (T)
Salix wolfii var. idahoensis (T)
Sparganium eurycarpum (I)
Spartina pectinata (D)
Spirodela polyrrhiza (I)
Stellaria longifolia (I)
Stellaria nitens (P)
Stellaria obtusa (P)
Stenotus falcatus (D)
Telesonix jamesii var. heucheriformis (P)
Teucrium canadense var. occidentale (I)
Tonestus kingii var. kingii (W)
Townsendia alpigena var. alpigena (P)
Trifolium variegatum (P)
Trifolium wormskioldii var. wormskioldii (I)
Trisetum canescens (P)
Utricularia intermedia (P)
Utricularia minor (P)
Viola beckwithii (P)
Viola frank-smithii (R)
Wolffia borealis (P)

CARBON COUNTY

Arabis lignifera (D)
Arenaria hookeri var. desertorum (D)
Astragalus brandegei (W)
Atriplex wolfii (D)
Chrysothamnus nauseosus var. psilocarpus (R)
Chrysothamnus nauseosus var. salicifolius (W)
Cirsium calcareum var. calcareum (T)
Cirsium neomexicanum var. utahense (D)
Cordylanthus kingii var. densiflorus (W)
Cryptantha caespitosa (W)
Cryptantha creutzfeldtii (R)

Cryptantha wetherillii (W)
Eriogonum brevicaule var. promiscuum (R)
Eriogonum corymbosum var. davidsei (T)
Eriogonum lancifolium (T)
Eriogonum marcusii (T)
Eriogonum nutans (W)
Escobaria vivipara var. vivipara (P)
Galium emeryense ssp. protoscabriusculum (T)
Geum aleppicum (P)
Hedysarum occidentale var. canone (T)
Hymenoxys helenioides (T)
Lesquerella hemiphysaria var. lucens (R)
Lygodesmia grandiflora var. stricta (T)
Mentzelia multicaulis var. librina (R)
Opuntia fragilis var. brachyarthra (D)
Penstemon grahamii (R)
Penstemon marcusii (R)
Penstemon procerus var. aberrans (D)
Penstemon scariosus var. scariosus (W)
Phacelia utahensis (R)
Phyla cuneifolia (P)
Physaria acutifolia var. purpurea (R)
Physaria grahamii (R)
Physaria repanda (R)
Physocarpus monogynus (T)
Potentilla concinna var. modesta (T)
Potentilla rivalis (I)
Sclerocactus wetlandicus (R)
Thelypodium laxiflorum (W)
Thelypodium rollinsii (W)
Townsendia alpigena var. caelilinesis (W)

DAGGETT COUNTY

Achnatherum contractum (W)
Agoseris glauca var. cronquistii (T)
Alopecurus alpinus (P)
Anemone patens var. multifida (P)
Antennaria pulcherrima (P)
Arabis demissa var. languida (W)

Arabis exilis (P)
Arabis fendleri var. spatifolia (D)
Arabis lignifera (D)
Arabis nuttallii (P)
Arabis pendulina var. russeola (D)
Arabis sp. nov. ined. "Gray Knolls, Uintah Co." (T)
Arnica fulgens (P)
Artemisia ludoviciana var. latiloba (P)
Asplenium septentrionale (I)
Astragalus aretioides (P)
Astragalus bisulcatus var. bisulcatus (T)
Astragalus canadensis var. brevidens (P)
Astragalus gilviflorus (P)
Astragalus kentrophyta var. jessiae (P)
Astragalus lentiginosus var. chartaceus (T)
Astragalus lentiginosus var. platyphyllidius (T)
Astragalus nelsonianus (W)
Astragalus purshii var. glareosus (P)
Atriplex gardneri var. gardneri (P)
Bolboschoenus fluviatilis (I)
Botrychium lunaria (I)
Calamagrostis rubescens (P)
Callitriche heterophylla (I)
Campanula uniflora (P)
Cardamine oligosperma var. oligosperma (P)
Carex lasiocarpa (P)
Carex limnophila (P)
Carex microglochis (P)
Carex multicosata (P)
Carex pyrenaica (P)
Carex scopulorum (P)
Castilleja leonardii (T)
Cerastium nutans (D)
Chrysothamnus nauseosus var. uintahensis (T)
Cirsium murdockii (W)
Cirsium ownbeyi (W)
Crassula aquatica (P)
Cryptantha affinis (P)
Cryptantha ambigua (P)

Cryptantha caespitosa (W)
Cryptantha stricta (W)
Cymopterus acaulis var. acaulis (P)
Cypripedium fasciculatum (R)
Delphinium geyeri (P)
Draba fladnizensis var. pattersonii (R)
Draba globosa (W)
Draba juniperina (W)
Draba pectinipila (T)
Elaeagnus commutata (P)
Elodea canadensis (I)
Erigeron filifolius (P)
Erigeron goodrichii (W)
Erigeron nanus (D)
Eriophorum angustifolium (P)
Gaillardia aristata (P)
Geranium bicknellii (P)
Gilia mcvickerae (T)
Gymnosteris parvula (P)
Halimolobos virgata (P)
Helictotrichon mortonianum (D)
Hymenoxys torreyana (P)
Ipomopsis spicata ssp. spicata (P)
Juncus bryoides (P)
Juncus ensifolius (P)
Juncus filiformis (P)
Kobresia myosuroides (P)
Kobresia simpliciuscula (P)
Lesquerella parvula (W)
Lesquerella utahensis (W)
Leymus simplex (R)
Lomatogonium rotatum ssp. tenuifolium (P)
Mentzelia pumila (D)
Mertensia lanceolata var. coriacea (T)
Mertensia viridis var. cana (T)
Monolepis pusilla (P)
Myosurus minimus (I)
Oenothera flava var. acutissima (W)
Oenothera pallida var. trichocalyx (P)
Oxytropis besseyi var. obnapiformis (D)
Oxytropis besseyi var. ventosa (W)
Oxytropis deflexa var. pulcherrima (R)

Oxytropis multiceps (P)
Parrya nudicaulis (P)
Penstemon acaulis var. acaulis (R)
Penstemon acaulis var. yampaensis (T)
Penstemon angustifolius var. vernalensis (W)
Penstemon cleburnei (W)
Penstemon gibbensii (R)
Penstemon uintahensis (W)
Phacelia demissa var. minor (W)
Phlox hoodii var. hoodii (T)
Phlox opalensis (W)
Platanthera hyberborea var. gracilis (P)
Potamogeton robbinsii (P)
Potentilla bipinnatifida (D)
Primula incana (P)
Salix melanopsis (P)
Saxifraga hirculus (P)
Schizachne purpurascens (P)
Senecio pauperculus (D)
Spiranthes diluvialis (R)
Stellaria crassifolia var. crassifolia (P)
Stellaria obtusa (P)
Symphoricarpos occidentalis (P)
Taraxacum ceratophorum (P)
Thalictrum venulosum (P)
Thermopsis rhombifolia (P)
Townsendia alpigena var. alpigena (P)
Townsendia nuttallii (W)
Veronica catenata (P)
Vicia americana var. minor (P)
Xylorhiza glabriuscula var. glabriuscula (P)

DAVIS COUNTY

Agoseris heterophylla (I)
Amsinckia intermedia (D)
Androsace occidentalis (P)
Arabis lasiocarpa (W)
Asclepias fascicularis (T)
Azolla mexicana (P)

Carex stipata (I)
Castilleja aff. pilosa (D)
Castilleja leonardii (T)
Ceratophyllum demersum (I)
Chenopodium rubrum var. humile (I)
Cirsium neomexicanum var. utahense (D)
Collomia tenella (P)
Downingia laeta (P)
Ericameria obovata (W)
Erigeron arenarioides (W)
Erigeron pumilus var. gracilior (P)
Eriogonum brevicaulum var. wasatchense (T)
Galium watsonii (T)
Gayophytum diffusum ssp. diffusum (P)
Geranium carolinianum (I)
Heterotheca villosa var. foliosa (T)
Heterotheca zionensis (D)
Ivesia gordonii "wasatchensis phase" (T)
Leersia oryzoides (I)
Lesquerella multiceps (W)
Lewisia triphylla (P)
Lysimachia ciliata (P)
Penstemon platyphyllus (W)
Plagiobothrys arizonicus (P)
Plantago elongata (P)
Plantago maritima (D)
Polemonium micranthum (P)
Psoraleidum lanceolatum var. stenostachys (T)
Ranunculus aquatilis var. longirostris (T)
Rhamnus alnifolia (P)
Salicornia utahensis (W)
Sparganium eurycarpum (I)
Spirodela polyrrhiza (I)
Stellaria obtusa (P)

DUCHESNE COUNTY

Agoseris glauca var. cronquistii (T)
Alsinanthe macrantha (D)
Androsace filiformis (P)

Anemone parviflora (P)
Anemone patens var. multifida (P)
Antennaria pulcherrima (P)
Aquilegia barnebyi (W)
Arabis demissa var. languida (W)
Arabis lignifera (D)
Arabis pulchra var. duchesnensis (R)
Arenaria hookeri var. desertorum (D)
Arnica amplexicaulis (P)
Arnica fulgens (P)
Artemisia campestris var. petiolata (R)
Artemisia norvegica (P)
Artemisia tridentata var. vaseyana (sensu stricto) (T)
Asplenium trichomanes-ramosum (D)
Astragalus canadensis var. brevidens (P)
Astragalus detritalis (W)
Atriplex wolfii (D)
Besseyia wyomingensis (P)
Botrychium lunaria (I)
Botrychium multifidum (P)
Botrychium pinnatum (P)
Callitriche heterophylla (I)
Campanula uniflora (P)
Cardamine oligosperma var. oligosperma (P)
Carex atosquama (P)
Carex bipartita (P)
Carex breweri var. paddoensis (D)
Carex brunnescens (P)
Carex capitata (P)
Carex diandra (P)
Carex leporinella (P)
Carex leptalea (P)
Carex limnophila (P)
Carex limosa (P)
Carex microglochin (P)
Carex misandra (P)
Carex nelsonii (P)
Carex oederi var. viridula (P)
Carex paysonis (P)
Carex pyrenaica (P)
Carex subnigricans (P)

Castilleja leonardii (T)
 Cerastium nutans (D)
 Chamerion latifolium (P)
 Chrysothamnus nauseosus var. psilocarpus (R)
 Chrysothamnus nauseosus var. salicifolius (W)
 Cirsium barnebyi (W)
 Cirsium murdockii (W)
 Coeloglossum viride ssp. bracteatum (P)
 Cordylanthus kingii var. densiflorus (W)
 Crataegus douglasii var. duchesnensis (R)
 Cryptantha ambigua (P)
 Cryptantha caespitosa (W)
 Cryptantha grahamii (W)
 Cryptantha humilis var. nana (W)
 Cryptantha paradoxa (W)
 Cymopterus acaulis var. acaulis (P)
 Cymopterus duchesnensis (W)
 Cymopterus purpureus var. rosei (W)
 Descurainia incisa ssp. viscosa (I)
 Draba brachystylis (R)
 Draba crassa (P)
 Draba globosa (W)
 Draba lonchocarpa var. exigua (T)
 Draba ventosa (W)
 Elatine brachysperma (D)
 Elatine rubella (I)
 Epilobium anagallidifolium (P)
 Epilobium palustre (P)
 Erigeron arenarioides (W)
 Erigeron concinnus var. condensatus (I)
 Erigeron goodrichii (W)
 Erigeron untermannii (R)
 Eriogonum brevicaule var. promiscuum (R)
 Eriogonum corymbosum var. erectum (T)
 Eriogonum corymbosum var. hylophilum (R)
 Eriogonum tumulosum (W)
 Eriophorum altaicum var. neogaeum (P)
 Eriophorum angustifolium (P)
 Escobaria vivipara var. vivipara (P)
 Gaillardia aristata (P)
 Gayophytum diffusum ssp. diffusum (P)
 Glaucocarpum suffrutescens (R)
 Gutierrezia pomariensis (W)
 Hedysarum boreale var. gremiale (T)
 Hedysarum occidentale var. canone (T)
 Hedysarum occidentale var. occidentale (P)
 Helictotrichon mortonianum (D)
 Hermidium alipes var. pallidum (T)
 Heterotheca villosa var. foliosa (T)
 Hymenoxys acaulis var. nana (R)
 Hypericum anagalloides (P)
 Isoetes echinospora (P)
 Juncus castaneus (P)
 Juncus regelii (P)
 Kobresia myosuroides (P)
 Kobresia simpliciuscula (P)
 Lepidium barnebyanum (R)
 Lesquerella hemiphysaria var. hemiphysaria (W)
 Lesquerella parvula (W)
 Lesquerella utahensis (W)
 Lewisia triphylla (P)
 Listera borealis (P)
 Listera cordata (D)
 Lupinus argenteus var. parviflorus (P)
 Lupinus polyphyllus var. ammophilus (W)
 Lupinus polyphyllus var. humicola (D)
 Lychnis apetala var. montana (P)
 Lycopodium annotinum (D)
 Lysiella obtusata (P)
 Mentzelia goodrichii (R)
 Mentzelia pumila (D)
 Menyanthes trifoliata (P)
 Mertensia viridis var. cana (T)
 Mimulus primuloides (P)
 Nuphar lutea ssp. polysepala (I)
 Oenothera pallida var. trichocalyx (P)
 Oxytropis campestris var. cusickii (P)
 Oxytropis deflexa var. pulcherrima (R)
 Oxytropis multiceps (P)
 Papaver radicum ssp. kluanense (T)

Parrya nudicaulis (P)
Pediocactus simpsonii var. minor (T)
Penstemon duchesnensis (R)
Penstemon flowersii (R)
Penstemon goodrichii (R)
Penstemon grahamii (R)
Penstemon platyphyllus (W)
Penstemon procerus var. aberrans (D)
Penstemon rydbergii var. rydbergii (D)
Penstemon scariosus var. scariosus (W)
Penstemon uintahensis (W)
Phacelia demissa var. minor (W)
Phacelia franklinii (P)
Phlox grahamii (T)
Phlox hoodii var. hoodii (T)
Physaria acutifolia var. purpurea (R)
Physaria grahamii (R)
Physaria repanda (R)
Physaria stylosa (R)
Platanthera hyerborea var. gracilis (P)
Platanthera stricta (D)
Platyschkuhria integrifolia var. ourolepis (W)
Poa lettermanii (P)
Poa pattersonii (I)
Potamogeton foliosus var. fibrillosus (R)
Potamogeton natans (I)
Potentilla bipinnatifida (D)
Potentilla concinna var. modesta (T)
Potentilla pensylvanica var. paucijuga (T)
Ranunculus aquatilis var. longirostris (T)
Ranunculus flabellaris (P)
Ranunculus gelidus ssp. grayi (P)
Ranunculus gmelinii var. hookeri (P)
Ranunculus gmelinii var. limosus (P)
Rorippa sphaerocarpa (P)
Saxifraga adscendens var. oregonensis (P)
Saxifraga cernua (P)
Saxifraga serpyllifolia var. chrysantha (W)
Schizachne purpurascens (P)
Sclerocactus brevispinus (R)
Sclerocactus wetlandicus (R)

Senecio dimorphophyllus var.
dimorphophyllus (T)
Senecio dimorphophyllus var. intermedius (R)
Sisyrinchium radicans (D)
Sparganium natans (P)
Spiranthes diluvialis (R)
Stellaria longifolia (I)
Stenotus armerioides var. gramineus (W)
Symphoricarpos occidentalis (P)
Taraxacum ceratophorum (P)
Thalictrum venulosum (P)
Thelesperma caespitosum (R)
Thelypodium laxiflorum (W)
Thermopsis rhombifolia (P)
Townsendia alpigena var. caelilimensis (W)
Townsendia mensana (W)
Trichophorum cespitosum (P)
Yucca harrimaniae var. sterilis (R)

EMERY COUNTY

Abronia argillosa (W)
Abronia nana var. harrisii (T)
Androsace filiformis (P)
Apocynum sibiricum var. salignum (T)
Aquilegia flavescens var. rubicunda (R)
Arabis demissa var. languida (W)
Arabis lignifera (D)
Arenaria hookeri var. desertorum (D)
Asclepias hallii (W)
Astragalus brandegei (W)
Astragalus consobrinus (W)
Astragalus desperatus var. petrophilus (W)
Astragalus flavus var. argillosus (T)
Astragalus laccoliticus (R)
Astragalus pardalinus (W)
Astragalus pubentissimus var. peabodianus (T)
Astragalus rafaensis (W)
Astragalus subcinereus var. basalticus (T)

Astragalus woodruffii (W)
Atriplex cornuta (D)
Atriplex minuticarpa (W)
Atriplex saccaria var. *caput-medusae* (D)
Atriplex wolfii (D)
Caesalpinia repens (D)
Carex limnophila (P)
Carex microglochis (P)
Carex neurophora (P)
Chrysothamnus nauseosus var. *bigelovii* (P)
Chrysothamnus nauseosus var. *psilocarpus* (R)
Chrysothamnus nauseosus var. *salicifolius* (W)
Chrysothamnus pulchellus var. *baileyi* (P)
Cirsium calcareum var. *calcareum* (T)
Cirsium neomexicanum var. *utahense* (D)
Cordylanthus kingii var. *densiflorus* (W)
Cryptantha creutzfeldtii (R)
Cryptantha johnstonii (R)
Cryptantha jonesiana (W)
Cryptantha longiflora (W)
Cryptantha paradoxa (W)
Cryptantha wetherillii (W)
Cycladenia jonesii (R)
Erigeron carringtoniae (R)
Erigeron concinnus var. *condensatus* (I)
Erigeron maguirei (R)
Eriogonum corymbosum var. *divaricatum* (T)
Eriogonum corymbosum var. *smithii* (R)
Eriogonum fasciculatum var. *polifolium* (P)
Eriogonum tumulosum (W)
Euphorbia nephradenia (R)
Festuca dasyclada (W)
Festuca sororia (D)
Gaillardia flava (W)
Galium emeryense ssp. *emeryense* (T)
Gayophytum diffusum ssp. *diffusum* (P)
Gilia latifolia var. *imperialis* (R)
Gilia mcvickerae (T)
Gilia tenerrima (P)

Gilia tenuis (R)
Grindelia fastigiata (W)
Grindelia laciniata (R)
Gymnosteris parvula (P)
Hedysarum occidentale var. *canone* (T)
Hedysarum occidentale var. *occidentale* (P)
Hymenopappus filifolius var. *tomentosus* (D)
Hymenoxys acaulis var. *nana* (R)
Hymenoxys helenioides (T)
Kobresia simpliciuscula (P)
Lathyrus eucosmus (P)
Lesquerella hemiphysaria var. *hemiphysaria* (W)
Lesquerella hemiphysaria var. *lucens* (R)
Linanthus harknessii (P)
Lomatium junceum (W)
Lychnis apetala var. *montana* (P)
Lygodesmia grandiflora var. *entrada* (R)
Lygodesmia juncea (P)
Machaeranthera pinnatifida var. *paradoxa* (W)
Mentzelia multicaulis var. *librina* (R)
Opuntia basilaris var. *heilii* (R)
Opuntia fragilis var. *brachyarthra* (D)
Oreoxis trotteri (R)
Oxytropis oreophila var. *jonesii* (W)
Pediocactus despainii (R)
Pediocactus winkleri (R)
Pediomelum aromaticum var. *aromaticum* (R)
Penstemon marcusii (R)
Penstemon procerus var. *aberrans* (D)
Penstemon scariosus var. *scariosus* (W)
Petroradia pumila var. *graminea* (T)
Phacelia constancei (W)
Phyla cuneifolia (P)
Physaria acutifolia var. *purpurea* (R)
Physaria repanda (R)
Platanthera zothecina (R)
Platyschkuhria integrifolia var. *ourolepis* (W)

Populus deltoides ssp. *wislizeni* (D)
Potentilla concinna var. *modesta* (T)
Psoralidium lanceolatum var. *stenophyllum*
(T)
Psorothamnus polydenius var. *jonesii* (R)
Psorothamnus thompsoniae var.
thompsoniae (W)
Schoenocrambe barnebyi (R)
Sclerocactus spinosior (W)
Sclerocactus wrightiae (R)
Senecio dimorphophyllus var.
dimorphophyllus (T)
Senecio hartianus (D)
Senecio pauperculus (D)
Sphaeralcea psoraloides (R)
Talinum thompsonii (R)
Townsendia aprica (R)

GARFIELD COUNTY

Acer glabrum var. *diffusum* (D)
Achnatherum parishii ssp. *parishii* (D)
Achnatherum scribneri (D)
Adiantum aleuticum (P)
Agoseris glauca var. *agrestis* (T)
Agoseris glauca var. *cronquistii* (T)
Aletes macdougallii ssp. *breviradiatus* (W)
Amaranthus powellii (D)
Andropogon glomeratus var. *scabriglumis*
(P)
Anemone multifida var. *stylosa* (R)
Antennaria pulcherrima (P)
Aquilegia flavescens var. *rubicunda* (R)
Arabis pendulina var. *russeola* (D)
Arabis schistacea (W)
Arenaria fendleri (P)
Arenaria kingii var. *plateauensis* (T)
Argyrosma limitanea ssp. *limitanea* (P)
Artemisia ludoviciana var. *latiloba* (P)
Asclepias hallii (W)
Aster foliaceus var. *apricus* (P)

Aster welshii (W)
Astragalus barnebyi (W)
Astragalus brandegei (W)
Astragalus consobrinus (W)
Astragalus flavus var. *argillosus* (T)
Astragalus hallii var. *fallax* (P)
Astragalus harrisonii (W)
Astragalus henrimontanensis (W)
Astragalus laccoliticus (R)
Astragalus lentiginosus var. *ursinus* (T)
Astragalus lentiginosus var. *wahweapensis*
(T)
Astragalus limnocharis var. *tabulaeus* (R)
Astragalus malacoides (W)
Astragalus monumentalis (W)
Astragalus newberryi var. *escalantinus* (T)
Astragalus newberryi var. *newberryi* (P)
Astragalus nidularius (W)
Astragalus pardalinus (W)
Astragalus perianus (W)
Astragalus pinonis (R)
Astragalus serpens (R)
Astragalus subcinereus var. *basalticus* (T)
Astragalus wardii (W)
Astragalus welshii (R)
Astragalus woodruffii (W)
Atriplex asterocarpa (W)
Atriplex wolfii (D)
Baccharis emoryi (T)
Baccharis glutinosa (T)
Botrychium lunaria (I)
Botrychium paradoxum (R)
Botrychium simplex (P)
Bouteloua aristidoides (P)
Bouteloua simplex (P)
Bromus frondosus (D)
Caesalpinia repens (D)
Carex arapahoensis (D)
Carex diandra (P)
Carex oederi var. *viridula* (P)
Carex subnigricans (P)
Castilleja aquariensis (R)

Castilleja parvula (R)
 Castilleja revealii (R)
 Caulanthus major var. major (P)
 Ceanothus greggii var. franklinii (R)
 Centaurium calycosum (P)
 Centrostegia thurberi (P)
 Chenopodium rubrum var. humile (I)
 Chloracantha spinosa (P)
 Chrysothamnus nauseosus var. bigelovii (P)
 Cirsium calcareum var. calcareum (T)
 Cirsium rydbergii (W)
 Cirsium scariosum var. thorneae (D)
 Cryptantha capitata (W)
 Cryptantha cinerea var. arenicola (W)
 Cryptantha ochroleuca (R)
 Cryptantha pterocarya var. cycloptera (P)
 Cryptantha wetherillii (W)
 Cycladenia jonesii (R)
 Cymopterus longilobus (D)
 Cymopterus minimus (R)
 Dalea flavescens var. epica (T)
 Dichantherium oligosanthes var.
 scribnerianum (I)
 Draba sobolifera (R)
 Draba subalpina (W)
 Echinocereus engelmannii var. variegatus
 (W)
 Echinocereus triglochidiatus var. inermis (T)
 Elatine rubella (I)
 Elodea canadensis (I)
 Equisetum variegatum (P)
 Ericameria zionis (R)
 Erigeron abajoensis (D)
 Erigeron awapensis (R)
 Erigeron canus (P)
 Erigeron concinnus var. condensatus (I)
 Erigeron proselyticus (R)
 Erigeron religiosus (W)
 Eriogonum aretioides (R)
 Eriogonum corymbosum var. cronquistii (R)
 Eriogonum corymbosum var. divaricatum
 (T)
 Eriogonum corymbosum var. revealianum
 (W)
 Eriogonum scabrellum (R)
 Eriogonum subreniforme (W)
 Erodium texanum (P)
 Escobaria missouriensis var. marstonii (D)
 Eucephalus wasatchensis (W)
 Euphorbia nephradenia (R)
 Festuca dasyclada (W)
 Gaillardia parryi (W)
 Galium emeryense ssp. emeryense (T)
 Geranium marginale (T)
 Geum aleppicum (P)
 Gilia haydenii (W)
 Gilia latifolia var. imperialis (R)
 Gilia mcvickerae (T)
 Gnaphalium wrightii (P)
 Grindelia fastigiata (W)
 Hesperodoria scopulorum (W)
 Heterotheca jonesii (R)
 Heterotheca villosa var. villosa (T)
 Heterotheca zionensis (D)
 Hymenoxys helenioides (T)
 Ipomopsis arizonica (P)
 Lemna trisulca (I)
 Lepidium montanum var. claronense (R)
 Lepidium montanum var. neeseae (R)
 Lepidium montanum var. stellae (T)
 Lesquerella arizonica (W)
 Lesquerella rubicundula (W)
 Leucocrinum montanum (P)
 Ligusticum porteri var. brevilobum (T)
 Linum australe (P)
 Lomatium junceum (W)
 Lomatium minimum (W)
 Lomatium nevadense var. nevadense (P)
 Lupinus kingii var. argillaceus (T)
 Lupinus polyphyllus var. humicola (D)
 Lupinus sericeus var. marianus (T)
 Machaeranthera bigelovii var. commixta
 (W)
 Menodora scabra (P)

Mirabilis linearis var. decipiens (T)
 Muhlenbergia arsenei (D)
 Muhlenbergia curtifolia (T)
 Muhlenbergia minutissima (I)
 Nama retrorsum (W)
 Opuntia basilaris var. heilii (R)
 Opuntia nicholii (W)
 Opuntia phaeacantha var. major (P)
 Oreoxis trotteri (R)
 Orthocarpus purpureo-albus (P)
 Ostrya knowltonii (W)
 Oxytropis oreophila var. jonesii (W)
 Parthenocissus vitacea (P)
 Pediomelum pariense (W)
 Penstemon ammophilus (R)
 Penstemon atwoodii (W)
 Penstemon barbatus var. barbatus (T)
 Penstemon bracteatus (R)
 Penstemon caespitosus var. desertipicti (W)
 Penstemon caespitosus var. suffruticosus (W)
 Penstemon laevis (W)
 Penstemon linarioides var. sileri (T)
 Penstemon parvus (R)
 Penstemon procerus var. aberrans (D)
 Penstemon pseudoputus (W)
 Penstemon scariosus var. scariosus (W)
 Petradoria pumila var. graminea (T)
 Phacelia constancei (W)
 Phacelia crenulata var. angustifolia (D)
 Phacelia mammillarensis (W)
 Phacelia pulchella var. sabulonum (R)
 Phlox austromontana var. lutescens (R)
 Phlox gladiformis (W)
 Physalis hederifolia var. hederifolia (P)
 Physaria chambersii var. sobolifera (T)
 Physaria lepidota var. membranacea (R)
 Physaria newberryi var. racemosa (R)
 Platanthera zothecina (R)
 Plucheia sericea (P)
 Poa bolanderi (P)
 Polygonum utahense (T)
 Potamogeton vaginatus (P)
 Potentilla concinna var. modesta (T)
 Potentilla plattensis (P)
 Primula incana (P)
 Primula specuicola (W)
 Psoralidium junceum (W)
 Psoralidium lanceolatum var. stenophyllum (T)
 Psorothamnus thompsoniae var. thompsoniae (W)
 Ptelea trifoliata var. lutescens (W)
 Ranunculus aestivalis (R)
 Robinia neomexicana (P)
 Rorippa sphaerocarpa (P)
 Rosa neomexicana (T)
 Sarcostemma cynanchoides var. hartwegii (P)
 Sclerocactus wrightiae (R)
 Senecio hartianus (D)
 Senecio malmstenii (R)
 Senecio pauperculus (D)
 Silene petersonii (W)
 Solanum jamesii (P)
 Sparganium eurycarpum (I)
 Sphaeralcea grossulariifolia var. moorei (W)
 Sphaeromeria capitata (P)
 Spiranthes diluvialis (R)
 Streptopus fassettii (D)
 Stylocline micropoides (P)
 Thelypodium laxiflorum (W)
 Thelypodium sagittatum ssp. ovalifolium (R)
 Thymophylla acerosa (D)
 Townsendia minima (W)
 Tripterocalyx carneus var. wootonii (P)
 Verbena macdougalii (P)
 Xylorhiza confertifolia (W)
 Xylorhiza glabriuscula var. linearifolia (R)
 Yucca angustissima var. toftiae (W)
 Yucca baileyi (D)

GRAND COUNTY

Abronia argillosa (W)
Androsace chamaejasme var. *carinata* (P)
Arabis lignifera (D)
Arenaria fendleri (P)
Argyrochosma limitanea ssp. *limitanea* (P)
Artemisia parryi (T)
Asclepias cutleri (R)
Asclepias engelmanniana (T)
Asclepias hallii (W)
Asclepias rusbyi (D)
Asplenium septentrionale (I)
Aster laevis var. *geyeri* (P)
Astragalus alpinus (P)
Astragalus bisulcatus var. *bisulcatus* (T)
Astragalus flavus var. *argillosus* (T)
Astragalus flexuosus var. *flexuosus* (P)
Astragalus iselyi (R)
Astragalus missouriensis var. *amphibolus* (W)
Astragalus piscator (R)
Astragalus pubentissimus var. *peabodianus* (T)
Astragalus rafaensis (W)
Astragalus sabulosus var. *sabulosus* (R)
Astragalus sabulosus var. *vehiculus* (R)
Astragalus wetherillii (W)
Atriplex gardneri var. *welshii* (W)
Atriplex minuticarpa (W)
Baccharis emoryi (T)
Berberis fendleri (D)
Besseyia alpina (P)
Bothriochloa laguroides ssp. *torreyana* (P)
Botrychium simplex (P)
Caesalpinia repens (D)
Callitriche heterophylla (I)
Campanula uniflora (P)
Carex arapahoensis (D)
Carex curatorum (W)
Carex perglobosa (D)
Castilleja occidentalis (P)
Ceanothus greggii var. *franklinii* (R)
Ceratoides lanata var. *ruinina* (R)
Chloracantha spinosa (P)
Cirsium neomexicanum var. *utahense* (D)
Cirsium rydbergii (W)
Cirsium scopulorum (P)
Cordylanthus kingii var. *densiflorus* (W)
Cryptantha ambigua (P)
Cryptantha elata (R)
Cryptantha longiflora (W)
Cryptantha paradoxa (W)
Cryptantha wetherillii (W)
Cycladenia jonesii (R)
Cymopterus longilobus (D)
Cypripedium calceolus var. *pubescens* (P)
Cystopteris utahensis (W)
Descurainia incisa ssp. *paysonii* (D)
Draba fladnizensis var. *pattersonii* (R)
Draba lonchocarpa var. *exigua* (T)
Draba spectabilis var. *spectabilis* (W)
Echinocereus triglochidiatus var. *inermis* (T)
Equisetum variegatum (P)
Erigeron concinnus var. *subglaber* (D)
Erigeron elatior (P)
Erigeron humilis (P)
Erigeron mancus (R)
Erigeron melanocephalus (P)
Eriogonum contortum (W)
Eriogonum corymbosum var. *divaricatum* (T)
Eriogonum lonchophyllum var. *intermontanum* (T)
Eriogonum marcusii (T)
Eriogonum scabrellum (R)
Fendlera rupicola (P)
Flaveria campestris (P)
Gaillardia flava (W)
Galium coloradoense (W)
Gayophytum diffusum ssp. *diffusum* (P)
Geum aleppicum (P)
Gilia clokeyi (D)
Gilia haydenii (W)

Grindelia fastigiata (W)
Grindelia laciniata (R)
Heterotheca pumila (T)
Heterotheca villosa var. *pedunculata* (P)
Kallstroemia californica (P)
Lathyrus eucosmus (P)
Lathyrus lanzwertii var. *leucanthus* (P)
Lepidium alyssoides var. *eastwoodiae* (D)
Lepidium crenatum (D)
Lomatium latilobum (R)
Lupinus argenteus var. *fulvomaculatus* (D)
Lupinus kingii var. *argillaceus* (T)
Lupinus polyphyllus var. *ammophilus* (W)
Lychnis apetala var. *montana* (P)
Lygodesmia grandiflora var. *doloresensis* (T)
Lygodesmia grandiflora var. *entrada* (R)
Machaeranthera canescens var. *glabra* (P)
Mentzelia marginata (W)
Mentzelia shultziorum (R)
Mentzelia thompsonii (W)
Muhlenbergia mexicana (I)
Nama retrorsum (W)
Oenothera caespitosa var. *macroglottis* (P)
Opuntia polyacantha var. *trichophora* (P)
Oreoxis bakeri (W)
Oreoxis trotteri (R)
Orobanche multiflora (T)
Orthocarpus purpureo-albus (P)
Ostrya knowltonii (W)
Oxytropis oreophila var. *jonesii* (W)
Parryella filifolia (P)
Pedicularis procera (P)
Pediomelum aromaticum var. *aromaticum* (R)
Pellaea atropurpurea (P)
Penstemon breviculus (W)
Penstemon crandallii var. *atratus* (W)
Penstemon procerus var. *aberrans* (D)
Penstemon scariosus var. *scariosus* (W)
Perityle specuicola (R)
Phacelia argillacea (R)
Phacelia glandulosa (T)
Phacelia howelliana (W)
Phacelia sericea var. *sericea* (D)
Phlox austromontana var. *lutescens* (R)
Phyla cuneifolia (P)
Phyla lanceolata (P)
Physalis lobata (P)
Physaria acutifolia var. *purpurea* (R)
Physaria grahamii (R)
Physaria newberryi var. *racemosa* (R)
Platanthera zothecina (R)
Platyschkuhria integrifolia var. *ourolepis* (W)
Poa lettermanii (P)
Poa pattersonii (I)
Podistera eastwoodiae (W)
Potentilla nivea (I)
Potentilla pensylvanica var. *paucijuga* (T)
Primula specuicola (W)
Psilostrophe tagetina (P)
Psoralidium lanceolatum var. *stenophyllum* (T)
Psorothamnus polydenius var. *jonesii* (R)
Pyrola picta (I)
Pyrrocoma crocea (P)
Ranunculus aquatilis var. *longirostris* (T)
Ranunculus eschscholtzii var. *eximius* (P)
Rosa manca (D)
Rudbeckia laciniata var. *ampla* (P)
Saxifraga adscendens var. *oregonensis* (P)
Saxifraga bronchialis var. *austromontana* (P)
Saxifraga cernua (P)
Selaginella scopulorum (P)
Senecio bigelovii var. *hallii* (P)
Senecio dimorphophyllus var. *intermedius* (R)
Senecio fremontii var. *inexpectatus* (R)
Senecio serra var. *admirabilis* (D)
Sophora nuttalliana (P)
Spartina pectinata (D)
Sphaeralcea leptophylla var. *janeae* (R)
Sphaeralcea psoraloides (R)

Sporobolus asper (P)
Sporobolus texanus (P)
Stellaria longifolia (I)
Streptopus fassettii (D)
Taraxacum ceratophorum (P)
Thelypodium laxiflorum (W)
Tragia ramosa (P)
Urtica dioica var. procera (P)
Xylorhiza glabriuscula var. linearifolia (R)
Yucca baileyi (D)
Zigadenus vaginatus (R)

IRON COUNTY

Acer glabrum var. diffusum (D)
Agoseris glauca var. agrestis (T)
Agoseris retrorsa (P)
Arabis lignifera (D)
Arenaria kingii var. glabrescens (D)
Arenaria kingii var. plateauensis (T)
Astragalus alpinus (P)
Astragalus brandegei (W)
Astragalus chamaemeniscus (W)
Astragalus convallarius var. finitimus (W)
Astragalus eremiticus (P)
Astragalus lentiginosus var. ursinus (T)
Astragalus limnocharis var. limnocharis (R)
Astragalus oophorus var. lonchocalyx (R)
Astragalus perianus (W)
Astragalus pinonis (R)
Astragalus welshii (R)
Botrychium lunaria (I)
Bouteloua simplex (P)
Camissonia parryi (W)
Camissonia pterosperma (P)
Camissonia pusilla (P)
Castilleja revealii (R)
Ceanothus greggii var. vestitus (P)
Cerastium nutans (D)
Chenopodium rubrum var. humile (I)
Chimaphila menziesii (P)

Cirsium scariosum var. thorneae (D)
Cleomella plocasperma (P)
Croton californicus (P)
Cryptantha ambigua (P)
Cryptantha cinerea var. abortiva (P)
Cucurbita foetidissima (P)
Cymopterus minimus (R)
Cymopterus purpureus var. jonesii (R)
Cystopteris sp. nov. ined. (T)
Draba asprella var. zionensis (W)
Draba subalpina (W)
Epilobium nevadense (R)
Equisetum variegatum (P)
Ericameria cervina (W)
Ericameria zionis (R)
Erigeron canus (P)
Erigeron proselyticus (R)
Eriogonum davidsonii (P)
Eriogonum insigne (W)
Eriogonum panguicense var. alpestre (T)
Eriogonum pharnaceoides var. cervinum (R)
Eschscholzia glyptosperma (P)
Escobaria vivipara var. desertii (W)
Eucephalus wasatchensis (W)
Festuca sororia (D)
Fraxinus velutina (P)
Gilia mcvickerae (T)
Hesperodoria scopulorum (W)
Ipomopsis arizonica (P)
Ipomopsis spicata ssp. tridactyla (R)
Jamesia americana var. zionis (R)
Lemna gibba (I)
Lepidium integrifolium var. heterophyllum (R)
Lesquerella rubicundula (W)
Leucocrinum montanum (P)
Lomatium minimum (W)
Lotus humistratus (P)
Lupinus argenteus var. palmeri (P)
Lupinus lepidus var. aridus (P)
Machaeranthera bigelovii var. commixta (W)

Machaeranthera gracilis (P)
Mimetanthe pilosa (P)
Mirabilis multiflora var. *pubescens* (P)
Muhlenbergia minutissima (I)
Oenothera deltoidea var. *deltoides* (P)
Opuntia basilaris var. *basilaris* (P)
Oxytropis oreophila var. *jonesii* (W)
Penstemon bracteatus (R)
Penstemon caespitosus var. *suffruticosus* (W)
Penstemon concinnus (W)
Penstemon franklinii (R)
Penstemon humilis var. *desereticus* (D)
Penstemon leonardii var. *higginsii* (W)
Penstemon linarioides var. *sileri* (T)
Penstemon nanus (W)
Penstemon pinorum (R)
Penstemon thompsoniae var. *desperatus* (T)
Phacelia constancei (W)
Phlox gladiformis (W)
Phlox griseola (W)
Phlox tumulosa (W)
Poa pattersonii (I)
Purshia glandulosa (P)
Rudbeckia occidentalis var. *montana* (D)
Salix arizonica (R)
Sclerocactus blainei (R)
Sclerocactus pubispinus (W)
Sclerocactus spinosior (W)
Scutellaria nana var. *sapphirina* (W)
Senecio dimorphophyllus var. *dimorphophyllus* (T)
Senecio malmstenii (R)
Silene petersonii (W)
Sophora nuttalliana (P)
Thelypodium laxiflorum (W)
Thelypodium sagittatum ssp. *ovalifolium* (R)
Thysanocarpus curvipes (P)
Townsendia minima (W)
Yucca elata var. *utahensis* (W)
Yucca harrimaniae var. *gilbertiana* (T)

JUAB COUNTY

Acer glabrum var. *diffusum* (D)
Achnatherum thurberianum (P)
Agoseris retrorsa (P)
Allium campanulatum (T)
Allium parvum (P)
Angelica kingii (P)
Angelica wheeleri (R)
Apocynum sibiricum var. *salignum* (T)
Arabis hirsuta var. *glabrata* (P)
Arabis lignifera (D)
Arabis nuttallii (P)
Arabis puberula (P)
Arabis shockleyi (W)
Astragalus adanus (T)
Astragalus calycosus var. *mancus* (T)
Astragalus diversifolius (W)
Astragalus lentiginosus var. *chartaceus* (T)
Astragalus lentiginosus var. *scorpionis* (W)
Astragalus pinonis (R)
Atriplex bonnevillensis (T)
Atriplex canescens var. *gigantea* (R)
Botrychium hesperium (W)
Botrychium lanceolatum (I)
Botrychium lunaria (I)
Botrychium minganense (I)
Calochortus bruneaunis (P)
Camissonia boothii var. *villosa* (D)
Camissonia multijuga (D)
Camissonia pterosperma (P)
Carex backii (P)
Carex deweyana var. *bolanderi* (I)
Carex jonesii (P)
Carex limnophila (P)
Carex scopulorum (P)
Castilleja nana (P)
Castilleja scabrida var. *barnebyana* (W)
Ceratophyllum demersum (I)
Chrysothamnus nauseosus var. *salicifolius* (W)
Collomia tenella (P)

Cryptantha affinis (P)
 Cryptantha ambigua (P)
 Cymopterus acaulis var. parvus (R)
 Cymopterus coulteri (W)
 Cymopterus globosus (P)
 Cymopterus purpureus var. rosei (W)
 Dodecatheon redolens (P)
 Draba asprella var. zionensis (W)
 Draba brachystylis (R)
 Draba densifolia (P)
 Draba globosa (W)
 Draba kassii (R)
 Draba paysonii var. treleasei (D)
 Epilobium anagallidifolium (P)
 Ericameria obovata (W)
 Eriogonum brevicaule var. cottamii (T)
 Eriogonum brevicaule var. nanum (T)
 Eriogonum brevicaule var. wasatchense (T)
 Eriogonum grayi (T)
 Eriogonum howellianum (W)
 Eriogonum ovalifolium var. nivale (P)
 Eriogonum umbellatum var. desereticum (T)
 Eucrypta micrantha (P)
 Flaveria campestris (P)
 Gayophytum diffusum ssp. diffusum (P)
 Gilia tenerrima (P)
 Gutierrezia petradoria (W)
 Hackelia ibapensis (R)
 Hydrophyllum capitatum var. alpinum (P)
 Ipomopsis congesta ssp. palmifrons (P)
 Ipomopsis depressa (P)
 Ivesia gordonii "wasatchensis phase" (T)
 Ivesia setosa (W)
 Jamesia americana var. macrocalyx (R)
 Lomatium nudicaule (P)
 Lupinus arbustus (P)
 Lygodesmia juncea (P)
 Machaeranthera grindelioides var. depressa (W)
 Najas marina (P)
 Nitrophila occidentalis (P)
 Opuntia pulchella (W)
 Penstemon angustifolius var. dulcis (R)
 Penstemon humilis var. desereticus (D)
 Penstemon immanifestus (P)
 Penstemon leonardii var. patricus (R)
 Penstemon scariosus var. scariosus (W)
 Penstemon sepalulus (W)
 Penstemon speciosus (P)
 Penstemon tidestromii (W)
 Perideridia bolanderi (P)
 Platanthera stricta (D)
 Populus balsamifera ssp. trichocarpa (P)
 Potentilla cottamii (R)
 Potentilla multisecta (W)
 Potentilla nivea (I)
 Potentilla pensylvanica var. paucijuga (T)
 Psoralidium lanceolatum var. stenostachys (T)
 Ribes laxiflorum (P)
 Salicornia utahensis (W)
 Schoenoplectus nevadensis (P)
 Sclerocactus pubispinus (W)
 Sclerocactus spinosior (W)
 Sedum rosea var. integrifolium (P)
 Taraxacum ceratophorum (P)
 Thelypodium rollinsii (W)
 Thelypodium sagittatum ssp. ovalifolium (R)
 Tonestus kingii var. barnebyanus (R)
 Tonestus kingii var. kingii (W)
 Townsendia alpigena var. alpigena (P)
 Townsendia jonesii var. lutea (R)
 Trifolium eriocephalum var. villiferum (R)
 Trifolium longipes var. hansenii (T)
 Yucca harrimaniae var. gilbertiana (T)

KANE COUNTY

Achnatherum parishii ssp. parishii (D)
 Achnatherum scribneri (D)
 Acourtia wrightii (P)
 Allium atrorubens var. atrorubens (P)

Allium atrorubens var. *cristatum* (W)
Amaranthus acanthochiton (P)
Andropogon glomeratus var. *scabriglumis* (P)
Androsace occidentalis (P)
Aquilegia coerulea var. *pinetorum* (D)
Aquilegia formosa var. *fosteri* (R)
Arabis gracilipes (D)
Arabis pendulina var. *russeola* (D)
Aralia racemosa ssp. *bicrenata* (D)
Arceuthobium abietinum f. sp. *concoloris* (P)
Arenaria kingii var. *plateauensis* (T)
Arenaria macradenia var. *macradenia* (P)
Argyrochosma jonesii (P)
Aristida arizonica (P)
Asclepias fascicularis (T)
Asclepias hallii (W)
Asclepias welshii (R)
Aster ericoides var. *commutatus* (P)
Aster subulatus var. *ligulatus* (P)
Aster welshii (W)
Astragalus ampullarius (W)
Astragalus bryantii (T)
Astragalus emoryanus (P)
Astragalus eremiticus (P)
Astragalus flavus var. *candicans* (T)
Astragalus hallii var. *fallax* (P)
Astragalus lancearius (W)
Astragalus lentiginosus var. *vitreus* (W)
Astragalus lentiginosus var. *wahweapensis* (T)
Astragalus limnocharis var. *limnocharis* (R)
Astragalus malacoides (W)
Astragalus newberryi var. *escalantinus* (T)
Astragalus newberryi var. *newberryi* (P)
Astragalus perianus (W)
Astragalus platytropis (P)
Astragalus striatiflorus (R)
Astragalus wardii (W)
Astragalus welshii (R)
Baccharis emoryi (T)
Baccharis glutinosa (T)
Boerhavia torreyana (P)
Bothriochloa laguroides ssp. *torreyana* (P)
Botrychium simplex (P)
Bouteloua aristidoides (P)
Bromus frondosus (D)
Calamovilfa gigantea (P)
Calochortus kennedyi (P)
Camissonia atwoodii (R)
Camissonia boothii var. *condensata* (P)
Camissonia brevipes var. *brevipes* (P)
Camissonia chamaenerioides (P)
Camissonia claviformis var. *purpurascens* (P)
Camissonia exilis (R)
Camissonia multijuga (D)
Camissonia pterosperma (P)
Canotia holacantha (D)
Carex crawei (P)
Carex curatorum (W)
Carex oederi var. *viridula* (P)
Carex scoparia (P)
Castilleja revealii (R)
Centrostegia thurberi (P)
Ceratoides lanata var. *subspinosa* (P)
Ceratophyllum demersum (I)
Chaenactis fremontii (P)
Chamaesaracha coronopus (P)
Cheilanthes covillei (P)
Cheilanthes parryi (P)
Chloracantha spinosa (P)
Chrysothamnus nauseosus var. *nitidus* (W)
Cirsium rydbergii (W)
Cirsium scariosum var. *thorneae* (D)
Cladium californicum (D)
Cryptantha angustifolia (P)
Cryptantha capitata (W)
Cryptantha cinerea var. *arenicola* (W)
Cryptantha inaequata (P)
Cryptantha nevadensis (P)
Cryptantha ochroleuca (R)
Cryptantha pterocarya var. *cycloptera* (P)

Cryptantha semiglabra (R)
Cryptantha utahensis (P)
Cucurbita foetidissima (P)
Cycladenia jonesii (R)
Cymopterus acaulis var. *higginsii* (R)
Cymopterus minimus (R)
Cymopterus multinervatus (P)
Cyperus schweinitzii (I)
Cystopteris reevesiana (P)
Cystopteris utahensis (W)
Dalea flavescens var. *epica* (T)
Dalea lanata var. *terminalis* (P)
Dodecatheon pulchellum var. *zionense* (W)
Draba asprella var. *zionensis* (W)
Draba subalpina (W)
Echinocereus engelmannii var. *variegatus* (W)
Echinocereus triglochidiatus var. *inermis* (T)
Equisetum variegatum (P)
Ericameria zionis (R)
Erigeron canaani (W)
Erigeron canus (P)
Erigeron proselyticus (R)
Erigeron religiosus (W)
Erigeron sionis (W)
Erigeron zothecinus (R)
Eriogonum corymbosum var. *revealianum* (W)
Eriogonum corymbosum var. *thompsoniae* (W)
Eriogonum darrovii (R)
Eriogonum davidsonii (P)
Eriogonum insigne (W)
Eriogonum jamesii var. *rupicola* (W)
Eriogonum polycladon (P)
Eriogonum racemosum var. *zionis* (W)
Eriogonum scabrellum (R)
Eriogonum subreniforme (W)
Escobaria missouriensis var. *marstonii* (D)
Eucephalus pulcher (W)
Eucrypta micrantha (P)
Euphorbia nephradenia (R)
Fimbristylis puberula var. *interior* (D)
Fimbristylis thermalis (D)
Fraxinus velutina (P)
Gaillardia parryi (W)
Galium proliferum (P)
Gilia flavocincta ssp. *flavocincta* (D)
Gilia latifolia var. *imperialis* (R)
Gilia mcvickerae (T)
Glandularia gooddingii (P)
Glossopetalon spinescens var. *aridum* (P)
Gnaphalium wrightii (P)
Hedeoma nanum ssp. *californicum* (P)
Hedeoma nanum ssp. *nanum* (P)
Heliomeris longifolia var. *annua* (P)
Heliomeris soliceps (R)
Heliotropium curassavicum var. *oculatum* (P)
Hesperodoria scopulorum (W)
Heterotheca jonesii (R)
Heterotheca villosa var. *villosa* (T)
Heterotheca zionensis (D)
Hymenopappus filifolius var. *tomentosus* (D)
Ipomopsis arizonica (P)
Iris pariensis (H)
Jamesia americana var. *zionis* (R)
Juncus bryoides (P)
Kallstroemia californica (P)
Langloisia setosissima (P)
Lepidium alyssoides var. *junceum* (R)
Lepidium montanum var. *claronense* (R)
Lepidium montanum var. *stellae* (T)
Lesquerella arizonica (W)
Lesquerella rubicundula (W)
Lesquerella tumulosa (R)
Leucocrinum montanum (P)
Linanthus bigelovii (P)
Linum australe (P)
Lipocarpha aristulata (I)
Lobelia cardinalis ssp. *graminea* (P)
Lomatium graveolens var. *alpinum* (P)
Lomatium minimum (W)

Lupinus caudatus var. *cutleri* (D)
Lupinus jonesii (T)
Lupinus kingii var. *argillaceus* (T)
Lupinus polyphyllus var. *humicola* (D)
Machaeranthera bigelovii var. *commixta* (W)
Machaeranthera gracilis (P)
Menodora scabra (P)
Mentzelia obscura (P)
Menyanthes trifoliata (P)
Mimetanthe pilosa (P)
Mimulus glabratus ssp. *fremontii* (P)
Mirabilis glabra (P)
Monarda pectinata (P)
Muhlenbergia arsenei (D)
Muhlenbergia curtifolia (T)
Muhlenbergia repens (P)
Nama hispidum (P)
Nama retrorsum (W)
Oenothera cavernae (D)
Opuntia aurea (W)
Opuntia nicholii (W)
Opuntia phaeacantha var. *major* (P)
Opuntia polyacantha var. *trichophora* (P)
Orobanche cooperi (P)
Orthocarpus purpureo-albus (P)
Ostrya knowltonii (W)
Parietaria hespera var. *hespera* (P)
Parthenocissus vitacea (P)
Pectis angustifolia (P)
Pectis papposa (P)
Pediocactus sileri (R)
Pediomelum aromaticum var. *barnebyi* (R)
Pediomelum epipsilum (R)
Pediomelum pariense (W)
Pellaea atropurpurea (P)
Pellaea wrightiana (P)
Penstemon ammophilus (R)
Penstemon atwoodii (W)
Penstemon barbatus var. *barbatus* (T)
Penstemon bracteatus (R)
Penstemon caespitosus var. *desertipicti* (W)
Penstemon caespitosus var. *suffruticosus* (W)
Penstemon laevis (W)
Penstemon linarioides var. *sileri* (T)
Penstemon procerus var. *aberrans* (D)
Pentagramma triangularis ssp. *triangularis* (P)
Perityle tenella (W)
Petradoria pumila var. *graminea* (T)
Phacelia affinis (P)
Phacelia cephalotes (W)
Phacelia constancei (W)
Phacelia crenulata var. *angustifolia* (D)
Phacelia cronquistiana (R)
Phacelia howelliana (W)
Phacelia integrifolia (P)
Phacelia lemmonii (P)
Phacelia mammillarensis (W)
Phacelia pulchella var. *atwoodii* (R)
Phacelia pulchella var. *sabulonum* (R)
Phacelia rotundifolia (P)
Phlox austromontana var. *jonesii* (W)
Phlox austromontana var. *lutescens* (R)
Phlox austromontana var. *prostrata* (D)
Phlox gladiformis (W)
Physaria lepidota var. *lepidota* (R)
Physaria lepidota var. *membranacea* (R)
Physaria newberryi var. *racemosa* (R)
Pluchea sericea (P)
Polygonum utahense (T)
Portulaca parvula (D)
Portulaca retusa (D)
Potentilla plattensis (P)
Primula specuicola (W)
Psoralidium junceum (W)
Psoralidium lanceolatum var. *stenophyllum* (T)
Psorothamnus arborescens var. *pubescens* (R)
Psorothamnus thompsoniae var. *thompsoniae* (W)
Ptelea trifoliata var. *lutescens* (W)

Pyrola picta (I)
Ranunculus oreogenes (T)
Redfieldia flexuosa (P)
Reverchonia arenaria (P)
Salix arizonica (R)
Salix eriocephala var. *ligulifolia* (D)
Salix laevigata (P)
Salvia columbariae (P)
Sarcostemma cynanchoides var. *hartwegii* (P)
Scleropogon brevifolius (P)
Selaginella underwoodii (P)
Selaginella utahensis (W)
Senecio hartianus (D)
Senecio malmstenii (R)
Silene petersonii (W)
Silene verecunda ssp. *andersonii* (P)
Sisyrinchium radicum (D)
Sphaeralcea ambigua var. *ambigua* (P)
Sphaeralcea grossulariifolia var. *moorei* (W)
Sphaeromeria ruthiae (R)
Stachys rothrockii (W)
Stephanomeria parryi (P)
Thamnosma montana (P)
Thelypodopsis ambigua var. *erecta* (R)
Thelypodium laxiflorum (W)
Thelypodium sagittatum ssp. *ovalifolium* (R)
Thelypodium wrightii ssp. *wrightii* (P)
Thymophylla acerosa (D)
Tidestromia lanuginosa (P)
Tidestromia oblongifolia (P)
Townsendia minima (W)
Trifolium variegatum (P)
Trifolium wormskioldii var. *arizonicum* (P)
Triodanis perfoliata (D)
Tripterocalyx carneus var. *wootonii* (P)
Viola charlestonensis (W)
Woodsia franciscana (T)
Xylorhiza confertifolia (W)
Xylorhiza cronquistii (T)
Yucca angustissima var. *kanabensis* (W)

Yucca angustissima var. *toftiae* (W)
Yucca baccata var. *vespertina* (T)
Yucca baileyi (D)
Yucca elata var. *utahensis* (W)
Zigadenus vaginatus (R)

MILLARD COUNTY

Acer glabrum var. *diffusum* (D)
Allium atropurpureum var. *atropurpureum* (P)
Allium parvum (P)
Amsinckia intermedia (D)
Arabis beckwithii (D)
Arabis lignifera (D)
Arabis pendulina var. *russeola* (D)
Arabis shockleyi (W)
Arenaria congesta var. *subcongesta* (P)
Astragalus callithrix (W)
Astragalus platytropis (P)
Astragalus toanus (P)
Astragalus uncialis (R)
Astragalus welshii (R)
Atriplex bonnevillensis (T)
Bergia texana (I)
Camissonia claviformis var. *purpurascens* (P)
Camissonia multijuga (D)
Camissonia pterosperma (P)
Carex deweyana var. *bolanderi* (I)
Castilleja scabrida var. *barnebyana* (W)
Caulanthus pilosus (P)
Centaurium namophilum var. *nevadense* (T)
Ceratophyllum demersum (I)
Chaenactis carphoclinia (P)
Chamaesyce ocellata var. *arenicola* (P)
Cirsium neomexicanum var. *utahense* (D)
Cirsium ownbeyi (W)
Cirsium scariosum var. *thorneae* (D)
Cleomella plocasperma (P)
Collomia tenella (P)
Cryptantha compacta (R)

Cuscuta indecora ssp. *warneri* (H)
Cymopterus acaulis var. *parvus* (R)
Cymopterus basalticus (W)
Cymopterus coulteri (W)
Cymopterus globosus (P)
Cymopterus purpureus var. *rosei* (W)
Cyperus acuminatus (I)
Draba subalpina (W)
Echinocereus triglochidiatus var. *mojavensis* (P)
Echinodorus berteroi (P)
Elymus multisetus (D)
Epilobium nevadense (R)
Ericameria cervina (W)
Ericameria crispa (R)
Ericameria obovata (W)
Ericameria watsonii (P)
Erigeron compactus var. *compactus* (W)
Eriogonum batemanii var. *eremicum* (W)
Eriogonum brevicaule var. *cottamii* (T)
Eriogonum brevicaule var. *nanum* (T)
Eriogonum brevicaule var. *wasatchense* (T)
Eriogonum cernuum var. *viminale* (P)
Eriogonum grayi (T)
Eriogonum howellianum (W)
Eriogonum nummulare var. *ammophilum* (R)
Eriogonum nutans (W)
Eriogonum pharnaceoides var. *cervinum* (R)
Eriogonum spathulatum var. *natum* (R)
Eschscholzia minutiflora (P)
Eucephalus wasatchensis (W)
Fimbristylis puberula var. *interior* (D)
Fimbristylis thermalis (D)
Frasera gypsicola (R)
Gilia tenerrima (P)
Gutierrezia petradoria (W)
Halimolobos virgata (P)
Hymenoxys lemmonii (W)
Ipomopsis congesta ssp. *palmifrons* (P)
Ipomopsis depressa (P)
Jamesia tetrapetala (R)
Lemna trisulca (I)
Lepidium integrifolium var. *heterophyllum* (R)
Lepidospartum latisquamum (P)
Lesquerella goodrichii (R)
Leymus salina ssp. *salmonis* (W)
Lomatium graveolens var. *alpinum* (P)
Lomatium ravenii (P)
Machaeranthera bigelovii var. *commixta* (W)
Machaeranthera grindelioides var. *depressa* (W)
Mimulus glabratus ssp. *utahensis* (D)
Monolepis pusilla (P)
Muhlenbergia arsenei (D)
Najas marina (P)
Nitrophila occidentalis (P)
Opuntia pulchella (W)
Penstemon angustifolius var. *dulcis* (R)
Penstemon concinnus (W)
Penstemon humilis var. *desereticus* (D)
Penstemon immanifestus (P)
Penstemon leonardii var. *patricus* (R)
Penstemon nanus (W)
Penstemon tidestromii (W)
Penstemon wardii (W)
Petradoria pumila var. *graminea* (T)
Phacelia affinis (P)
Phyla cuneifolia (P)
Physalis hederifolia var. *hederifolia* (P)
Platanthera stricta (D)
Primula domensis (R)
Psoralidium lanceolatum var. *stenostachys* (T)
Pyrrocoma racemosa var. *sessiliflora* (P)
Salicornia utahensis (W)
Schoenoplectus saximontanus (P)
Sclerocactus pubispinus (W)
Sclerocactus spinosior (W)
Solidago spectabilis (P)
Sphaeralcea caespitosa (R)
Streptanthus oliganthus (T)

Thelypodium rollinsii (W)
Thelypodium sagittatum ssp. *ovalifolium* (R)
Tonestus kingii var. *barnebyanus* (R)
Townsendia scapigera (P)
Trifolium friscanum (R)
Yucca harrimaniae var. *gilbertiana* (T)

MORGAN COUNTY

Apocynum sibiricum var. *salignum* (T)
Asclepias hallii (W)
Cardamine breweri var. *breweri* (P)
Chrysothamnus nauseosus var. *salicifolius* (W)
Eriogonum brevicaulum var. *loganum* (R)
Galium mexicanum var. *asperulum* (P)
Gayophytum diffusum ssp. *diffusum* (P)
Ipomopsis spicata ssp. *spicata* (P)
Lemna trisulca (I)
Lewisia triphylla (P)
Linanthus harknessii (P)
Lomatium triternatum var. *anomalum* (P)
Montia linearis (P)
Orthocarpus tolmiei ssp. *holmgreniorum* (W)
Ranunculus gmelinii var. *hookeri* (P)
Ranunculus gmelinii var. *limosus* (P)
Scutellaria antirrhinoides (P)
Wolffia borealis (P)

PIUTE COUNTY

Agoseris glauca var. *cronquistii* (T)
Amaranthus powellii (D)
Angelica wheeleri (R)
Aster welshii (W)
Astragalus bodinii (P)
Astragalus brandegei (W)
Astragalus canadensis var. *canadensis* (P)

Astragalus consobrinus (W)
Astragalus perianus (W)
Astragalus serpens (R)
Astragalus wardii (W)
Astragalus welshii (R)
Atriplex wolfii (D)
Botrychium lunaria (I)
Botrychium simplex (P)
Bouteloua simplex (P)
Callitriche heterophylla (I)
Camissonia pusilla (P)
Carex brunnescens (P)
Carex deweyana var. *bolanderi* (I)
Carex luzulina (P)
Carex subnigricans (P)
Castilleja parvula (R)
Ceratophyllum demersum (I)
Chamaerhodos erecta var. *parviflora* (P)
Chamaesyce revoluta (P)
Chrysothamnus nauseosus var. *glareosus* (T)
Cirsium eatonii var. *harrisonii* (R)
Cirsium scariosum var. *thorneae* (D)
Cleome serrulata var. *angusta* (D)
Collomia tenella (P)
Cymopterus longilobus (D)
Cymopterus purpureus var. *jonesii* (R)
Draba ramulosa (R)
Draba sobolifera (R)
Ericameria lignumviridis (R)
Erigeron abajoensis (D)
Erigeron concinnus var. *condensatus* (I)
Erigeron humilis (P)
Eriogonum batemanii var. *ostlundii* (W)
Eriogonum cernuum var. *viminale* (P)
Eriogonum corymbosum var. *revelianum* (W)
Eucephalus wasatchensis (W)
Gilia mcvickerae (T)
Gymnocarpium dryopteris (P)
Ipomopsis spicata ssp. *tridactyla* (R)
Lepidium integrifolium var. *heterophyllum* (R)

Lepidium montanum var. *claronense* (R)
Lesquerella rubicundula (W)
Lupinus kingii var. *argillaceus* (T)
Lupinus sericeus var. *marianus* (T)
Machaeranthera bigelovii var. *commixta*
(W)
Mimulus glabratus ssp. *utahensis* (D)
Mirabilis linearis var. *decipiens* (T)
Penstemon caespitosus var. *desertipicti* (W)
Penstemon caespitosus var. *suffruticosus*
(W)
Penstemon parvus (R)
Penstemon procerus var. *aberrans* (D)
Penstemon scariosus var. *scariosus* (W)
Phacelia demissa var. *heterotricha* (T)
Poa pattersonii (I)
Polemonium brandegei (P)
Populus balsamifera ssp. *trichocarpa* (P)
Potentilla bipinnatifida (D)
Potentilla concinna var. *modesta* (T)
Potentilla pennsylvanica var. *paucijuga* (T)
Potentilla rivalis (I)
Ranunculus aquatilis var. *longirostris* (T)
Ranunculus gmelinii var. *hookeri* (P)
Ranunculus gmelinii var. *limosus* (P)
Rorippa sphaerocarpa (P)
Senecio castoreus (R)
Sparganium eurycarpum (I)
Streptopus fassettii (D)
Taraxacum ceratophorum (P)
Teucrium canadense var. *occidentale* (I)
Thelypodium laxiflorum (W)
Thelypodium rollinsii (W)
Townsendia condensata (D)
Townsendia jonesii var. *lutea* (R)
Trifolium beckwithii (P)
Trifolium eriocephalum var. *villiferum* (R)
Yucca angustissima var. *avia* (R)

RICH COUNTY

Agoseris grandiflora (P)
Amelanchier alnifolia var. *cusickii* (P)
Amsinckia intermedia (D)
Arabis exilis (P)
Arabis lasiocarpa (W)
Arabis nuttallii (P)
Arnica sororia (P)
Artemisia longiloba (P)
Artemisia tridentata var. *vaseyana* (sensu
stricto) (T)
Astragalus canadensis var. *brevidens* (P)
Astragalus canadensis var. *canadensis* (P)
Astragalus gilviflorus (P)
Astragalus jejunus (W)
Astragalus lentiginosus var. *platyphyllidius*
(T)
Astragalus miser var. *tenuifolius* (W)
Astragalus purshii var. *glareosus* (P)
Calamagrostis rubescens (P)
Calochortus bruneanus (P)
Cirsium neomexicanum var. *utahense* (D)
Cryptantha caespitosa (W)
Downingia laeta (P)
Ericameria obovata (W)
Erigeron corymbosus (P)
Eriogonum brevicaulis var. *loganum* (R)
Hedysarum occidentale var. *occidentale* (P)
Hymenoxys torreyana (P)
Lepidium integrifolium var. *integrifolium*
(R)
Lesquerella multiceps (W)
Lesquerella prostrata (D)
Lewisia triphylla (P)
Linanthus harknessii (P)
Orthocarpus tolmiei ssp. *holmgreniorum*
(W)
Physostegia parviflora (P)
Poa bolanderi (P)
Potamogeton natans (I)
Potamogeton robbinsii (P)

Pyrola picta (I)
Ranunculus aquatilis var. *longirostris* (T)
Ranunculus gmelinii var. *hookeri* (P)
Ranunculus gmelinii var. *limosus* (P)
Senecio pauperculus (D)
Stellaria longifolia (I)
Utricularia intermedia (P)
Utricularia minor (P)

SALT LAKE COUNTY

Achnatherum lemmonii (P)
Adiantum aleuticum (P)
Agoseris glauca var. *agrestis* (T)
Agoseris grandiflora (P)
Agoseris heterophylla (I)
Allium geyeri var. *tenerum* (D)
Androsace filiformis (P)
Androsace occidentalis (P)
Anemone parviflora (P)
Anemone piperi (D)
Angelica wheeleri (R)
Apocynum sibiricum var. *salignum* (T)
Arabis columbiana (D)
Arabis divaricarpa (D)
Arabis glabra var. *furcatipilis* (R)
Arabis lasiocarpa (W)
Arabis lignifera (D)
Arenaria congesta var. *lithophila* (D)
Arnica latifolia var. *gracilis* (P)
Aspidotis densa (P)
Asplenium trichomanes-ramosum (D)
Astragalus alpinus (P)
Astragalus canadensis var. *canadensis* (P)
Astragalus miser var. *tenuifolius* (W)
Azolla mexicana (P)
Betula X utahensis (T)
Botrychium lanceolatum (I)
Botrychium lineare (D)
Botrychium lunaria (I)
Botrychium simplex (P)

Bromus vulgaris (P)
Calystegia sepium var. *angulata* (P)
Camissonia boothii var. *villosa* (D)
Cardamine breweri var. *breweri* (P)
Carex backii (P)
Carex breweri var. *paddoensis* (D)
Carex deweyana var. *bolanderi* (I)
Carex jonesii (P)
Carex luzulina (P)
Carex neurophora (P)
Carex stipata (I)
Castilleja leonardii (T)
Ceratophyllum demersum (I)
Chamerion latifolium (P)
Chrysothamnus nauseosus var. *salicifolius* (W)
Cirsium neomexicanum var. *utahense* (D)
Claytonia cordifolia (P)
Collomia tenella (P)
Corydalis caseana ssp. *brachycarpa* (R)
Crepis runcinata var. *runcinata* (P)
Cryptantha affinis (P)
Cuscuta cephalanthi (I)
Cuscuta cuspidata (P)
Cuscuta megalocarpa (P)
Cypripedium calceolus var. *pubescens* (P)
Cypripedium fasciculatum (R)
Cystopteris bulbifera (P)
Cystopteris sp. nov. ined. (T)
Dichanthelium lanuginosum var. *thermale* (T)
Dodecatheon dentatum var. *utahense* (R)
Downingia laeta (P)
Draba brachystylis (R)
Draba densifolia (P)
Draba globosa (W)
Elatine rubella (I)
Elymus multisetus (D)
Epilobium glaberrimum var. *fastigiatum* (P)
Epilobium pygmaeum (P)
Equisetum variegatum (P)
Ericameria obovata (W)

Erigeron arenarioides (W)
 Erigeron coulteri (P)
 Erigeron garrettii (R)
 Erigeron pumilus var. gracilior (P)
 Eriogonum brevicaule var. nanum (T)
 Eriogonum brevicaule var. wasatchense (T)
 Eriogonum grayi (T)
 Eriogonum umbellatum var. desereticum (T)
 Festuca rubra (D)
 Galium mexicanum var. asperulum (P)
 Galium watsonii (T)
 Gayophytum diffusum ssp. diffusum (P)
 Geranium bicknellii (P)
 Geranium carolinianum (I)
 Geum aleppicum (P)
 Gilia tenerrima (P)
 Heterotheca villosa var. foliosa (T)
 Heterotheca zionensis (D)
 Ivesia gordonii "wasatchensis phase" (T)
 Ivesia utahensis (R)
 Jamesia americana var. macrocalyx (R)
 Juncus bryoides (P)
 Juncus ensifolius (P)
 Juncus regelii (P)
 Lemna trisulca (I)
 Lepidium densiflorum var. pubicarpum (P)
 Lepidium dictyotum (P)
 Lepidium montanum var. alpinum (R)
 Lesquerella garrettii (R)
 Lesquerella utahensis (W)
 Lewisia triphylla (P)
 Linanthus harknessii (P)
 Listera borealis (P)
 Lupinus argenteus var. parviflorus (P)
 Lysimachia ciliata (P)
 Micranthes nidifica (P)
 Mimulus glabratus ssp. utahensis (D)
 Myosurus apetalus var. borealis (P)
 Myosurus minimus (I)
 Myriophyllum verticillatum (P)
 Najas guadalupensis (I)
 Oxytropis borealis var. viscida (P)
 Penstemon platyphyllus (W)
 Petasites sagittatus (P)
 Plagiobothrys tenellus (P)
 Plantago elongata (P)
 Plantago major var. pachyphylla (D)
 Plantago maritima (D)
 Plantago virginica (D)
 Platanthera stricta (D)
 Polemonium micranthum (P)
 Polygonum minimum (P)
 Polypodium hesperium (I)
 Populus balsamifera ssp. trichocarpa (P)
 Potamogeton epihydrus ssp. nuttallii (P)
 Potentilla glandulosa var. micropetala (T)
 Potentilla rivalis (I)
 Psilocarphus brevissimus (P)
 Psoralidium lanceolatum var. stenostachys (T)
 Ranunculus aquatilis var. hispidulus (P)
 Ranunculus aquatilis var. longirostris (T)
 Ranunculus flabellaris (P)
 Rhamnus alnifolia (P)
 Salicornia utahensis (W)
 Samolus parviflorus (I)
 Schoenoplectus saximontanus (P)
 Solidago gigantea (P)
 Sparganium eurycarpum (I)
 Spiranthes diluvialis (R)
 Spirodela polyrrhiza (I)
 Stellaria longifolia (I)
 Stellaria nitens (P)
 Stellaria obtusa (P)
 Stenotus falcatus (D)
 Tanacetum douglasii (T)
 Teucrium canadense var. occidentale (I)
 Tonestus kingii var. kingii (W)
 Townsendia alpigena var. alpigena (P)
 Trifolium variegatum (P)
 Trifolium wormskioldii var. wormskioldii (I)
 Trisetum canescens (P)
 Veronica catenata (P)

Viola beckwithii (P)
Woodsia oregana (sensu stricto) (P)

SAN JUAN COUNTY

Achnatherum parishii ssp. *parishii* (D)
Achnatherum scribneri (D)
Acourtia wrightii (P)
Adoxa moschatellina (P)
Agoseris glauca var. *cronquistii* (T)
Aletes macdougallii ssp. *breviradiatus* (W)
Allium geyeri var. *chatterleyi* (R)
Amaranthus powellii (D)
Andropogon glomeratus var. *scabriglumis* (P)
Androsace chamaejasme var. *carinata* (P)
Apocynum cannabinum var. *angustifolium* (P)
Aquilegia coerulea var. *pinetorum* (D)
Arabis lignifera (D)
Arenaria fendleri (P)
Argyrosma limitanea ssp. *limitanea* (P)
Aristida arizonica (P)
Arnica nevadensis (T)
Artemisia parryi (T)
Asclepias cutleri (R)
Asclepias engelmanniana (T)
Asclepias involucrata (T)
Asclepias rusbyi (D)
Asplenium resiliens (P)
Asplenium septentrionale (I)
Aster ericoides var. *commutatus* (P)
Aster laevis var. *geyeri* (P)
Aster subulatus var. *ligulatus* (P)
Astragalus calycosus var. *scaposus* (P)
Astragalus cottamii (W)
Astragalus cronquistii (R)
Astragalus cutleri (R)
Astragalus flexuosus var. *flexuosus* (P)
Astragalus iselyi (R)
Astragalus lancearius (W)

Astragalus missouriensis var. *amphibolus* (W)
Astragalus monumentalis (W)
Astragalus naturitensis (R)
Astragalus nidularius (W)
Astragalus piscator (R)
Astragalus praelongus var. *lonchopus* (W)
Atriplex asterocarpa (W)
Atriplex obovata (P)
Atriplex saccaria var. *caput-medusae* (D)
Baccharis emoryi (T)
Baccharis viminea (T)
Baccharis wrightii (P)
Berberis fendleri (D)
Besseyia alpina (P)
Besseyia wyomingensis (P)
Bouteloua curtipendula var. *curtipendula* (D)
Bouteloua trifida (P)
Caesalpinia repens (D)
Calamovilfa gigantea (P)
Camissonia boothii var. *condensata* (P)
Campanula uniflora (P)
Canotia holacantha (D)
Carex arapahoensis (D)
Carex curatorum (W)
Carex perglobosa (D)
Carex specuicola (R)
Castilleja occidentalis (P)
Ceanothus greggii var. *franklinii* (R)
Centaurium calycosum (P)
Centrostegia thurberi (P)
Cerastium nutans (D)
Ceratoides lanata var. *ruinina* (R)
Chamaesaracha coronopus (P)
Chloracantha spinosa (P)
Chrysothamnus nauseosus var. *bigelovii* (P)
Chrysothamnus pulchellus var. *baileyi* (P)
Cirsium calcareum var. *calcareum* (T)
Cirsium centaureae (P)
Cirsium rothrockii (D)
Cirsium rydbergii (W)
Cirsium scopulorum (P)

Cladium californicum (D)
Crataegus erythropoda (P)
Croton texensis var. *texensis* (P)
Cryptantha capitata (W)
Cryptantha inaequata (P)
Cryptantha longiflora (W)
Cryptantha nevadensis (P)
Cryptantha pterocarya var. *cycloptera* (P)
Cryptantha wetherillii (W)
Cucurbita foetidissima (P)
Cymopterus beckii (R)
Cymopterus longilobus (D)
Cystopteris bulbifera (P)
Cystopteris reevesiana (P)
Dalea flavescens var. *epica* (T)
Dalea lanata var. *terminalis* (P)
Descurainia incisa ssp. *paysonii* (D)
Dodecatheon pulchellum var. *zionense* (W)
Draba fladnizensis var. *pattersonii* (R)
Draba spectabilis var. *spectabilis* (W)
Echinocereus engelmannii var. *variegatus* (W)
Echinocereus triglochidiatus var. *inermis* (T)
Erigeron abajoensis (D)
Erigeron concinnus var. *subglaber* (D)
Erigeron elatior (P)
Erigeron humilis (P)
Erigeron kachinensis (R)
Erigeron mancus (R)
Erigeron melanocephalus (P)
Eriogonum clavellatum (W)
Eriogonum corymbosum var. *humivagans* (T)
Eriogonum corymbosum var. *velutinum* (T)
Eriogonum jamesii var. *higginsii* (R)
Eriogonum leptophyllum (W)
Eriogonum racemosum var. *nobile* (R)
Eriogonum scabrellum (R)
Eriogonum subreniforme (W)
Erodium texanum (P)
Eucephalus pulcher (W)
Eucephalus wasatchensis (W)
Fendlera rupicola (P)
Festuca ovina var. *arizonica* (P)
Festuca sororia (D)
Fimbristylis puberula var. *interior* (D)
Fimbristylis thermalis (D)
Flaveria campestris (P)
Galium coloradoense (W)
Galium emeryense ssp. *emeryense* (T)
Galium magnifolium (T)
Galium munzii ssp. *ambivalens* (T)
Geum aleppicum (P)
Gilia clokeyi (D)
Gilia haydenii (W)
Gilia latifolia var. *imperialis* (R)
Grindelia fastigiata (W)
Grindelia laciniata (R)
Hedeoma nanum ssp. *nanum* (P)
Heliomeris longifolia var. *annua* (P)
Hesperodoria scopulorum (W)
Heterotheca pumila (T)
Heterotheca villosa var. *foliosa* (T)
Heterotheca villosa var. *nana* (P)
Heterotheca villosa var. *pedunculata* (P)
Heterotheca zionensis (D)
Houstonia rubra (P)
Hydrophyllum fendleri var. *fendleri* (P)
Imperata brevifolia (P)
Lathyrus eucosmus (P)
Lathyrus lanzwertii var. *leucanthus* (P)
Lepidium alyssoides var. *eastwoodiae* (D)
Lepidium alyssoides var. *junceum* (R)
Lepidium crenatum (D)
Lesquerella fendleri (P)
Linum australe (P)
Listera borealis (P)
Lobelia cardinalis ssp. *graminea* (P)
Lomatium latilobum (R)
Lomatium nevadense var. *nevadense* (P)
Lotus wrightii (P)
Lupinus argenteus var. *fulvomaculatus* (D)
Lupinus kingii var. *argillaceus* (T)
Lupinus polyphyllus var. *ammophilus* (W)

Lychnis apetala var. *montana* (P)
Machaeranthera canescens var. *glabra* (P)
Machaeranthera parviflora (P)
Machaeranthera pinnatifida var. *paradoxa* (W)
Melica porteri (P)
Mentzelia laciniata (T)
Mirabilis linearis var. *decipiens* (T)
Mirabilis multiflora var. *multiflora* (D)
Monarda fistulosa var. *menthifolia* (P)
Monarda pectinata (P)
Muhlenbergia arsenei (D)
Muhlenbergia curtifolia (T)
Muhlenbergia depauperata (D)
Myosurus minimus (I)
Nama hispidum (P)
Nama retrorsum (W)
Oenothera caespitosa var. *macroglottis* (P)
Oenothera cavernae (D)
Opuntia basilaris var. *basilaris* (P)
Opuntia martiniana (T)
Opuntia nicholii (W)
Opuntia phaeacantha var. *discata* (T)
Opuntia phaeacantha var. *major* (P)
Opuntia phaeacantha var. *phaeacantha* (P)
Opuntia polyacantha var. *trichophora* (P)
Oreoxis bakeri (W)
Orobanche cooperi (P)
Orobanche multiflora (T)
Orthocarpus purpureo-albus (P)
Ostrya knowltonii (W)
Oxypolis fendleri (P)
Parietaria hespera var. *hespera* (P)
Parryella filifolia (P)
Parthenocissus vitacea (P)
Pectis angustifolia (P)
Pectis papposa (P)
Pectocarya heterocarpa (P)
Pedicularis procera (P)
Pediocactus simpsonii var. *minor* (T)
Pediomelum aromaticum var. *tuhyi* (R)
Pellaea atropurpurea (P)
Penstemon barbatus var. *trichander* (W)
Penstemon breviculus (W)
Penstemon crandallii var. *atratus* (W)
Penstemon crandallii var. *crandallii* (P)
Penstemon lentus var. *albiflorus* (W)
Penstemon lentus var. *lentus* (W)
Penstemon navajoa (R)
Penstemon strictiformis (W)
Perityle specuicola (R)
Phacelia cephalotes (W)
Phacelia constancei (W)
Phacelia howelliana (W)
Phacelia indecora (R)
Phacelia integrifolia (P)
Phacelia lemmonii (P)
Phacelia petrosa (T)
Phacelia sericea var. *sericea* (D)
Phlox austromontana var. *lutescens* (R)
Phlox cluteana (W)
Physalis crassifolia (P)
Physalis lobata (P)
Physaria newberryi var. *racemosa* (R)
Plagiobothrys jonesii (P)
Platanthera zothecina (R)
Platyschkuhria integrifolia var. *oblongifolia* (R)
Pluchea sericea (P)
Poa lettermanii (P)
Poa pattersonii (I)
Podistera eastwoodiae (W)
Polygala acanthoclada (P)
Porophyllum gracile (P)
Portulaca parvula (D)
Portulaca retusa (D)
Potentilla nivea (I)
Potentilla pensylvanica var. *paucijuga* (T)
Primula specuicola (W)
Proatriplex pleiantha (W)
Prunus valida (T)
Psilostrophe tagetina (P)
Psoralidium junceum (W)
Psoralidium lanceolatum var. *stenophyllum*

(T)
Psoralea thompsoniae var.
thompsoniae (W)
Psoralea thompsoniae var. whitingii
(R)
Pteris trifoliata var. lutescens (W)
Pyrola picta (I)
Pyrrocoma crocea (P)
Quercus gambelii var. bonina (T)
Ranunculus aquatilis var. hispidulus (P)
Ranunculus eschscholtzii var. eximius (P)
Ranunculus oreogenes (T)
Reverchonia arenaria (P)
Rorippa sinuata (I)
Rosa manca (D)
Rosa neomexicana (T)
Rubus neomexicanus (P)
Rudbeckia laciniata var. ampla (P)
Salix candida (D)
Salix eriocephala var. ligulifolia (D)
Salix laevigata (P)
Sarcostemma cynanchoides var. hartwegii
(P)
Saxifraga adscendens var. oregonensis (P)
Saxifraga bronchialis var. austromontana (P)
Saxifraga cernua (P)
Sclerocactus whipplei (W)
Selaginella scopulorum (P)
Selinocarpus diffusus (D)
Selinocarpus nevadensis (W)
Senecio bigelovii var. hallii (P)
Senecio dimorphophyllus var. intermedius
(R)
Senecio fremontii var. inexpectatus (R)
Senecio serra var. admirabilis (D)
Solanum jamesii (P)
Sophora nuttalliana (P)
Sphaeralcea digitata (T)
Sphaeralcea grossulariifolia var. moorei (W)
Sphaeralcea leptophylla var. janeae (R)
Sporobolus pulvinatus (P)
Streptopus fassettii (D)

Stylocline micropoides (P)
Syntrichopappus fremontii (P)
Taraxacum ceratophorum (P)
Thelesperma megapotamicum (P)
Thelypodopsis aurea (W)
Thelypodium laxiflorum (W)
Thelypodium wrightii ssp. wrightii (P)
Thymophylla acerosa (D)
Tidestromia lanuginosa (P)
Trautvetteria caroliniensis var. occidentalis
(I)
Triaenocarpus carneus var. wootonii (P)
Trisetum canescens (P)
Trisetum spicatum ssp. montanum (T)
Urtica dioica var. procera (P)
Verbena gracilis (T)
Vitis arizonica (P)
Xylorhiza glabriuscula var. linearifolia (R)
Yucca angustissima var. toftiae (W)
Yucca baileyi (D)
Zigadenus vaginatus (R)

SANPETE COUNTY

Agoseris glauca var. agrestis (T)
Agoseris glauca var. cronquistii (T)
Arabis lignifera (D)
Artemisia ludoviciana var. latiloba (P)
Aster foliaceus var. apricus (P)
Aster laevis var. geyeri (P)
Astragalus desereticus (R)
Astragalus lentiginosus var. chartaceus (T)
Astragalus montii (R)
Atriplex wolfii (D)
Caltha leptosepala var. biflora (T)
Castilleja leonardii (T)
Cerastium nutans (D)
Chenopodium rubrum var. humile (I)
Chrysothamnus nauseosus var. iridis (W)
Chrysothamnus nauseosus var. salicifolius
(W)

Cymopterus coulteri (W)
Cymopterus purpureus var. rosei (W)
Draba fladnizensis var. pattersonii (R)
Erigeron abajoensis (D)
Erigeron arenarioides (W)
Erigeron carringtoniae (R)
Eriogonum nutans (W)
Eriogonum umbellatum var. desereticum (T)
Festuca dasyclada (W)
Gayophytum diffusum ssp. diffusum (P)
Hymenoxys helenioides (T)
Hymenoxys subintegra (D)
Juncus castaneus (P)
Lepidium densiflorum var. pubicarpum (P)
Lepidium integrifolium var. integrifolium (R)
Lesquerella hemiphysaria var. hemiphysaria (W)
Lomatium graveolens var. alpinum (P)
Lupinus polyphyllus var. humicola (D)
Mentzelia argillosa (W)
Opuntia fragilis var. brachyarthra (D)
Oxytropis oreophila var. jonesii (W)
Paeonia brownii (P)
Penstemon leptanthus (T)
Penstemon procerus var. aberrans (D)
Penstemon scariosus var. scariosus (W)
Penstemon tidestromii (W)
Penstemon wardii (W)
Petradoria pumila var. graminea (T)
Phacelia lutea var. scopulina (P)
Phacelia utahensis (R)
Potentilla concinna var. modesta (T)
Potentilla glandulosa var. micropetala (T)
Ranunculus aestivalis (R)
Ranunculus gmelinii var. hookeri (P)
Ranunculus gmelinii var. limosus (P)
Salix arizonica (R)
Senecio dimorphophyllus var. dimorphophyllus (T)
Senecio dimorphophyllus var. intermedius (R)

Senecio musiniensis (R)
Silene petersonii (W)
Stellaria obtusa (P)
Thelypodium rollinsii (W)
Townsendia alpigena var. caelilinesis (W)
Townsendia jonesii var. lutea (R)
Veronica catenata (P)

SEVIER COUNTY

Agoseris glauca var. agrestis (T)
Anemone multifida var. stylosa (R)
Angelica wheeleri (R)
Aquilegia flavescens var. rubicunda (R)
Artemisia ludoviciana var. latiloba (P)
Aster foliaceus var. apricus (P)
Astragalus bodinii (P)
Astragalus brandegei (W)
Astragalus calycosus var. monophyllidius (T)
Astragalus canadensis var. canadensis (P)
Astragalus consobrinus (W)
Astragalus flavus var. candicans (T)
Astragalus lentiginosus var. chartaceus (T)
Astragalus loanus (R)
Astragalus montii (R)
Astragalus perianus (W)
Astragalus serpens (R)
Astragalus subcinereus var. basalticus (T)
Astragalus wardii (W)
Atriplex wolfii (D)
Bouteloua simplex (P)
Calyptridium parryi (D)
Carex atherodes (P)
Carex subfusca (P)
Carex subnigricans (P)
Ceratophyllum demersum (I)
Chamaerhodos erecta var. parviflora (P)
Chenopodium rubrum var. humile (I)
Chrysothamnus nauseosus var. iridis (W)
Chrysothamnus nauseosus var. salicifolius

(W)
Cirsium calcareum var. *calcareum* (T)
Cirsium neomexicanum var. *utahense* (D)
Collomia tinctoria (P)
Cryptantha affinis (P)
Cryptantha ambigua (P)
Cryptantha creutzfeldtii (R)
Cryptantha longiflora (W)
Cymopterus coulteri (W)
Cymopterus purpureus var. *rosei* (W)
Draba sobolifera (R)
Draba subalpina (W)
Elodea canadensis (I)
Ericameria lignumviridis (R)
Erigeron abajoensis (D)
Erigeron carringtoniae (R)
Eriogonum batemanii var. *ostlundii* (W)
Eriogonum brevicaulis var. *wasatchense* (T)
Eriogonum esmeraldense (P)
Eriogonum nutans (W)
Geranium marginale (T)
Gilia mcvickerae (T)
Gilia tenerrima (P)
Gilia tenuis (R)
Gymnosteris parvula (P)
Hymenoxys acaulis var. *nana* (R)
Hymenoxys helenioides (T)
Juncus bryoides (P)
Lemna trisulca (I)
Lepidium alyssoides var. *alyssoides* (D)
Lepidium integrifolium var. *heterophyllum* (R)
Lepidium integrifolium var. *integrifolium* (R)
Lesquerella hemiphysaria var. *hemiphysaria* (W)
Linanthus harknessii (P)
Linum australe (P)
Listera borealis (P)
Lomatium graveolens var. *alpinum* (P)
Lomatium junceum (W)
Lupinus polyphyllus var. *humicola* (D)
Lupinus sericeus var. *marianus* (T)
Mentzelia argillosa (W)
Mimulus breweri (P)
Muhlenbergia minutissima (I)
Myosurus minimus (I)
Najas caespitosa (H)
Opuntia fragilis var. *brachyarthra* (D)
Oxypholis fendleri (P)
Pedicularis procera (P)
Pediocactus winkleri (R)
Penstemon abietinus (R)
Penstemon leptanthus (T)
Penstemon parvus (R)
Penstemon procerus var. *aberrans* (D)
Penstemon scariosus var. *scariosus* (W)
Penstemon sepalulus (W)
Penstemon tidestromii (W)
Penstemon wardii (W)
Phacelia demissa var. *heterotricha* (T)
Phacelia utahensis (R)
Physaria acutifolia var. *purpurea* (R)
Physaria repanda (R)
Poa cusickii ssp. *pallida* (D)
Populus balsamifera ssp. *trichocarpa* (P)
Porterella carnulosa (P)
Potamogeton friesii (P)
Potamogeton robbinsii (P)
Potamogeton zosteriformis (P)
Potentilla concinna var. *modesta* (T)
Potentilla glandulosa var. *micropetala* (T)
Potentilla plattensis (P)
Potentilla rivalis (I)
Ranunculus aquatilis var. *longirostris* (T)
Ranunculus gmelinii var. *hookeri* (P)
Ranunculus gmelinii var. *limosus* (P)
Salix arizonica (R)
Sclerocactus spinosior (W)
Senecio dimorphophyllus var. *dimorphophyllus* (T)
Silene petersonii (W)
Sparganium eurycarpum (I)
Stellaria longifolia (I)

Streptopus fassettii (D)
Thelypodium rollinsii (W)
Thelypodium sagittatum ssp. ovalifolium (R)
Townsendia alpigena var. caelilinesis (W)
Townsendia aprica (R)
Townsendia jonesii var. lutea (R)
Trifolium beckwithii (P)
Trifolium eriocephalum var. villiferum (R)

SUMMIT COUNTY

Agoseris glauca var. cronquistii (T)
Allium geyeri var. tenerum (D)
Alopecurus alpinus (P)
Anemone patens var. multifida (P)
Antennaria pulcherrima (P)
Arabis divaricarpa (D)
Arabis nuttallii (P)
Arenaria congesta var. cephaloidea (T)
Arenaria hookeri var. desertorum (D)
Artemisia longiloba (P)
Artemisia norvegica (P)
Aster foliaceus var. apricus (P)
Aster meritus (P)
Aster welshii (W)
Astragalus canadensis var. brevidens (P)
Astragalus gilviflorus (P)
Astragalus lentiginosus var. chartaceus (T)
Astragalus lentiginosus var. platyphyllidius (T)
Astragalus robbinsii var. minor (P)
Botrychium echo (T)
Botrychium hesperium (W)
Botrychium lanceolatum (I)
Botrychium lunaria (I)
Botrychium minganense (I)
Botrychium multifidum (P)
Botrychium pinnatum (P)
Botrychium simplex (P)
Callitriche anceps (T)

Callitriche heterophylla (I)
Campanula uniflora (P)
Cardamine breweri var. breweri (P)
Cardamine oligosperma var. oligosperma (P)
Carex bipartita (P)
Carex breweri var. paddoensis (D)
Carex brunnescens (P)
Carex leporinella (P)
Carex limosa (P)
Carex misandra (P)
Carex multicostata (P)
Carex nelsonii (P)
Carex oederi var. viridula (P)
Carex paysonis (P)
Carex sheldonii (D)
Carex subnigricans (P)
Castilleja leonardii (T)
Cerastium nutans (D)
Chamerion latifolium (P)
Chrysothamnus nauseosus var. salicifolius (W)
Coeloglossum viride ssp. bracteatum (P)
Collomia tenella (P)
Cryptantha stricta (W)
Cymopterus lapidosus (W)
Cypripedium calceolus var. pubescens (P)
Cypripedium fasciculatum (R)
Delphinium geyeri (P)
Draba crassa (P)
Draba globosa (W)
Draba lonchocarpa var. exigua (T)
Draba ventosa (W)
Elaeagnus commutata (P)
Epilobium anagallidifolium (P)
Epilobium oregonense (D)
Ericameria obovata (W)
Erigeron coulteri (P)
Erigeron goodrichii (W)
Erigeron pumilus var. gracilior (P)
Eriogonum corymbosum var. erectum (T)
Eriophorum altaicum var. neogaeum (P)
Festuca rubra (D)

Gayophytum diffusum ssp. diffusum (P)
Geum aleppicum (P)
Gilia tenerrima (P)
Hackelia patens var. harrisonii (W)
Hedysarum occidentale var. occidentale (P)
Helictotrichon mortonianum (D)
Hesperochiron californicus (P)
Hypericum anagalloides (P)
Isoetes echinospora (P)
Ivesia gordonii "wasatchensis phase" (T)
Ivesia utahensis (R)
Juncus castaneus (P)
Juncus filiformis (P)
Kobresia myosuroides (P)
Lemna trisulca (I)
Lesquerella utahensis (W)
Lewisia triphylla (P)
Listera borealis (P)
Listera cordata (D)
Lomatium triternatum var. anomalum (P)
Lupinus argenteus var. parviflorus (P)
Lysiella obtusata (P)
Menyanthes trifoliata (P)
Mertensia lanceolata var. coriacea (T)
Mertensia viridis var. cana (T)
Micranthes nidifica (P)
Mimulus breweri (P)
Myosurus minimus (I)
Nuphar lutea ssp. polysepala (I)
Oenothera pallida var. latifolia (P)
Oxytropis campestris var. cusickii (P)
Oxytropis deflexa var. pulcherrima (R)
Papaver radicum ssp. kluanense (T)
Parrya nudicaulis (P)
Penstemon cleburnei (W)
Penstemon saxosorum (D)
Penstemon uintahensis (W)
Platanthera hyberborea var. gracilis (P)
Platanthera stricta (D)
Poa lettermanii (P)
Polygonum minimum (P)
Porterella carnulosa (P)

Potamogeton epihydrus ssp. nuttallii (P)
Potamogeton filiformis var. alpinus (P)
Potamogeton foliosus var. fibrillosus (R)
Potamogeton friesii (P)
Potamogeton strictifolius (P)
Potentilla glandulosa var. micropetala (T)
Potentilla nivea (I)
Potentilla pensylvanica var. paucijuga (T)
Ranunculus aquatilis var. hispidulus (P)
Ranunculus aquatilis var. longirostris (T)
Ranunculus flabellaris (P)
Ranunculus gelidus ssp. grayi (P)
Ranunculus gmelinii var. hookeri (P)
Ranunculus gmelinii var. limosus (P)
Ranunculus pedatifidus var. affinis (P)
Ranunculus pygmaeus (P)
Saxifraga adscendens var. oregonensis (P)
Saxifraga cernua (P)
Saxifraga serpyllifolia var. chrysantha (W)
Senecio dimorphophyllus var.
dimorphophyllus (T)
Senecio dimorphophyllus var. intermedius
(R)
Senecio pauperculus (D)
Sparganium natans (P)
Stellaria obtusa (P)
Taraxacum ceratophorum (P)
Thalictrum venulosum (P)
Townsendia alpigena var. alpigena (P)
Trichophorum cespitosum (P)
Utricularia minor (P)
Woodsia scopulina ssp. laurentiana (P)

TOOELE COUNTY

Acer glabrum var. diffusum (D)
Ageratina occidentalis (P)
Agoseris retrorsa (P)
Allium parvum (P)
Amsinckia intermedia (D)
Arabis lignifera (D)

Arabis shockleyi (W)
Artemisia tridentata var. *vaseyana* (sensu stricto) (T)
Astragalus diversifolius (W)
Astragalus gilviflorus (P)
Astragalus iodanthus (P)
Astragalus lentiginosus var. *chartaceus* (T)
Astragalus lentiginosus var. *pohlii* (R)
Astragalus platytropis (P)
Atriplex robusta (T)
Atriplex tooelensis (T)
Camissonia boothii var. *villosa* (D)
Camissonia chamaenerioides (P)
Camissonia multijuga (D)
Camissonia pterosperma (P)
Cardamine breweri var. *breweri* (P)
Castilleja leonardii (T)
Castilleja nana (P)
Caulanthus pilosus (P)
Centaurium namophilum var. *nevadense* (T)
Cercocarpus ledifolius var. *ledifolius* (P)
Chamaesyce ocellata var. *arenicola* (P)
Chrysothamnus nauseosus var. *salicifolius* (W)
Cirsium neomexicanum var. *utahense* (D)
Claytonia cordifolia (P)
Cryptantha scoparia (P)
Cymopterus acaulis var. *parvus* (R)
Cymopterus coulteri (W)
Cymopterus globosus (P)
Draba asprella var. *zionensis* (W)
Draba kassii (R)
Ericameria obovata (W)
Erigeron arenarioides (W)
Erigeron compactus var. *compactus* (W)
Eriogonum brevicaule var. *cottamii* (T)
Eriogonum brevicaule var. *desertorum* (W)
Eriogonum brevicaule var. *nanum* (T)
Eriogonum grayi (T)
Eriogonum grayi var. *stansburyense* (T)
Eriogonum howellianum (W)
Eriogonum nutans (W)
Eriogonum ovalifolium var. *nivale* (P)
Eriogonum umbellatum var. *desereticum* (T)
Flaveria campestris (P)
Galium mexicanum var. *asperulum* (P)
Galium munzii ssp. *munzii* (T)
Galium watsonii (T)
Hydrophyllum capitatum var. *alpinum* (P)
Hymenoxys lemmonii (W)
Ipomopsis congesta ssp. *palmifrons* (P)
Ipomopsis depressa (P)
Ivesia gordonii "wasatchensis phase" (T)
Ivesia setosa (W)
Juncus ensifolius (P)
Lepidium densiflorum var. *pubicarpum* (P)
Lepidium montanum var. *alpinum* (R)
Lepidium nanum (W)
Leymus salina ssp. *salmonis* (W)
Leymus triticoides var. *pubescens* (T)
Lomatium nudicaule (P)
Lupinus arbustus (P)
Mentzelia obscura (P)
Mimulus breweri (P)
Muhlenbergia minutissima (I)
Najas marina (P)
Opuntia pulchella (W)
Penstemon humilis var. *desereticus* (D)
Penstemon immanifestus (P)
Penstemon leonardii var. *patricus* (R)
Penstemon platyphyllus (W)
Penstemon speciosus (P)
Phacelia affinis (P)
Phacelia lutea var. *scopulina* (P)
Plantago maritima (D)
Populus balsamifera ssp. *trichocarpa* (P)
Potentilla cottamii (R)
Potentilla multisecta (W)
Psoralidium lanceolatum var. *stenostachys* (T)
Salicornia utahensis (W)
Sclerocactus pubispinus (W)
Sisyrinchium douglasii var. *inflatum* (P)
Spiranthes diluvialis (R)

Stellaria nitens (P)
Thelypodium flexuosum (D)
Trifolium eriocephalum var. *villiferum* (R)
Trifolium wormskioldii var. *wormskioldii*
(I)
Uropappus lindleyi (P)
Woodsia oregana (sensu stricto) (P)

UINTAH COUNTY

Abronia argillosa (W)
Agoseris glauca var. *cronquistii* (T)
Alopecurus alpinus (P)
Alsinanthe macrantha (D)
Anemone patens var. *multifida* (P)
Apocynum sibiricum var. *salignum* (T)
Aquilegia barnebyi (W)
Aquilegia grahamii (R)
Arabis columbiana (D)
Arabis demissa var. *languida* (W)
Arabis divaricarpa (D)
Arabis exilis (P)
Arabis lignifera (D)
Arabis pendulina var. *russeola* (D)
Arabis sp. nov. ined. "Gray Knolls, Uintah
Co." (T)
Arabis vivariensis (W)
Arenaria hookeri var. *desertorum* (D)
Arnica fulgens (P)
Artemisia nova var. *duchesnicola* (W)
Asplenium septentrionale (I)
Asplenium trichomanes-ramosum (D)
Aster ericoides var. *commutatus* (P)
Astragalus alpinus (P)
Astragalus bisulcatus var. *bisulcatus* (T)
Astragalus ceramicus var. *filifolius* (T)
Astragalus chloödes (W)
Astragalus detritalis (W)
Astragalus equisolensis (R)
Astragalus hamiltonii (R)
Astragalus lutosus (W)

Astragalus saurinus (W)
Atriplex saccaria var. *caput-medusae* (D)
Atriplex wolfii (D)
Bergia texana (I)
Brickellia eupatorioides var. *chlorolepis* (P)
Calamagrostis rubescens (P)
Callitriche heterophylla (I)
Calystegia sepium var. *angulata* (P)
Camissonia pterosperma (P)
Campanula uniflora (P)
Carex bebbii (P)
Carex brunnescens (P)
Carex curatorum (W)
Carex lasiocarpa (P)
Carex leptalea (P)
Carex limnophila (P)
Carex limosa (P)
Carex multicostata (P)
Carex nelsonii (P)
Carex oederi var. *viridula* (P)
Carex scopulorum (P)
Carex subnigricans (P)
Cerastium nutans (D)
Chrysothamnus nauseosus var. *uintahensis*
(T)
Cirsium barnebyi (W)
Cirsium murdockii (W)
Cirsium ownbeyi (W)
Cirsium scopulorum (P)
Cleomella palmeriana var. *goodrichii* (R)
Cordylanthus kingii var. *densiflorus* (W)
Crassula aquatica (P)
Crataegus douglasii var. *duchesnensis* (R)
Cryptantha affinis (P)
Cryptantha ambigua (P)
Cryptantha barnebyi (W)
Cryptantha caespitosa (W)
Cryptantha grahamii (W)
Cryptantha humilis var. *nana* (W)
Cryptantha paradoxa (W)
Cryptantha stricta (W)
Cryptantha wetherillii (W)

Cuscuta cephalanthi (I)
Cuscuta glabrior (P)
Cycladenia jonesii (R)
Cymopterus acaulis var. *acaulis* (P)
Cymopterus duchesnensis (W)
Cymopterus evertii (R)
Cypripedium fasciculatum (R)
Delphinium geyeri (P)
Descurainia incisa ssp. *paysonii* (D)
Draba fladnizensis var. *pattersonii* (R)
Draba globosa (W)
Draba juniperina (W)
Echinodorus berteroi (P)
Elatine rubella (I)
Elodea canadensis (I)
Epilobium palustre (P)
Epilobium pygmaeum (P)
Erigeron goodrichii (W)
Eriogonum brevicaule var. *ephedroides* (W)
Eriogonum corymbosum var. *erectum* (T)
Eriogonum lonchophyllum var. *intermontanum* (T)
Eriogonum lonchophyllum var. *saurinum* (W)
Eriogonum tumulosum (W)
Eriophorum altaicum var. *neogaeum* (P)
Eriophorum angustifolium (P)
Escobaria vivipara var. *vivipara* (P)
Gaillardia aristata (P)
Galium coloradoense (W)
Geranium bicknellii (P)
Gilia mcvickerae (T)
Gilia ophthalmoides (D)
Glaucocarpum suffrutescens (R)
Gutierrezia pomariensis (W)
Gymnosteris parvula (P)
Hedysarum boreale var. *gremiale* (T)
Helictotrichon mortonianum (D)
Hermidium alipes var. *pallidum* (T)
Hymenoxys lapidicola (R)
Hymenoxys torreyana (P)
Juncus bryoides (P)
Juncus ensifolius (P)
Juncus filiformis (P)
Lepidium crenatum (D)
Lepidium huberi (R)
Lesquerella utahensis (W)
Lupinus polyphyllus var. *ammophilus* (W)
Lupinus polyphyllus var. *humicola* (D)
Mentzelia thompsonii (W)
Menyanthes trifoliata (P)
Mertensia lanceolata var. *coriacea* (T)
Mertensia viridis var. *cana* (T)
Monolepis pusilla (P)
Myriophyllum verticillatum (P)
Nuphar lutea ssp. *polysepala* (I)
Oenothera flava var. *acutissima* (W)
Oenothera pallida var. *trichocalyx* (P)
Oxytropis deflexa var. *pulcherrima* (R)
Oxytropis oreophila var. *jonesii* (W)
Parrya nudicaulis (P)
Pedicularis procera (P)
Pellaea glabella occidentalis (P)
Penstemon angustifolius var. *vernalensis* (W)
Penstemon flowersii (R)
Penstemon goodrichii (R)
Penstemon grahamii (R)
Penstemon rydbergii var. *rydbergii* (D)
Penstemon saxosorum (D)
Penstemon scariosus var. *albifluvis* (R)
Penstemon scariosus var. *cyanomontanus* (R)
Penstemon scariosus var. *scariosus* (W)
Penstemon uintahensis (W)
Phacelia argillacea (R)
Phacelia demissa var. *minor* (W)
Phacelia glandulosa (T)
Phlox grahamii (T)
Phlox hoodii var. *hoodii* (T)
Phyla cuneifolia (P)
Physaria acutifolia var. *purpurea* (R)
Physaria grahamii (R)
Physaria repanda (R)

Plantago elongata (P)
Platanthera hyerborea var. *gracilis* (P)
Platanthera zothecina (R)
Platyschkuhria integrifolia var. *ourolepis* (W)
Potamogeton natans (I)
Potentilla palustris (P)
Potentilla rivalis (I)
Redfieldia flexuosa (P)
Rorippa sinuata (I)
Schizachne purpurascens (P)
Schoenocrambe argillacea (R)
Schoenoplectus saximontanus (P)
Scirpus pallidus (I)
Sclerocactus brevispinus (R)
Sclerocactus wetlandicus (R)
Senecio pauperculus (D)
Sparganium natans (P)
Spartina pectinata (D)
Spiranthes diluvialis (R)
Sporobolus asper (P)
Stellaria longifolia (I)
Stenotus armerioides var. *gramineus* (W)
Stephanomeria tenuifolia var. *uintaensis* (R)
Symphoricarpos occidentalis (P)
Taraxacum ceratophorum (P)
Thalictrum venulosum (P)
Thermopsis rhombifolia (P)
Townsendia alpigena var. *alpigena* (P)
Townsendia mensana (W)
Trichophorum cespitosum (P)
Urtica dioica var. *procera* (P)
Utricularia minor (P)
Vicia americana var. *minor* (P)
Yucca harrimaniae var. *sterilis* (R)
Zigadenus venenosus var. *gramineus* (P)

UTAH COUNTY

Achnatherum lemmonii (P)
Amaranthus powellii (D)

Androsace occidentalis (P)
Anemopsis californica (P)
Angelica wheeleri (R)
Apocynum sibiricum var. *salignum* (T)
Arenaria hookeri var. *desertorum* (D)
Arnica latifolia var. *gracilis* (P)
Artemisia ludoviciana var. *latiloba* (P)
Asclepias fascicularis (T)
Asclepias hallii (W)
Aspidotis densa (P)
Asplenium trichomanes-ramosum (D)
Aster ericoides var. *commutatus* (P)
Astragalus canadensis var. *canadensis* (P)
Astragalus desereticus (R)
Astragalus lutosus (W)
Azolla mexicana (P)
Callitriche heterophylla (I)
Calystegia sepium var. *angulata* (P)
Camissonia boothii var. *villosa* (D)
Cardamine breweri var. *breweri* (P)
Carex atherodes (P)
Carex backii (P)
Carex retrorsa (P)
Castilleja leonardii (T)
Ceratophyllum demersum (I)
Chamaesyce ocellata var. *arenicola* (P)
Chenopodium rubrum var. *humile* (I)
Chrysothamnus nauseosus var. *salicifolius* (W)
Cirsium neomexicanum var. *utahense* (D)
Corydalis caseana ssp. *brachycarpa* (R)
Crataegus succulenta var. *occidentalis* (D)
Crepis runcinata var. *runcinata* (P)
Cryptantha affinis (P)
Cryptantha alpicola (D)
Cryptogramma stelleri (P)
Cuscuta cuspidata (P)
Cuscuta megalocarpa (P)
Cymopterus basalticus (W)
Cyperus rivularis (P)
Cypripedium calceolus var. *pubescens* (P)
Cystopteris sp. nov. ined. (T)

Cystopteris utahensis (W)
Dichanthelium lanuginosum var. *thermale* (T)
Downingia laeta (P)
Draba brachystylis (R)
Draba densifolia (P)
Elatine rubella (I)
Eleocharis obtusa (I)
Elodea canadensis (I)
Elymus multisetus (D)
Epilobium anagallidifolium (P)
Epilobium pygmaeum (P)
Erigeron arenarioides (W)
Erigeron coulteri (P)
Erigeron garrettii (R)
Erigeron goodrichii (W)
Eriogonum brevicaule var. *cottamii* (T)
Eriogonum brevicaule var. *nanum* (T)
Eriogonum brevicaule var. *wasatchense* (T)
Eriogonum grayi (T)
Eriogonum umbellatum var. *desereticum* (T)
Festuca rubra (D)
Festuca sororia (D)
Fimbristylis puberula var. *interior* (D)
Fimbristylis thermalis (D)
Galium watsonii (T)
Gayophytum diffusum ssp. *diffusum* (P)
Geranium bicknellii (P)
Geum aleppicum (P)
Hackelia patens var. *harrisonii* (W)
Heterotheca villosa var. *foliosa* (T)
Heterotheca zionensis (D)
Ivesia gordonii "wasatchensis phase" (T)
Ivesia utahensis (R)
Jamesia americana var. *macrocalyx* (R)
Leersia oryzoides (I)
Lemna gibba (I)
Lemna trisulca (I)
Lemna valdiviana (I)
Lepidium densiflorum var. *pubicarpum* (P)
Leptochloa uninervia (D)
Lesquerella garrettii (R)

Lesquerella hemiphysaria var. *hemiphysaria* (W)
Lesquerella utahensis (W)
Lupinus kingii var. *argillaceus* (T)
Lysimachia ciliata (P)
Lysimachia thyrsoflora (P)
Mimulus glabratus ssp. *utahensis* (D)
Muhlenbergia mexicana (I)
Muriophyllum verticillatum (P)
Oxytropis borealis var. *viscida* (P)
Paspalum distichum (P)
Penstemon abietinus (R)
Penstemon platyphyllus (W)
Penstemon procerus var. *aberrans* (D)
Penstemon sepalulus (W)
Penstemon tidestromii (W)
Phacelia argillacea (R)
Phyla cuneifolia (P)
Physaria acutifolia var. *purpurea* (R)
Physaria grahamii (R)
Physaria repanda (R)
Physaria stylosa (R)
Physocarpus monogynus (T)
Platanthera hyerborea var. *gracilis* (P)
Polemonium micranthum (P)
Polypodium hesperium (I)
Populus balsamifera ssp. *trichocarpa* (P)
Potamogeton natans (I)
Potamogeton vaginatus (P)
Potentilla concinna var. *modesta* (T)
Psoralidium lanceolatum var. *stenostachys* (T)
Pyrrocoma racemosa var. *paniculata* (P)
Ranunculus aquatilis var. *longirostris* (T)
Rorippa sphaerocarpa (P)
Salicornia utahensis (W)
Salix melanopsis (P)
Scirpus pallidus (I)
Senecio dimorphophyllus var. *dimorphophyllus* (T)
Senecio streptanthifolius var. *oödes* (D)
Sparganium eurycarpum (I)

Spiranthes diluvialis (R)
Spirodela polyrrhiza (I)
Sporobolus asper (P)
Stellaria longifolia (I)
Stellaria obtusa (P)
Stenotus falcatus (D)
Teucrium canadense var. occidentale (I)
Thelypodium laxiflorum (W)
Tonestus kingii var. kingii (W)
Townsendia alpigena var. alpigena (P)
Utricularia minor (P)
Viola beckwithii (P)

WASATCH COUNTY

Androsace filiformis (P)
Arabis nuttallii (P)
Astragalus canadensis var. canadensis (P)
Astragalus lutosus (W)
Botrychium crenulatum (W)
Callitriche heterophylla (I)
Camissonia andina (P)
Cardamine breweri var. breweri (P)
Carex foetida var. vernacula (P)
Carex leporinella (P)
Carex nelsonii (P)
Carex neurophora (P)
Carex retrorsa (P)
Castilleja leonardii (T)
Ceratophyllum demersum (I)
Chrysothamnus nauseosus var. psilocarpus (R)
Chrysothamnus nauseosus var. salicifolius (W)
Corydalis caseana ssp. brachycarpa (R)
Crataegus douglasii var. duchesnensis (R)
Cryptantha ambigua (P)
Cymopterus purpureus var. rosei (W)
Descurainia incisa ssp. viscosa (I)
Elodea longivaginata (P)
Erigeron garrettii (R)

Eriogonum brevicaule var. promiscuum (R)
Eriogonum corymbosum var. erectum (T)
Eriogonum umbellatum var. desereticum (T)
Festuca dasyclada (W)
Gayophytum diffusum ssp. diffusum (P)
Gayophytum humile (P)
Geum aleppicum (P)
Hackelia patens var. harrisonii (W)
Halimolobos virgata (P)
Heterotheca zionensis (D)
Hypericum anagalloides (P)
Ivesia gordonii "wasatchensis phase" (T)
Ivesia utahensis (R)
Jamesia americana var. macrocalyx (R)
Juncus filiformis (P)
Juncus regelii (P)
Lesquerella garrettii (R)
Lesquerella hemiphysaria var. hemiphysaria (W)
Lesquerella parvula (W)
Lesquerella utahensis (W)
Linanthus harknessii (P)
Listera cordata (D)
Menyanthes trifoliata (P)
Nuphar lutea ssp. polysepala (I)
Penstemon procerus var. aberrans (D)
Penstemon sepalulus (W)
Phacelia franklinii (P)
Physaria acutifolia var. purpurea (R)
Physaria repanda (R)
Physaria stylosa (R)
Physocarpus monogynus (T)
Platanthera stricta (D)
Populus balsamifera ssp. trichocarpa (P)
Potentilla concinna var. modesta (T)
Potentilla rivalis (I)
Ranunculus aquatilis var. hispidulus (P)
Ranunculus aquatilis var. longirostris (T)
Senecio pauperculus (D)
Spiranthes diluvialis (R)
Stellaria longifolia (I)
Tonestus kingii var. kingii (W)

Townsendia alpigena var. alpigena (P)
Townsendia alpigena var. caelilinesis (W)
Trichophorum cespitosum (P)

WASHINGTON COUNTY

Abronia villosa (P)
Abutilon parvulum (P)
Acacia greggii (P)
Achyronychia cooperi (P)
Acourtia wrightii (P)
Adenophyllum cooperi (P)
Adiantum aleuticum (P)
Agave utahensis var. utahensis (W)
Agoseris retrorsa (P)
Allium atrorubens var. cristatum (W)
Allium lemmonii (P)
Allophyllum gilioides ssp. violaceum (D)
Aloysia wrightii (P)
Amaranthus fimbriatus (P)
Amaranthus palmeri (D)
Amaranthus powellii (D)
Ambrosia eriocentra (P)
Ambrosia sandersonii (T)
Amphipappus fremontii var. spinosus (P)
Amsinckia intermedia (D)
Amsonia tomentosa (D)
Anemopsis californica (P)
Antirrhinum filipes (P)
Aquilegia chrysantha (P)
Aquilegia coerulea var. pinetorum (D)
Aquilegia desertorum (P)
Aquilegia formosa var. fosteri (R)
Arabis gracilipes (D)
Arabis pendulina var. russeola (D)
Aralia racemosa ssp. bicrenata (D)
Arctomecon californica (D)
Arctomecon humilis (R)
Arctostaphylos pringlei ssp. pringlei (P)
Arenaria congesta var. subcongesta (P)
Arenaria macradenia var. macradenia (P)

Argyrochosma jonesii (P)
Asclepias erosa (P)
Asclepias hallii (W)
Asclepias rusbyi (D)
Asplenium adiantum-nigrum (P)
Asplenium resiliens (P)
Asplenium septentrionale (I)
Aster ericoides var. commutatus (P)
Aster welshii (W)
Astragalus amphioxys var. modestus (D)
Astragalus ampullarioides (R)
Astragalus ampullarius (W)
Astragalus calycosus var. scaposus (P)
Astragalus canadensis var. brevidens (P)
Astragalus convallarius var. finitimus (W)
Astragalus ensiformis var. ensiformis (W)
Astragalus ensiformis var. gracilior (T)
Astragalus eremiticus (P)
Astragalus flavus var. candicans (T)
Astragalus holmgreniorum (R)
Astragalus lancearius (W)
Astragalus lentiginosus var. fremontii (P)
Astragalus lentiginosus var. stramineus (W)
Astragalus lentiginosus var. ursinus (T)
Astragalus lentiginosus var. vitreus (W)
Astragalus striatiflorus (R)
Astragalus zionis var. vigulus (R)
Athysanus pusillus (P)
Atrichoseris platyphylla (P)
Atriplex hymenelytra (P)
Atriplex lentiformis (P)
Atriplex torreyi (P)
Baccharis emoryi (T)
Baccharis glutinosa (T)
Baccharis sergiloides (P)
Baccharis viminea (T)
Bebbia juncea var. aspera (P)
Boerhavia torreyana (P)
Bothriochloa laguroides ssp. torreyana (P)
Botrychium simplex (P)
Bouteloua aristidoides (P)
Bouteloua hirsuta (P)

Bouteloua simplex (P)
Bouteloua trifida (P)
Bouteloua uniflora (D)
Bromus frondosus (D)
Buddleja utahensis (P)
Calamovilfa gigantea (P)
Calochortus ambiguus (P)
Calochortus kennedyi (P)
Calycoseris parryi (P)
Calycoseris wrightii (P)
Calyptridium monandrum (P)
Calystegia longipes (W)
Camissonia bairdii (D)
Camissonia boothii var. *condensata* (P)
Camissonia boothii var. *desertorum* (T)
Camissonia brevipes ssp. *pallidula* (P)
Camissonia brevipes var. *brevipes* (P)
Camissonia chamaenerioides (P)
Camissonia claviformis var. *aurantiaca* (P)
Camissonia claviformis var. *claviformis* (T)
Camissonia claviformis var. *cruciformis* (T)
Camissonia gouldii (R)
Camissonia multijuga (D)
Camissonia parryi (W)
Camissonia pterosperma (P)
Camissonia pusilla (P)
Camissonia refracta (P)
Carex alma (P)
Carex deweyana var. *bolanderi* (I)
Carex haysii (R)
Carex subfusca (P)
Caulanthus cooperi (P)
Ceanothus greggii var. *vestitus* (P)
Centaurium calycosum (P)
Centrostegia thurberi (P)
Cerastium nutans (D)
Ceratoides lanata var. *subspinosa* (P)
Chaenactis carphoclinia (P)
Chaenactis fremontii (P)
Chamaesaracha coronopus (P)
Chamaesyce ocellata var. *arenicola* (P)
Chamaesyce revoluta (P)
Chamaesyce setiloba (P)
Cheilanthes covillei (P)
Cheilanthes gracillima (P)
Cheilanthes parryi (P)
Cheilanthes wootonii (P)
Chilopsis linearis ssp. *arcuata* (P)
Chimaphila menziesii (P)
Chorizanthe rigida (P)
Chrysothamnus nauseosus var. *mohavensis* (P)
Chrysothamnus paniculatus (P)
Cirsium neomexicanum var. *utahense* (D)
Cirsium virginense (R)
Claytonia parviflora ssp. *utahensis* (T)
Convolvulus equitans (P)
Conyza coulteri (P)
Cornus sericea var. *occidentalis* (T)
Croton californicus (P)
Croton setigerus (P)
Cryptantha ambigua (P)
Cryptantha angustifolia (P)
Cryptantha cinerea var. *abortiva* (P)
Cryptantha cinerea var. *arenicola* (W)
Cryptantha decipiens (P)
Cryptantha dumetorum (P)
Cryptantha flaccida (T)
Cryptantha inaequata (P)
Cryptantha nevadensis (P)
Cryptantha pterocarya var. *cycloptera* (P)
Cryptantha racemosa (P)
Cryptantha semiglabra (R)
Cryptantha utahensis (P)
Cucurbita foetidissima (P)
Cuscuta applanata (P)
Cymopterus multinervatus (P)
Cymopterus purpureus var. *jonesii* (R)
Cynanchum utahense (W)
Cyperus strigosus (P)
Cystopteris bulbifera (P)
Cystopteris reevesiana (P)
Cystopteris utahensis (W)
Dalea lanata var. *terminalis* (P)

Delphinium parishii ssp. parishii (P)
 Descurainia pinnata var. glabra (P)
 Dichanthelium oligosanthes var. scribnerianum (I)
 Dicoria canescens ssp. canescens (P)
 Dodecatheon pulchellum var. zionense (W)
 Draba asprella var. zionensis (W)
 Draba cuneifolia var. integrifolia (P)
 Dudleya pulverulenta var. arizonica (P)
 Echinocereus engelmannii var. purpureus (T)
 Echinocereus triglochidiatus var. mojavensis (P)
 Elatine rubella (I)
 Eleocharis bella (P)
 Elymus multisetus (D)
 Emmenanthe penduliflora (P)
 Encelia farinosa (P)
 Enceliopsis argophylla (R)
 Ephedra fasciculata (P)
 Epilobium glaberrimum var. glaberrimum (P)
 Epilobium nevadense (R)
 Equisetum variegatum (P)
 Eremalche exilis (P)
 Eriastrum eremicum (P)
 Ericameria crispa (R)
 Ericameria laricifolia (P)
 Erigeron canaani (W)
 Erigeron religiosus (W)
 Erigeron sionis (W)
 Eriochloa acuminata (D)
 Eriogonum brachypodium (P)
 Eriogonum corymbosum var. albiflorum (W)
 Eriogonum corymbosum var. matthewsiae (R)
 Eriogonum corymbosum var. thompsoniae (W)
 Eriogonum davidsonii (P)
 Eriogonum fasciculatum var. polifolium (P)
 Eriogonum heermannii var. subspinosum (R)
 Eriogonum heermannii var. sulcatum (W)
 Eriogonum insigne (W)
 Eriogonum jamesii var. rupicola (W)
 Eriogonum nidularium (P)
 Eriogonum pharnaceoides var. cervinum (R)
 Eriogonum polycladon (P)
 Eriogonum pusillum (P)
 Eriogonum racemosum var. zionis (W)
 Eriogonum subreniforme (W)
 Eriogonum thomasii (P)
 Eriogonum trichopes (P)
 Eriogonum wrightii (P)
 Eriophyllum lanosum (P)
 Erodium texanum (P)
 Eschscholzia californica ssp. mexicana (P)
 Eschscholzia glyptosperma (P)
 Eschscholzia minutiflora (P)
 Escobaria vivipara var. desertii (W)
 Eucephalus pulcher (W)
 Eucephalus wasatchensis (W)
 Eucnide urens (P)
 Eucrypta micrantha (P)
 Fagonia laevis (P)
 Ferocactus cylindraceus var. lecontei (P)
 Festuca rubra (D)
 Filago californica (P)
 Fimbristylis puberula var. interior (D)
 Fimbristylis thermalis (D)
 Fraxinus cuspidata ssp. macropetala (D)
 Fraxinus velutina (P)
 Gaillardia arizonica (P)
 Gaillardia parryi (W)
 Galium coloradoense (W)
 Galium magnifolium (T)
 Galium munzii ssp. munzii (T)
 Galium proliferum (P)
 Galium stellatum var. eremicum (P)
 Galium wrightii (P)
 Garrya flavescens (P)
 Gayophytum diffusum ssp. diffusum (P)
 Geraea canescens (P)

Gilia clokeyi (D)
Gilia filiformis (P)
Gilia latifolia var. *latifolia* (P)
Gilia ophthalmoides (D)
Gilia scopulorum (P)
Gilia stellata (P)
Gilia transmontana (P)
Glandularia gooddingii (P)
Glossopetalon spinescens var. *aridum* (P)
Glyptopleura setulosa (P)
Gnaphalium wrightii (P)
Guillenia lasiophylla (P)
Hackelia patens var. *harrisonii* (W)
Hedeoma nanum ssp. *californicum* (P)
Helianthus deserticola (T)
Heliomeris longifolia var. *annua* (P)
Heliotropium curassavicum var. *oculatum* (P)
Hesperodoria scopulorum (W)
Heterotheca fulcrata var. *amplifolia* (P)
Heterotheca jonesii (R)
Heterotheca villosa var. *villosa* (T)
Heterotheca zionensis (D)
Hieracium fendleri (P)
Hordeum pusillum var. *pubens* (D)
Hulsea heterochroma (P)
Hydrocotyle verticillata (P)
Hymenoclea salsola var. *salsola* (P)
Hymenopappus filifolius var. *eriopodus* (W)
Hymenopappus filifolius var. *tomentosus* (D)
Hymenoxys lemmonii (W)
Hymenoxys subintegra (D)
Ipomopsis arizonica (P)
Isocoma humilis (H)
Isoetes howellii (P)
Ivesia arizonica var. *arizonica* (W)
Jamesia americana var. *zionis* (R)
Juncus bryoides (P)
Juncus macrophyllus (D)
Kallstroemia parviflora (P)
Krameria erecta (P)

Krameria grayi (P)
Langloisia setosissima (P)
Lemna valdiviana (I)
Lepidium dictyotum (P)
Lepidium fremontii (P)
Leptochloa mucronata (P)
Lesquerella arizonica (W)
Lesquerella tenella (P)
Leucocrinum montanum (P)
Lewisia brachycalyx (D)
Linanthus aureus (P)
Linanthus bigelovii (P)
Linanthus demissus (P)
Linanthus dichotomus (P)
Lobelia cardinalis ssp. *graminea* (P)
Loeflingia squarrosa var. *artemisiarum* (D)
Loeseliastrum schottii (P)
Lomatium cous (P)
Lomatium graveolens var. *alpinum* (P)
Lomatium graveolens var. *clarkii* (R)
Lomatium scabrum var. *tripinnatum* (W)
Lotus humistratus (P)
Lotus rigidus (P)
Lupinus argenteus var. *hillii* (P)
Lupinus argenteus var. *palmeri* (P)
Lupinus concinnus var. *orcuttii* (P)
Lupinus flavoculatus (P)
Lupinus jonesii (T)
Lupinus kingii var. *argillaceus* (T)
Lupinus latifolius ssp. *leucanthus* (R)
Lupinus lepidus var. *aridus* (P)
Lupinus polyphyllus var. *humicola* (D)
Lupinus sparsiflorus (P)
Lycium cooperi (P)
Lythrum californicum (P)
Machaeranthera asteroides var. *glandulosa* (P)
Machaeranthera bigelovii var. *commixta* (W)
Machaeranthera gracilis (P)
Machaeranthera pinnatifida var. *gooddingii* (P)

Malacothrix coulteri (P)
Malacothrix stebbinsii (P)
Mammillaria tetrancistra (P)
Maurandya antirrhiniflora (P)
Menodora scabra (P)
Menodora spinescens (P)
Mentzelia nitens (T)
Mentzelia obscura (P)
Mentzelia tricuspis (P)
Mimetanthe pilosa (P)
Mimulus bigelovii var. *cuspidatus* (P)
Mimulus cardinalis (P)
Mimulus glabratus ssp. *fremontii* (P)
Mimulus parryi (W)
Mimulus primuloides (P)
Minuartia pusilla (P)
Mirabilis bigelovii var. *retrorsa* (P)
Mirabilis multiflora var. *pubescens* (P)
Mohavea breviflora (P)
Monarda fistulosa var. *menthifolia* (P)
Monarda pectinata (P)
Monoptilon bellidiforme (P)
Mortonia utahensis (P)
Muhlenbergia arsenei (D)
Muhlenbergia curtifolia (T)
Muhlenbergia microsperma (P)
Muhlenbergia minutissima (I)
Nemacladus glanduliferus var. *orientalis* (P)
Nolina microcarpa (P)
Oenothera cavernae (D)
Oenothera deltoides var. *decumbens* (W)
Oenothera deltoides var. *deltoides* (P)
Oenothera primiveris var. *bufonis* (P)
Opuntia acanthocarpa var. *acanthocarpa* (D)
Opuntia acanthocarpa var. *coloradensis* (P)
Opuntia aurea (W)
Opuntia basilaris var. *basilaris* (P)
Opuntia basilaris var. *treleasei* (T)
Opuntia basilaris var. *woodburyi* (T)
Opuntia chlorotica (D)
Opuntia echinocarpa (P)
Opuntia erinacea var. *ursina* (T)
Opuntia martiniana (T)
Opuntia phaeacantha var. *discata* (T)
Opuntia phaeacantha var. *major* (P)
Opuntia phaeacantha var. *phaeacantha* (P)
Opuntia pinkavae (W)
Opuntia pulchella (W)
Opuntia whipplei var. *multigeniculata* (T)
Orobanche cooperi (P)
Orobanche multiflora (T)
Oxytheca perfoliata (P)
Palafoxia arida (P)
Parietaria hespera var. *hespera* (P)
Parthenium incanum (P)
Paspalum distichum (P)
Pectis papposa (P)
Pectocarya anisocarpa (T)
Pectocarya heterocarpa (P)
Pectocarya platycarpa (P)
Pectocarya setosa (P)
Pediocactus sileri (R)
Pediomelum aromaticum var. *barnebyi* (R)
Pediomelum mephiticum (W)
Pediomelum retrorsum (P)
Pellaea atropurpurea (P)
Pellaea wrightiana (P)
Penstemon ammophilus (R)
Penstemon barbatus var. *barbatus* (T)
Penstemon humilis var. *obtusifolius* (W)
Penstemon laevis (W)
Penstemon leonardii var. *higginsii* (W)
Penstemon linarioides var. *sileri* (T)
Penstemon petiolatus (W)
Penstemon pinorum (R)
Penstemon procerus var. *aberrans* (D)
Penstemon sepalulus (W)
Pentagramma triangularis ssp. *triangularis* (P)
Perityle emoryi (P)
Perityle tenella (W)
Petalonyx nitidus (P)
Petalonyx parryi (W)
Petunia parviflora (P)

Peucephyllum schottii (P)
Phacelia affinis (P)
Phacelia anelsonii (R)
Phacelia austromontana (P)
Phacelia cephalotes (W)
Phacelia coerulea (P)
Phacelia cryptantha (P)
Phacelia curvipes (P)
Phacelia laxiflora (R)
Phacelia lemmonii (P)
Phacelia palmeri (W)
Phacelia peirsoniana (P)
Phacelia petrosa (T)
Phacelia pulchella var. *pulchella* (D)
Phacelia rotundifolia (P)
Phacelia vallis-mortae (P)
Phlox austromontana var. *jonesii* (W)
Phlox austromontana var. *prostrata* (D)
Phlox gladiformis (W)
Phlox griseola (W)
Phoradendron californicum (P)
Physalis crassifolia (P)
Physalis hederifolia var. *hederifolia* (P)
Physaria lepidota var. *lepidota* (R)
Physaria newberryi var. *racemosa* (R)
Plagiobothrys arizonicus (P)
Plagiobothrys jonesii (P)
Plagiobothrys tenellus (P)
Platystemon californicus (P)
Pleuraphis rigida (P)
Pluchea odorata (P)
Pluchea sericea (P)
Polygonum utahense (T)
Polypodium glycyrrhiza (P)
Polypodium hesperium (I)
Porophyllum gracile (P)
Portulaca retusa (D)
Potamogeton vaginatus (P)
Proboscidea parviflora (P)
Prosopis glandulosa var. *torreyana* (P)
Prosopis odorata (P)
Prunus emarginata (P)

Psathyrotes ramosissima (P)
Psilostrophe cooperi (P)
Psoralea polydenius var. *polydenius* (P)
Ptelea trifoliata var. *lutescens* (W)
Ptelea trifoliata var. *pallida* (D)
Pterostegia drymarioides (P)
Purshia glandulosa (P)
Pyrola picta (I)
Rafinesquia californica (P)
Rafinesquia neomexicana (P)
Ranunculus oreogenes (T)
Reverchonia arenaria (P)
Robinia neomexicana (P)
Rudbeckia occidentalis var. *montana* (D)
Salazaria mexicana (P)
Salix exigua ssp. *interior* (T)
Salix laevigata (P)
Salvia columbariae (P)
Salvia dorrii ssp. *argentea* (T)
Samolus parviflorus (I)
Sarcostemma cynanchoides var. *hartwegii* (P)
Sclerocactus johnsonii (W)
Scutellaria nana var. *sapphirina* (W)
Selaginella underwoodii (P)
Selaginella utahensis (W)
Selinocarpus nevadensis (W)
Silene verecunda ssp. *andersonii* (P)
Simmondsia chinensis (P)
Sisyrinchium radicum (D)
Solidago spectabilis (P)
Sophora nuttalliana (P)
Sphaeralcea ambigua var. *ambigua* (P)
Sphaeralcea rusbyi var. *rusbyi* (D)
Sphaeromeria ruthiae (R)
Sporobolus airoides var. *wrightii* (T)
Stellaria longifolia (I)
Stellaria nitens (P)
Stylocline intertexta (P)
Stylocline micropoides (P)
Stylocline psilocarphoides (P)

Syntrichopappus fremontii (P)
Tetradymia axillaris var. longispina (P)
Thalictrum dasycarpum (P)
Thamnosma montana (P)
Thelesperma megapotamicum (P)
Thelypodopsis ambigua var. erecta (R)
Thelypodium laxiflorum (W)
Thymophylla acerosa (D)
Thysanocarpus curvipes (P)
Tidestromia lanuginosa (P)
Tidestromia oblongifolia (P)
Tiquilia canescens (P)
Tragia ramosa (P)
Tricardia watsonii (P)
Triodanis perfoliata (D)
Uropappus lindleyi (P)
Valeriana arizonica (P)
Viola charlestonensis (W)
Viola clauseniana (R)
Vitis arizonica (P)
Vulpia microstachys var. pauciflora (D)
Xylorhiza tortifolia var. tortifolia (P)
Yabea microcarpa (P)
Yucca angustissima var. kanabensis (W)
Yucca baccata var. vespertina (T)
Yucca brevifolia (P)
Yucca elata var. utahensis (W)
Yucca schidigera (P)

WAYNE COUNTY

Arenaria hookeri var. desertorum (D)
Arenaria kingii var. plateauensis (T)
Aster welshii (W)
Astragalus barnebyi (W)
Astragalus bodinii (P)
Astragalus brandegei (W)
Astragalus consobrinus (W)
Astragalus flavus var. argillosus (T)
Astragalus harrisonii (W)
Astragalus laccoliticus (R)

Astragalus malacoides (W)
Astragalus nidularius (W)
Astragalus pardalinus (W)
Astragalus piscator (R)
Astragalus serpens (R)
Astragalus wardii (W)
Astragalus welshii (R)
Astragalus woodruffii (W)
Atriplex minuticarpa (W)
Caesalpinia repens (D)
Carex subfusca (P)
Carex subnigricans (P)
Castilleja aquariensis (R)
Chamaerhodos erecta var. parviflora (P)
Chenopodium graveolens var.
neomexicanum (P)
Chloracantha spinosa (P)
Chrysothamnus pulchellus var. baileyi (P)
Cirsium calcareum var. calcareum (T)
Cirsium rydbergii (W)
Cryptantha capitata (W)
Cryptantha wetherillii (W)
Cymopterus beckii (R)
Echinocereus engelmannii var. variegatus
(W)
Echinocereus triglochidiatus var. inermis (T)
Erigeron abajoensis (D)
Erigeron awapensis (R)
Erigeron concinnus var. condensatus (I)
Erigeron maguirei (R)
Eriogonum corymbosum var. revealianum
(W)
Eriogonum corymbosum var. smithii (R)
Euphorbia nephradenia (R)
Fendlera rupicola (P)
Geranium marginale (T)
Gilia caespitosa (R)
Gilia latifolia var. imperialis (R)
Gilia tenuis (R)
Heterotheca villosa var. villosa (T)
Heterotheca zionensis (D)
Hymenoxys acaulis var. nana (R)

Lomatium junceum (W)
Machaeranthera bigelovii var. *commixta* (W)
Opuntia basilaris var. *heilii* (R)
Pediocactus winkleri (R)
Penstemon barbatus var. *barbatus* (T)
Penstemon caespitosus var. *desertipicti* (W)
Penstemon parvus (R)
Penstemon procerus var. *aberrans* (D)
Penstemon scariosus var. *scariosus* (W)
Phacelia constancei (W)
Phacelia demissa var. *heterotricha* (T)
Phacelia howelliana (W)
Phacelia orbicularis (T)
Phyla cuneifolia (P)
Pluchea sericea (P)
Populus balsamifera ssp. *trichocarpa* (P)
Potentilla angelliae (R)
Potentilla concinna var. *modesta* (T)
Potentilla plattensis (P)
Primula specuicola (W)
Psoralidium lanceolatum var. *stenophyllum* (T)
Psorothamnus polydenius var. *jonesii* (R)
Psorothamnus thompsoniae var. *thompsoniae* (W)
Schoenocrambe barnebyi (R)
Sclerocactus wrightiae (R)
Sphaeralcea leptophylla var. *janae* (R)
Sphaeralcea psoraloides (R)
Spiranthes diluvialis (R)
Thelesperma subnudum var. *alpinum* (R)
Thelypodium wrightii ssp. *wrightii* (P)
Townsendia aprica (R)
Utricularia intermedia (P)
Xylorhiza confertifolia (W)
Xylorhiza glabriuscula var. *linearifolia* (R)
Yucca angustissima var. *avia* (R)

WEBER COUNTY

Arabis lasiocarpa (W)
Athyrium alpestre var. *americanum* (P)
Azolla mexicana (P)
Calystegia sepium var. *angulata* (P)
Cardamine breweri var. *breweri* (P)
Carex retrorsa (P)
Carex stipata (I)
Cercocarpus ledifolius var. *ledifolius* (P)
Claytonia cordifolia (P)
Collomia tenella (P)
Corydalis caseana ssp. *brachycarpa* (R)
Cryptantha scoparia (P)
Cuscuta cuspidata (P)
Cypripedium calceolus var. *pubescens* (P)
Draba burkei (R)
Epilobium densiflorum (P)
Ericameria obovata (W)
Erigeron arenarioides (W)
Eriogonum brevicaule var. *nanum* (T)
Eriogonum brevicaule var. *wasatchense* (T)
Eriogonum grayi (T)
Galium watsonii (T)
Geranium carolinianum (I)
Halimolobos virgata (P)
Heterotheca villosa var. *foliosa* (T)
Heterotheca zionensis (D)
Ipomopsis spicata ssp. *spicata* (P)
Ivesia gordonii "wasatchensis phase" (T)
Ivesia utahensis (R)
Leersia oryzoides (I)
Lemna valdiviana (I)
Lepidium dictyotum (P)
Lesquerella multiceps (W)
Lomatium nudicaule (P)
Lomatium triternatum var. *anomalum* (P)
Lysimachia ciliata (P)
Lysimachia thyrsoflora (P)
Montia linearis (P)
Nemophila parviflora var. *austiniae* (P)

Orthocarpus tolmiei ssp. holmgreniorum
(W)
Penstemon platyphyllus (W)
Phacelia tetramera (P)
Plantago maritima (D)
Potentilla glandulosa var. micropetala (T)
Psoralidium lanceolatum var. stenostachys
(T)
Puccinellia simplex (P)
Ranunculus gmelinii var. hookeri (P)
Ranunculus gmelinii var. limosus (P)
Salicornia utahensis (W)
Scutellaria antirrhinoides (P)
Spiranthes diluvialis (R)
Stenotus falcatus (D)
Tonestus kingii var. kingii (W)
Trifolium variegatum (P)
Wolffia borealis (P)

APPENDIX C

Plants by Family

ACERACEAE

Acer glabrum var. *diffusum* (D)

ADOXACEAE

Adoxa moschatellina (P)

ALISMATACEAE

Echinodorus berteroi (P)

AMARANTHACEAE

Amaranthus acanthochiton (P)

Amaranthus californicus (P)

Amaranthus fimbriatus (P)

Amaranthus palmeri (D)

Amaranthus powellii (D)

Tidestromia lanuginosa (P)

Tidestromia oblongifolia (P)

APIACEAE

Aletes macdougallii ssp. *breviradiatus* (W)

Angelica kingii (P)

Angelica wheeleri (R)

Cymopterus acaulis var. *acaulis* (P)

Cymopterus acaulis var. *higginsii* (R)

Cymopterus acaulis var. *parvus* (R)

Cymopterus basalticus (W)

Cymopterus beckii (R)

Cymopterus coulteri (W)

Cymopterus duchesnensis (W)

Cymopterus evertii (R)

Cymopterus globosus (P)

Cymopterus lapidosus (W)

Cymopterus longilobus (D)

Cymopterus minimus (R)

Cymopterus multinervatus (P)

Cymopterus purpureus var. *jonesii* (R)

Cymopterus purpureus var. *rosei* (W)

Hydrocotyle verticillata (P)

Ligusticum grayi (P)

Ligusticum porteri var. *brevilobum* (T)

Lomatium cous (P)

Lomatium foeniculaceum var. *fimbriatum* (P)

Lomatium graveolens var. *alpinum* (P)

Lomatium graveolens var. *clarkii* (R)

Lomatium junceum (W)

Lomatium latilobum (R)

Lomatium minimum (W)

Lomatium nevadense var. *nevadense* (P)

Lomatium nudicaule (P)

Lomatium ravenii (P)

Lomatium scabrum var. *tripinnatum* (W)

Lomatium triternatum var. *anomalum* (P)

Musineon lineare (W)

Oreoxis bakeri (W)

Oreoxis trotteri (R)

Oxypolis fendleri (P)

Perideridia bolanderi (P)

Podistera eastwoodiae (W)

Yabea microcarpa (P)

APOCYNACEAE

Amsonia tomentosa (D)

Apocynum cannabinum var. *angustifolium* (P)

Apocynum cannabinum var. *cannabinum* (D)

Apocynum sibiricum var. *salignum* (T)

Cycladenia jonesii (R)

ARALIACEAE

Aralia racemosa ssp. *bicrenata* (D)

ASCLEPIADACEAE

Asclepias cutleri (R)

Asclepias engelmanniana (T)

Asclepias erosa (P)

Asclepias fascicularis (T)

Asclepias hallii (W)
Asclepias involucrata (T)
Asclepias rusbyi (D)
Asclepias welshii (R)
Cynanchum utahense (W)
Sarcostemma cynanchoides var. *hartwegii* (P)

ASPLENIACEAE

Asplenium adiantum-nigrum (P)
Asplenium resiliens (P)
Asplenium septentrionale (I)
Asplenium trichomanes-ramosum (D)

ASTERACEAE

Acourtia wrightii (P)
Adenophyllum cooperi (P)
Ageratina occidentalis (P)
Agoseris glauca var. *agrestis* (T)
Agoseris glauca var. *cronquistii* (T)
Agoseris grandiflora (P)
Agoseris heterophylla (I)
Agoseris retrorsa (P)
Ambrosia eriocentra (P)
Ambrosia sandersonii (T)
Amphipappus fremontii var. *spinosus* (P)
Antennaria pulcherrima (P)
Arnica amplexicaulis (P)
Arnica fulgens (P)
Arnica latifolia var. *gracilis* (P)
Arnica nevadensis (T)
Arnica sororia (P)
Artemisia campestris var. *petiolata* (R)
Artemisia longiloba (P)
Artemisia ludoviciana var. *latiloba* (P)
Artemisia norvegica (P)
Artemisia nova var. *duchesnicola* (W)
Artemisia parryi (T)
Artemisia tridentata var. *vaseyana* (sensu stricto) (T)
Artemisia tripartita (P)

Aster ericoides var. *commutatus* (P)
Aster foliaceus var. *apricus* (P)
Aster laevis var. *geyeri* (P)
Aster meritus (P)
Aster subulatus var. *ligulatus* (P)
Aster welshii (W)
Atrichoseris platyphylla (P)
Baccharis emoryi (T)
Baccharis glutinosa (T)
Baccharis sergiloides (P)
Baccharis viminea (T)
Baccharis wrightii (P)
Balsamorhiza hookeri var. *hirsuta* (D)
Balsamorhiza incana (D)
Bebbia juncea var. *aspera* (P)
Brickellia eupatorioides var. *chlorolepis* (P)
Calycoseris parryi (P)
Calycoseris wrightii (P)
Chaenactis carphoclinia (P)
Chaenactis fremontii (P)
Chloracantha spinosa (P)
Chrysothamnus nauseosus var. *bigelovii* (P)
Chrysothamnus nauseosus var. *glareosus* (T)
Chrysothamnus nauseosus var. *iridis* (W)
Chrysothamnus nauseosus var. *mohavensis* (P)
Chrysothamnus nauseosus var. *nitidus* (W)
Chrysothamnus nauseosus var. *psilocarpus* (R)
Chrysothamnus nauseosus var. *salicifolius* (W)
Chrysothamnus nauseosus var. *uintahensis* (T)
Chrysothamnus paniculatus (P)
Chrysothamnus pulchellus var. *baileyi* (P)
Chrysothamnus viscidiflorus var. *latifolius* (T)
Cirsium barnebyi (W)
Cirsium calcareum var. *calcareum* (T)
Cirsium centaureae (P)
Cirsium eatonii var. *harrisonii* (R)
Cirsium hallii (T)
Cirsium murdockii (W)

Cirsium neomexicanum var. *utahense* (D)
Cirsium ownbeyi (W)
Cirsium rothrockii (D)
Cirsium rydbergii (W)
Cirsium scariosum var. *thorneae* (D)
Cirsium scopulorum (P)
Cirsium virginense (R)
Conyza coulteri (P)
Crepis runcinata var. *runcinata* (P)
Dicoria canescens ssp. *canescens* (P)
Encelia farinosa (P)
Enceliopsis argophylla (R)
Ericameria cervina (W)
Ericameria crispa (R)
Ericameria laricifolia (P)
Ericameria lignumviridis (R)
Ericameria obovata (W)
Ericameria watsonii (P)
Ericameria zionis (R)
Erigeron abajoensis (D)
Erigeron arenarioides (W)
Erigeron awapensis (R)
Erigeron bloomeri (P)
Erigeron canaani (W)
Erigeron canus (P)
Erigeron carringtoniae (R)
Erigeron compactus var. *compactus* (W)
Erigeron concinnus var. *condensatus* (I)
Erigeron concinnus var. *subglaber* (D)
Erigeron corymbosus (P)
Erigeron coulteri (P)
Erigeron cronquistii (R)
Erigeron elatior (P)
Erigeron filifolius (P)
Erigeron garrettii (R)
Erigeron goodrichii (W)
Erigeron humilis (P)
Erigeron kachinensis (R)
Erigeron linearis (P)
Erigeron maguirei (R)
Erigeron mancus (R)
Erigeron melanocephalus (P)
Erigeron nanus (D)
Erigeron proselyticus (R)
Erigeron pumilus var. *gracilior* (P)
Erigeron religiosus (W)
Erigeron sionis (W)
Erigeron untermannii (R)
Erigeron zotheцинus (R)
Eriophyllum lanatum var. *integrifolium* (P)
Eriophyllum lanosum (P)
Eucephalus pulcher (W)
Eucephalus wasatchensis (W)
Filago californica (P)
Flaveria campestris (P)
Gaillardia aristata (P)
Gaillardia arizonica (P)
Gaillardia flava (W)
Gaillardia parryi (W)
Geraea canescens (P)
Glyptopleura setulosa (P)
Gnaphalium wrightii (P)
Grindelia fastigiata (W)
Grindelia laciniata (R)
Gutierrezia petradoria (W)
Gutierrezia pomariensis (W)
Helianthus deserticola (T)
Heliomeris longifolia var. *annua* (P)
Heliomeris soliceps (R)
Hesperodoria scopulorum (W)
Heterotheca fulcrata var. *amplifolia* (P)
Heterotheca jonesii (R)
Heterotheca pumila (T)
Heterotheca villosa var. *foliosa* (T)
Heterotheca villosa var. *nana* (P)
Heterotheca villosa var. *pedunculata* (P)
Heterotheca villosa var. *villosa* (T)
Heterotheca zionensis (D)
Hieracium fendleri (P)
Hulsea heterochroma (P)
Hymenoclea salsola var. *salsola* (P)
Hymenopappus filifolius var. *eriopodus* (W)
Hymenopappus filifolius var. *tomentosus* (D)
Hymenoxys acaulis var. *nana* (R)
Hymenoxys helenioides (T)

Hymenoxys lapidicola (R)
Hymenoxys lemmonii (W)
Hymenoxys subintegra (D)
Hymenoxys torreyana (P)
Ionactis alpina (P)
Isocoma humilis (H)
Lepidospartum latisquamum (P)
Lygodesmia grandiflora var. *doloresensis* (T)
Lygodesmia grandiflora var. *entrada* (R)
Lygodesmia grandiflora var. *stricta* (T)
Lygodesmia juncea (P)
Machaeranthera asteroides var. *glandulosa* (P)
Machaeranthera bigelovii var. *commixta* (W)
Machaeranthera canescens var. *glabra* (P)
Machaeranthera gracilis (P)
Machaeranthera grindelioides var. *depressa* (W)
Machaeranthera parviflora (P)
Machaeranthera pinnatifida var. *gooddingii* (P)
Machaeranthera pinnatifida var. *paradoxa* (W)
Malacothrix coulteri (P)
Malacothrix stebbinsii (P)
Monoptilon bellidiforme (P)
Nothocalais troximoides (P)
Oreostemma alpigenum var. *haydenii* (D)
Palafoxia arida (P)
Parthenium incanum (P)
Pectis angustifolia (P)
Pectis papposa (P)
Perityle emoryi (P)
Perityle specuicola (R)
Perityle tenella (W)
Petasites sagittatus (P)
Petradoria pumila var. *graminea* (T)
Peucephyllum schottii (P)
Platyschkuhria integrifolia var. *oblongifolia* (R)
Platyschkuhria integrifolia var. *ourolepis* (W)
Pluchea odorata (P)
Pluchea sericea (P)
Porophyllum gracile (P)
Psathyrotes ramosissima (P)
Psilocarphus brevissimus (P)
Psilostrophe cooperi (P)
Psilostrophe tagetina (P)
Pyrrocoma crocea (P)
Pyrrocoma hirta (P)
Pyrrocoma racemosa var. *paniculata* (P)
Pyrrocoma racemosa var. *sessiliflora* (P)
Rafinesquia californica (P)
Rafinesquia neomexicana (P)
Rudbeckia laciniata var. *ampla* (P)
Rudbeckia occidentalis var. *montana* (D)
Senecio bigelovii var. *hallii* (P)
Senecio castoreus (R)
Senecio dimorphophyllus var. *dimorphophyllus* (T)
Senecio dimorphophyllus var. *intermedius* (R)
Senecio dimorphophyllus var. *paysonii* (D)
Senecio fremontii var. *inexpectatus* (R)
Senecio hartianus (D)
Senecio hydrophiloides (P)
Senecio malmstenii (R)
Senecio musiniensis (R)
Senecio pauperculus (D)
Senecio serra var. *admirabilis* (D)
Senecio streptanthifolius var. *oödes* (D)
Solidago gigantea (P)
Solidago spectabilis (P)
Sphaeromeria capitata (P)
Sphaeromeria ruthiae (R)
Stenotus armerioides var. *gramineus* (W)
Stenotus falcatus (D)
Stephanomeria parryi (P)
Stephanomeria tenuifolia var. *uintaensis* (R)
Stylocline intertexta (P)
Stylocline micropoides (P)
Stylocline psilocarphoides (P)
Syntrichopappus fremontii (P)

Tanacetum douglasii (T)
Taraxacum ceratophorum (P)
Tetradymia axillaris var. longispina (P)
Thelesperma caespitosum (R)
Thelesperma megapotamicum (P)
Thelesperma subnudum var. alpinum (R)
Thymophylla acerosa (D)
Tonestus kingii var. barnebyanus (R)
Tonestus kingii var. kingii (W)
Townsendia alpigena var. alpigena (P)
Townsendia alpigena var. caelilimensis (W)
Townsendia aprica (R)
Townsendia condensata (D)
Townsendia jonesii var. lutea (R)
Townsendia mensana (W)
Townsendia minima (W)
Townsendia nuttallii (W)
Townsendia scapigera (P)
Uropappus lindleyi (P)
Xylorhiza confertifolia (W)
Xylorhiza cronquistii (T)
Xylorhiza glabriuscula var. glabriuscula (P)
Xylorhiza glabriuscula var. linearifolia (R)
Xylorhiza tortifolia var. tortifolia (P)

AZOLLACEAE

Azolla mexicana (P)

BERBERIDACEAE

Berberis fendleri (D)

BETULACEAE

Betula X utahensis (T)
Ostrya knowltonii (W)

BIGNONIACEAE

Chilopsis linearis ssp. arcuata (P)

BORAGINACEAE

Amsinckia intermedia (D)
Cryptantha affinis (P)
Cryptantha alpicola (D)
Cryptantha ambigua (P)
Cryptantha angustifolia (P)
Cryptantha barnebyi (W)
Cryptantha caespitosa (W)
Cryptantha capitata (W)
Cryptantha cinerea var. abortiva (P)
Cryptantha cinerea var. arenicola (W)
Cryptantha compacta (R)
Cryptantha creutzfeldtii (R)
Cryptantha decipiens (P)
Cryptantha dumetorum (P)
Cryptantha elata (R)
Cryptantha flaccida (T)
Cryptantha grahamii (W)
Cryptantha humilis var. nana (W)
Cryptantha inaequata (P)
Cryptantha interrupta (W)
Cryptantha johnstonii (R)
Cryptantha jonesiana (W)
Cryptantha longiflora (W)
Cryptantha nevadensis (P)
Cryptantha ochroleuca (R)
Cryptantha paradoxa (W)
Cryptantha pterocarya var. cycloptera (P)
Cryptantha racemosa (P)
Cryptantha scoparia (P)
Cryptantha semiglabra (R)
Cryptantha spiculifera (P)
Cryptantha stricta (W)
Cryptantha utahensis (P)
Cryptantha wetherillii (W)
Hackelia ibapensis (R)
Hackelia patens var. harrisonii (W)
Heliotropium curassavicum var. oculatum (P)
Mertensia lanceolata var. coriacea (T)
Mertensia viridis var. cana (T)
Pectocarya anisocarpa (T)

Pectocarya heterocarpa (P)
Pectocarya platycarpa (P)
Pectocarya setosa (P)
Plagiobothrys arizonicus (P)
Plagiobothrys jonesii (P)
Plagiobothrys kingii var. harknessii (D)
Plagiobothrys tenellus (P)
Tiquilia canescens (P)

BRASSICACEAE

Arabis beckwithii (D)
Arabis columbiana (D)
Arabis demissa var. languida (W)
Arabis divaricarpa (D)
Arabis exilis (P)
Arabis falcatoria (R)
Arabis fendleri var. spatifolia (D)
Arabis glabra var. furcatipilis (R)
Arabis gracilipes (D)
Arabis hirsuta var. glabrata (P)
Arabis holboellii var. consanguinea (D)
Arabis holboellii var. secunda (D)
Arabis lasiocarpa (W)
Arabis lemmonii var. drepanoloba (D)
Arabis lignifera (D)
Arabis nuttallii (P)
Arabis pendulina var. russeola (D)
Arabis puberula (P)
Arabis pulchra var. duchesnensis (R)
Arabis schistacea (W)
Arabis shockleyi (W)
Arabis sp. nov. ined. "Gray Knolls, Uintah Co." (T)
Arabis vivariensis (W)
Athysanus pusillus (P)
Cardamine breweri var. breweri (P)
Cardamine cordifolia var. incana (D)
Cardamine oligosperma var. oligosperma (P)
Caulanthus cooperi (P)
Caulanthus major var. major (P)
Caulanthus pilosus (P)
Cusickiella douglasii (P)

Descurainia incisa ssp. paysonii (D)
Descurainia incisa ssp. viscosa (I)
Descurainia pinnata var. glabra (P)
Draba asprella var. zionensis (W)
Draba brachystylis (R)
Draba crassa (P)
Draba cuneifolia var. integrifolia (P)
Draba densifolia (P)
Draba fladnizensis var. pattersonii (R)
Draba globosa (W)
Draba incerta (P)
Draba juniperina (W)
Draba kassii (R)
Draba lonchocarpa var. exigua (T)
Draba burkei (R)
Draba maguirei (R)
Draba paysonii var. treleasei (D)
Draba pectinipila (T)
Draba ramulosa (R)
Draba sobolifera (R)
Draba spectabilis var. spectabilis (W)
Draba subalpina (W)
Draba ventosa (W)
Glaucocarpum suffrutescens (R)
Guillenia lasiophylla (P)
Halimolobos virgata (P)
Lepidium alyssoides var. alyssoides (D)
Lepidium alyssoides var. eastwoodiae (D)
Lepidium alyssoides var. junceum (R)
Lepidium barnebyanum (R)
Lepidium crenatum (D)
Lepidium densiflorum var. macrocarpum (D)
Lepidium densiflorum var. pubicarpum (P)
Lepidium dictyotum (P)
Lepidium fremontii (P)
Lepidium huberi (R)
Lepidium integrifolium var. heterophyllum (R)
Lepidium integrifolium var. integrifolium (R)
Lepidium montanum var. alpinum (R)
Lepidium montanum var. claronense (R)

Lepidium montanum var. neeseae (R)
Lepidium montanum var. stellae (T)
Lepidium nanum (W)
Lepidium ostleri (R)
Lepidium ramosissimum var. bourgeauanum
(D)
Lesquerella arizonica (W)
Lesquerella fendleri (P)
Lesquerella garrettii (R)
Lesquerella goodrichii (R)
Lesquerella hemiphysaria var. hemiphysaria
(W)
Lesquerella hemiphysaria var. lucens (R)
Lesquerella multiceps (W)
Lesquerella parvula (W)
Lesquerella prostrata (D)
Lesquerella rubicundula (W)
Lesquerella tenella (P)
Lesquerella tumulosa (R)
Lesquerella utahensis (W)
Parrya nudicaulis (P)
Physaria acutifolia var. purpurea (R)
Physaria chambersii var. sobolifera (T)
Physaria grahamii (R)
Physaria lepidota var. lepidota (R)
Physaria lepidota var. membranacea (R)
Physaria newberryi var. racemosa (R)
Physaria repanda (R)
Physaria stylosa (R)
Rorippa sinuata (I)
Rorippa sphaerocarpa (P)
Schoenocrambe argillacea (R)
Schoenocrambe barnebyi (R)
Streptanthus oliganthus (T)
Thelypodopsis ambigua var. erecta (R)
Thelypodopsis aurea (W)
Thelypodium flexuosum (D)
Thelypodium laxiflorum (W)
Thelypodium milleflorum (P)
Thelypodium rollinsii (W)
Thelypodium sagittatum ssp. ovalifolium
(R)
Thelypodium wrightii ssp. wrightii (P)

Thlaspi montanum var. fendleri (T)
Thysanocarpus curvipes (P)

BUDDLEJACEAE

Buddleja utahensis (P)

CACTACEAE

Echinocereus engelmannii var. purpureus
(T)
Echinocereus engelmannii var. variegatus
(W)
Echinocereus triglochidiatus var. inermis (T)
Echinocereus triglochidiatus var. mojavensis
(P)
Escobaria missouriensis var. marstonii (D)
Escobaria vivipara var. desertii (W)
Escobaria vivipara var. vivipara (P)
Ferocactus cylindraceus var. lecontei (P)
Mammillaria tetrancistra (P)
Opuntia acanthocarpa var. acanthocarpa (D)
Opuntia acanthocarpa var. coloradensis (P)
Opuntia aurea (W)
Opuntia basilaris var. basilaris (P)
Opuntia basilaris var. heilii (R)
Opuntia basilaris var. treleasei (T)
Opuntia basilaris var. woodburyi (T)
Opuntia chlorotica (D)
Opuntia echinocarpa (P)
Opuntia erinacea var. ursina (T)
Opuntia fragilis var. brachyarthra (D)
Opuntia martiniana (T)
Opuntia nicholii (W)
Opuntia phaeacantha var. discata (T)
Opuntia phaeacantha var. major (P)
Opuntia phaeacantha var. phaeacantha (P)
Opuntia pinkavae (W)
Opuntia polyacantha var. trichophora (P)
Opuntia pulchella (W)
Opuntia whipplei var. multigeniculata (T)
Pediocactus despainii (R)
Pediocactus sileri (R)

Pediocactus simpsonii var. minor (T)
Pediocactus winkleri (R)
Sclerocactus blainei (R)
Sclerocactus brevispinus (R)
Sclerocactus johnsonii (W)
Sclerocactus pubispinus (W)
Sclerocactus spinosior (W)
Sclerocactus wetlandicus (R)
Sclerocactus whipplei (W)
Sclerocactus wrightiae (R)

CALLITRICHACEAE

Callitriche anceps (T)
Callitriche heterophylla (I)

CAMPANULACEAE

Campanula uniflora (P)
Downingia laeta (P)
Lobelia cardinalis ssp. graminea (P)
Nemacladus glanduliferus var. orientalis (P)
Porterella carnulosa (P)
Triodanis perfoliata (D)

CAPPARACEAE

Cleome serrulata var. angusta (D)
Cleomella palmeriana var. goodrichii (R)
Cleomella plocasperma (P)

CAPRIFOLIACEAE

Lonicera ciliosa (D)
Sambucus racemosa var. melanocarpa (D)
Symphoricarpos occidentalis (P)
Symphoricarpos oreophilus var. parishii (P)

CARYOPHYLLACEAE

Achyronychia cooperi (P)
Alsinanthe macrantha (D)
Arenaria aculeata (P)

Arenaria congesta var. cephaloidea (T)
Arenaria congesta var. lithophila (D)
Arenaria congesta var. subcongesta (P)
Arenaria fendleri (P)
Arenaria hookeri var. desertorum (D)
Arenaria kingii var. glabrescens (D)
Arenaria kingii var. kingii (D)
Arenaria kingii var. plateauensis (T)
Arenaria macradenia var. macradenia (P)
Cerastium nutans (D)
Loeflingia squarrosa var. artemisiarum (D)
Lychnis apetala var. montana (P)
Minuartia pusilla (P)
Silene parryi (T)
Silene petersonii (W)
Silene verecunda ssp. andersonii (P)
Stellaria crassifolia var. crassifolia (P)
Stellaria longifolia (I)
Stellaria nitens (P)
Stellaria obtusa (P)

CELASTRACEAE

Canotia holacantha (D)
Mortonia utahensis (P)

CERATOPHYLLACEAE

Ceratophyllum demersum (I)

CHENOPODIACEAE

Atriplex asterocarpa (W)
Atriplex bonnevillensis (T)
Atriplex canescens var. gigantea (R)
Atriplex cornuta (D)
Atriplex gardneri var. gardneri (P)
Atriplex gardneri var. welshii (W)
Atriplex hymenelytra (P)
Atriplex lentiformis (P)
Atriplex minuticarpa (W)
Atriplex navajoensis (D)
Atriplex obovata (P)

Atriplex robusta (T)
Atriplex saccaria var. caput-medusae (D)
Atriplex tooelensis (T)
Atriplex torreyi (P)
Atriplex wolfii (D)
Ceratoides lanata var. ruinina (R)
Ceratoides lanata var. subspinosa (P)
Chenopodium graveolens var.
neomexicanum (P)
Chenopodium rubrum var. humile (I)
Monolepis pusilla (P)
Nitrophila occidentalis (P)
Proatriplex pleiantha (W)
Salicornia utahensis (W)

CONVOLVULACEAE

Calystegia longipes (W)
Calystegia sepium var. angulata (P)
Convolvulus equitans (P)

CONVOLVULACEAE

Cornus sericea var. occidentalis (T)

CRASSULACEAE

Crassula aquatica (P)
Dudleya pulverulenta var. arizonica (P)
Sedum rosea var. integrifolium (P)

CROSSOSOMATACEAE

Glossopetalon spinescens var. aridum (P)

CUCURBITACEAE

Cucurbita foetidissima (P)

CUSCUTACEAE

Cuscuta applanata (P)
Cuscuta cephalanthi (I)

Cuscuta cuspidata (P)
Cuscuta glabrior (P)
Cuscuta indecora ssp. warneri (H)
Cuscuta megalocarpa (P)

CYPERACEAE

Bolboschoenus fluviatilis (I)
Carex alma (P)
Carex arapahoensis (D)
Carex atherodes (P)
Carex atosquama (P)
Carex backii (P)
Carex bebbii (P)
Carex bigelovii (T)
Carex bipartita (P)
Carex breweri var. paddoensis (D)
Carex brunnescens (P)
Carex capitata (P)
Carex crawei (P)
Carex curatorum (W)
Carex deweyana var. bolanderi (I)
Carex diandra (P)
Carex foetida var. vernacula (P)
Carex hassei (T)
Carex haysii (R)
Carex jonesii (P)
Carex lasiocarpa (P)
Carex leporinella (P)
Carex leptalea (P)
Carex limnophila (P)
Carex limosa (P)
Carex livida (P)
Carex luzulina (P)
Carex microglochin (P)
Carex misandra (P)
Carex multicostata (P)
Carex nelsonii (P)
Carex neurophora (P)
Carex oederi var. viridula (P)
Carex paysonis (P)
Carex perglobosa (D)
Carex pyrenaica (P)

Carex retrorsa (P)
Carex scoparia (P)
Carex scopulorum (P)
Carex sheldonii (D)
Carex specuicola (R)
Carex stenoptila (D)
Carex stipata (I)
Carex subfusca (P)
Carex subnigricans (P)
Cladium californicum (D)
Cyperus acuminatus (I)
Cyperus rivularis (P)
Cyperus schweinitzii (I)
Cyperus strigosus (P)
Eleocharis bella (P)
Eleocharis obtusa (I)
Eriophorum altaicum var. neogaeum (P)
Eriophorum angustifolium (P)
Fimbristylis puberula var. interior (D)
Fimbristylis thermalis (D)
Kobresia myosuroides (P)
Kobresia simpliciuscula (P)
Lipocarpha aristulata (I)
Schoenoplectus nevadensis (P)
Schoenoplectus saximontanus (P)
Schoenoplectus subterminalis (D)
Scirpus pallidus (I)
Trichophorum cespitosum (P)

DRYOPTERIDACEAE

Athyrium alpestre var. americanum (P)
Cystopteris bulbifera (P)
Cystopteris reevesiana (P)
Cystopteris sp. nov. ined. (T)
Cystopteris tenuis (P)
Cystopteris utahensis (W)
Gymnocarpium dryopteris (P)
Polystichum kruckebergii (P)
Woodsia franciscana (T)
Woodsia oregana (sensu stricto) (P)
Woodsia scopulina ssp. laurentiana (P)

ELAEAGNACEAE

Elaeagnus commutata (P)

ELATINACEAE

Bergia texana (I)
Elatine brachysperma (D)
Elatine californica (P)
Elatine rubella (I)

EPHEDRACEAE

Ephedra fasciculata (P)
Equisetum variegatum (P)

ERICACEAE

Arctostaphylos pringlei ssp. pringlei (P)

EUPHORBIACEAE

Chamaesyce ocellata var. arenicola (P)
Chamaesyce revoluta (P)
Chamaesyce setiloba (P)
Croton californicus (P)
Croton setigerus (P)
Croton texensis var. texensis (P)
Euphorbia exstipulata (P)
Euphorbia nephradenia (R)
Euphorbia palmeri (D)
Reverchonia arenaria (P)
Tragia ramosa (P)

FABACEAE

Acacia greggii (P)
Astragalus adanus (T)
Astragalus alpinus (P)
Astragalus amphioxys var. modestus (D)
Astragalus ampullarioides (R)
Astragalus ampullarius (W)
Astragalus anserinus (R)

Astragalus aretioides (P)
Astragalus barnebyi (W)
Astragalus beckwithii var. *weiserensis* (P)
Astragalus bisulcatus var. *bisulcatus* (T)
Astragalus bodinii (P)
Astragalus brandegei (W)
Astragalus bryantii (T)
Astragalus callithrix (W)
Astragalus calycosus var. *mancus* (T)
Astragalus calycosus var. *monophyllidius* (T)
Astragalus calycosus var. *scaposus* (P)
Astragalus canadensis var. *brevidens* (P)
Astragalus canadensis var. *canadensis* (P)
Astragalus ceramicus var. *filifolius* (T)
Astragalus chamaemeniscus (W)
Astragalus chloödes (W)
Astragalus consobrinus (W)
Astragalus convallarius var. *finitimus* (W)
Astragalus cottamii (W)
Astragalus cronquistii (R)
Astragalus cutleri (R)
Astragalus desereticus (R)
Astragalus desperatus var. *petrophilus* (W)
Astragalus detritalis (W)
Astragalus diversifolius (W)
Astragalus emoryanus (P)
Astragalus ensiformis var. *ensiformis* (W)
Astragalus ensiformis var. *gracilior* (T)
Astragalus equisolensis (R)
Astragalus eremiticus (P)
Astragalus filipes (P)
Astragalus flavus var. *argillosus* (T)
Astragalus flavus var. *candicans* (T)
Astragalus flexuosus var. *flexuosus* (P)
Astragalus gilviflorus (P)
Astragalus hallii var. *fallax* (P)
Astragalus hamiltonii (R)
Astragalus harrisonii (W)
Astragalus henrimontanensis (W)
Astragalus holmgreniorum (R)
Astragalus iodanthus (P)
Astragalus iselyi (R)
Astragalus jejunosus (W)
Astragalus kentrophyta var. *jessiae* (P)
Astragalus laccoliticus (R)
Astragalus lancearius (W)
Astragalus lentiginosus var. *chartaceus* (T)
Astragalus lentiginosus var. *fremontii* (P)
Astragalus lentiginosus var. *platyphyllidius* (T)
Astragalus lentiginosus var. *pohlii* (R)
Astragalus lentiginosus var. *scorpionis* (W)
Astragalus lentiginosus var. *stramineus* (W)
Astragalus lentiginosus var. *ursinus* (T)
Astragalus lentiginosus var. *vitreus* (W)
Astragalus lentiginosus var. *wahweapensis* (T)
Astragalus limnocharis var. *limnocharis* (R)
Astragalus limnocharis var. *tabulaeus* (R)
Astragalus loanus (R)
Astragalus lutosus (W)
Astragalus malacoides (W)
Astragalus miser var. *tenuifolius* (W)
Astragalus missouriensis var. *amphibolus* (W)
Astragalus montii (R)
Astragalus monumentalis (W)
Astragalus naturitensis (R)
Astragalus nelsonianus (W)
Astragalus newberryi var. *escalantinus* (T)
Astragalus newberryi var. *newberryi* (P)
Astragalus nidularius (W)
Astragalus oophorus var. *lonchocalyx* (R)
Astragalus pardalinus (W)
Astragalus perianus (W)
Astragalus pinonis (R)
Astragalus piscator (R)
Astragalus platytropis (P)
Astragalus praelongus var. *lonchopus* (W)
Astragalus pubentissimus var. *peabodianus* (T)
Astragalus purshii var. *glareosus* (P)
Astragalus rafaensis (W)
Astragalus robbinsii var. *minor* (P)
Astragalus sabulosus var. *sabulosus* (R)

Astragalus sabulosus var. *vehiculus* (R)
Astragalus saurinus (W)
Astragalus serpens (R)
Astragalus striatiflorus (R)
Astragalus subcinereus var. *basalticus* (T)
Astragalus toanus (P)
Astragalus uncialis (R)
Astragalus wardii (W)
Astragalus welshii (R)
Astragalus wetherillii (W)
Astragalus woodruffii (W)
Astragalus zionis var. *vigulus* (R)
Caesalpinia repens (D)
Dalea flavescens var. *epica* (T)
Dalea lanata var. *terminalis* (P)
Hedysarum boreale var. *gremiale* (T)
Hedysarum occidentale var. *canone* (T)
Hedysarum occidentale var. *occidentale* (P)
Lathyrus eucosmus (P)
Lathyrus lanzwertii var. *leucanthus* (P)
Lotus humistratus (P)
Lotus rigidus (P)
Lotus wrightii (P)
Lupinus arbustus (P)
Lupinus argenteus var. *fulvomaculatus* (D)
Lupinus argenteus var. *hillii* (P)
Lupinus argenteus var. *palmeri* (P)
Lupinus argenteus var. *parviflorus* (P)
Lupinus caudatus var. *cutleri* (D)
Lupinus concinnus var. *orcuttii* (P)
Lupinus flavoculatus (P)
Lupinus jonesii (T)
Lupinus kingii var. *argillaceus* (T)
Lupinus latifolius ssp. *leucanthus* (R)
Lupinus lepidus var. *aridus* (P)
Lupinus polyphyllus var. *ammophilus* (W)
Lupinus polyphyllus var. *humicola* (D)
Lupinus sericeus var. *marianus* (T)
Lupinus sparsiflorus (P)
Oxytropis besseyi var. *obnapiformis* (D)
Oxytropis besseyi var. *ventosa* (W)
Oxytropis borealis var. *viscida* (P)
Oxytropis campestris var. *cusickii* (P)
Oxytropis deflexa var. *pulcherrima* (R)
Oxytropis multiceps (P)
Oxytropis oreophila var. *jonesii* (W)
Parryella filifolia (P)
Pediomelum aromaticum var. *aromaticum* (R)
Pediomelum aromaticum var. *barnebyi* (R)
Pediomelum aromaticum var. *tuhyi* (R)
Pediomelum epipsilum (R)
Pediomelum mephiticum (W)
Pediomelum pariense (W)
Pediomelum retrorsum (P)
Prosopis glandulosa var. *torreyana* (P)
Prosopis odorata (P)
Psoralidium junceum (W)
Psoralidium lanceolatum var. *stenophyllum* (T)
Psoralidium lanceolatum var. *stenostachys* (T)
Psorothamnus arborescens var. *pubescens* (R)
Psorothamnus polydenius var. *jonesii* (R)
Psorothamnus polydenius var. *polydenius* (P)
Psorothamnus thompsoniae var. *thompsoniae* (W)
Psorothamnus thompsoniae var. *whitingii* (R)
Robinia neomexicana (P)
Sophora nuttalliana (P)
Thermopsis rhombifolia (P)
Trifolium beckwithii (P)
Trifolium eriocephalum var. *villiferum* (R)
Trifolium friscanum (R)
Trifolium longipes var. *hansenii* (T)
Trifolium variegatum (P)
Trifolium wormskioldii var. *arizonicum* (P)
Trifolium wormskioldii var. *wormskioldii* (I)
Vicia americana var. *minor* (P)

FAGACEAE

Quercus gambelii var. *bonina* (T)

FUMARIACEAE

Corydalis caseana ssp. *brachycarpa* (R)

GARRYACEAE

Garrya flavescens (P)

GENTIANACEAE

Centaurium calycosum (P)

Centaurium namophilum var. *nevadense* (T)

Frasera gypsicola (R)

Lomatogonium rotatum ssp. *tenuifolium* (P)

GERANIACEAE

Erodium texanum (P)

Geranium bicknellii (P)

Geranium carolinianum (I)

Geranium marginale (T)

GROSSULARIACEAE

Ribes laxiflorum (P)

HALORAGACEAE

Myriophyllum verticillatum (P)

HYDROCHARITACEAE

Elodea canadensis (I)

Elodea longivaginata (P)

HYDROPHYLLACEAE

Emmenanthe penduliflora (P)

Eucrypta micrantha (P)

Hesperochiron californicus (P)

Hydrophyllum capitatum var. *alpinum* (P)

Hydrophyllum fendleri var. *fendleri* (P)

Nama hispidum (P)

Nama retrorsum (W)

Nemophila parviflora var. *austinae* (P)

Phacelia affinis (P)

Phacelia anelsonii (R)

Phacelia argillacea (R)

Phacelia austromontana (P)

Phacelia cephalotes (W)

Phacelia coerulea (P)

Phacelia constancei (W)

Phacelia crenulata var. *angustifolia* (D)

Phacelia cronquistiana (R)

Phacelia cryptantha (P)

Phacelia curvipes (P)

Phacelia demissa var. *heterotricha* (T)

Phacelia demissa var. *minor* (W)

Phacelia franklinii (P)

Phacelia glandulosa (T)

Phacelia howelliana (W)

Phacelia indecora (R)

Phacelia integrifolia (P)

Phacelia ivesiana var. *glandulifera* (P)

Phacelia laxiflora (R)

Phacelia lemmonii (P)

Phacelia lutea var. *scopulina* (P)

Phacelia mammillarensis (W)

Phacelia orbicularis (T)

Phacelia palmeri (W)

Phacelia peirsoniana (P)

Phacelia petrosa (T)

Phacelia pulchella var. *atwoodii* (R)

Phacelia pulchella var. *pulchella* (D)

Phacelia pulchella var. *sabulonum* (R)

Phacelia rotundifolia (P)

Phacelia sericea var. *sericea* (D)

Phacelia tetramera (P)

Phacelia utahensis (R)

Phacelia vallis-mortae (P)

Tricardia watsonii (P)

HYPERICACEAE

Hypericum anagalloides (P)

IRIDACEAE

Iris pariensis (H)

Sisyrinchium douglasii var. *inflatum* (P)

Sisyrinchium halophilum (P)

Sisyrinchium radicum (D)

ISOËTACEAE

Isoëtes echinospora (P)

Isoëtes howellii (P)

Isoëtes melanopoda (P)

Isoëtes occidentalis (P)

JUNCACEAE

Juncus bryoides (P)

Juncus castaneus (P)

Juncus ensifolius (P)

Juncus filiformis (P)

Juncus macrophyllus (D)

Juncus regelii (P)

Juncus tweedyi (D)

Juncus vaseyi (D)

KRAMERIACEAE

Krameria erecta (P)

Krameria grayi (P)

LAMIACEAE

Hedeoma nanum ssp. *californicum* (P)

Hedeoma nanum ssp. *nanum* (P)

Monarda fistulosa var. *menthifolia* (P)

Monarda pectinata (P)

Monardella odoratissima var. *parvifolia* (T)

Physostegia parviflora (P)

Salazaria mexicana (P)

Salvia columbariae (P)

Salvia dorrii ssp. *argentea* (T)

Scutellaria antirrhinoides (P)

Scutellaria nana var. *sapphirina* (W)

Stachys rothrockii (W)

Teucrium canadense var. *occidentale* (I)

LEMNACEAE

Lemna gibba (I)

Lemna trisulca (I)

Lemna turionifera (D)

Lemna valdiviana (I)

Spirodela polyrrhiza (I)

Wolffia borealis (P)

LENTIBULARIACEAE

Utricularia intermedia (P)

Utricularia minor (P)

LILIACEAE

Agave utahensis var. *utahensis* (W)

Allium atropurpureum var. *atropurpureum* (P)

Allium atropurpureum var. *cristatum* (W)

Allium campanulatum (T)

Allium geyeri var. *chatterleyi* (R)

Allium geyeri var. *tenerum* (D)

Allium lemmonii (P)

Allium parvum (P)

Allium passeyi (R)

Calochortus ambiguus (P)

Calochortus bruneaunus (P)

Calochortus eurycarpus (P)

Calochortus kennedyi (P)

Leucocrinum montanum (P)

Nolina microcarpa (P)

Streptopus fassettii (D)

Yucca angustissima var. *avia* (R)

Yucca angustissima var. *kanabensis* (W)

Yucca angustissima var. *toftiae* (W)

Yucca baccata var. *vespertina* (T)

Yucca baileyi (D)
Yucca brevifolia (P)
Yucca elata var. *utahensis* (W)
Yucca harrimaniae var. *gilbertiana* (T)
Yucca harrimaniae var. *sterilis* (R)
Yucca schidigera (P)
Zigadenus vaginatus (R)
Zigadenus venenosus var. *gramineus* (P)

LINACEAE

Linum australe (P)
Linum lewisii var. *alpicola* (D)

LOASACEAE

Eucnide urens (P)
Mentzelia argillosa (W)
Mentzelia goodrichii (R)
Mentzelia humilis (T)
Mentzelia laciniata (T)
Mentzelia marginata (W)
Mentzelia multicaulis var. *librina* (R)
Mentzelia nitens (T)
Mentzelia obscura (P)
Mentzelia pumila (D)
Mentzelia shultziorum (R)
Mentzelia thompsonii (W)
Mentzelia tricuspis (P)
Petalonyx nitidus (P)
Petalonyx parryi (W)

LYCOPODIACEAE

Lycopodium annotinum (D)

LYTHRACEAE

Lythrum californicum (P)

MALVACEAE

Abutilon parvulum (P)

Eremalche exilis (P)
Sphaeralcea ambigua var. *ambigua* (P)
Sphaeralcea caespitosa (R)
Sphaeralcea digitata (T)
Sphaeralcea grossulariifolia var. *moorei* (W)
Sphaeralcea leptophylla var. *janeae* (R)
Sphaeralcea psoraloides (R)
Sphaeralcea rusbyi var. *rusbyi* (D)

MARSILEACEAE

Marsilea oligospora (P)

MARTYNIACEAE

Proboscidea parviflora (P)

MENYANTHACEAE

Menyanthes trifoliata (P)

NAJADACEAE

Najas caespitosa (H)
Najas guadalupensis (I)
Najas marina (P)

NYCTAGINACEAE

Abronia argillosa (W)
Abronia mellifera (P)
Abronia nana var. *harrisii* (T)
Abronia villosa (P)
Boerhavia torreyana (P)
Hermidium alipes var. *pallidum* (T)
Mirabilis bigelovii var. *retrorsa* (P)
Mirabilis glabra (P)
Mirabilis linearis var. *decipiens* (T)
Mirabilis multiflora var. *multiflora* (D)
Mirabilis multiflora var. *pubescens* (P)
Selinocarpus diffusus (D)
Selinocarpus nevadensis (W)
Tripterocalyx carneus var. *wootonii* (P)

NYMPHAEACEAE

Nuphar lutea ssp. *polysepala* (I)

OLEACEAE

Fraxinus cuspidata ssp. *macropetala* (D)

Fraxinus velutina (P)

Menodora scabra (P)

Menodora spinescens (P)

ONAGRACEAE

Camissonia andina (P)

Camissonia atwoodii (R)

Camissonia bairdii (D)

Camissonia boothii var. *condensata* (P)

Camissonia boothii var. *desertorum* (T)

Camissonia boothii var. *villosa* (D)

Camissonia brevipes ssp. *pallidula* (P)

Camissonia brevipes var. *brevipes* (P)

Camissonia chamaenerioides (P)

Camissonia claviformis var. *aurantiaca* (P)

Camissonia claviformis var. *claviformis* (T)

Camissonia claviformis var. *cruciformis* (T)

Camissonia claviformis var. *purpurascens*
(P)

Camissonia exilis (R)

Camissonia gouldii (R)

Camissonia multijuga (D)

Camissonia parryi (W)

Camissonia pterosperma (P)

Camissonia pusilla (P)

Camissonia refracta (P)

Chamerion latifolium (P)

Epilobium anagallidifolium (P)

Epilobium densiflorum (P)

Epilobium glaberrimum var. *fastigiatum* (P)

Epilobium glaberrimum var. *glaberrimum*
(P)

Epilobium nevadense (R)

Epilobium oregonense (D)

Epilobium palustre (P)

Epilobium pygmaeum (P)

Gayophytum diffusum ssp. *diffusum* (P)

Gayophytum humile (P)

Oenothera caespitosa var. *macroglottis* (P)

Oenothera cavernae (D)

Oenothera deltoides var. *decumbens* (W)

Oenothera deltoides var. *deltoides* (P)

Oenothera flava var. *acutissima* (W)

Oenothera pallida var. *latifolia* (P)

Oenothera pallida var. *runcinata* (D)

Oenothera pallida var. *trichocalyx* (P)

Oenothera primiveris var. *bufonis* (P)

Oenothera villosa var. *villosa* (D)

OPHIOGLOSSACEAE

Botrychium crenulatum (W)

Botrychium echo (T)

Botrychium hesperium (W)

Botrychium lanceolatum (I)

Botrychium lineare (D)

Botrychium lunaria (I)

Botrychium minganense (I)

Botrychium multifidum (P)

Botrychium paradoxum (R)

Botrychium pinnatum (P)

Botrychium simplex (P)

Botrychium virginianum (P)

ORCHIDACEAE

Coeloglossum viride ssp. *bracteatum* (P)

Cypripedium calceolus var. *pubescens* (P)

Cypripedium fasciculatum (R)

Listera borealis (P)

Listera cordata (D)

Lysiella obtusata (P)

Platanthera hyerborea var. *gracilis* (P)

Platanthera sparsiflora var. *ensifolia* (D)

Platanthera stricta (D)

Platanthera zothecina (R)

Spiranthes diluvialis (R)

OROBANCHACEAE

Orobanche cooperi (P)
Orobanche multiflora (T)

PAEONIACEAE

Paeonia brownii (P)

PAPAVERACEAE

Arctomecon californica (D)
Arctomecon humilis (R)
Eschscholzia californica ssp. mexicana (P)
Eschscholzia glyptosperma (P)
Eschscholzia minutiflora (P)
Papaver radicum ssp. kluanense (T)
Platystemon californicus (P)

PHILADELPHACEAE

Fendlera rupicola (P)
Jamesia americana var. macrocalyx (R)
Jamesia americana var. zionis (R)
Jamesia tetrapetala (R)

PLANTAGINACEAE

Plantago elongata (P)
Plantago major var. pachyphylla (D)
Plantago maritima (D)
Plantago virginica (D)

POACEAE

Achnatherum contractum (W)
Achnatherum lemmonii (P)
Achnatherum nevadense (T)
Achnatherum occidentale ssp. pubescens (D)
Achnatherum parishii ssp. parishii (D)
Achnatherum scribneri (D)
Achnatherum thurberianum (P)
Agrostis idahoensis (D)

Agrostis mertensii (D)
Agrostis oregonensis (D)
Alopecurus alpinus (P)
Andropogon glomeratus var. scabriglumis (P)
Aristida arizonica (P)
Aristida purpurea var. nealleyi (D)
Aristida purpurea var. purpurea (D)
Aristida purpurea var. wrightii (D)
Bothriochloa laguroides ssp. torreyana (P)
Bouteloua aristidoides (P)
Bouteloua curtipendula var. curtipendula (D)
Bouteloua hirsuta (P)
Bouteloua simplex (P)
Bouteloua trifida (P)
Bouteloua uniflora (D)
Bromus ciliatus (D)
Bromus frondosus (D)
Bromus pumpellianus (D)
Bromus vulgaris (P)
Calamagrostis montanensis (D)
Calamagrostis rubescens (P)
Calamovilfa gigantea (P)
Dichanthelium lanuginosum var. thermale (T)
Dichanthelium oligosanthes var. scribnerianum (I)
Elymus multisetus (D)
Eriochloa acuminata (D)
Festuca dasyclada (W)
Festuca ovina var. arizonica (P)
Festuca rubra (D)
Festuca sororia (D)
Helictotrichon mortonianum (D)
Hordeum pusillum var. pubens (D)
Imperata brevifolia (P)
Leersia oryzoides (I)
Leptochloa mucronata (P)
Leptochloa uninervia (D)
Leymus salina ssp. salmonis (W)
Leymus simplex (R)
Leymus triticoides var. pubescens (T)
Melica porteri (P)

Muhlenbergia arsenei (D)
 Muhlenbergia curtifolia (T)
 Muhlenbergia depauperata (D)
 Muhlenbergia filiculmis (D)
 Muhlenbergia glomerata (P)
 Muhlenbergia mexicana (I)
 Muhlenbergia microsperma (P)
 Muhlenbergia minutissima (I)
 Muhlenbergia polycaulis (T)
 Muhlenbergia repens (P)
 Panicum bulbosum (D)
 Panicum hallii (P)
 Paspalum distichum (P)
 Pleuraphis rigida (P)
 Poa agassizensis (D)
 Poa arctica ssp. aperta (D)
 Poa bolanderi (P)
 Poa cusickii ssp. pallida (D)
 Poa lettermanii (P)
 Poa pattersonii (I)
 Poa stenantha (D)
 Puccinellia simplex (P)
 Redfieldia flexuosa (P)
 Schizachne purpurascens (P)
 Scleropogon brevifolius (P)
 Spartina pectinata (D)
 Sporobolus airoides var. wrightii (T)
 Sporobolus asper (P)
 Sporobolus pulvinatus (P)
 Sporobolus texanus (P)
 Trisetum canescens (P)
 Trisetum spicatum ssp. montanum (T)
 Vulpia microstachys var. pauciflora (D)
 Vulpia octoflora var. glauca (D)

POLEMONIACEAE

Allophyllum gilioides ssp. violaceum (D)
 Collomia tenella (P)
 Collomia tinctoria (P)
 Eriastrum eremicum (P)
 Gilia brecciarum ssp. brecciarum (D)
 Gilia caespitosa (R)

Gilia capillaris (P)
 Gilia clokeyi (D)
 Gilia filiformis (P)
 Gilia flavocincta ssp. flavocincta (D)
 Gilia haydenii (W)
 Gilia latifolia var. imperialis (R)
 Gilia latifolia var. latifolia (P)
 Gilia mcvickerae (T)
 Gilia ophthalmoides (D)
 Gilia scopulorum (P)
 Gilia stellata (P)
 Gilia tenerrima (P)
 Gilia tenuis (R)
 Gilia transmontana (P)
 Gymnosteris parvula (P)
 Ipomopsis arizonica (P)
 Ipomopsis congesta ssp. palmifrons (P)
 Ipomopsis depressa (P)
 Ipomopsis spicata ssp. spicata (P)
 Ipomopsis spicata ssp. tridactyla (R)
 Langloisia setosissima (P)
 Linanthus arenicola (D)
 Linanthus aureus (P)
 Linanthus bigelovii (P)
 Linanthus demissus (P)
 Linanthus dichotomus (P)
 Linanthus harknessii (P)
 Loeseliastrum schottii (P)
 Phlox austromontana var. jonesii (W)
 Phlox austromontana var. lutescens (R)
 Phlox austromontana var. prostrata (D)
 Phlox cluteana (W)
 Phlox gladiformis (W)
 Phlox grahamii (T)
 Phlox griseola (W)
 Phlox hoodii var. hoodii (T)
 Phlox opalensis (W)
 Phlox tumulosa (W)
 Polemonium brandegei (P)
 Polemonium micranthum (P)

POLYGALACEAE

Polygala acanthoclada (P)

POLYGONACEAE

Centrostegia thurberi (P)
Chorizanthe rigida (P)
Eriogonum aretioides (R)
Eriogonum baileyi (P)
Eriogonum batemanii var. *eremicum* (W)
Eriogonum batemanii var. *ostlundii* (W)
Eriogonum brachypodium (P)
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 racemosus sessiliflorus
 = Pyrocoma racemosa sessiliflora
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 = Machaeranthera pinnatifida
 gooddingii
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 = Machaeranthera pinnatifida
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