

# ***Lomatium greenmanii* Inventory**

**Gene Yates**

**July 23 – July 26, 2007  
Wallowa-Whitman National Forest**

## **Introduction**

The objective of this project was to inventory modeled suitable habitat for *Lomatium greenmanii*.

*Lomatium greenmanii* is a rare paleoendemic plant known from three small localities in the Wallowa Mountains of northeast Oregon. NatureServe has ranked it G1S1 (globally imperiled); and it is a USFWS Species of Concern, and Oregon threatened species. Until 1984 it was believed to inhabit only a few patches amid the summit fellfields of Mt Howard, when a new population was discovered on Ruby Peak. In 2000 a third small population was discovered on Redmont Peak. With these new discoveries, chances increased that other peaks in the Wallowa Mountains could provide habitat for *L. greenmanii*. In 2005, Joanna Schultz and Jeff Matthews developed a predictive model for *L. greenmanii*. This model uses geology, precipitation, slope, aspect and elevation data from known *L. greenmanii* locations to identify and rank areas with the highest probability of occurrence. A Conservation Agreement with the U.S. Fish and Wildlife Service places responsibility on the WWNF to inventory suitable habitat for *L. greenmanii*. The Mount Howard vicinity has been thoroughly inventoried for the presence of *Lomatium greenmanii*, and some inventories have been conducted within the Eagle Cap Wilderness. However, these wilderness inventories were conducted prior to the development of a Schultz-Mathews model and nearly all surveys were restricted to linear routes along highest elevation ridges, generally outside areas the model predicted for moderate and high probability habitat.

## **Study Area**

The study area is located in the Wallowa Mountains, northeast Oregon on higher elevation areas east and west of the Lostine River. The project area focused on modeled habitat on Goat Mountain and nearby areas plus a second location, Traverse Ridge west of Ruby Peak (see attached map).

Habitat for *Lomatium greenmanii* has been reported to grow in areas of open subalpine meadows, these sometimes assuming the appearance of tundra, a description fitting well the fellfield communities and eroded ridgetops (Phlox-Cymopterus communities) described by Johnson (2004).

## Methods

A predictive model designed by Schultz and Matthews (2005) was used to identify areas that would be inventoried for the presence of *Lomatium greenmanii*. Areas of larger contiguous patches of the highest probability habitat that had not been surveyed and were relatively accessible were selected. The map of areas surveyed is attached to this report. Four personnel, each highly trained with years of experience, inventoried the selected habitat patches. These four include Russell Holmes, Regional Botanist, Pacific Northwest Region, Kelli VanNorman, Inventory Coordinator, Interagency Special Status and Sensitive Species Program, Jerry Hustafa, Wallowa Mountains Office Zone botanist, and Gene Yates, Forest Botanist. Suitable habitat was inventoried using the intuitive method; that is, searching more thoroughly portions of the area that appeared to provide the best habitat for *Lomatium greenmanii*. The surveys were undertaken between July 23 and July 26, 2007, a time when the *Lomatium* would have been in the fruiting stage, but still detectable. Survey results were entered into the Forest Service corporate database, NRIS TES Plants (Survey ID = 061605S0001).

## Results

A total of 306 acres of habitat was searched and *Lomatium greenmanii* was not detected. A map of areas surveyed is attached. One former sensitive plant *Cheilanthes feei*, was located on a rock outcrop (UTM 796102 E, 1259024 N NAD83). Only one plant was found. *Cheilanthes feei* is ranked S2 by NatureServe and List 2 by the Oregon Natural Heritage Information Center and, according to the recently adopted R-6 criteria, would be added back to the sensitive species list sometime in 2008. *Cheilanthes feei* cannot, at this moment, be entered as an element occurrence into the NRIS TESP because the species is not currently sensitive (and therefore not among the species listed in the LOV).

## Discussion

While disappointing that *Lomatium greenmanii* was not detected, the survey did provide an opportunity to evaluate, though not statistically validate, the predictive model. A number of the areas identified by the model as high probability did not provide what we considered suitable habitat for *L. greenmanii*. Some modeled areas were of plant communities not associated species with *L. greenmanii*, e.g. green fescue grasslands. Or were too rocky, too arid, or forested with whitebark pine. Other modeled areas, such as traverse ridge, possessed reasonably suitable habitat for *L. greenmanii*, although the plant was not detected.

Our observations of habitat suggest that although not all modeled habitat in these areas was inventoried, we can probably assume areas not closely

examined or passed over during the inventory are not occupied by *L. greenmanii* because they do not possess features consistent with occupied suitable habitat. Therefore, the modeled habitat in these areas could be considered "cleared," quadrupling the reported accomplished acres.

### **Recommendations**

The next logical areas to be surveyed include a few patches of modeled habitat south of Ruby Peak and areas between Redmont Peak and Mt. Howard.

### **Acknowledgements:**

We extend considerable thanks to Kelli VanNorman and Russell Holmes for their participation (and salary contribution) in the inventory. This project was made possible by funding from the R-6 ISSSP program – thank you!

### **Literature Cited:**

Johnson, CG Jr. 2004. Alpine and Subalpine Vegetation of the Wallowa, Seven Devils and Blue Mountains, Publication R6-NR-ECOL-TP-03-004, USDA Forest Service, Pacific Northwest Region, Portland, Oregon.



*Cheilanthes feii* plant located during inventory. On rock outcrop with moss..

**Lomatium greenmanii**  
Inventory  
July 23-26, 2007

**Cheilanthes feei**

**Legend**

■ Survey Polygon

**LOGR Predictive Model**

■ Moderate

■ High

