

1997 UTE LADIES' TRESSES (*SPIRANTHES DILUVIALIS*) INVENTORY:

FORT HALL FISH HATCHERY SITES

By

**Robert K. Moseley
Conservation Data Center**

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**Idaho Department of Fish and Game
600 South Walnut, P.O. Box 25
Boise, Idaho 83707
Stephen P. Mealey, Director**



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SUMMARY

Ute ladies' tresses (*Spiranthes diluvialis*) is a rare orchid occurring in riparian zones of the Intermountain and Rocky Mountain west. It was listed as Threatened under the Endangered Species Act in 1992. Known populations in Idaho occur along the Snake River between the Henrys Fork confluence and Palisades Dam, a stretch of 49 river miles. The U.S. Fish and Wildlife Service has established a Section 7 consultation area that includes wetland and riparian habitats below 7,000 feet in 24 counties in eastern and east-central Idaho.

Here I report the results of site-specific clearances of two sites being considered for a potential fish hatchery near the Fort Hall Indian Reservation. Construction of the hatchery will be funded by the Bonneville Power Administration. The sites lie in Power and Bingham counties. I found no Ute ladies' tresses at either site and potential habitat was limited (Houghland Farm) or nonexistent (Papoose Springs). This report includes the location of the searches, an ecological description of each site, and an assessment of potential habitat. The preliminary status survey report (Moseley 1997) and the updated status survey, when available, should be used to supplement this report (and *visa versa*) and provide the overall context for Ute ladies' tresses and its potential habitat in Idaho.

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INTRODUCTION

Ute ladies' tresses (*Spiranthes diluvialis*) is a white-flowered orchid that occurs in low to mid-elevation wetlands and riparian zones of the Central Rockies and adjacent plains. The specific epithet, *diluvialis*, is Latin meaning "of the flood" (Sheviak 1984), which is descriptive of a majority of the species' habitat: alluvial substrates along perennial streams and rivers. Ute ladies' tresses was listed as Threatened under the Endangered Species Act (ESA) on January 17, 1992, because of its rarity, low population sizes, and threats of loss or modification of riparian habitats (England 1992). At the time of listing it was known from the Denver metropolitan area; Provo, Utah, area; and several tributaries of the Green River in eastern Utah. Several populations were known to have been extirpated. It has since been found to occur in eastern Wyoming and adjacent Nebraska, southwestern Montana, and most recently along the Snake River in eastern Idaho.

In 1995, the Section 7, Endangered Species Act, consultation guidelines for Ute ladies' tresses identified Priority Survey Areas for states containing populations, as well as adjacent states known to have potential habitat (U.S. Fish and Wildlife Service 1995). In Idaho, the Bear River and Snake River above American Falls Reservoir were identified as Category 3 watersheds, where surveys were encouraged, although populations were not known to occur there at the time. With the discovery of Idaho populations of Ute ladies' tresses in August 1996, the Section 7 consultation area was expanded to include 24 counties in eastern and east-central Idaho: Bannock, Bear Lake, Bingham, Blaine, Bonneville, Butte, Camas, Caribou, Cassia, Clark, Custer, Franklin, Fremont, Gooding, Jefferson, Jerome, Lemhi, Lincoln, Madison, Minidoka, Oneida, Power, Teton, and Twin Falls. Under these expanded guidelines, specific habitats to be looked at within these counties includes all riparian and wetland communities below 7,000 feet.

I prepared a preliminary status report for Ute ladies tresses, summarizing our knowledge of the distribution, abundance, and conservation status of the plant in Idaho through the 1996 field season (Moseley 1997). Our knowledge was limited to a few surveys at that time, however, and it was recognized that considerably more field work needed to be done in Idaho. During 1997, federal and state agencies from throughout the "consultation area" were active in conducting intensive, project-specific inventories, as well as extensive, systematic surveys of potential habitat.

In spite of all these inventories, the known distribution of Ute ladies' tresses in Idaho is still restricted to the Snake River. Populations are scattered along 49 river miles from near the confluence of the Henrys Fork, upstream to Swan Valley, 9 river miles below Palisades Dam. In Idaho, this stretch of river is known as the South Fork. A total of 1,171 (mostly flowering and fruiting plants) were observed along the river in 1997.

By May 1998, the Conservation Data Center (CDC) will prepare an updated status report for Ute ladies' tresses in Idaho, summarizing results of the 1996 and 1997 field seasons. Here I report the results of a site-specific clearances of two sites being considered for a potential fish hatchery near the Fort Hall Indian Reservation. Construction of the hatchery will be funded by the Bonneville

Power Administration. The report includes the location of the searches and an assessment of potential habitat. The preliminary status survey report (Moseley 1997) and the updated status survey, when available, should be used to supplement this report (and *visa versa*) and provide the overall context for Ute ladies' tresses and its potential habitat in the state.

METHODS AND SURVEY LOCATIONS

On August 26, I visited two potential hatchery sites with Dave Moser, fisheries biologist with the Fort Hall Tribes. The locations of the two sites, Houghland Farm and Papoose Springs, are described below. I searched all wetland habitats on both sites, using my knowledge of the species and its habitat in Utah and Idaho to identify and assess potential habitat. The 1996 status survey and draft recovery plan were also used as guides (U.S. Fish and Wildlife Service 1995; Moseley 1997). These twosites are approximately 65 miles southwest of the nearest known Ute ladies' tresses populations.

Locations of the two potential hatchery sites are as follows:

Houghland Farm - Three miles southeast of Springfield, ca. 0.5 mile upstream from the head of American Falls Reservoir, Bingham County (Figure 1). The outflow of the two spring creeks on the property flow into sloughs associated with McTucker Creek, a tributary of the Snake River. T4S R32E S25 and T4S R33E S30. Elevation 4,370 feet.

Papoose Springs - Along the Portneuf River, ca. three miles downstream (northwest) from Pocatello and ca. three miles upstream (southeast) of the head of American Falls Reservoir, Power County (Figure 2). T5S R33E S1 and T5S R34E S6. Elevation 4,370 feet.

Figure 1

Figure 2

RESULTS

General Findings and Overall Assessment

I found no Ute ladies' tresses at either site and potential habitat was limited (Houghland Farm) or nonexistent (Papoose Springs). Below is an ecological description of each site along with an assessment of potential habitat.

Houghland Farm

Description: Two wetland areas occur at this site, a spring and effluent channel on the north side of the property, where the hatchery would be built, and a small spring creek that traverses the south end of the property. Approximately 0.25 mile of riparian habitat occurs on the site.

The spring and associated pond and creek are highly altered, having been developed as a fish hatchery in the past. Now it is abandoned. The channels have been dammed to create rearing ponds and raceways have been built to the side of the channel. The remaining riparian vegetation occurs on steep banks and is very narrow and weedy. Canada thistle (*Cirsium arvense*) is the most prominent weed.

The segment of the small spring creek occurring on the south side of the property has riparian vegetation in much better condition. It is not as disturbed as the other creek. The creek is deeply entrenched, so the riparian vegetation is very narrow. There are Russian olive (*Elaeagnus angustifolia*) trees along the stream, but the rest is dominated by herbaceous vegetation with spike-rush (*Eleocharis palustris*), Torrey's rush (*Juncus torreyi*), Eaton's aster (*Aster eatonii*), Nuttall's sunflower (*Helianthus nuttallii*), and annual paintbrush (*Castilleja exilis*) being prominent.

Habitat Assessment: The occurrence of potential habitat along these two waterways is minimal. None occurs along the small creek; it's either too wet or too dry. Below the disturbed spring two small patches of reedtop (*Agrostis stolonifera*), the only likely potential habitat, were observed along a highly altered portion of the channel. They were only a few square feet in size and had no *Spiranthes*.

Papoose Springs

Description: Like the Houghland Farm site, Papoose Springs is an abandoned fish hatchery, only larger and more thoroughly disturbed. All wetland and riparian vegetation bordering the spring and effluent channels have been disturbed in the past by hatchery construction and maintenance. The channels are deeply entrenched, probably through past excavations, ponds and raceways have been built in some channels, water has been diverted into raceway buildings, and levees have been

built between the spring channels and the Portneuf River to the northeast. Approximately 0.5 mile of riparian habitat occurs at the site.

The site is largely a weedy mess, with large golden willows (*Salix alba* var. *vitellina*) planted for shade along the channels. Several other non-native trees also provide dense shade along the stream bank, including Russian olive, eastern boxelder (*Acer negundo* var. *negundo*) and Siberian elm (*Ulmus pumila*). Where it's not too shady, the herbaceous vegetation is tall, 2-3 m in height, and dominated by dense, rhizomatous forbs such as Nuttall's sunflower, Canada thistle, stinging nettle (*Urtica dioica*), and western goldenrod (*Solidago occidentalis*). The tall reed grass, *Phragmites australis*, is also locally common. Thick stands of sandbar willow (*Salix exigua*) occupy the small islands in the Portneuf River adjacent to the site.

With the giant shade trees bordering the beautiful spring creeks and ponds, this site would make a great park if it was cleaned up.

Habitat Assessment: No mesic habitats occupied by redtop were observed. In my opinion, no potential habitat exists at the site. The herbaceous vegetation is either too shaded, too tall, and/or too dense.

REFERENCES

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