March 10, 2025

U. S. Fish and Wildlife Service
Public Comments Processing,
Attn: FWS-R6-ES-2024-0115
MS:PRB/3W,
5275 Leesburg Pike
Falls Church, VA 22041-3803

Reference: Docket No. FWS-R6-ES-2024-0115
Endangered and Threatened Wildlife and Plants; Removal of Ute Ladies'-Tresses from the List of Endangered and Threatened Plants

Dear Sir or Madam,

The Conservation Committee of the Colorado Native Plant Society Conservation Committee (CoNPSCC) is pleased to submit the following comments in support of the continued listing of Ute Ladies'-Tresses (ULT) (*Spiranthes diluvialis).*CoNPSCC commends the study that US Fish and Wildlife Service (Service) conducted (Special Status Assessment Report for Ute Ladies' tresses 2023, SSA report), but we have serious concerns regarding the Service's conclusion that the threats to ULT have been eliminated or reduced. As stated in the Proposed Delisting (90 FR 1054), there are many areas of uncertainty and lack of information about factors impacting this species. Because of the many gaps in critical data, as described below, CoNPSCC asserts that a finding of resiliency and the delisting of ULT is premature.

I. More and Better Population Trend Data Needed

Part of the uncertainty about the resiliency of ULT is lack of robust population trend data. Numerous field observations have been conducted for populations of ULT as described in the SSA Report. But there is very little discussion of trends in populations, even where repeated surveys have been conducted. CoNPSCC understands that determining population trends is difficult for ULT because individual above-ground expression may not occur every year. However, we have noted significant decreases over time in some areas.

A. South Boulder Creek Floodplain – City of Boulder

The City of Boulder Open Space & Mountain Parks (OSMP) has diligently protected and managed ULT in the floodplain meadows along South Boulder Creek north and south of

US 36. From the 1980s until the 2000s, these sub-occurrences have varied from 3,000 to less than 1,500 above ground individuals in some years. However, in the last 5 years, less than 100 plants have been observed annually within the meadow north of US 36. This is a significant decline in a well-managed, protected area.

B. Clear Creek in the Cities of Golden and Wheatridge.

Even though systematic counts of ULT along Clear Creek have not been conducted to the extent of the counts conducted by OSMP, declines have been noted in these areas as well. Many of the sub-occurrences observed in the late 1990s and early 2000s have disappeared (per surveys and observations conducted by Denise Larson as part of ULT survey protocols). Although some new sub-occurrences have been found, many others have disappeared or have been significantly reduced in number.

II. Actual Habitat is Narrower than Described

Based on our understanding of Colorado populations, the species is still vulnerable because of potential loss of habitat. Although ULT is found within 12 ecosystems in a large area of Western United states and British Columbia, Canada, its actual habitat is much narrower because it is restricted to 7 wetland types with specific requirements. These requirements include open, early to mid-seral wetlands maintained by regular disturbances; sufficient surface or subsurface hydrology, and other flowering plants in sufficient quantity to support pollinators.

III. Habitat Loss Through Encroachment of Denser Vegetation Not Accounted For

In reviewing the SSA report, we are concerned that the requirement to maintain disturbance for early to mid-seral habitats was not adequately addressed. Under the 90 FR 1054 - Future Scenarios and Future Conditions section, habitat loss was calculated based on the conversion of emergent wetlands and woody wetlands to moderately or highly developed land. However, habitat loss was not calculated for changes within the emergent and woody wetlands where denser vegetation encroaches, closing the open areas and reducing the sunlight ULT needs. These changes within a habitat type have led to loss of ULT. Along Clear Creek in Golden and Wheatridge, Colorado, when the open habitat was lost due to increased forest cover or invasion of cattails, ULT sub-populations were lost and did not return after many years of observation. Further research on the effects of loss of disturbance within a habitat would be needed, especially for large scale changes of the interconnected stressors climate change and human disturbances.

IV. Permanent Reductions and Loss of Hydrology Not Adequately Assessed

Additionally, adequate soil moisture is a critical need for ULT as stated in the SSA Report. All seven habitats, where ULT occurs, require sufficient alluvial groundwater or surface water to support the plants (Fertig, et. al. 2005). However, 90 FR 1064 states that ULT tolerates a range of soil moisture conditions as well as drought conditions. ULT does show some flexibility to periodic and temporary droughts because it can remain dormant in a below-ground state during periods of unfavorable conditions until appropriate conditions return (Fertig et. al. 2005). However, this dormancy does not protect the species from permanent loss of hydrology, and 90 FR 1064 acknowledges

that there is not a clear understanding of ULT's response to extreme drought conditions. Based on CoNPSCC experience, all known populations in Colorado require sufficient alluvial groundwater the majority of the time, even when above-ground numbers fluctuate because of temporary drought conditions.

V. Life Cycle Dependence on Pollinators Requires Buffer Analysis and Assessment of Risk from Changes to Adjacent Land

Loss of open canopy habitat and soil moisture may also impact pollinators that are crucial to the ULT life cycle as acknowledged in the SSA report. ULT pollinators depend on enough surrounding flowering plants because ULT typically are few in number and cannot support sufficient pollinators by themselves. Beyond that, the SSA has very little discussion or analysis. It lists for reference pollinator papers by Sipes and Tepedino, and others, but does not apparently use them to inform its analysis. For example, Pierson, et. al. (2001) concludes:

> "[c]onservation efforts for S. diluvialis must be designed and implemented at a community or ecosystem level to be successful. Healthy populations of S. diluvialis will be realized not simply by protecting riparian habitat; in addition, managers must be cognizant of the natural nesting habitat and floral needs of the bee pollinators that make reproduction and continued existence of this rare plant possible." (p. 163)

How far afield will ULT pollinators go, determining the adjacent floral resources that are needed to maintain such populations? The SSA does not say, and USFWS appears not to know. But in other analyses of rare plants in Colorado, such as that of *Penstemon debilis* (Parachute beardtongue) and *Ipomopsis polyantha* (Pagosa skyrocket), it has determined that a buffer zone of 1,000 meters (3,280 feet) is needed as the "area beyond occupied habitat to conserve the pollinators essential for reproduction." (77 FR 48409, 48414). This SSA contains no such analysis of the expanded area needed by pollinators, so it does not recognize the potential threat posed by adjacent land use changes, not just dewatering.

VI. ULT Requires Mycorrhizal Nourishment, but that Symbiosis is Not Understood.

Another factor that may limit the resiliency of ULT populations is the critical factor (SSA Report) that this species has a symbiotic relationship with mycorrhizal soil fungi. Germinated seedlings must quickly establish this relationship. This symbiotic relationship may limit ULT from expanding into more favorable areas when drought or excess vegetation make occupied areas less desirable (Fertig et. al. 2005). Key factors to understanding the relationship between ULT and fungi are unknown, including the identity of the appropriate fungi species. This lack of knowledge is acknowledged by the Service. Because of this lack of knowledge, ULT populations may be more vulnerable to the threat of extinction than determined by the Proposal to Delist.

VII. Regulatory Instability Combined with Failure to Implement Recovery Plan Drafted Over 30 Years Ago Suggests Caution is Best

90 FR 1060 describes numerous International, Federal, State and local protections. However, considering the current uncertainty over Federal regulations, and potential lack of funding for Federal, State and local protections, CoNPSCC is concerned that these regulations will not provide sufficient protection in the future. Almost half (47 percent) of the ULT occurrences are completely or partially on private property (SSA Report). Although there is some protection through City Ordinances and Conservation Easements, some occurrences are mainly protected

by Section 404 of the Clean Water Act (CWA), and these protections have limits. Even more important, the definition of what is regulated under the CWA is currently in flux because of recent Supreme Court decisions (Sackett v. Environmental Protection Agency) and many of the current protections could disappear. Because of this lack of stability, CoNPSCC is deeply concerned that removal of the species from the Endangered Species Act protection could result in the degradation or loss of many of the more ULT populations, even the most stable ones.

VIII. Inadequacies in the Future Climate Model

The future climate model used in the SSA report appears to significantly understate the impacts of unchecked emissions over the next 50 years. The scenario of "Higher Emissions/Unchecked Population Growth" (SSA, Table 24) describes a scenario with continuation of the current emissions trajectory, largely unchecked population growth, and few large-scale mitigation attempts. According to NASA's Scientific Visualization Studio, this scenario results in over 850 ppm of CO2 and a significant temperature anomaly by 2079 in the US of 7.5 to 10 degrees Fahrenheit over the 1971-2000 baseline (NASA 2013)

According to the SSA, under this unchecked emissions scenario, the status of 11 of the analyzed units (AU) is unchanged, while the remainder of the 18 AU's studied would either decrease in resiliency or be extirpated. This modest decrease or loss appears to minimize the impact under this scenario given the factors described above in Sections I to V11, and given the environmental changes which Colorado scientists have already documented in plant phenology and the timing of insect appearances (Dalton, et. al. 2023).

CONCLUSION

All of these factors raise serious concerns about whether ULT populations will be stable in the future and does not adequately capture the stand-alone threat of climate change, let alone all the cumulative threats of human disturbance and climate change: from the disturbance needed to preserve early to mid-seral habitat, to the loss of soil moisture, to providing sufficient habitat for pollinators, and to mycorrhizal dependency. Further and better analysis is needed to determine if these threats could place the species at increased risk of extinction. Therefore, we strongly urge the Service to reassess the decision to delist ULT until sufficient data are available to ensure its existence over time.

Sincerely,

Brad Klafehn
Chairman, Conservation Committee
Colorado Native Plant Society
office@conps.org

Denise Larson
Member, Conservation Committee
Colorado Native Plant Society
office@conps.org

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U.S. Fish and Wildlife Service (Service). 2024. Special Status Assessment Report for Ute Ladies'-Tresses (*Spiranthes diluvialis)*. Prepared by the Utah Ecological Services Field Office. Salt Lake City, Utah. September 2024 – Version 1.