

**DISTRIBUTION OF WOVEN-SPORE LICHEN
(*TEXOSPORIUM SANCTI-JACOBI*) AT THE
I-84/ISAACS CANYON INTERCHANGE, ADA COUNTY**

Submitted to:

Idaho Transportation Department

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INTRODUCTION

Construction of the new I-84/Isaacs Canyon Interchange will destroy areas of high-quality sagebrush-steppe habitat. Sagebrush-steppe habitat on the western Snake River Plain is considered one of the most endangered ecosystems in Idaho and the Intermountain West (Noss et al. 1995). Because of the enormous decline in quality and quantity of this ecosystem, several plant species closely associated with this habitat have also declined and are considered rare and threatened. Two of these species were known to occur in the vicinity of the new interchange: woven-spore lichen (*Texosporium sancti-jacobi*) and slick-spot peppergrass (*Lepidium papilliferum*). For reviews of the biology, ecology, distribution, and conservation status of these two species, refer to McCune (1992) for woven-spore lichen and Moseley (1994) for slick-spot peppergrass.

On October 11, 1995, Ann DeBolt (BLM, Boise District) and Bob Rohrer (Idaho Transportation Department) made a cursory survey of a portion of the project area looking specifically for slick-spot peppergrass and woven-spore lichen. They found populations of the lichen and potential habitat for the peppergrass, although no plants were observed. The Idaho Department of Fish and Game's Conservation Data Center (CDC) was contracted to provide further distribution data for the two species.

RESULTS

On April 30, 1996, six biologists from the CDC and Bob Rohrer conducted a survey of known and potential habitat for the two rare species on the east side of I-84 at the end of Federal Way. We largely concentrated on habitats in the vicinity of the rights-of-way for the Federal Way

extension and the I-84 exit. Several “slick-spots”, potential-looking habitat for slick-spot peppergrass, were observed but no green plants nor old skeletons were seen. We found several populations of woven-spore lichen in areas of high-quality sagebrush-steppe habitat. Below is a summary of our observations.

Woven-spore lichen

Distribution

We found nine colonies of woven-spore lichen with a combined total of over 128 clumps (plants?). A breakdown of the number of clumps per colony is as follows (refer to Map 1 for their distribution):

<u>Colony</u>	<u>Number of Clumps</u>
1	2
2	50+
3	1
4	2
5	1
6	1
7	5+
8	10
9	60

As can be seen in Map 1, all but one colony is in the sagebrush stand that occurs in the SE4 of the NE4, Section 18, T2N, R3E. A portion of this sagebrush stand extends into the SW4 of the NE4, on the west side of an ephemeral drainage channel, but we observed no woven-spore lichen there. In maps submitted by Ann DeBolt in 1995, however, a colony is indicated as occurring west of the ephemeral drainage in the SW4 of the NE4. All known colonies in this stand occur east of the ephemeral channel. A disjunct colony (#1) occurs in the sagebrush stand at the base of the slope in the NE4 of the SE4, Section 18. Few clumps were observed there. These colonies represent occurrence number 012 in the CDC’s data base.

Habitat

Woven-spore lichen occurs in the Wyoming sagebrush/bluebunch wheatgrass (*Artemisia tridentata* ssp. *wyomingensis*/*Agropyron spicatum*) habitat type (Hironaka et al. 1983). Bottlebrush squirreltail is the dominant bunchgrass in the understory, with only small amounts of bluebunch wheatgrass, a pattern typical of slightly degraded stands of this habitat type (Hironaka et al. 1983). All the sagebrush stands containing woven-spore lichen are flat. Other associated species include the soil crust lichens *Aspicilia*, *Cladonia*, and *Diploschistes*, and the vascular plants *Zigadenus paniculatus*, *Bromus tectorum*, *Draba verna*, *Stipa* sp. (*comata*?), *Erigeron pumilus*, *Phlox longifolia*, and *Plagiobothrys* sp.

We did not find any woven-spore lichen in the stands on the north-facing slope east of the mouth of Isaacs Canyon. We also did not find any on degraded sites where there was high cover of exotic plant species, especially cheatgrass (*Bromus tectorum*).

A large stand of sagebrush occurring in the NW4 of the NE4 of Section 18, outside of the interchange project rights-of-way, was not surveyed. This stand is more degraded than the two we searched, having a higher cover of cheatgrass in the understory instead of native bunchgrasses.

Conservation

It appears that colonies 1 and 2 are wholly or partially within the right-of-way and will be destroyed. Colony 2 is one of the two largest colonies observed. The colony discovered by Ann DeBolt west of the ephemeral drainage in the SW4 of the NE4 is also directly in the right-of-way and will be destroyed. The remaining colonies and their habitat, consisting of the sagebrush stand in the SE4 of the NE4, should be off-limits to any disturbances from construction activities. There is a good chance that these colonies will persist in this small stand if they are not disturbed. It is especially important to protect Colony 9, as it represents the single largest colony in the area.

If the area occupied by sagebrush in the NW4 of the NE4 is to be used in any way, such as a staging area, then a survey should be conducted to determine if any woven-spore lichen occurs there. Populations should be placed off-limits to disturbance if any are found.

REFERENCES

- Hironaka, M., M.A. Fosberg, and A.H. Winward. 1983. Sagebrush-grass habitat types of southern Idaho. Bulletin Number 35. Forest, Wildlife and Range Experiment Station, University of Idaho, Moscow, ID. 44 p.
- McCune. Status of a globally ranked (G2) rare lichen species, *Texosporium sancti-jacobi*. Unpublished report on file at the Boise District Office, Bureau of Land Management, Boise, ID. 38 p.
- Moseley, R.K. 1994. Report on the conservation status of *Lepidium papilliferum*. Unpublished report on file at the Conservation Data Center, Idaho Department of Fish and Game, Boise, ID. 35 p., plus appendices.
- Noss, R.F., E.T. LaRoe III, and J.M. Scott. 1995. Endangered ecosystems of the United States: A preliminary assessment of loss and degradation. Biological Report 28. USDI, National Biological Service, Washington, D.C. 58 p.

MAP 1

Location of colonies of woven-spore lichen in the vicinity of the Isaacs Canyon Interchange.
Photocopied portion of the preliminary IDT map of the proposed right-of-way, dated January 3,
1996.