

**S8.9.1** The container is empty and at 21 °C (70 °F).

**S8.9.2** A pendulum impact testing fixture is used for the test. The impact body is a steel pyramid with equilateral triangle faces and a square base. The summit and the edges of the pyramid are rounded to a radius of 3 mm (0.12 inch). The center of percussion of the pendulum coincides with the center of gravity of the pyramid. The center's distance from the axis of rotation of the pendulum is 1 meter (40 inches). The total mass of the pendulum referred to its center of percussion is 15 kg (33 pounds). The energy of the pendulum at the moment of impact is not less than 30 Nm (22.1 ft-lbf).

**S8.9.3** During the test, the container is held in position by the end bosses or by the mounting brackets.

**S8.9.4** The impact body strikes the test container at any point and any angle on the container.

**S8.9.5** For 1,500 cycles at ambient temperature, hydrostatically pressurize the container from (1) a level not more than 10 percent of the service pressure to (2) the service pressure.

**S8.9.6** Determine that the container has not leaked.

**S8.10 Drop test procedures.**

**S8.10.1** The container is drop tested at ambient temperature without internal pressurization or attached valves. The container is held in a horizontal position with the bottom 3.05 meters (10 feet) above the surface onto which it is dropped. The surface is a smooth, horizontal concrete pad or flooring that is 4 inches thick.

**S8.10.2** For 5,000 cycles at ambient temperature, hydrostatically pressurize the container from (1) a level not more than 10 percent of the service pressure to (2) 125 percent of the service pressure, and then for 13,000 cycles from (1) a level not more than 10 percent of the service pressure to (2) the service pressure.

**S8.10.3** Determine that the container has not leaked.

**S8.11 Road salt environmental test procedures.**

**S8.11.1** Adjust a pass/fail gauge to fit the container before the test.

**S8.11.2** A CNG fuel container, free of any protective coating, is cycle tested as follows:

**S8.11.2.1** Subject the container to a salt spray (fog) test in accordance with ASTM B-117-73, "Method of Salt Spray (Fog) Testing," for 240 hours consisting of ten successive 24 hour periods. During each period, the container shall be mounted in the middle of the chamber and exposed for 23 hours to the salt spray. The spray is not activated during the 24th hour.

**S8.11.2.2** For 5,000 cycles at ambient conditions, hydrostatically pressurize the container from (1) a level not more than 10 percent of the service pressure to (2) 125 percent of the service pressure.

**S8.11.2.3** Stabilize at zero pressure and ambient conditions.

**S8.11.2.4** For 5,000 cycles at -40° C (-40° F), hydrostatically pressurize the container from (1) a level not more than 10 percent of the service pressure to (2) the service pressure.

**S8.11.2.5** The cycling rate does not exceed 10 cycles per minute.

**S8.11.3** Determine that the container has not leaked or permanently changed in external configuration or dimension. With respect to changes in the container's external configuration or dimension, adjust a pass/fail gauge to fit the container. Compare the measurement with the one in S8.11.1.

Issued on: December 9, 1994.

**Barry Felrice,**

Associate Administrator for Rulemaking.

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AC96

### Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for Four Plants From Vernal Pools and Mesic Areas in Northern California

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

**SUMMARY:** The Fish and Wildlife Service (Service) proposes endangered status pursuant to the Endangered Species Act of 1973, as amended (Act) for four plants: *Lasthenia conjugens* (Contra Costa goldfields), *Navarretia leucocephala* ssp. *pauciflora* (few-flowered navarretia), *Navarretia leucocephala* ssp. *pliantha* (many-flowered navarretia), and *Parvisedum leiocarpum* (Lake County stonecrop). These species grow in and around the margins of vernal pools and in seasonally wet areas in northern California. Habitat loss and degradation imperil the continued existence of these plants. This proposal, if made final, would implement the protection of the Act for these plants.

**DATES:** Comments from all interested parties must be received by February 17,

1995. Public hearing requests must be received by February 2, 1995.

**ADDRESSES:** Comments and materials concerning this proposal should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, 2800 Cottage Way, Room E-1803, Sacramento, California 95825-1846. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

**FOR FURTHER INFORMATION CONTACT:** Kenneth W. Fuller (see ADDRESSES) at 916/978-4866.

### SUPPLEMENTARY INFORMATION:

#### Background

*Lasthenia conjugens* was described from specimen collected near Antioch in Contra Costa County, California (Greene 1888). Hall (1914) included the taxon within *Baeria fremontii*, however, Ferris (1958) later recognized this material as *B. fremontii* var. *conjugens*. Ornduff (1966) submerged the genus *Baeria* under *Lasthenia* and recognized the specific rank of *Lasthenia conjugens*.

*Lasthenia conjugens* is a showy spring annual in the aster family (Asteraceae) that grows 10 to 30 centimeters (cm) (4 to 12 inches (in)) tall and is usually branched. The leaves are opposite, light green, and usually have a feather-like arrangement with narrow clefts extending more than halfway toward the stem. The flowers are found in terminal yellow heads. The phyllaries are one-third to one-half fused; the achenes are less than 1.5 millimeters (mm) (0.06 in) long and always lack a pappus. *L. conjugens* flowers from March to June. The partially fused phyllaries and the lack of a pappus distinguish this species from *L. fremontii* and *L. burkei*, which it otherwise closely resembles.

Habitat for *Lasthenia conjugens* consists of vernal pools in open grassy areas in woodland and valley grassland communities at elevations of 1 to 445 meters (m) (3 to 1,460 feet (ft)). Historically found in such habitats in Alameda, Contra Costa, Mendocino, Santa Barbara, Santa Clara, Napa, and Solano Counties, California, this species is now apparently restricted to five localized populations in Napa and Solano Counties (California Native Plant Society (CNPS) 1978). One population is located on Travis Air Force Base, Solano County, California. All other populations are on private lands.

The type specimen for *Navarretia pauciflora* was collected from a playa 8 kilometers (km) (5 miles (mi)) north of Lower Lake, Lake County, California (Mason 1946). Day (1993) revised the

treatment of *Navarretia* and reduced *N. pauciflora* to a subspecies of *N. leucocephala*. More than a dozen species of *Navarretia* occur in the region, including several restricted to vernal pools. Five subspecies of *Navarretia leucocephala* are currently recognized (Day 1993), two of which may hybridize with *N. leucocephala* ssp. *pauciflora* (Alva Day, California Academy of Sciences, pers. comm. 1993). These two subspecies, *N. leucocephala* ssp. *bakeri* and *N. leucocephala* ssp. *plieantha*, differ from *N. leucocephala* ssp. *pauciflora* in stature, degree of hairiness, or size, number, or lobing of floral parts. The species that are being proposed for listing are not hybrids.

*Navarretia leucocephala* ssp. *pauciflora* is a prostrate, spreading, and much-branched annual herb in the phlox family (Polemoniaceae). This plant grows 1 to 4 cm (0.4 to 1.6 in) in height. The nearly hairless leaves are linear and entire, or parted into a few linear lobes, and 1 to 2.5 cm (0.4 to 1.0 in) long. The inflorescence is a head of 2 to 15 blue or white (fading to blue) flowers. A few spiny, leaf-like bracts below each head extend out 1.5 to 3 times the radius of the head; bracts within the head are shorter. The funnel-shaped corollas are 5 to 7 mm (0.2 to 0.3 in) long with five lobes 1.5 mm (0.06 in) long. Each corolla lobe has a single unbranched vein. The stigma has two minute lobes. *N. leucocephala* ssp. *pauciflora* flowers May to June.

*Navarretia leucocephala* ssp. *pauciflora* is found growing in volcanic ash substrate, clay pan vernal pools in chaparral, grassland, or mixed coniferous forest in southern Lake and Napa Counties. The subspecies has an elevation range of 450 to 850 m (1,400 to 2,800 ft) over a 50 square kilometer (sq km) (20 square mile (sq mi)) area. Historically, *N. leucocephala* ssp. *pauciflora* was known from nine sites in Napa and Lake Counties. The subspecies has become extirpated from six historic localities (CNPS 1990a). The three extant populations occur on private lands.

*Navarretia plieantha* was described from the margin of Bogg's Lake in Lake County, California (Mason 1946). Day (1993) revised the treatment of *Navarretia* and reduced the taxon to a subspecies of *N. leucocephala*. *N. leucocephala* ssp. *plieantha* is distinguished from *Navarretia leucocephala* ssp. *pauciflora* by its more numerous flowering heads (20 to 50 flowers versus 2 to 15), and in having three or more pairs of outer bracts with the bract lobes being forked or three-branched from the base. It is

distinguished from other congeners in the region by stature, degree of hairiness, or size, number, or lobing of floral parts.

*Navarretia leucocephala* ssp. *plieantha* is a prostrate annual herb in the phlox family (Polemoniaceae) that forms a mat 5 to 20 cm (2 to 8 in) wide. The leaves are 3 to 4 cm (1 to 1.6 in) long and linear or with a few widely spaced linear lobes. The inflorescence is a head composed of 20 to 50 white or blue flowers. Each head is 1.5 to 2 cm (0.6 to 0.8 in) across and is subtended by 3 to 4 leaf-like bracts that are simple-pinnate or compound-pinnate and extend out 1 to 2 times the radius of the head. The bracts within the head are shorter. The funnel-shaped corolla is 5 to 6 mm (0.2 to 0.24 in) long with five lobes each 2 mm (0.7 in) long. The stigma is two-cleft or entire. *N. leucocephala* ssp. *plieantha* flowers in May and June.

*Navarretia leucocephala* ssp. *plieantha* is found in dry meadows, along the margins of volcanic ash substrate vernal pools and lakes, and in open, wet ground in forest openings. It has an elevation range of 700 to 915 m (2,300 to 3,000 ft) over a 1,000 sq km (390 sq mi) area. *N. leucocephala* ssp. *plieantha* is historically known from seven locations in Lake and Sonoma Counties, California. One of the historic populations in Sonoma County has not been seen in 32 years and is considered potentially extirpated (CNPS 1987). Four population localities are found in Lake County. One population is protected on The Nature Conservancy preserve at Bogg's Lake. The remaining three extant populations are on private lands.

*Parvisedum leiocarpum* was described from 6.5 mi. north of Lower Lake, Lake County, California, as *Sedella leiocarpa* (Sharsmith 1940). Clausen (1946) subsequently reassigned the taxon to *Parvisedum leiocarpum*. Two similar species occur within the range of *P. leiocarpum*. *P. pentandrum* differs in having shorter petals, top-shaped flowers, and carpels with glandular bumps on the surfaces. *Crassula connata* differs in having only one to a few, four-petaled flowers above each leaf base, which are not arranged in definite cymes.

*Parvisedum leiocarpum* is a very low, erect to spreading, annual in the stonewort family (Crassulaceae) with reddish stems 3 to 5 cm (1 to 2 in) tall. The fleshy, succulent leaves are oblong, 4 to 5 mm (0.16 to 0.19 in) long, and fall off the stem by flowering time. The inflorescence is a cyme of campanulate yellow flowers that are crowded on the curving flowering stems in two rows

The five petals are 3 to 3.5 mm (0.12 to 0.14 in) long with large, club-shaped red nectaries. The five carpels have smooth surfaces. *P. leiocarpum* flowers in April and May.

*Parvisedum leiocarpum* is found on volcanic substrate in areas of impeded drainage, such as in and along the margins of vernal pools and depressions in bedrock. The historic range of the species encompasses six collection localities within a 16 km (10 mi) radius from Siegler Springs near Lower Lake Lake County, California (California Department of Fish and Game (CDFG) 1991b). Elevations of occurrence range from 365 to 790 m (1,300 to 2,600 ft). *P. leiocarpum* has apparently been destroyed at three sites within this area (CDFG 1991b, CNPS 1990b). The extant site populations of *P. leiocarpum* cover a total area of less than 1.2 hectares (ha) (3 acres (ac)). All populations occur on private lands; none are protected.

#### Previous Service Actions

Federal government actions on these four plants began as a result of section 12 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), which directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct in the United States. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975, and included *Lasthenia conjugens* as threatened; and *Navarretia pauciflora* (now known as *Navarretia leucocephala* ssp. *pauciflora*), *Navarretia plieantha* (now known as *Navarretia leucocephala* ssp. *plieantha*), and *Parvisedum leiocarpum* as endangered. The Service published a notice in the July 1, 1975 **Federal Register** (40 FR 27823) of its acceptance of the report of the Smithsonian Institution as a petition within the context of section 4(c)(2) (petition provisions are now found in section 4(b)(3) of the Act) and its intention thereby to review the status of the plant taxa named therein. The above four taxa were included in the July 1, 1975, notice. On June 16, 1976, the Service published a proposal in the **Federal Register** (42 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to section 4 of the Act. The list of 1,700 plant taxa was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94-51 and the July 1, 1975, **Federal Register** publication. *Navarretia pauciflora* and *Navarretia plieantha* were included in the June 16, 1976, **Federal Register** document. General

comments received in relation to the 1976 proposal were summarized in an April 26, 1978, Federal Register publication (43 FR 17909).

The Endangered Species Act Amendments of 1978 required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to those proposals already more than 2 years old. In the December 10, 1979, Federal Register (44 FR 70796), the Service published a notice of withdrawal of the June 6, 1976, proposal, along with four other proposals that had expired.

The Service published an updated notice of review for plants on December 15, 1980 (45 FR 82480). This notice included *Lasthenia conjugens*, *Navarretia pauciflora*, *Navarretia plieantha*, and *Parvisedum leiocarpum* as category 1 candidates for Federal listing. Category 1 taxa are those for which the Service has on file substantial information on biological vulnerability and threats to support preparation of listing proposals. On November 28, 1983, the Service published a supplement to the Notice of Review (48 FR 39526). This supplement changed *Lasthenia conjugens*, *Navarretia plieantha*, *Navarretia pauciflora*, and *Parvisedum leiocarpum* from category 1 to category 2 candidates. Category 2 taxa are those for which data in the Service's possession indicate listing is possibly appropriate, but for which substantial data on biological vulnerability and threats are not currently known or on file to support proposed rules.

The plant notice was revised on September 27, 1985 (50 FR 39526). *Lasthenia conjugens*, *Navarretia pauciflora*, *Navarretia plieantha*, and *Parvisedum leiocarpum* were included as category 2 candidates. Another revision of the plant notice was published on February 21, 1990 (55 FR 6184). In this revision *Lasthenia conjugens*, *Navarretia plieantha*, and *Parvisedum leiocarpum* were elevated to category 1 candidates. *Navarretia pauciflora* was retained as a category 2 candidate. Since the publication of that notice, the Service has received additional information on the status of *Navarretia leucocephala* ssp. *pauciflora* that supports the proposed listing of this species. The September 30, 1993, plant notice of review (58 FR 51144) included all four plant taxa as category 1 candidates.

Section 4(b)(3)(B) of the Endangered Species Act, as amended in 1982, requires the Secretary to make certain findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending on

October 13, 1982, be treated as having been newly submitted on that date. This was the case for *Lasthenia conjugens*, *Navarretia pauciflora*, *Navarretia plieantha*, and *Parvisedum leiocarpum* because the 1975 Smithsonian report had been accepted as a petition. On October 13, 1982, the Service found that the petitioned listing of these species was warranted, but precluded by other pending listing actions, in accordance with section 4(b)(3)(B)(iii) of the Act; notification of this finding was published on January 20, 1984 (49 FR 2485). Such a finding requires the petition to be recycled, pursuant to section 4(b)(3)(C)(i) of the Act. The finding was reviewed in October of 1983 through 1993. Publication of this proposal constitutes the final finding for the petitioned action.

#### Summary of Factors Affecting the Species

Section 4 of the Act (16 U.S.C. 1533) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists of endangered and threatened species. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Lasthenia conjugens* Ornduff (Contra Costa goldfields), *Navarretia leucocephala* Benth. ssp. *pauciflora* (H. Mason) Day (few-flowered navarretia), *Navarretia leucocephala* Benth. ssp. *plieantha* (H. Mason) Day (many-flowered navarretia), and *Parvisedum leiocarpum* (H. Sharsm.) R.T. Clausen (Lake County stonecrop) are as follows:

#### A. The Present or Threatened Destruction, Modification, or Curtailment of Their Habitat or Range

The primary threats to *Lasthenia conjugens*, *Navarretia leucocephala* ssp. *pauciflora*, *Navarretia leucocephala* ssp. *plieantha*, and *Parvisedum leiocarpum* consist of activities that result in the destruction of the plants or hydrologic changes in their vernal pool habitats. Such activities include urbanization, industrial development, agricultural land conversion, off-highway vehicle use, horseback riding, trampling by grazing cattle, and road widening. Damage or destruction of vernal pool habitat happens quickly and easily due to the extremely friable nature of the soil and the dependency of the pool upon an intact durapan or impermeable subsurface soil layer.

*Lasthenia conjugens* is no longer found in five of the seven counties in which it historically occurred.

Agricultural land conversion, urbanization, and associated developments have extirpated populations of this species in Alameda, Contra Costa, Santa Clara, and Santa Barbara Counties (CNDDDB 1993, CNPS 1978). Agricultural land conversion has extirpated one additional population of *L. conjugens* in Napa County (CNDDDB 1993). Widening and straightening of Ledgewood Creek north of Cordelia Road in Solano County by the U. S. Army Corps of Engineers eliminated a large amount of habitat and plants of *L. conjugens* (Ann Howald, CDFG, pers. comm., 1993). Urbanization threatens a population of *L. conjugens* in Napa County (CNDDDB 1993; Jake Ruygut, CNPS, in litt., 1993). Off-highway vehicle traffic has adversely impacted this same population (CNDDDB 1993). Industrial development threatens a population of *L. conjugens* in Solano County (CNDDDB 1993).

*Navarretia leucocephala* ssp. *pauciflora* has disappeared at over 50 percent of the sites from which it historically occurred. Extant populations continue to decline due to anthropogenic activities. Two population sites have been adversely affected by drainage or, in one case, by the attempt to create a more permanent water source (CDFG 1989b). One partially drained site, Manning Flat in Lake County, has experienced significant accelerated soil erosion, reducing the amount of available habitat and the plant population (McCarten 1985; CDFG 1989b). Off-highway vehicle use has damaged several population sites in Lake County (CDFG 1989b; CNDDDB 1993). Agricultural land conversion to a rice field adversely affected another population site in Lake County (CDFG 1989b). Pond construction for cattle watering partially destroyed the population of *N. leucocephala* ssp. *pauciflora* at Ely Flat in Lake County and severely altered the hydrology of its habitat (CDFG 1989b). Agricultural land conversion threatens this same population (CDFG 1989b; CNPS 1990a).

*Navarretia leucocephala* ssp. *plieantha* has apparently been extirpated at one population site in Sonoma County. This area has been severely impacted by horseback riding, feral pigs (*Sus scrofa*), and a tree eradication program (CNDDDB 1993; John Herrick, CNPS, pers. comm., 1993). Off-highway vehicle use has resulted in the destruction of plants and habitat of this subspecies at one location in Sonoma County, and at four population sites in Lake County (CDFG 1991a). Urbanization threatens one population site in Lake County and the extant

population site in Sonoma County (CNDDDB 1993). Attempted drainage of a pool in Lake County containing *Navarretia leucocephala* ssp. *plieantha* has resulted in the invasion of two competitive weeds, *Centaurea solstitialis* and *Taeniatherum caput-medusa* (CNDDDB 1993).

*Parvisedum leiocarpum* has been extirpated from 50 percent of its historic population sites. Attempted drainage has altered the hydrology of two of the three remaining vernal pools containing populations of this plant (CNPS 1990b). Drainage attempts at one of the sites resulted in severe erosion and a reduction of habitat and plant numbers (CNPS 1990b). Widening of Highway 29 by California Department of Transportation also threatens to impact this population (CNPS 1990b). Discing has occurred at the third population site (CNDDDB 1993). All population localities occur on privately owned, flat land next to major roads. This makes them vulnerable to urban development and agricultural land conversion (CDFG 1989a, CNPS 1990b). Off-highway vehicle use has occurred at two of the three *P. leiocarpum* population sites (CNDDDB 1993, CNPS 1990b).

Population sites for each of the four species are impacted by trampling from grazing cattle and by feral pigs. Trampling by livestock threatens all populations of *Parvisedum leiocarpum* (CDFG 1989a).

#### B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Due to the localized and limited distribution of *Lasthenia conjugens*, *Navarretia leucocephala* ssp. *pauciflora*, *Navarretia leucocephala* ssp. *plieantha*, and *Parvisedum leiocarpum*, indiscriminate collecting of plants could seriously affect these species. Overutilization is not known to occur at this time.

#### C. Disease or Predation

Not known to be applicable.

#### D. The Inadequacy of Existing Regulatory Mechanisms

The State of California Fish and Game Commission has listed *Parvisedum leiocarpum* and *Navarretia plieantha* (now known as *Navarretia leucocephala* ssp. *plieantha*) as endangered species under the California Endangered Species Act (Chapter 1.5 Section 2050 et seq. of the California Fish and Game Code and Title 14 California Code of Regulations 670.2). The California Fish and Game Commission also has listed *Navarretia pauciflora* (now known as *Navarretia leucocephala* ssp.

*pauciflora*) as threatened. Listing by the State of California requires individuals to obtain a memorandum of understanding with the CDFG to possess or "take" a listed species. Although the "take" of State-listed plants is prohibited (California Native Plant Protection Act, Chapter 10 Section 1908 and California Endangered Species Act, Chapter 1.5 Section 2080), State law exempts the taking of such plants via habitat modification or land use changes by the owner. After CDFG notifies a landowner that a State-listed plant grows on his or her property, State law requires that the land owner notify the agency "at least 10 days in advance of changing the land use to allow salvage of such a plant" (Native Plant Protection Act, Chapter 10 Section 1913).

The California Environmental Quality Act ((CEQA) Public Resources Code Sections 21000-21177) requires a full disclosure of the potential environmental impacts of proposed projects. The public agency with primary authority or jurisdiction over the project is designated as the lead agency, and is responsible for conducting a review of the project and consulting with the other agencies concerned with the resources affected by the project. Section 15065 of the CEQA Guidelines, as amended, requires a finding of significance if a project has the potential to "reduce the number or restrict the range of a rare or endangered plant or animal." Species that are eligible for listing as rare, threatened, or endangered, but are not so listed, are given the same protection as those species that are officially listed with the State or Federal governments. Once significant effects are identified, the lead agency has the option to require mitigation for effects through changes in the project or to decide that overriding considerations make mitigation infeasible (CEQA Section 21002). In the latter case, projects may be approved that cause significant environmental damage, such as destruction of endangered species. Protection of listed species through CEQA is, therefore, dependant upon the discretion of the agency involved.

Because vernal pools are generally small and scattered, they are treated as isolated wetlands or waters of the United States for regulatory purposes by the U. S. Army Corps of Engineers under section 404 of the Clean Water Act. The Clean Water Act regulates discharge of fill material into wetlands but does not itself protect the plants. Nationwide Permit No. 26 (33 CFR part 330.5 (a)(26)) was established by the Corps to facilitate issuance of permits for discharge of fill into wetlands up to

4 ha (10 ac). For project proposals falling under Nationwide Permit No. 26 the Corps has been reluctant to withhold authorization unless a federally listed threatened or endangered species is known to be present, regardless of the significance of other wetland resources. The section 404 regulations require an applicant to obtain an individual permit to fill isolated wetlands or waters greater than 4 ha (10 ac). A project proponent affecting wetland fill of less than one acre is only required to notify the Corps of their intent to fill wetlands. Compensatory mitigation generally is not required for projects affecting less than one acre. In either case, candidate species receive no special consideration. Additionally and equally important upland watersheds are not provided any protection. Disturbance to or loss of pool hydrological conditions has damaged populations and habitat as discussed previously in Factor A. Reductions in water volume and inundation adversely affect all four plants. Thus, as a consequence of the small scale of vernal pools and lack of protection of associated uplands, these vernal pools receive insufficient protection.

#### E. Other Natural or Manmade Factors Affecting Their Continued Existence

These four plant species are restricted in range and population numbers. *Lasthenia conjugens* is currently known from five population sites, *Navarretia leucocephala* ssp. *pauciflora* from three sites, *Navarretia leucocephala* ssp. *plieantha* from four sites, and *Parvisedum leiocarpum* from three sites. All four species occupy highly restricted and vulnerable habitats. The combination of low populations, narrow range, and restriction and vulnerability of habitat make these plants susceptible to destruction of all or a significant part of any population from random natural events such as flood, drought, disease or other natural occurrences. Low population numbers also make the populations vulnerable to genetic variations. Changes in gene frequency, inbreeding, and genetic drift can result from populations becoming genetically depauperate.

The Service has carefully assessed the best scientific and commercial information available regarding the past present, and future threats faced by these species in determining to propose this rule. Based on this evaluation the preferred action is to list *Lasthenia conjugens*, *Navarretia leucocephala* ssp. *pauciflora*, *Navarretia leucocephala* ssp. *plieantha*, and *Parvisedum leiocarpum* as endangered. Endangered status is

appropriate for these four species due to the vulnerability of their restrictive habitats, threats posed to those habitats by urbanization, agricultural land conversion, drainage, road widening, off-highway vehicle use, stochastic events, and inadequate regulatory mechanisms. Critical habitat is not proposed for these species for reasons discussed below.

#### Critical Habitat

Section 4(a)(3) of the Act requires that, to the maximum extent prudent and determinable, the Secretary designate critical habitat concurrently with determining a species to be endangered or threatened. The Service finds that the designation of critical habitat is not prudent for these species at this time. Because the four species face numerous anthropogenic threats (see Factors A, B, and E in the "Summary of Factors Affecting the Species") and occur predominantly on private land, Federal actions affecting these species are limited. Designating critical habitat would not provide any additional protection to the species. The publication of precise maps and descriptions of critical habitat in the **Federal Register** may make the plants even more vulnerable to incidents of vandalism and, therefore, could contribute to the decline of the four plant species. Thus, designation of critical habitat would not be beneficial and is accordingly, not prudent. Responsible agencies will be notified of the importance of protecting the habitat of the species. Protection of the species' habitat will be addressed through the recovery process and, under limited circumstances, through the section 7 consultation process.

#### Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain activities. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Act provides for possible land acquisition and cooperation with the State and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or

threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(4) of the Act requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification of proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Federal involvement may include Federal mortgage programs, including the Veterans Administration and the U.S. Department of Housing and Urban Development (Federal Home Administration loans), the Federal Highway Administration in the case of impacts from federally funded bridge and road construction, the Army Corps of Engineers through jurisdiction of section 404 of the Clean Water Act, the Environmental Protection Agency through the Clean Water Act's provisions for pesticide registration and waste management actions, and proposed activities on Travis Air Force Base.

Listing *Lasthenia conjugens*, *Navarretia leucocephala* ssp. *pauciflora*, *Navarretia leucocephala* ssp. *plieantha*, and *Parvisedum leiocarpum* as endangered would provide for development of a recovery plan (or plans) for them. Such plan(s) would bring together both State and Federal efforts for conservation of the plants. The recovery plan(s) would establish a framework for agencies to coordinate activities and cooperate with each other in conservation efforts. The plan(s) would set recovery priorities and estimate costs of various tasks necessary to accomplish them. It also would describe site-specific management actions necessary to achieve conservation and survival of these four plants. Additionally, pursuant to section 6 of the Act, the Service would be more likely to grant funds to affected states for management actions promoting the protection and recovery of these species.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 for endangered plant species set forth a series of general prohibitions and exceptions that apply

to all endangered plants. With respect to the four plants from the four counties in northern California, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export; deliver, receive, carry, transport, or ship in interstate or foreign commerce in the course of a commercial activity; sell or offer for sale in interstate or foreign commerce; or remove and reduce to possession federally listed plant species from areas under Federal jurisdiction; maliciously damage or destroy any such plant species on any area under Federal jurisdiction; or remove, cut, dig up, damage, or destroy any such plant species on any other area in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law. Seeds from cultivated specimens of threatened plant taxa are exempt from these prohibitions provided that a statement "of cultivated origin" appears on the shipping containers. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered or threatened plant species under certain circumstances. The Service anticipates few trade permits would ever be sought or issued for the four species because the plants are not common in cultivation or in the wild. Requests for copies of the regulations on listed plants and inquiries regarding them may be addressed to the U.S. Fish and Wildlife Service, Ecological Services, Endangered Species Permits, 911 N.E. 11th Avenue, Portland, Oregon 97232-4181 (503/231-6241, FAX 503/231-6243).

#### Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Lasthenia conjugens*, *Navarretia leucocephala* ssp. *pauciflora*, *Navarretia leucocephala* ssp. *plieantha*, and *Parvisedum leiocarpum*;
- (2) The location of any additional populations of these species and the

reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(3) Additional information concerning the range, distribution, and population size of these species; and

(4) Current or planned activities in the subject area and their possible impacts on these species.

Any final decision on this proposal will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Act provides for a public hearing on this proposal, if requested. Requests must be received within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to the Field Supervisor of the Sacramento Field Office (see ADDRESSES section).

**National Environmental Policy Act**

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Act. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

**References Cited**

A complete list of all references cited herein is available upon request from the Field Supervisor, Sacramento Field Office (see ADDRESSES section).

**Author**

The primary author of this proposed rule is Kenneth W. Fuller, U.S. Fish and Wildlife Service, Sacramento Field Office (see ADDRESSES section).

**List of Subjects in 50 CFR Part 17**

Endangered and threatened species, Exports, Imports, Reporting and

recordkeeping requirements, and Transportation.

**Proposed Regulation Promulgation**

Accordingly, the Service hereby proposes to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

**PART 17—[AMENDED]**

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500, unless otherwise noted

2. Section 17.12(h) is amended by adding the following, in alphabetical order, under the plant families indicated, to the List of Endangered and Threatened Plants:

**§ 17.12 Endangered and threatened plants.**

\* \* \* \* \*  
(h) \* \* \*

Species		Historical range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Asteraceae—aster family:						
<i>Lasthenia conjugens</i>	Contra Costa goldfields	U.S.A. (CA)	E		NA	NA
Crassulaceae—stonecrop family:						
<i>Parvisedum leiocarpum</i>	Lake County stonecrop	U.S.A. (CA)	E		NA	NA
Polemoniaceae—phlox family:						
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> (- <i>Navarretia pauciflora</i> ).	Few-flowered navarretia	U.S.A. (CA)	E		NA	NA
<i>Navarretia leucocephala</i> ssp. <i>plieantha</i> (- <i>Navarretia plieantha</i> ).	Many-flowered navarretia	U.S.A (CA)	E		NA	NA

Dated: November 9, 1994.  
**Mollie H. Beattie,**  
 Director, U.S. Fish and Wildlife Service.  
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