
DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****Endangered and Threatened Wildlife and Plants; Proposed Rule To Determine *Ranunculus acriformis* var. *aestivalis* (Autumn Buttercup) To Be an Endangered Species****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

SUMMARY: The Service proposes to determine a plant, *Ranunculus acriformis* var. *aestivalis* (autumn buttercup) to be an endangered species under the authority of the Endangered Species Act (Act) of 1973, as amended. The autumn buttercup is endemic to the upper Sevier River Valley in western Garfield County, Utah. This taxon was thought to be extinct until it was rediscovered in 1982. The plant is known only to occur on less than 0.01 acre of peaty hummocks within a fresh water marsh fed by a perennial spring above the bottom lands of the Sevier River. The single known population has experienced a population decline of over 90 percent in the past 5 years and now numbers only about 20 individuals. Continued livestock grazing and

trampling of the autumn buttercup and its occupied habitat is likely to cause the extinction of this taxon in the foreseeable future. This proposal, if made final, would implement protection provided by the Act and make available conservation measures implemented by the Act and identify the taxon as one in need of conservation to groups in and outside of the Federal government. The Service is requesting data and comments from interested parties on this proposal.

DATES: Comments from all interested parties must be received by September 20, 1988. Public hearing requests must be received by September 6, 1988.

ADDRESSES: Comments and materials concerning this proposal should be sent to the State Supervisor, Fish and Wildlife Enhancement, U.S. Fish and Wildlife Service, Room 2078, Administration Building, 1745 West 1700 South, Salt Lake City, Utah 84104. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: John L. England, Botanist, at the above address (801/524-4430 or FTS 588-4430).

SUPPLEMENTARY INFORMATION:

Background

Marcus E. Jones first collected the autumn buttercup in early September 1894. Jones' diary for the period indicates "Orton's Ranch" as the collection location (Benson 1948). Jones apparently did not describe the taxon (Jones 1895). In autumn 1948, Lyman Benson located a grandson of Orton who led him to a swampy area along the Sevier River. Benson located a population and collected specimens from a group of "15 or 20 small clumps" in the vicinity of the Jones collection of a half century earlier; from this collection Benson described *R. acriformis* var. *aestivalis* (Benson 1948). Despite Benson's very complete description of the population's location, the taxon was essentially lost for more than 30 years (Mutz 1984). The habitat was reported over-grazed in 1960 (Mutz 1984), and Ripley (1975) indicated that the taxon was probably extinct before 1975. During field work in connection with a review of the genus *Ranunculus* for Utah, Margaret Palmieri was unable to relocate the autumn buttercup in August of 1974 (Palmieri 1976).

On August 23, 1982, Kathryn Mutz located the autumn buttercup in a wetland above the Sevier River about 1 mile north of the type location. This newly discovered site was revisited by Mutz in 1983 in conjunction with the

preparation of a status report for the Service, and 407 adults and 64 seedlings were counted.

The species' habitat is a series of small peaty hummocks on a low knoll less than 0.01 acre in size surrounded by a marsh. The knoll may be the result of a raised peat bog uplifted by the upwelling waters of a spring which surrounds it. The overflow channel of a nearby spring-fed stock water pond also runs past the knoll. In 1984, the autumn buttercup was again observed but had been heavily grazed. In 1985, the habitat was heavily grazed and trampled; and only eight individuals were counted (Service 1985). In 1986, 14 plants were counted and there had been only moderate grazing in the immediate vicinity of the buttercups (Service 1986). In 1987, 12 plants were counted in early August. Three weeks later, the site had been moderately grazed, and all the flowering systems had been cropped before seed had set (Service 1987).

The autumn buttercup apparently has been extirpated from its type locality. Searches by Mutz in 1982 and 1983 (Mutz 1984) and by the Service in 1985, 1986, and 1987 have not located any other populations of *R. acriformis* var. *aestivalis*. The entire population of the taxon is on lands in private ownership.

The autumn buttercup is a herbaceous perennial plant normally growing between 1 and 2 feet tall. Most of the simple but deeply palmately divided leaves are clustered at the base. Leaves and stems are covered with fine hairs. Leaves with three linear divisions are found high on the flowering stems. Flowers, usually 6 to 10 per plant, are about ½ inch in diameter with five yellow petals and five reflexed yellow green sepals which fall off soon after the flower opens. Fruits of the buttercup are achenes. Twenty to forty of these small, dry, one-seeded fruits are clustered on the surface of the receptacle of the past flower in the shape of a cylinder or inverted cone from 0.25 to 0.33 inch high. Height of the buttercups at flowering may apparently be altered by the intensity of grazing; the few plants observed flowering in 1983 were less than 3 inches tall. Seedlings of the autumn buttercup have small (less than 0.5 inch wide) leaves with three broad, rounded lobes (Mutz 1984).

Benson (1948) followed a conservative taxonomic approach in his nomenclatural designations. His publication contained the scientific description and the naming of the autumn buttercup from the Sevier River Valley of central Utah as *R. acriformis* var. *aestivalis*. In the same publication, Benson indicated that by following a moderate policy in taxonomic

determination, it would have been appropriate to designate the autumn buttercup as a species in its own right rather than a variety of *R. acriformis* (i.e., *R. aestivalis*). *R. acriformis* var. *aestivalis* has floral characteristics very similar to typical *R. acriformis* (i.e., petal size and shape), although tending to be somewhat smaller. Seed characteristics, however, are markedly different, and leaf shape is different, with the lobes of *R. acriformis* var. *aestivalis* being much narrower than the other varieties.

Welsh (1986) and Welsh *et al.* (1987) assigned the taxon to *R. acris* as *R. acris* var. *aestivalis* based on the more angular lobes of the basal leaves and the short beak of the achene which are typical of *R. acris*. *R. acris* is native to Europe and Asia with one variety, *R. acris* var. *figidus*, occurring in the Aleutian Islands. Thus, *R. acris* var. *aestivalis* would represent a Pleistocene relict population extremely isolated geographically from the main body of that species' population. Benson (1948) argues that *R. turneri* of the Western American arctic may be a phylogenetic link between *R. acris* of the old world and the *R. occidentalis* group (including *R. acriformis*) of the new world, with its closest relationship being with *R. acriformis* var. *montanensis*. Thomas Duncan (personal communication 1987) stated that his preliminary taxonomic evaluation of *R. acriformis* var. *aestivalis* would align that entity with *R. occidentalis* of the Pacific Northwest and that it appears to be a species in its own right. *R. acriformis* var. *aestivalis* represents an important part of scientific understanding of the development of the buttercup genus and its relationships in western North America and eastern Asia.

With the apparent extinction of all but one of its populations, an occupied habitat of less than 0.01 acre, a total population of about 20 individuals, and a documented population decline of more than 90 percent in its remaining occupied habitat within the past 5 years, the autumn buttercup is in imminent danger of extinction.

Section 12 of the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*) directed the Secretary of the Smithsonian Institution to prepare a report of those plants considered to be endangered, threatened or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the *Federal Register* (40 FR 27823) of its acceptance of the report of the Smithsonian Institution as a petition within the

Context of Section 4 of the Act and of its intention to review the status of plant taxa named within. *R. acriformis* var. *aestivalis* was included on list "C" as probably extinct.

On June 16, 1976, the Service published a proposed rule in the Federal Register (41 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. *R. acriformis* var. *aestivalis* was included in that proposed rule and was marked with an asterisk to denote it as a species for which the Service especially desired information on living specimens and extant populations. Comments received in response to the 1976 proposal were summarized in the Federal Register on April 26, 1978 (43 FR 17909). The Endangered Species Act Amendments of 1978 required that all proposals over 2 years old be withdrawn. Therefore, on December 10, 1979, the Service published a notice (44 FR 70796) withdrawing the June 16, 1976, proposal.

On December 15, 1980, the Service published a revised notice of review for native plants in the Federal Register (45 FR 82480); *R. acriformis* var. *aestivalis* was included in that notice as a category 1 species. Category 1 is comprised of taxa for which the Service has sufficient biological data to support proposing them as endangered or threatened. In addition, *R. acriformis* var. *aestivalis* was designated with an asterisk to identify that species as one that may recently have become extinct. In 1982, a *R. acriformis* var. *aestivalis* population was discovered (Mutz 1984). On November 28, 1983, the Service published a supplement to its December 15, 1980, notice of review in the Federal Register (48 FR 53640); *R. acriformis* var. *aestivalis* was included in that notice as a category 2 species. Category 2 is composed of taxa for which the Service has information which indicates that proposing to list those taxa as endangered or threatened species is possibly appropriate, but for which substantial data on biological vulnerability and threat are not currently known or on file to support proposed rules.

In 1983, another population of *R. acriformis* was discovered on the Wasatch Plateau of central Utah, and in 1984 still another population was found in the Wasatch Mountains of Utah. Before 1983, the only known occurrence

of *R. acriformis* in Utah was of the variety *aestivalis*. The *R. acriformis* populations of the Wasatch Mountains and Wasatch Plateau have now been determined to be the variety *montanensis*, which previously had a known distribution in the northern Rocky Mountains of Idaho, Wyoming, and Montana. *R. acriformis* var. *aestivalis* is morphologically, phenologically, and distributionally distinct from *R. acriformis* var. *montanensis*, which is located in Utah far to the north at a much greater elevation and flowers earlier than *R. acriformis* var. *aestivalis* (Welsh and Chatterley 1985, Welsh et al. 1987). As a consequence of a Service sponsored status survey (Mutz 1984) and taxonomic evaluation of the *R. acriformis* var. *aestivalis* and *R. acriformis* var. *montanensis* population in Utah (Welsh and Chatterley 1985), the Service changed the status of *R. acriformis* var. *aestivalis* back to category 1 in the updated plant notice of review published in the Federal Register on September 27, 1985.

Section 4(b)(3)(B) of the Endangered Species Act, as amended in 1982, requires the Secretary of the Interior to make findings on certain petitions within 12 months of their receipt. Section 2(b)(1) of the Act's Amendments of 1982 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 *R. acriformis* var. *aestivalis* because of the Service's acceptance of the 1975 Smithsonian report as a petition. On October 13, 1983; October 12, 1984; October 11, 1985; October 10, 1986, and October 9, 1987, the Service made successive 1-year findings that the petition to list of *R. acriformis* var. *aestivalis* was warranted, but precluded by other listing actions of higher priority. The present proposal constitutes the next 1 year petition finding for this taxon.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 et seq.) 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. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Ranunculus acriformis* var. *aestivalis* L. Benson (autumn buttercup) are as follows:

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

The private landowner of the autumn buttercup's only known population has tentative plans to increase the size of the spring-fed manmade pond immediately to the north of the plants occupied habitat (Service 1988). That action has the potential to cause the extinction of the autumn buttercup through direct habitat destruction or modification.

B. Overutilization For Commercial, Recreational, Scientific, or Educational Purposes

With the very small existing population, any use of the autumn buttercup may seriously reduce the prospect of the species' survival. Benson (1948) recognized this threat. There is no known utilization of the autumn buttercup for commercial, recreational, scientific, or educational purposes. However, any collecting or vandalism could cause the extinction of the autumn buttercup.

C. Disease or Predation

The autumn buttercup apparently has been extirpated from its type locality about 1 mile south of its currently known location (Benson 1948, Palmieri 1976, Mutz 1984). The total known population of the autumn buttercup has been reduced to one hummocky knoll of less than 0.01 acre and about 20 individuals as of August 1987. In 1983, when the species was first censused, 407 adult plants and 64 seedling were counted (Mutz 1984). In 1984, the species was observed in its extant population and was heavily grazed. In 1985, the Service censused the population; eight individuals were found, none of which had flowered that year, and the habitat had been heavily grazed. Only one mature leaf on one of the eight plants had not been grazed (Service 1985). In 1986, the population numbered 14 individuals, of which 4 flowered. There had been moderate grazing in the immediate vicinity of the buttercups (Service 1986). In 1987, the population numbered 12 adult plants and 6 seedlings. The flowering parts were all grazed before any seed was set (Service 1987). This taxon is endemic to spring-fed peaty marshes within wet meadows along the upper Sevier River in Garfield County, Utah. Most of the potential habitat has been and continues to be used for livestock pasture and other agricultural uses. Continued intense grazing of the autumn buttercup's occupied habitat is likely to cause its extinction in the foreseeable future.

There are no known insect parasites or disease organisms which significantly affect this species.

D. The Inadequacy of Existing Regulatory Mechanisms

The autumn buttercup receives no protection or consideration under any Federal or State law or regulation.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

The low numbers and limited distribution of the autumn buttercup contribute to the buttercup's vulnerability to natural or man-caused stresses. Further reduction in the number of plants would reduce the reproductive capability and genetic diversity of the species.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Ranunculus acriformis* var. *aestivalis* as endangered. Threatened status is not appropriate because *Ranunculus acriformis* var. *aestivalis* is in danger of extinction throughout its range due to the degradation of its habitat and apparently to direct livestock grazing pressure. For reasons given below, it is not considered prudent to propose designation of critical habitat.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time. The limited distribution and accessibility of the autumn buttercup make it vulnerable to vandalism and collecting. These potential threats are of particular significance since the known population site is easily accessible and increased public access would be difficult to control under existing authorities. The one remaining site contains a very small population, and any loss could be extremely detrimental.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition

through listing encourages and results in conservation action by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the State and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking are discussed, in part, below.

Section 7(a) of the Act, as amended, 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) 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 ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. However, *R. acriformis* var. *aestivalis* is not known to occur on lands under Federal jurisdiction, and no Federal involvement with this species is currently known.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession this species from areas under Federal jurisdiction. Certain exceptions can 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 species under certain circumstances. With respect to *Ranunculus acriformis* var. *aestivalis*, it

is anticipated that few if any, trade permits would ever be sought or issued since the species is not common in the wild and is unknown in cultivation. Requests for copies of the regulations on plants and inquires regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 27329, Washington, DC 20038-7329 (202/343-4955).

Public Comments Solicited

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

- (1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Ranunculus acriformis* var. *aestivalis*;
- (2) The location of any additional population of this species and the reason 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 and distribution of this species; and
- (4) Current or planned activities in the subject area and their possible impacts on this species.

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

The Endangered Species Act provides for a public hearing on this proposal, if required. Request must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the State Supervisor, Fish and Wildlife Enhancement, Salt Lake City, Utah (see **ADDRESSES** above).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined in the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. 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

Benson, L. 1948. A treatise on the North American *Ranunculi*. *American Midland Naturalist* 40:1-281.

Jones, M.E. 1895. Contributions to western botany VII. Proceedings of California Academic Science Series 2:5:612-733.

Mutz, K.M. 1984. Status report on *Ranunculus acriformis* A. Gray var. *aestivalis* L. Benson. Unpublished report prepared under contract with U.S. Fish and Wildlife Service, Denver, Colorado. 36 pp.

Palmieri, M.D. 1976. A revision of the genus *Ranunculus* for the State of Utah. Unpublished Master's Thesis. Brigham Young University, Provo, Utah. 141 pp.

Ripley, S.D. 1975. Report on endangered and threatened species of the United States. House Document 94-51:200 pp.

U.S. Fish and Wildlife Service. 1985. Status of *Ranunculus acriformis aestivalis*. Typed report. Salt Lake City, Utah. 1 p.

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Welsh, S.L. 1986. New taxa and combinations in the Utah flora. *Great Basin Naturalist* 46:254-280.

Welsh, S.L., N.D. Atwood, L.C. Higgins, and S. Goodrich. 1987. A Utah flora. *Great Basin Naturalist Memoirs Number 9*. 897 pp.

Welsh, S.L. and L.M. Chatterley. 1985. Utah's rare plants revisited. *Great Basin Naturalist* 45:173-236.

Author

The primary author of this proposed rule is John L. England, U.S. Fish and Wildlife Service, Fish and Wildlife Enhancement, Salt Lake City, Utah (801/524-524-4430; FTS 588-4430, see ADDRESSES above).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Proposed Regulation Promulgation

Accordingly, it is hereby proposed 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: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*); Pub. L. 99-625, 100 Stat. 3500 (1986), unless otherwise noted.

2. It is proposed to amend § 17.12(h) by adding the following, in alphabetical order under Ranunculaceae to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Ranunculaceae—Buttercup family:						
<i>Ranunculus acriformis</i> var. <i>aestivalis</i>	Autumn buttercup	U.S.A. (UT)	E		NA	NA
(= <i>Ranunculus acris</i> var. <i>aestivalis</i>).						

Dated: June 27, 1988.

Susan Recce,
Acting Assistant Secretary for Fish and Wildlife and Parks.

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