DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB52

Endangered and Threatened Wildlife and Plants; Final Rule To List the Plant Spiranthes Diluvialis (Ute Ladies'-Tresses) as a Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) determines the plant *Spiranthes diluvialis* (Ute ladies'-tresses) to be a threatened Species under the authority of the Endangered Species Act of 1973 (Act), as amended. *S. diluvialis* was historically found in riparian areas in Colorado, Utah, and Nevada. It is presently found in relatively undisturbed riparian areas in the greater Denver metropolitan area, Colorado (two populations); in wetlands near Utah Lake in northern Utah (two populations); and in low elevation riparian areas in the Colorado River drainage in eastern Utah (six populations). This species is threatened primarily by habitat loss and modification, though its small populations and low reproductive rate make it vulnerable to other threats also. This determination that *S. diluvialis* is a threatened species protects it under the authority of the Act.

EFFECTIVE DATE: February 18, 1992.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Fish and Wildlife Enhancement Field Office, U.S. Fish and Wildlife Service, 2078 Administration Building, 1745 West 1700 South, Salt Lake City, Utah 84104.

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

SUPPLEMENTARY INFORMATION:

Background

In 1981, live plants belonging to the genus *Spiranthes* were collected in Colorado by W.G. Gambill and W.F. Jennings and sent to C.J. Sheviak for examination. The following year, additional specimens were collected in meadows along Clear Creek in Colorado, and from similar habitat in Utah. After examining these and other specimens from Colorado, Utah, and Nevada (some of which were assigned in the past to other *Spiranthes* species), Sheviak described a new species, *Spiranthes diluvialis* (Sheviak 1984). The type locality is along Clear Creek in Golden, Colorado.

Current and historic populations of *S. diluvialis* in Colorado and Utah were confused with other species of *Spiranthes* with distributions far removed from this region including: *S. cernua* (Arnow et al. 1980, Correll 1950, Holmgren in Cronquist et al. 1977, and Higgins in Welsh et al. 1987), *S. porrifolia* or *S. romanzoffiana* var. *porrifolia* (Rydberg 1906, Correll 1950, Holmgren in Cronquist et al. 1977, Luer 1975, Goodrich and Neese 1986, and Higgins in Welsh et al. 1987), and *S. magnicamporum* (Luer 1975). These species differ significantly, morphologically, and cytologically, from *S. diluvialis*. The confusion of *S. cernua*, *S. magnicamporum*, and *S. porrifolia* with *S. diluvialis* stems from these species differing from the widespread *S. romanzoffiana* (which occurs in Colorado and Utah at high elevations) in their suppression of the pandurate (violin shaped) form of the lip, which is the distinctive feature of *S. romanzoffiana*.

Spiranthes diluvialis is a perennial, terrestrial orchid with stems 20 to 50 centimeters (cm) (8 to 20 in.) tall arising from tuberously thickened roots. Its narrow leaves are about 28 cm (11 in.) long at the base of the stem and become reduced in size going up the stem. The flowers consist of 3 to 15 small white or ivory colored flowers clustered into a spike arrangement at the top of the stem. The species is characterized by whitish, stout, ringent (gaping at the mouth) flowers. The sepals and petals, except for the lip, are rather straight, although the lateral sepals are variably oriented, with these often spreading abruptly from the base of the flower. Sepals are sometimes free to the base. The lip lacks a dense cushion of trichomes on the upper surface near the apex. The rachis is sparsely to densely pubescent with the longest trichomes 0.2 mm (0.008 in.) long or longer, usually much longer. The chromosome number is $2n=74$. It typically blooms from late July through August, in some cases through September. Blooms were recorded as early as early July and as late as early October (Sheviak 1984, Coyner 1990, Jennings 1989).

Spiranthes diluvialis is endemic to moist soils in mesic or wet meadows near springs, lakes, or perennial streams. The species occurs primarily in areas where the vegetation is relatively open and not overly dense, overgrown, or overgrazed (Coyner 1989, 1990; Jennings 1989, 1990). Populations of *S. diluvialis* occur in relatively low elevation riparian meadows in three general areas of the interior Western United States.

The two eastern populations are located in mesic riparian meadows in relict tall grass prairie areas near Boulder Creek in the City of Boulder, Boulder County, Colorado, and in mesic meadows in the riparian woodland understory along Clear Creek in adjacent Jefferson County, Colorado. The Boulder population is one of the largest known populations. The Clear Creek population has one site in the City of Golden and a second in the City of Wheat Ridge (Jennings 1989). No other populations of the species are currently known from Colorado, though historic collections were made from either Weld or Morgan County in the Platte River valley in 1856, and at Camp Harding in El Paso County in 1896 (Jennings 1989, 1990).

The central populations of *S. diluvialis* are in wet or mesic riparian

meadows or in understory meadows of riparian woodlands in the Colorado River drainage of eastern Utah. Six separate populations are known: (1) Along the Green River in Browns Park in Daggett County; (2) in the Cub Creek drainage in Dinosaur National Monument in Uintah County; (3) along the Uinta and Whiterocks Rivers near Whiterocks in Duchesne and Uintah Counties (one of the largest populations); (4) along the Duchesne River near Duchesne in Duchesne County; (5) along the Fremont River in Capitol Reef National Park in Wayne County; and (6) along Deer Creek in Garfield County. All these populations were discovered since 1977 (Coyner 1989, 1990; Heil 1988; Jennings 1989; U.S. Fish and Wildlife Service 1991).

The western populations of *S. diluvialis* occur in riparian, lake, and spring-side wet or mesic meadows in the eastern Great Basin of western Utah and adjacent Nevada. Two existing populations are known, both in wetlands adjacent to Utah Lake in Utah County, Utah. Five additional populations were known:

(1) "Ogden" in Weber County, Utah—specimens from this population were collected in 1887 but no plants have been observed since then; (2) wetlands in the Jordan River drainage in Salt Lake County, Utah—specimens from this population were last collected in 1953; (3) Red Butte Canyon near Salt Lake City—plants in this population were last observed in 1966; (4) Willow Springs near the town of Callao in Tooele County, Utah—specimens from this population were last collected in 1956; and (5) wet meadow in the drainage of Meadow Valley Wash near the town of Panaca in Lincoln County, Nevada—specimens from this population were last collected in 1936. Recent searches for *S. diluvialis* in the Great Basin failed to rediscover any of the species' historic populations, except for those near Utah Lake, and recent rare plant inventories have not discovered any new Great Basin populations (Coyner 1989, 1990; Jennings 1989; U.S. Fish and Wildlife Service 1991).

Most of the populations in Colorado occur on city park and greenbelt areas owned by the Cities of Boulder and Wheat Ridge. Existing populations in Utah primarily occur on lands managed by the Bureau of Land Management, the National Park Service, and the Forest Service. One Utah population occurs on Ute Indian Tribal land within the boundary of the Uintah and Ouray Reservation. Two Utah populations occur on private land. Though all populations are relict in nature, the largest populations occur in Boulder County, Colorado, and along the Uinta River in Utah.

Federal action on this species began on September 27, 1985, when the Service published a notice of review of candidate plants for listing as endangered or threatened species, which included *S. diluvialis* as a category 2 species (50 FR 39526). Category 2 comprises taxa for which the Service has information indicating the appropriateness of a proposal to list the taxa as endangered or threatened but for which more substantial data are needed on biological vulnerability and threats.

After a review of status information acquired since 1985 (Coyner 1989, Heil 1988, Jennings 1989), the Service upgraded *S. diluvialis* to category 1 in the plant notice of review published in the **Federal Register** on February 21, 1990 (55 FR 6184). Category 1 comprises those taxa for which the Service has on file substantial information on the biological vulnerability and threats to support the appropriateness of proposing to list them as endangered or threatened species.

In the 1990 notice, *S. diluvialis* was given the common name "plateau lady's tresses" to provide the public a convenient reference. However, the Service will henceforth use "Ute ladies'-tresses" as the species' common name in recognition of the fact that the species' historic range coincides with the ancestral home of the Ute Indian Tribe.

On November 13, 1990, the Service published in the **Federal Register** (55 FR 47347) a proposed rule to list *S. diluvialis* as a threatened species. That proposal constituted the final finding for this species.

Summary of Comments and Recommendations

In the November 13, 1990, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. A newspaper notice concerning this proposed action was published in the following papers during the period December 1, 1990, to December 6, 1990: The Salt Lake Tribune, the Desert News, the Tooele Transcript-Bulletin, the Uintah Basin Standard, The Daily Herald, The Standard-Examiner, The Vernal Express, The Denver Post, the Las Vegas Review-Journal, The Boulder Daily Camera, the Garfield County News, the Lincoln County Record, and the Richfield Reaper. The original comment period extended from November 13, 1990, to January 14, 1991. A notice published in the **Federal Register** (56 FR 4028) on February 1, 1991, extended the comment period from February 1, 1991, until March 15, 1991. Appropriate State agencies, county governments, Federal Agencies, scientific organizations, and other interested parties were contacted and requested to comment.

During the comment period (between November 13, 1990, and March 15, 1991), a total of 44 comments were received, including 8 responses from 6 Federal Agencies (includes 2 offices each from 2 Federal Agencies); 1 congressman; 3 States; 8 local governments; and 24 private organizations, companies, and individuals. Of those comments, 25 supported the listing, 6 opposed the listing, and 13 were neutral or took no position concerning the proposal.

Written comments received during the extended comment period are covered in the following summary. Comments of a similar nature or point are grouped into a number of general issues. These issues, and the Service's response to each, are discussed below:

Issue 1—Whether the species should be listed as endangered or threatened. Twelve commenters (eleven from Colorado), believed that the species should be listed as endangered. One commenter opposed listing as endangered. Seven commenters supported listing the species as threatened.

Response—Based on the best available information, including information obtained during the public comment period and from searches conducted in 1991, the Service believes that threatened is the most appropriate status. The basis for this determination is discussed under "Summary of Factors Affecting the Species."

Issue 2—Whether there are sufficient data and evidence to support listing. Two commenters challenged the adequacy of available data. One commenter indicated that there is no record of population decline in known populations. Four commenters recommended delaying listing until further survey and studies are completed.

Response—The Service is listing this species based on the best scientific and commercial information available, which is the standard required under the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). General botanical inventories of riparian habitats during the past 150 years within the species' range discovered a limited number of historic populations, of which a large proportion have been extirpated, and two of the four Colorado populations appear to

Most of the species' historic western populations on the Wasatch Front and in the Great Basin are believed to have been extirpated, and two of the four Colorado populations appear to have extirpated. Most known populations contained less than 1,000 plants, when counted in 1990 or 1991. These smaller populations may not be demographically stable over the long term.

It is difficult to prove population declines when populations can fluctuate dramatically in size from year to year. For example, the primary site for the Boulder population contained 5,435 plants in 1986, 200 plants in 1987, 131 plants in 1988, 1,137 plants in 1989, 1,894 plants in 1990, and at least 80 plants in 1991 (James Crain, Director, Open Space, City of Boulder, in litt. 1991; W.F. Jennings, orchidologist, in litt. 1991; W.F. Jennings, pers. comm. 1991). Information such as this could be interpreted as indicating a downward population trend. However, the decline of the species is better evidenced by the fact that many of the historic populations (i.e., known prior to 1977) are now presumed extirpated.

As with any species that is listed or is being proposed for listing, there is always the possibility that there may be undiscovered populations. The Service welcomes any efforts by others to survey for additional populations. However, the best available information indicates that the species is rare and declining and that its habitat is threatened. Four commenters identified proposed actions in Colorado and Utah that might threaten *S. diluvialis*.

Issue 3—Four commenters expressed the opinion or noted that *S. diluvialis* was not a valid taxon, but is synonymous with *S. porrifolia* or with *S. romanzoffiana* var. *porrifolia*; thus, it is widespread and not deserving of listing. Four other commenters supported it was a valid taxon. One commenter noted that three specimens sent to the Orchid Identification Center were identified as *S. diluvialis*.

Response—The Service believes that there are sufficient morphological, life history, and cytological differences between *S. porrifolia* and *S. diluvialis* to support *S. diluvialis* as a separate species. The confusion of *S. porrifolia* with *S. diluvialis* in the Great Basin stems from both species' differing from the widespread *S. romanzoffiana* in their suppression of the pandurate form of the lip, which is the distinctive feature of *S. romanzoffiana*.

Spiranthes diluvialis is not known west of easternmost Nevada. It typically blooms from late July through August, and in some cases through September. It is characterized by whitish, stout, ringent (gaping at the mouth) flowers. The sepals and petals, except for the lip, are rather straight, although the lateral sepals are variably oriented, often spreading abruptly from the base of the flower. Sepals are sometimes free to the base. The lip lacks a dense cushion of trichomes on the upper surface near the apex. The rachis is sparsely to densely pubescent with the longest trichomes 0.2 mm (0.008 in.) long or longer, usually much longer. The chromosome number is $2n=74$ (Sheviak 1984, 1990).

In contrast, *S. porrifolia* is widespread in the Pacific Northwest and is not known east of the eastern base of the Sierra Nevadas. It blooms from May through early July, rarely into early August at high elevations. It bears yellowish, slender tubular, curved flowers open only at the apices and not ringent. The sepals are fused for some length and together with the petals are connivent (joined) for much of their lengths, the apices of all segments spreading, often widely. The lip bears a dense cushion of minute trichomes on the upper surface near the apex. The rachis is glabrous (without hairs) or rarely sparsely pubescent (with hairs), the longest trichomes less than 0.15 mm (0.006 in.), usually much shorter, the glands often sessile (attached directly by the base). The chromosome number is a multiple of 22, e.g., 44, 66, or 88 (Jennings 1990; Sheviak 1989, 1990).

Spiranthes romanzoffiana occurs throughout the range of *S. diluvialis*. As with *S. porrifolia*, *S. diluvialis* is quite distinct morphologically, cytologically, and ecologically from *S. romanzoffiana*. *S. romanzoffiana* bears white to cream, stout tubular, curved flowers with a well-developed hood open only at the apices and not ringent. The sepals are fused for some length and together with the petals are connivent for much of their lengths, forming a prominent hood, the lip is strongly pandurate. The rachis is glabrous or rarely sparsely pubescent, the longest trichomes less than 0.15 mm (0.006 in.), usually much shorter, the glands often sessile. The chromosome number is typically based on 22, e.g., 44 (Sheviak 1984). *S. romanzoffiana* is a high elevation wetland plant rarely occurring below 2,600 m (8,500 ft.) elevation in Utah and Colorado. *S. diluvialis* is a low elevation (relative to the region in which it is endemic) riparian and wet meadow plant rarely occurring above 1,980 m (6,500 ft.) elevation.

Current treatments of *S. diluvialis* may be found in Albee, Shultz, and Goodrich (1988), Weber (1990), and Sheviak (1990).

Issue 4—Two commenters noted that no large-scale habitat disturbance currently is taking place in the species' remaining habitat in Utah. Threats experienced by the species along the Wasatch Front are not likely to occur in eastern Utah.

Response—*Spiranthes diluvialis* populations in eastern Utah may not be subjected to habitat loss from urbanization as occurred to populations along the Wasatch Front. However, they may be vulnerable to changes in their riparian habitat as a result of stream channelization or impoundment projects. Existing and proposed water projects in Utah have the potential to adversely affect the riparian habitat in which *S. diluvialis* is found. The eastern Utah populations are typically small in size, and all are potentially vulnerable to any impact to their riparian ecosystems. The highly disjunct nature of the known populations in eastern Utah gives rise to questions of what is the factor causing this disjunction. It is possible that local extinctions have taken place in currently unoccupied potential habitat similar to extinctions which occurred along the Wasatch Front, the Great Basin, and certain historic populations in Colorado.

Issue 5—Three commenters questioned whether livestock grazing was a threat to the species.

Response—The Service agrees that the effects of grazing are largely not known with respect to this species. The largest populations of the species, along the Uinta River and Deer Creek in Utah and along the Boulder Creek in Colorado, are grazed during the winter, when *S. diluvialis* is dormant, with no noticeable effect on the species. It is plausible that moderate winter grazing may be beneficial to or have no impact on the species. Yet, the most striking feature of the Uinta River ecosystem, which contains one of the largest *S. diluvialis* populations, is the vigor of the riparian vegetative community and its lack of degradation from heavy summer grazing. For populations on National Park Service lands, *S. diluvialis* habitat was or is in the process of being withdrawn from active grazing allotments, at least temporarily (Richard Strait, Acting Regional Director, National Park Service, in litt. 1991). The impact of grazing on the species and its ecosystem will be investigated as part of the research and recovery effort for this species.

Issue 6—One commenter noted that there is no evidence of commercial exploitation.

Response—The species has not been documented to be commercially exploited in the past. Some plants, especially orchids and cacti, are potentially vulnerable to this threat.

Those working on this species' conservation have been approached by various individuals interested in discovering the location of this species so as to acquire plants for orchid specimen wildlife gardens.

Issue 7—One commenter pointed out that the Clean Water Act would protect the species' wetland habitat adequately.

Response—The Clean Water Act offers some, but not complete, protection to the habitat of *S. diluvialis*. For example, section 404 of the Clean Water Act only regulates placement of fill material in wetlands; there are other threats to the species' wetlands habitat. Moreover, even the protection provided to wetlands by section 404 has limitations. For example, in 1990, the Corps of Engineers voluntarily protected a small population of *S. diluvialis* and its habitat during consideration of a section 10/404 (nationwide permit no. 26) permit application under the Clean Water Act, but was not legally required to do so. Had the Corps of Engineers not been alerted to the presence of this rare plant (at that time, a candidate species about to be proposed for listing) on affected wetlands habitat, this small population would be lost.

Issue 8—Two commenters expressed concern that the listing of *S. diluvialis* may impact control of noxious weeds, manipulation of riparian vegetation, and stream rehabilitation efforts.

Response—Species listing will affect only those activities covered under the scope of the interagency consultation provisions of the Endangered Species Act. (See "Available Conservation Measures.")

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Spiranthes diluvialis* should be classified as a threatened species. Procedures found at section 4(a)(1) of the Endangered Species Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. 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 *Spiranthes diluvialis* Sheviak (Ute ladies'-tresses) are as follows:

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

Spiranthes diluvialis has been adversely affected by modification of its riparian habitat. Most of the species' riparian habitat along the Wasatch Front in Utah has been heavily modified by urbanization, stream channelization, and construction projects in and adjacent to the Jordan and Weber Rivers and their tributaries and in wetlands and meadows adjacent to Utah Lake and the Great Salt Lake. Except for two small populations in wetlands near Utah Lake, all known historic populations of this species along the Wasatch Front in the populated north-central area of Utah are presumed extinct, as are all other known historic populations in the eastern Great Basin and two of the four known populations in Colorado. It is believed that alteration of riparian habitat caused the extinction of these populations. With the exception of the two Utah Lake populations, recent attempts to locate the Wasatch Front and eastern Great Basin populations were unsuccessful (Coyner 1989, 1990). Extant populations in eastern Utah and Colorado are typically very small and potentially vulnerable to habitat changes similar to those that appear to have eliminated the Wasatch Front and eastern Great Basin populations. Fewer than 6,000 individual plants are known to exist in the 10 known populations. Potential projects that may affect the hydrology and vegetation of the species' riparian ecosystem could have a negative impact on the species and are currently under consideration throughout the species' range. Jennings (1990) considered conversion of wild open space to developed parks a significant threat to Colorado populations. Some populations are in areas that are not overly degraded by agricultural activities, including farming and grazing. However, most of the current habitat of *S. diluvialis* is subject to livestock grazing and trampling. The full effects of livestock grazing and trampling are not known (See "C. *Disease or predation*." below).

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

Spiranthes diluvialis has an attractive multiflowered inflourescence with white- to cream-colored flowers. Orchidists and wildflower enthusiasts have inquired concerning the location of the species' populations and about its horticultural requirements (Coyner 1991). *S. diluvialis* populations located in or near urban areas (including the largest known population) are especially susceptible to overcollection as a convenient source of specimen plants for private orchid collections or wildflower gardens.

C. Disease or Predation

While excessive livestock grazing is thought to be detrimental to the species, mild to moderate livestock grazing may be beneficial. The plant is highly palatable and was preferentially grazed by small herbivores (James Crain, Director, Open Space, City of Boulder, in litt. 1991). All known remaining populations are relict in nature, with most in small areas where livestock grazing was less intense than in other riparian communities within the species' range.

D. The Inadequacy of Existing Regulatory Mechanisms

No Federal or State laws or regulations directly protect *S. diluvialis* or its habitat. A limited degree of habitat protection is offered by the Clean Water Act. Most of the species' Utah populations occur on lands managed by the Bureau of Land Management, the National Park Service, and the Forest Service, which offer varying, but incomplete, levels of protection. Populations located in the greenbelt areas in the City of Boulder are also provided some protection. However, many of these areas are, or were historically, subject to livestock grazing. International trade in all orchids is regulated by the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES).

E. Other Natural or Manmade Factors Affecting Its Continued Existence

The species' low population numbers and restricted habitat makes it vulnerable to natural or human-caused disturbances. Localized catastrophic events have the potential to cause the extinction of individual populations. It is not known if any of the species' smaller scattered populations are at levels that would ensure their continued existence over the long term, particularly populations in Dinosaur National Monument and Capitol Reef National Park. Jennings (1990) believed that the planting (either intentionally or unintentionally) of exotic plant species was a threat to *S. diluvialis*. Indiscriminate use of herbicides and other chemicals has the potential to adversely impact *S. diluvialis*. The highly variable demographic structure from year to year of the species' largest known population may make it more vulnerable to extinction during years of low populations numbers. *S. diluvialis* appears to have a very low reproductive rate under natural conditions. Many orchid species take 5 to 10 years to reach reproductive maturity, and this

appears to be true for *S. diluvialis*. Reproductively mature plants do not flower every year.

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 make this rule final. Based on this evaluation, the preferred action is to list *Spiranthes diluvialis* as a threatened species.

As noted earlier, the species appears to have been extirpated from five of the seven historical sites in Nevada and western Utah, and two of the four historical sites in Colorado. Seven new sites were discovered in eastern Utah since 1977, but nearly all of these are very small populations containing between 20 to 500 plants. The species is rare, with fewer than 6,000 individuals in 10 known populations. Surface disturbances or changes to the water regime which eliminate or degrade the riparian habitat in which the species occurs are likely to continue in the future. Due to the species' low reproductive rate, any loss of individual plants due to collection could have a major effect on the species' survival. It is not known whether existing populations are demographically stable over the long term, due to the small size of most populations and the erratic population fluctuations noted within monitored populations.

Counterbalancing the above are the following: The species' two largest populations are in areas unlikely to be subject to acute threats from development in the near future. Two small populations occur on units of the National Park system; these populations are being managed for the species' long-term survival. There is potential for new populations to be discovered in other riparian areas within the species' range such as wetlands in eastern Nevada and adjacent Utah, but any undiscovered populations would be vulnerable to the habitat loss and modification threats described earlier.

Spiranthes diluvialis does not appear in imminent danger of extinction throughout all or a significant portion of its range, which would warrant a status of endangered. Instead, because it has the potential to become an endangered species throughout all or a significant portion of its range, it warrants threatened status. For the reasons given below, it would not be prudent to propose critical habitat.

Critical Habitat

Section 4(a)(3) of the Act requires, to the maximum extent prudent and determinable, that the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not presently prudent for *S. diluvialis*.

As discussed under Factor B in the "Summary of Factors Affecting the Species," *S. diluvialis* is an attractive wild orchid. Many individuals, including knowledgeable orchid growers, expressed an interest in obtaining living *S. diluvialis* specimen plants (Coyner 1991). All known populations in Colorado (including the largest known population) are in or near populated areas in the Denver metropolitan area. Many of the populations in Utah are accessible to the public. Publication of critical habitat descriptions and maps would make *S. diluvialis* more vulnerable to collection.

If individual plants or flowers were collected, it could adversely impact the reproductive potential of the affected population significantly. *Spiranthes diluvialis* appears to have a very low reproductive rate under natural conditions (i.e., relatively few individuals are recruited to the reproductively mature population each year) (Coyner 1991). Many orchid species take 5 to 10 years to reach reproductive maturity, and this appears to be true for *S. diluvialis*. Reproductively mature plants do not flower every year, so if flowers did appear and were taken, this would eliminate that plant's reproductive attempt for that year and probably several years thereafter. Any increase in the threat of collection would have a greater impact on *S. diluvialis* than on a more reproductively vigorous species.

The Endangered Species Act provides listed plants with limited protection from take. Specifically, the Act and its implementing regulations prohibit collecting or harm to listed plants on lands under Federal jurisdiction, and removal or harm to endangered plants on other areas in knowing violation of any State law or regulation, including State criminal trespass law. These legal protections would provide very limited protection to *S. diluvialis* after listing, and would be difficult to enforce.

For the above reasons, it would not be prudent to determine critical habitat for *S. diluvialis*. All involved parties and the major landowners were notified of the location and importance of protecting this species and its habitat. Protection of this species' habitat will be addressed through the section 7 consultation process and the recovery process.

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 actions by Federal, State, and private agencies; groups; and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States 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, 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)(2) requires Federal Agencies to insure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed 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.

Much of the population of *S. diluvialis* is on Federal lands, managed by the Bureau of Land Management, the National Park Service, and the Forest Service. These Federal Agencies will be responsible for insuring that all activities and actions on lands they manage are not likely to jeopardize the continued existence of *S. diluvialis*. In addition, the Corps of Engineers, which issues Federal dredge and fill permits which can affect wetlands and riparian areas, will be required to insure permitted actions are not likely to jeopardize the continued existence of *S. diluvialis*. Several potential projects affecting the species, throughout its range, may be affected due to the necessity of securing a Corps of Engineers' permit.

The Act and its implementing regulations found at 50 CFR 17.71 and 17.72 set forth a series of general trade prohibitions and expectations that apply to all threatened plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71, apply. These prohibitions, in part, 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 the species from areas under Federal jurisdiction. Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. In addition, for endangered plants, the 1988 amendments (Pub. L. 100–478) to the Act prohibit the malicious damage or destruction on Federal lands and the removal, cutting, digging up, or damaging or destroying of endangered plants in knowing violation of any State law or regulation, including State criminal trespass law. These prohibitions may be extended to threatened species through regulation. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened species under certain circumstances.

Because of horticultural interest in *S. diluvialis,* trade permits may be sought, but few, if any, trade permits for plants of wild origin would ever be issued since the species is not common in the wild. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, room 432, 4401 N. Fairfax Drive, Arlington, Virginia 22203 (703/358–2093; FTS 921–2093).

As a member of the family Orchidaceae, *S. diluvialis* is included on Appendix II of CITES. Species on Appendix II require a permit from the country of origin prior to export. International trade in this species is most probably nonexistent.

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 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

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Author

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List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

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. Amend § 17.12(h) by adding the following, in alphabetical order under Orchidaceae, to the List of Endangered and threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
*	*	*	*	*	*	
Orchidaceae—Orchid family:						
*	*	*	*	*	*	
Spiranthes diluvialis	Ute ladies'-tresses	U.S.A. (CO, NV, UT)	T	458	NA	NA
*	*	*	*	*	*	

Dated: January 8, 1992.

Richard N. Smith,

Director, Fish and Wildlife Service.

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