

CANDIDATE ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: Lesquerella tuplashensis

COMMON NAME: White Bluffs bladderpod

LEAD REGION: Region 1

INFORMATION CURRENT AS OF: February, 2003

STATUS/ACTION (Check all that apply):

New candidate

Continuing candidate

Non-petitioned

Petitioned - Date petition received: ___

90-day positive - FR date: ___

12-month warranted but precluded - FR date: ___

Listing priority change

Former LP: ___

New LP: ___

Latest date species first became a Candidate: _____

Candidate removal: Former LP: ___ (Check only one reason)

A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

F - Range is no longer a U.S. territory.

M - Taxon mistakenly included in past notice of review.

N - Taxon may not meet the Act's definition of *Aspecies*.@

X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Cruciferae (Mustard Family)

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Washington

CURRENT STATES/COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE:

Washington

LEAD REGION CONTACT (Name, phone number): Scott McCarthy (503) 231-6131

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Upper Columbia Fish and Wildlife Office, Spokane, Washington, Linda Hallock (509) 891-6839.

BIOLOGICAL INFORMATION (Describe habitat, historic vs. current range, historic vs. current population estimates (# populations, #individuals/population), etc.):

Lesquerella tuplashensis is a short-lived perennial which grows on the upper edge of the White Bluffs of the Columbia River, Franklin County, Washington. There is one known population of the species (The Nature Conservancy (TNC) 1998). The population is found a near vertical

exposure of cemented, highly alkaline calcium carbonate paleosol (a Acaliche soil). This hard calcium carbonate paleosol caps several hundred feet of alkaline, easily eroded lacustrine sediments of the Ringold Formation. The species may be an obligate calciphile, as are many of the endemic Lesquerella species (Rollins and Shaw 1973).

The species occurs intermittently in a narrow band (usually less than 10 meters (33 feet) wide) along an approximately 17 kilometer (km) (10.6 mile (mi) stretch of the bluff (P. Dunwiddie, TNC, pers. comm., 2001). The population varies considerably between years, but censuses of adult (flowering) plants suggest there may be greater than 50,000 plants in the population during some years (Florence Caplow, Washington Natural Heritage Program, pers. comm., 2002). Although plants were originally collected from the population in 1883, the material was in poor condition and no definitive identification could be made. The plant was not recognized as a species until 1996. The population was rediscovered in 1994, and was described and published as a species by Rollins et al., (1996). Despite searches during 1995 and 1996 in all areas of similar substrate in central Washington, no other plants have been found.

It has been suggested (Simmons 2000) that Lesquerella tuplashensis is in fact an ecotype of the more common Lesquerella douglasii. A multi-disciplinary study, led by Florence Caplow of the Washington State Department of Natural Resources, Natural Heritage Program, has been undertaken to investigate this question. The study is expected to be completed in 2003.

THREATS (Describe threats in terms of the five factors in section 4 of the ESA providing specific, substantive information. If this is a removal of a species from candidate status or a change in listing priority, explain reasons for change):

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

Groundwater movement from adjacent, up-slope agricultural activities have caused mass-failure landslides throughout the length of the White Bluffs. Approximately 6 km (3.7 mi) of the population (35 percent of the population) lie near or adjacent to irrigated land and have been moderately to severely altered by seepage and landslides (Lindsay 1997). Lesquerella tuplashensis plants have not been found in areas which have been disturbed by landslides, regardless of whether the landslide disturbance is moderate or severe.

All mass-failures occurring along the White Bluffs, with one exception, are found in association with water seepage. Water, particularly water from irrigation, is the primary factor triggering mass-slope failures (Lindsay 1997).

Recently, the area of the species distribution has been incorporated in the Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge. This may have somewhat decreased the threats from agriculture and irrigation. However, agriculture and irrigation occurs above the White Bluffs, and any increase in irrigation on the lands in the vicinity of the White Bluffs will increase the probability of mass-failures, hydrologic changes, and invasion of non-native, state-listed noxious weeds into the population. At several locations along the White Bluffs, agricultural activities (farming) continues directly adjacent and up to the edge of the bluff. Farming has occurred on these lands since at least the early 1970s and is currently active (Lindsay 1997).

Yellow star thistle (*Centaurea solstitialis*), an exotic weed, has been documented in the vicinity of the *Lesquerella* population and is known as a rapid invader of arid environments, even in the absence of disturbance (F. Caplow, pers. comm., 1999). Other threats include recreational mountain bike riding which occurs along the rim of the bluffs for most of the length of the population, with at least one well-established trail. Off-road vehicles (three-wheel and four-wheel) and dirt bike activity also threaten the species. This occurs intermittently within the Federal portion of the population (a prohibited activity) and commonly within the private portion of the population where it is legal. Off-road vehicle activity has increased disturbance and erosion, destroying individual *Lesquerella* plants (F. Caplow, pers. comm., 1999).

B. Overutilization for commercial, recreational, scientific, or educational purposes.

There is no evidence of collection, recreational, scientific, or educational use of this species, although the species is extremely showy and may be subject to collection by the public.

C. Disease or predation.

Some predation by larval insects on developing fruits was observed yearly since 1996 (TNC 1998; P. Dunwiddie, pers. comm., 2001). More thorough investigations are necessary to determine whether this results in significant impacts on seed production.

D. The inadequacy of existing regulatory mechanisms.

Lesquerella tuplashensis was added to Washington's list of endangered, threatened and sensitive vascular plants in 1997, and was designated as endangered by the Washington Department of Natural Resources. However, there is no State Endangered Species Act for plants in Washington, therefore no legal protection based on the state designation. The U.S. Department of Energy (DOE) has no rare plant policy to provide protection, nor does the Washington Department of Fish and Wildlife, which manages portions of DOE lands where the *Lesquerella tuplashensis* is found. The Federal land on which the population occurs is not within any kind of conservation designation.

E. Other natural or manmade factors affecting its continued existence.

There is a gravel road near the *Lesquerella tuplashensis* population. The presence of this road increases the landslide potential. Part of the population lies adjacent to an access point, making the plants more vulnerable to collecting and increasing the risk of invasion by non-native species. Although a large portion of the population is on Federal Land, the boundary between landowners is generally not marked or fenced, allowing access by prohibited off-road vehicles and illegal agricultural activities on to DOE lands. In general, pollinators may be negatively affected by pesticide use on orchards and irrigated fields in the vicinity of the site. The population is also naturally limited by the scarcity of its highly specific substrate.

FOR RECYCLED PETITIONS:

a. Is listing still warranted? _____

- b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? _____
- c. Is a proposal to list the species as threatened or endangered in preparation? _____
- d. If the answer to c. above is no, provide an explanation of why the action is still precluded. _____

LAND OWNERSHIP (Estimate proportion Federal/state/local government/private, identify non-private owners):

Most of the site (approximately 85 percent of the population) is presently within the new Hanford Reach National Monument/Saddle Mountain National Wildlife Refuge. However, 23 percent of the total population on federally managed lands lie near or adjacent to private, irrigated land. Approximately 15 percent of total population occurs entirely on private land.

PRELISTING (Describe status of conservation agreements or other conservation activities):

During 1997, a National Fish and Wildlife Foundation grant was awarded to the Service, in partnership with the Nature Conservancy of Washington. Because the population extends for approximately 17 km (10.6 mi), a subsample approach was implemented to sample the population. The Washington Natural Heritage Program, TNC, Calypso Consulting, and volunteers have continued to monitor permanent quadrats to investigate life history characteristics of the species. Permanent transects to track changes in population size have not been monitored every year due to lack of resources (P. Dunwiddie, pers. comm., 2001).

REFERENCES (Identify primary sources of information (e.g., status reports, petitions, journal publications, unpublished data from species experts) using formal citation format):

Caplow, F.E., and K.A. Beck. 1996. A rare plant survey of the Hanford Nuclear Reservation: the Hanford Biodiversity Project. The Nature Conservancy. Seattle, Washington. 77 pp.

Lindsey, K.A. 1997. Aerial Photographic Evaluation of Mass Movement Timing, Size, and Causes for part of the White Bluffs of the Columbia River, South-Central Washington. Prepared for the Nature Conservancy of Washington, report on file at the Western Washington Office, Olympia, Washington. 22 pp.

Rollins, R.C. and E.A. Shaw. 1973. The genus Lesquerella (Cruciferae) in North America. I-X, 1-288. Harvard University Press, Cambridge, MA.

Rollins, R.C., K.A. Beck and F.E. Caplow. 1996. An undescribed species of Lesquerella (Cruciferae) from the state of Washington. Rhodora Vol. 97, No. 891, pp. 201-207.

Schuster, R.L., A.F. Chleboard, and W.H. Hays. 1987. Irrigation-induced landslides in fluvial lacustrine sediments, south-central Washington State, ANZ-Slid 87. Fifth Annual Conference and Field Workshop on Landslides, pp. 147-156.

Simmons, Sally A. 2000. The status of Rorippa columbiae and Lesquerella douglasii on the Hanford Reach of the Columbia River in south central Washington. Thesis, PhD, Washington State University, Pullman, WA.

The Nature Conservancy of Washington. 1998. Final Report. Conservation of two new Plant Species. Report on file at Western Washington Office, Olympia, Washington. 10 pp.

The Nature Conservancy. 1999. Biodiversity and analysis of the Hanford Site. Final Report 1994-1999. Department of Energy.

LISTING PRIORITY (place * after number)

THREAT

Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
	Non-imminent	Subspecies/population	3
		Monotypic genus	4
		Species	5*
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

Rationale for listing priority number:

Magnitude:

Imminence:

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, removal of candidates, and listing priority changes.

Approve: Rowan Gould March 6, 2003
Acting Regional Director, Fish and Wildlife Service Date

Concur: _____
Director, Fish and Wildlife Service Date

Do not concur: _____
Director, Fish and Wildlife Service Date

Director's Remarks: _____

Date of annual review: January 2003
Conducted by: Linda Hallock

Comments: _____

