

ANNUAL BOTANY / NATURAL AREA REPORT FISCAL YEAR 2000

Prineville District
Bureau of Land Management

I. STAFFING

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Little camas
(*Camassia quamash*)
at Big Summit Prairie



II. MAJOR ACCOMPLISHMENTS

A. INVENTORY/NEW POPULATIONS FOUND

Public land at the confluence of the White and Deschutes Rivers was inventoried for *Astragalus tyghensis*, the only species-specific inventory accomplished in FY 2000. *Astragalus tyghensis* was not found and is not suspected at this location.

Through project clearance, monitoring and/or other work, 26 new populations of special status plants were found. This includes populations of *Achnatherum hendersonii* (2), *Astragalus peckii* (5), *Botrychium pumicola* (1), *Juncus torreyi* (4) and *Mimulus jungermannioides* (14).

Two populations of *Achnatherum hendersonii* (a.k.a. *Oryzopsis hendersonii*, Henderson's ricegrass) were located in areas where the plant would be suspected since other populations are nearby: in the Shaniko area and above the North Fork Crooked River. None of Prineville's known populations are of the variety *wallowensis*.

Four of the new populations of *Astragalus peckii* (Peck's milkvetch) were discovered during rangeland allotment field investigations. Field people working within Peck's milkvetch habitat have learned to

recognize this species and to report it when found. As a result, its known range was extended slightly to the north. The other population was discovered during clearance work for potential road quarry material sites. This work also resulted in the extension of a known population. The presence of this plant will complicate any further actions.

One population of *Botrychium pumicola* (pumice grape fern) was discovered during inventory for a possible land exchange. Only one plant was observed.

Four new populations of *Juncus torreyi* (Torrey's rush) were found, two of which were located by a rangeland management specialist after intensive indoctrination by one of the botanists. See, they can learn! It appears that this species is profuse along the drainages where it is found and able to tolerate quite a bit of grazing and other disturbance.

Mimulus jungermannioides (hepatic monkeyflower) continues to make its presence felt as 14 new populations were discovered along the Lower John Day River. Many of these populations are only accessible by boat and in all cases, due to its proclivity to live on vertical basalt walls, threats are non-existent.

B. MONITORING

A total of 70 populations of special status plants were monitored. These included *Achnatherum hendersonii* (1), *Astragalus diaphanus* var. *diurnus* (16 populations), *Astragalus peckii* (4), *Astragalus tyghensis* (5), *Botrychium pumicola* (1), *Calochortus longebarbatus* var. *peckii* (13), *Carex hystericina* (1), *Castilleja chlorotica* (3), *Juncus torreyi* (1), *Lomatium ochocense* (3), *Mimulus jungermannioides* (7), *Ranunculus reconditis* (1), *Talinum spinescens* (1) and *Thelypodium eucosmum* (13). When possible, GPS location data was obtained for each population. Notable information is presented below.



Slimpod shooting star
(*Dodecatheon conjugens*)
at Big Summit Prairie

Most of the *Astragalus diaphanus* var. *diurnus* (transparent milkvetch) populations located within the corridor of the South Fork John Day Wild and Scenic River were visited. All populations appeared secure although some had no plants at all. This is normal for this cyclical species based on weather patterns. For those populations with plants, very few “first year” plants were found, again, normal given the weather. These first year plants become productive during their first year if they can survive, and a small portion of them usually overwinter and become “second year” plants, the main reproductive individuals. One population was observed to have a new livestock fence through the middle of it. Somehow this project got through without botanical review (not a normal situation in Prineville), a new location was surveyed and the fence was relocated.

Four populations of *Astragalus peckii* (Peck’s milkvetch) were monitored to conclude the second phase of a long-term demographic monitoring project for this species in the Bend-Redmond area. The study was established in 1992 and baseline data collected for three consecutive years. Data obtained in 2000 will allow an analysis of population trends and the results incorporated in a new planning document for this portion of the district.

The population of *Astragalus tyghensis* (Tygh Valley milkvetch) near Tygh Valley which was weeded last year was weeded again, and once again, the diffuse knapweed seems to be diminishing. The population in the Criterion area which was inadvertently sprayed in 1998 now has three plants out of an original 23, after no plants were observed in 1999. A nearby “shade tree” was felled to keep this area from being a draw to livestock and other animals. Although the general area is hardly grazed at all, this tree was too close for comfort and removal of this tree should eliminate most potential impacts, giving the population a better chance of recovery. A third population of *Astragalus tyghensis*, along the White River, continues to be impacted by motor vehicles. Plans are underway in 2001 to restrict vehicular access.

The only *Botrychium pumicola* (pumice grape fern) population monitored this year was the one where timber harvest occurred in 1998 under winter conditions. Plants continue to be sparse, even though areas with plants were not impacted by the machinery.

Thirteen populations of *Calochortus longebarbatus* var. *peckii* (Peck’s long-bearded mariposa lily) were monitored. Some populations were in areas impacted by forest health (underburning, tree removal) activities, but in general appear to be healthy. Concerns related to livestock grazing in these areas will need to be addressed. One population which was burned two years ago as part of a larger prescribed fire appears to be exceptionally vigorous, with some areas supporting a density of 10 plants per square meter.

Three populations of *Castilleja chlorotica* (green-tinged paintbrush) were monitored. The population near Horse Ridge, burned accidentally 3 years ago, was observed, and plants continue to be absent from the burned portion but are surviving in the unburned areas. Based on this information, we have been careful to survey for this species when prescribed fire is planned. As a result, a prescribed fire involving paintbrush habitat on Horse Ridge was allowed to be executed, but measures were taken to protect the majority of the plants. Monitoring of this population shows that *Castilleja chlorotica* has, indeed, been killed in the burn areas, but adjacent unburned areas continue to have a healthy, reproductive population. It

is anticipated that re-population will occur over time. Loss of paintbrush from burned areas and subsequent repopulation is the likely scenario if it is assumed that fire was part of the historical ecosystem in this area.

A population of *Carex hystericina* (porcupine sedge) on Sutton Mountain was visited with no disturbances noted and no concerns.

The single population monitored of *Juncus torreyi* (Torrey's rush) indicates that annual streamflow variations may play a part in where this plant flourishes in a given year. Areas where the plant was documented in the past were devoid of plants and an area where last year's remains were had no green plants in 2000. However, plants were observed in a previously undocumented area where there was sufficient moisture.

Three of BLM's four known populations of *Lomatium ochocense* (Ochoco biscuitroot), including the Battle Point population, were qualitatively monitored. No disturbances were noted and none are expected, given the rocky habitat and that fact that all are within the North Fork WSA. In some places the plant literally "carpets the ground". In conjunction with the *Lomatium ochocense* visits, one population of *Achnatherum hendersonii* (Henderson's ricegrass) was observed with no disturbances noted.

Populations of *Mimulus jungermannioides* (hepatic monkeyflower) were monitored on both the Deschutes and John Day rivers. No concerns as the cliff habitat is nearly indestructible.

Our only population of *Ranunculus reconditis* (Dalles Mtn. buttercup) was visited on Mill Creek Ridge. An effort was made to get a really good count. With four people counting we found 688 plants. Most of these were small, non-flowering individuals. Only an estimated 15% were either in flower or bud.

The "10-Mile" population of *Talinum spinescens* (spiny fameflower) that was "dried before its time" in 1999 appeared to be healthy and reproductive. This exemplifies the resiliency of many plant species.

Thirteen populations of *Thelypodium eucosmum* were visited. For the most part, the populations are secure.

One population suffered a natural disaster in that the hillside "grotto" sloughed off, came down the drainage and took most of the population with it. We'll watch this to see if it re-



establishes itself.

Ballhead waterleaf
(*Hydrophyllum capitatum*
var. *capitatum*) at
Big Summit Prairie

Another population, burned by wildfire in 1999, was extremely vigorous. One

plant was observed to be nearly 1.5 meters tall, with 80+ flowering racemes! That's big. Nearly 900 plants were found, with 30% flowering. This vigor is likely to taper off in the next few years but it does indicate that *Thelypodium eucosmum* is fire-tolerant.

C. CLEARANCES

A total of 31 field clearances were completed encompassing 7,393 acres. Types of projects included land exchanges (3,205 acres), watershed/fuels/juniper treatments (2,606 acres), forest health/timber management (460 acres), realty authorizations (1,082 acres), livestock projects (35 acres) and OHV trails (5 acres).

Eighteen botanical waivers were granted, primarily for minor rights-of-way and livestock projects.

III. OTHER WORK

A. NATURAL AREA MANAGEMENT

The third year of the permit system for **The Island ACEC/RNA** continued with good results. Total visits for FY 2000 were 54, only 9.5% of the high of 564 in 1996. Permitted visitors included a group from Central Oregon Community College, the Chemeketans Hiking Club, the Sierra Club and the Central Oregon Audubon Society. Approximately 30% of the visitors were associated with administrative (BLM or OPRD) activities. Two small groups, without permits, were observed hiking up the access trail and were called down and asked to leave by OPRD personnel.

The Island received its annual weed treatment *sans* NPSO due to a scheduling conflict with them. Instead, our three-person botany task force spent a day hand pulling and GPSing medusahead locations. It may be optimistic, but I think we're gaining ground.

The regional National Natural Landmark (NNL) Coordinator from the National Park Service (Steve Gibbons) visited The Island in preparation for an evaluation of the natural area for NNL status. This was followed by a detailed field analysis by Michael Murray, of TNC, contracted by NPS. We are still awaiting final recommendations but it is likely this area will go forward for NNL designation.

Horse Ridge, Forest Creeks (Rough Canyon segment) and Powell Buttes ACEC/RNAs were all visited at least once in FY 2000 to inspect for disturbances (defensibility monitoring) and to add to our floristic lists. The perimeter fence around Horse Ridge ACEC/RNA was maintained and mountain bike traffic was noted in the natural area again. It is likely we will need to post signs to discourage people from riding through the area.

B. CHALLENGE COST SHARE/ COOPERATIVE EFFORTS/OUTREACH

Two challenge cost share projects were funded during FY 2000. The first was the tenth and final year of a long-term demographic monitoring study of *Astragalus tyghensis* conducted by Oregon Dept. of

Agriculture. The study area includes lands near the White River, in north-central Oregon. The second was the third year of a projected five-year study to determine the effects of various disturbances on *Botrychium pumicola*, a species endemic to the lodgepole pine pumice zone near La Pine. Results of both projects are pending.



Old man's whiskers (*Geum triflorum*) on Sutton Mountain

Specimens of *Calochortus longebarbatus* var. *peckii* (Peck's long-bearded mariposa lily) were collected and sent to Edmond Heaton, representing a group of plant conservators in Britain. This group is the holder of two NCCPG (National Council for the Conservation of Plants and Gardens) collections in the UK: the genus *Sisyrinchium* (the grass widows) and the tribe Tigrideae. As a conservation group propagating plants to help guard against extinction, he deeply coveted live specimens of our lily as it is sterile and therefore produces no seed. They have applied for the *Calochortus* national collection as well.

The Prineville District Botany Web Page got up and going over the winter. Still basic, it contains photos and narratives of the special status plants known to occur in the district, the district's special status plant list, status definitions and a "wildflower update" page. This site will be expanded in 2001.

Two collection permits were issued: one to the University of Washington to collect plants in the Sutton Mountain area as part of their annual "herbarium foray", and one to Dr. Bruce McCune of OSU for a lichen field trip.

Watchable Wildflowers may soon be coming to a

district near you. John Craig, of OSO, spent two days in the district photographing wildflowers in preparation for an Oregon BLM Watchable Wildflowers web site and possible booklet publication. Some of photographs are the ones appearing in this report. A portion of one day was spent on the Chimney Rock Trail, on the Lower Crooked River. A portion of the next was spent at Big Summit Prairie, along with local outdoor writer Ed Park.

Two field trips were conducted. First, the 6th grade class from Crook County Christian School went on a field trip on the Chimney Rock trail. Important plants were identified and discussed, and then the class had to key out ten plants using a basic key. A rattlesnake on the trail helped to make the day!

Later in the year BLM led a “plant walk” in support of Prineville Reservoir State Park’s first annual “Star Party”. This was to be an “extra curricular” event to help broaden participants’ knowledge of the natural world.

C. OTHER PROGRAM SUPPORT

Botanical input continued to be provided to all resource management programs as needed, especially as related to the lands and hazardous fuel reduction programs. Gail spent a week on the John Day River helping to identify plants and communities in support of the ecological monitoring efforts on the river. This also resulted in a number of new *Mimulus jungermannioides* populations, as described earlier.

D. OTHER ITEMS OF INTEREST

This was JoAnne



Arm

Yellowhairy Indian paintbrush
(*Castilleja xanthotricha*)
from Sutton Mountain

son’s first season doing botany work. She admits the work was intimidating at first, but with her background, “expert” mentoring from Gail and Ron (go out and call us when you get back) and her professional attitude and work ethic, she’ll be totally up to speed in no time at all. In fact, much more was accomplished this year than anticipated. She is a wonderful asset to the program and plans to be available at least five months each year.

JoAnne and Ron attended the second-ever Bureauwide botany meeting in January (Portland). This was a good time to meet counterparts from other parts of the country. JoAnne also represented BLM at the biannual Rare Plant Conference, this year held at the Malheur Field Station.

Gail worked minimally during the year, but is planning on being “half-time” during the next field season. This is good news for Prineville Botany.

A volunteer (coincidentally a mutual acquaintance of both Gail and JoAnne) gave some serious time helping out with the *Astragalus peckii* monitoring and also helped with *Calochortus longebarbatus* var. *peckii* monitoring. We also received assistance from Phil, in the Realty program, and from Teal, in the Range program. Thanks also to Craig for learning how to identify *Juncus torreyi*!

IV. GEOAREA STATISTICS

High Desert

1 new population found (*Achnatherum hendersonii*)
20 populations monitored (*Calochortus longebarbatus* var. *peckii* - 13; *Castilleja chlorotica* - 3; *Lomatium ochocense* - 3; *Achnatherum hendersonii* - 1)
6 botanical waivers (livestock projects, minor ROWs, fuel treatment)
2,838 acres botanical clearance (fuels treatments, forest health, livestock projects, realty authorizations, OHV trails, watershed restoration)

Lower Deschutes

80 acres botanical inventory (*Astragalus tyghensis*)
1 new population found (*Achnatherum hendersonii*)
11 populations monitored (*Astragalus tyghensis* - 5; *Mimulus jungermannioides* - 4; *Ranunculus reconditis* - 1; *Talinum spinescens* - 1)
2 botanical waivers (fences)
41 acres botanical clearance (rights-of-way)

Lower John Day

18 new populations found (*Juncus torreyi* - 4; *Mimulus jungermannioides* - 14)
14 populations monitored (*Carex hystericina* - 1; *Juncus torreyi* - 1; *Mimulus jungermannioides* - 3; *Thelypodium eucosmum* - 9)
1 botanical waiver (fire rehabilitation)

Upper Deschutes

6 new populations found (*Astragalus peckii* - 5; *Botrychium pumicola* - 1)
5 populations monitored (*Astragalus peckii* - 4; *Botrychium pumicola* - 1)
8 botanical waivers (minor rights-of-way and realty permits)
4,174 acres botanical clearance (rights-of-way, land exchanges)

Upper John Day

20 populations monitored (*Astragalus diaphanus* var. *diurnus* - 16; *Thelypodium eucosmum* - 4)
1 botanical waiver (fence)
340 acres botanical clearance (timber management)