RESULTS OF 1996 FIELD INVESTIGATIONS FOR *SAXIFRAGA BRYOPHORA* VAR. *TOBIASIAE* (TOBIAS' SAXIFRAGE) AND *DOUGLASIA IDAHOENSIS* (IDAHO DOUGLASIA) ON THE PAYETTE NATIONAL FOREST

by

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Abstract

We report on field work conducted during 1996 on the Payette National Forest for two U.S. Forest Service Region 4 Sensitive plant species, Tobias' saxifrage (*Saxifraga bryophora* var. *tobiasiae*) and Idaho douglasia (*Douglasia idahoensis*). The North Fork Pearl Creek population of Tobias' saxifrage was revisited to determine if it was still extirpated two years after being destroyed by wildfire. No Tobias' saxifrage was found during a resurvey of the original population site, nor in nearby areas to the south and east that were also searched. It is looking more likely that this population has been extirpated. Because little is known about the ecology of Tobias' saxifrage, it is possible our ability to observe above-ground material may take longer than two years of post-fire recovery. Therefore, annual monitoring of the population site should continue for the next several years.

A survey for Idaho douglasia was undertaken near the south-central border of the Payette National Forest in the Square Top, Blackmare Summit, and White Rock Peak areas. Although some suitable-appearing habitat occurs in these areas, no Idaho douglasia was found. During the field survey for Idaho douglasia, a population of Kellogg's bitterroot (*Lewisia kelloggii*) was discovered at White Rock Peak. This is the first documented occurrence of this species on the Payette National Forest. Kellogg's bitterroot is known from a few scattered stations in the central Idaho mountains that are disjunct from the species' main range in the Sierra Mountains of California. An evaluation of morphological and phenological characteristics between Idaho and California populations indicates that Idaho populations represent a unique taxon. Additional studies are underway in California to fully determine the taxonomic disposition of the Idaho populations. The Payette National Forest should coordinate with the Boise National Forest, which has initiated efforts to add Kellogg's bitterroot to the Region 4 Sensitive plant list.

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SAXIFRAGA BRYOPHORA VAR. *TOBIASIAE*

Introduction

Saxifraga bryophora var. *tobiasiae* (Tobias' saxifrage) is one of Idaho's rarest plants, being endemic to a small area of the Salmon River Mountains north of McCall, Idaho. It is known from five populations, all on the Payette National Forest. Four of the populations occur within the perimeter of the Corral and Blackwell fires, which burned during August through October 1994. To determine the effects of these fires on Tobias' saxifrage populations and habitat, Moseley resurveyed the populations in 1995 (Moseley 1996) using maps and data that he collected during the original status survey in 1989 (Moseley 1989). In 1995, he found that habitat containing three populations actually burned, while one was in an unburned portion of the Blackwell Fire. Preliminary habitat and population assessments from the 1995 inventory indicate that two of the burned populations were probably not greatly affected because of the low burn intensity or spotty burn pattern of the fires. One population, North Fork Pearl Creek, was not found in 1995, and may be extirpated. A combination of the plant's life history characteristics and the severe intensity of the burn and subsequent erosion may have contributed to its disappearance from the site. Moseley recommended that the North Fork Pearl Creek population should be revisited in 1996 to determine if it was extirpated or if more than one year of post-fire recovery of the habitat is needed (Moseley 1996).

Results

On August 27, 1996, Moseley again used the original 1989 field maps and data to try and relocate the four small patches that made up the North Fork Pearl Creek population. None was found. The search area was expanded to include the area south to Pearl Lake and east to the basin north of the "Rain" triangulation station (Point 8755). No Tobias' saxifrage was observed.

Conclusions and Recommendations

It's looking more likely that the North Fork Pearl Creek population of Tobias' saxifrage was extirpated by the 1994 fire. The Idaho Native Plant Society has it on their highest priority list for globally rare species (G1) and it was recommended for candidate status at the 1996 Idaho Rare Plant Conference (Idaho Native Plant Society 1996). This same conservation status and candidate recommendation should also be made at the 1997 conference. In the CDC data base, we have changed the North Fork Pearl Creek population (002) from extant to extirpated.

The North Fork Pearl Creek population consisted of four, very small subpopulations in 1989. It is conceivable that these subpopulations were recently established or are remnants of older populations the were reduced by canopy closure of the forest. It is also conceivable that small, outlying populations, such as at North Fork Pearl Creek,

are vulnerable to high-magnitude disturbances and regularly extirpated. Because little is known about the ecology of Tobias' saxifrage, it is possible that our ability to observed above-ground plant material may take longer than two years of post-fire recovery. Therefore, annual monitoring of the site should be continued for the next several years.

In addition to monitoring the North Fork Pearl Creek population for signs of Tobias' saxifrage, there is a considerable amount of suitable-appearing habitat that remains to be surveyed. Areas searched by me in 1989 are displayed on maps in Moseley (1989). Further searches should include the Granite Mountain-Hard Butte-Patrick Butte divide, Squaw Point-Bear Pete Mountain divide, and the Payette Crest, east of McCall. Sensitive plant clearances should be conducted for all projects that occur in suitable habitat in these regions of the Forest.

DOUGLASIA IDAHOENSIS

Introduction

Idaho douglasia (*Douglasia idahoensis*) is a showy-flowered perennial herb that forms a low, spreading cushion or mat on the soil surface. It occurs along subalpine ridges, summits, and adjacent upper slopes, in open or partially wooded areas. It usually is found on northerly aspects, and on well-drained, shallow soils derived from decomposing granite of the Idaho batholith. Additional information regarding the taxonomy, identification, and habitat of Idaho douglasia has been previously detailed (Moseley 1988). Idaho douglasia is a regional endemic of the central Idaho mountains that occurs in small, isolated populations. These are clustered in five main areas - the Middle Fork and North Fork Boise river drainages in eastern Boise and adjacent Elmore counties, the South Fork Salmon River/South Fork Payette River drainages of northern Boise and adjacent southern Valley counties, the North Fork Payette and Middle Fork Payette river drainages in central to northern Valley county, the Gospel Hump area in central Idaho County, and the upper Selway River drainage in eastern Idaho County.

Idaho douglasia is a U.S. Forest Service Region 4 Sensitive plant species. It is considered globally rare, although not imperiled. Over the past decade, several field inventories for Idaho douglasia have been conducted by the Forest Service and other investigators, including on portions of the Payette National Forest (Moseley 1988). Although populations are known from adjacent areas on the Boise and Nez Perce national forests, Idaho douglasia has never been found on the Payette National Forest (NF).

In 1996, the Payette NF contracted with the Idaho Department of Fish and Game's Conservation Data Center to inventory for Idaho douglasia east of Donnelly, near the south-central border of the Forest. Moseley (1988) noted this part of the Forest contained suitable-appearing Idaho douglasia habitat and recommended further searches take place. The Payette NF specifically identified the Square Top and White Rock Peak areas as potentially suitable Idaho douglasia habitat.

Results

Field investigations for Idaho douglasia on the Payette NF were conducted by Mancuso during July 20 to July 23, 1996. No Idaho douglasia was found. Although Idaho douglasia was the main focus of this field investigation, I was aware that several other rare plant species could potentially occur in the areas and habitats surveyed, including Tobias' saxifrage (*Saxifraga bryophora* var. *tobiasiae*), candystick (*Allotropa virgata*), and Kellogg's bitterroot (*Lewisia kelloggii*). One population of Kellogg's bitterroot was discovered near White Rock Peak.

Three main areas were searched during this investigation and survey routes have been mapped (Appendix 1). Suitable-appearing Idaho douglasia habitat is locally common in a few places, but tends to be patchy. Unsuitable habitat characterized by closed to nearly closed forest stands, and cliffs and largely unvegetated rock piles and aprons were common in most of the areas I surveyed. A summary of the areas I searched follows. In addition, I looked for Idaho douglasia during a recreational hike to the top of Boulder Mountain east of McCall on September 28, 1996, but none was observed.

1. Square Top area - Needles Summit to Square Top summit and continuing along the broken ridge that trends in a southeastern direction to Point 8162. I also surveyed the ridge extending south from the saddle between Needles Summit and Square Top, to south of Point 8379 on the Boise NF. The Needles Summit trail (Trail #101) from Kennally Creek campground to Needles Summit is intersected by a few spur ridges or rocky opening that were briefly searched. Suitable habitat tends to be minimal along the mostly forested spurs.

2. Blackmare Summit area - Blackmare Summit area, including the main ridges leading south to Point 8486, and north to Cougar Creek Summit. The northwestern trending ridge dividing the Kennally Creek and Cougar Creek drainages was surveyed for over one mile from Blackmare Summit to near Point 8069 above Dismal Lake. Along this route, the section between Point 8045 and Point 8069 contains the greatest amount of potential Idaho douglasia habitat I encountered during this field investigation. North of Point 8069, the ridge and associated upper slopes become more cliff-like and broken with minimal Idaho douglasia habitat. A few sections of marginal habitat close to the Blackmare Summit Trail (Trail #099) between Kennally Creek campground and the summit were searched as well.

3. White Rock Peak area - I hiked the White Rock Peak trail (Trail #303) from Poverty Flats campground to the top of White Rock Peak. Suitable Idaho douglasia habitat is mostly confined to near White Rock Peak. This includes the open slopes and ridge associated with the peak, and forest openings near the trail south of the peak. A population of another rare plant, Kellogg's bitterroot was discovered below White Rock Peak.

Discussion of *Lewisia kelloggii*

During the field investigation for Idaho douglasia I discovered a population of Kellogg's bitterroot (*Lewisia kelloggii*) at White Rock Peak. This species is known from about ten scattered stations in the central Idaho mountains, being disjunct from the species main distribution in the Sierra Mountains of California. All known Idaho populations are small in numbers and extent. It is a Priority 1 species on the Idaho Native Plant Society's state rare plant list (Idaho Native Plant Society 1996). Kellogg's bitterroot is not on any Forest Service Sensitive species list in Idaho at the present time. This is the first documented occurrence for Kellogg's bitterroot on the Payette NF. It is also known from some nearby areas to the south on the Boise NF.

Kellogg's bitterroot was found along the ridgecrest immediately east of White Rock Peak (Appendix 2). The population is small, with only 15 or so plants observed in a ten by ten meter area. It occurs in a subalpine forb-dominated community on gravelly, white-colored granitic substrate at approximately 7,730 feet elevation. Overall vegetation is sparse and scattered lodgepole pine (*Pinus contorta*) trees are close by. Associated herbaceous species include needleleaf sandwort (*Arenaria aculeata*), alpine knotweed (*Polygonum phytolaccefolium*), taper-leaved penstemon (*Penstemon attenuatus*), Phlox species (*Phlox* sp.), and little ricegrass (*Oryzopsis exigua*).

The open part of the ridge where Kellogg's bitterroot occurs is a Forest Service helispot landing site (BH-4). Habitat disruption associated with the landing site is the main potential threat to the population. Past use of the landing site seems to have resulted in only minimal disturbance. The population is also located near the White Rock Peak trail, but this appears to be only a minor threat. The location of the population has been mapped (Appendix 2) and occurrence information summarized (Appendix 3).

The Boise NF has initiated efforts to add Kellogg's bitterroot to the Region 4 Sensitive plant species list. An evaluation of morphological and phenological characteristics between Idaho and California populations indicates the Idaho populations of Kellogg's bitterroot represent a unique taxon. Additional studies are underway in California to determine the taxonomic disposition of the Idaho populations (Owen 1996).

Recommendations

To date, Idaho douglasia has not been found on the Payette NF. A population at Gold Fork Rock on the Boise NF is located about six miles south of the Payette NF's southern boundary, while on the Nez Perce NF, the Oregon Butte population is only about six miles to the north. It still seems reasonable to believe that Idaho douglasia has a good potential to occur between these areas on the Payette NF. Despite this and other field investigations, there remains scattered areas of unsurveyed potential habitat on the Forest. For this reason Idaho douglasia should be maintained on the Region 4 Sensitive species list for the Payette NF.

2. Several other areas on the southern Payette NF and adjacent Boise NF appear to contain potentially suitable Idaho douglasia habitat. These include the Blackmare Lookout area, segments of the Payette-Boise national forests boundary ridge east of Square Top, the Green Mountain area, and around the Needles on the Boise NF. These areas should also be eventually searched.

3. A population of Kellogg's bitterroot was discovered on the Payette NF during the course of this field investigation. The Payette NF should coordinate with efforts already initiated by the Boise NF to add Kellogg's bitterroot to the Region 4 Sensitive species list.

References

Idaho Native Plant Society. 1996. Results of the twelfth annual Idaho Rare Plant Conference. Unpublished list on file at the Idaho Conservation Data Center, Idaho Department of Fish and Game, Boise, ID.

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Owen, W. 1996. Letter to the U.S. Forest Service Regional Forester regarding the addition of *Lewisia kelloggii* to the Region 4 Sensitive plant species list.

Appendix 1.

Maps of areas surveyed for *Douglasia idahoensis* on the Payette National Forest.

Map 1. Square Top survey area. Portion of the Blackmare U.S.G.S. 7.5' quadrangle.

Map 2. Blackmare Summit survey area. Portion of the Blackmare U.S.G.S. 7.5' quadrangle.

Map 3. White Rock Peak survey area. Portion of the White Rock Peak U.S.G.S. 7.5' quadrangle.

Appendix 2.

Location map for *Lewisia kelloggii* on the Payette National Forest.

Map 1. White Rock Peak occurrence (006). Portion of the White Rock Peak U.S.G.S. 7.5' quadrangle.

Appendix 3.

Element Occurrence Record for *Lewisia kelloggii* on the Payette National Forest.