FIELD SURVEY FOR REGION ONE FOREST SERVICE SENSITIVE PLANT SPECIES IN THE BRONCO BEAUTY ANALYSIS AREA, FERNAN RANGER DISTRICT, COEUR D'ALENE NATIONAL FOREST

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INTRODUCTION

This field survey report addresses the area identified as the Bronco Beauty analysis area on the Fernan Ranger District of the Coeur d'Alene National Forest.

There are no federally listed threatened or endangered plant species known from or suspected to occur on the Coeur d'Alene National Forest. Sensitive species are determined by the Regional Forester (FSM 2670.5) as those species for which population viability is a concern. Following is a list of Region One Forest Service Sensitive Plant Species known to occur on the Coeur d'Alene National Forest (Table 1), a list of Region One Forest Service Sensitive Plant Species suspected to occur on the Coeur d'Alene National Forest (Table 2), a list of Region One Forest Service Watch Plant Species known to occur on the Coeur d'Alene National Forest (Table 3), and a list of additional rare plant species (Moseley and Groves 1992) with no Forest Service status that are known from the Coeur d'Alene National Forest or vicinity (Table 4). Table 5 lists likely habitats for Sensitive and rare plant species on the Coeur d'Alene National Forest.

Table 1. Region One Forest Service Sensitive Plant Species known to occur on the Coeur d'Alene National Forest.

Botrychium minganense	Mingan moonwort
Carex californica	California sedge
Cypripedium fasciculatum	clustered lady's slipper
Mimulus clivicola	bank monkeyflower
Romanzoffia sitchensis	Sitka mistmaiden

Table 2. Region One Forest Service Sensitive Plant Species suspected to occur on the Coeur d'Alene National Forest.

Cardamine constancei	Constance's bittercress

Table 3. Region One Forest Service Watch Plant Species known to occur on the Coeur d'Alene National Forest.

Carex tumulicola	foothills sedge
Waldsteinia idahoensis	Idaho strawberry

Table 4. Additional rare plants (from Moseley and Groves 1992) known from the Coeur d'Alene National Forest or vicinity with no Forest Service status .

Astragalus bourgovii	Bourgeau's milkvetch
Carex aenea	bronze sedge
Eburophyton austiniae	phantom orchid
Dodecatheon dentatum	white shooting-star
Ivesia tweedyi	Tweedy's ivesia
Ludwigia polycarpa	false-loosestrife
Psilocarphus tenellus	slender woolly-heads
Scirpus cyperinus	wool-grass
Viola sempervirens	redwoods violet

Table 5. Likely habitats of Region One Forest Service Sensitive and Watch species as well as other rare plants known from the Coeur d'Alene National Forest or vicinity.

NONFORESTED SUBALPINE BALDS

Astragalus bourgovii
Carex californica
Carex tumulicola?
Ivesia tweedyi
Romanzoffia sitchensis

NONFORESTED MONTANE SLOPES

Mimulus clivicola
Psilocarphus tenellus

WETLAND/RIPARIAN

Carex aenea
Dodecatheon dentatum
Ludwigia polycarpa
Scirpus cyperinus

FOREST

Botrychium minganense
Cardamine constancei
Cypripedium fasciculatum
Eburophyton austiniae
Viola sempervirens
Waldsteinia idahoensis

PRESURVEY ANALYSIS

Prior to a field inventory of the Bronco Beauty area, we compiled all existing information on rare plants from the Coeur d'Alene National Forest and vicinity. Much of this data was in the map, manual and computer files of the Conservation Data Center's data base. We found that no rare plant occurrences were known from the analysis area, although Mimulus clivicola (occurrence 069)[1]

[1]The three digit code following a species refers to the reference number used for that occurrence in the Conservation Data Center's data base.

and Viola sempervirens (occurrence 036) populations are known from within ca. two miles of the analysis area boundary. In addition, Peg Sheridan, Fernan Ranger District Wildlife Biologist, provided maps outlining potential habitat for Mimulus clivicola in the Bronco Beauty area.

FIELD SURVEY

The Bronco Beauty analysis area, which largely coincides with the Beauty Creek drainage, was surveyed on August 23-27, 1992. Although the habitats appeared suitable for several species, no occurrences of Forest Service Sensitive Plant Species or other rare species were located in the area. Nearly every major drainage within the analysis area was surveyed. We specifically concentrated on riparian zones, nonforested slopes and ridgelines, and in older forest stands. These habitats have a higher probability of harboring rare plant populations than shrubfields, younger forest stands, and road right-of-ways which dominate much of the analysis area.

VEGETATION

Three major vegetation types, upland forest, riparian, and grassland, occur in the analysis area. Following is a description of each:

Upland Forest - This habitat dominates a majority of the Beauty Creek drainage. These forests contain a relatively high diversity of tree species, for Idaho at least, including Douglas-fir (Pseudotsuga menziesii), ponderosa pine (Pinus ponderosa), grand fir (Abies grandis), western hemlock (Tsuga heterophylla), Pacific yew (Taxus brevifolia), and western redcedar (Thuja plicata). Occasionally, aspen (Populus tremuloides) and black cottonwood (P. trichocarpa) were also observed. Forest communities fall into the following habitat type series (Cooper et al. 1987): western hemlock, western redcedar, grand fir and Douglas-fir. No ponderosa pine habitat types were observed; the driest forest stands, occurring on steep, south-facing slopes, receive enough moisture to support Douglas-fir as the climax species.

No subalpine forest habitats were observed in the analysis area. Apparently the ridges surrounding Beauty Creek are not high enough in elevation to support the common subalpine tree species of the region, such as subalpine fir (Abies lasiocarpa), mountain hemlock (Tsuga mertensiana) or Engelmann spruce (Picea engelmannii). Cold air drainage also does not appear to be an influence in the Beauty Creek drainage. None of the subalpine tree species that are typically seen interfingering with montane habitats along drainage bottoms, such as subalpine fir and/or Engelmann spruce, were observed in the analysis area.

A majority of the forests are comprised of trees of fairly young age classes. In fact, most of the drainage has forest stands that appear to be about the same age, possibly indicating that a large fire swept through the drainage within the last century or so. The only older stands of trees occurred along drainage bottoms in the Thuja plicata/Oplopanax horridum (devil's club) habitat type and on steep north-facing slopes immediately above the creek, generally in the Tsuga heterophylla/Asarum caudatum (wild ginger) habitat type. Occasional old stands of ponderosa pine occur on some of the higher south-facing slopes, although many of the big trees have been high-graded from these slopes over the last century. All these sites would be less likely to carry the stand replacing fire speculated on above and consequently have older stands.

Shrubfields now dominate some of the forest stands that have been clear cut recently. A wide variety of tall shrubs occur in these shrubfields, including snowberry (Symphoricarpos albus), ninebark (Physocarpus malvaceus), oceanspray (Holodiscus discolor), thimbleberry (Rubus parviflora), chokecherry (Prunus virginiana), Rocky Mountain maple (Acer glabrum), among others.

Riparian - Most of the riparian zones in the analysis area are or were dominated by western redcedar habitat types, especially the Thuja plicata/Oplopanax horridum habitat type. Roads, a campground, a mine and other developments along lower Beauty Creek and lower Varnum Creek have altered the composition of the riparian zone in these areas. They have opened up the generally dense western redcedar canopy and allowed shrubs and native and nonnative grasses to increase. Thin-leaf alder (Alnus incana) occurs sporadically in several of the drainage bottoms, but is most common along lower Beauty Creek, between the road and the creek.

Grasslands - Grasslands dominate steep, south-facing slopes throughout the Beauty Creek drainage. In addition to steepness and the relative aridity caused by the south-facing aspect, these nonforest communities also have shallow soil over a sometimes unstable substrate of metamorphic bedrock. The higher elevation sites, on Red Horse Mountain for example, may also be affected by exposure to the prevailing winds and the wind-induced snow transfer to lee slopes in the winter. In some cases the ecotone between forest and grassland is quite wide and a woodland develops that has an open overstory of ponderosa pine or, to a lesser extent, Douglas-fir. Dense patches of shrubs, such as ninebark, buck brush (Ceanothus velutinus), oceanspray, and snowberry, sometimes dominate the borders of grasslands. Grasslands of the lowest elevation slopes, which are generally very steep and rocky, are dominated by bluebunch wheatgrass (Agropyron spicatum). The remaining grassland and woodland communities are generally codominated by bluebunch wheatgrass and Idaho fescue (Festuca idahoensis), with Idaho fescue increasing in prominence at the

higher elevation sites, especially on Red Horse Mountain. Species commonly associated with these grasslands include, taper-leaved penstemon (Penstemon attenuatus), ballhead sandwort (Arenaria congesta), yellow buckwheat (Eriogonum flavum), Sandberg bluegrass (Poa secunda), timber oatgrass (Danthonia intermedia), lesser club-moss (Selaginella wallacei), and biscuitroots (Lomatium triternatum and L. sandbergii?). Lesser club-moss has high coverage in many grassland stands.

The highest quality example observed was a grassland dominated by Idaho fescue on a gentle, south-facing ridgeline west of upper Lost Man Creek in NW4 of Section 18, T49N, R2W. It spans about 400 feet of elevation from 3,600 to 4,000 feet. Bluebunch wheatgrass is prominent in the community and there is a high diversity of associated forbs. Several old ponderosa pine are scattered throughout the grassland. Very few weeds are present.

Similar to the forest, the grasslands on ridgelines surrounding Beauty Creek are not high enough in elevation to have any prominent subalpine elements, such as green fescue (Festuca viridula) and beargrass (Xerophyllum tenax), that are found in subalpine balds farther east in the Coeur d'Alene and St. Joe mountains, generally above 6,000 feet.

RARE PLANTS

Although no rare plant populations were found during our 1992 survey, some species have a high probability of being found in the drainage if surveys are conducted during climatically favorable years. Likewise, we did not observe potential habitat for several of the species listed in the Introduction, and the probability of finding them in the Beauty Creek drainage is low. This section describes our impression of potentially suitable habitats and the probability of finding any species on the target list during additional surveys.

Mimulus clivicola Bank monkeyflower could conceivably occur on any of the south-facing grassland openings in the analysis area. The extraordinarily dry, warm spring created conditions unfavorable for germination and growth of most annual species, including bank monkeyflower. Although we could not confirm the presence of bank monkeyflower in Beauty Creek in 1992, it may be present in the soil seed bank. Elsewhere in Idaho, we observed few if any bank monkeyflower this year at several previously known populations on the Clearwater and Nez Perce national forests. Jill Blake, Forest Botanist for the Idaho Panhandle National Forests, described a similar situation at previously known Coeur d'Alene National Forest populations. Monitoring data from permanent transacts on the Clearwater and Nez Perce NFs, and other observations throughout its Idaho range, indicate that bank

monkeyflower is particularly sensitive to spring weather patterns (Lorain and Moseley 1989; 1990).

Bank monkeyflower (occurrence 069) is known from the open slopes of Carrill Peak, about two miles south of the analysis area boundary. Peg Sheridan, Fernan Ranger District Wildlife Biologist, searched the open slopes west of Elk Mountain in June and July, 1992, and found no bank monkeyflower. The open slopes in the analysis area need to be checked during a year with a more favorable weather pattern.

Psilocarphus tenellus Slender woolly-heads has a similar life history and habitat as Mimulus clivicola. It is a diminutive annual member of the composite family. No plants were observed in the analysis area, but because this was such a poor year for detecting annuals, it may not have been observable this year. The nearest known occurrence of this species is a vague, 50-year-old collection from the Coeur d'Alene vicinity (occurrence 001).

Eburophyton austiniae Experience with phantom orchid in the Clearwater River drainage indicates that the observable portion of its population fluctuates widely from year to year. Since this species is an achlorophyllus parasite or saprophyte, it only needs to send up above-ground shoots for sexual reproduction. In the Clearwater basin, some years there is virtually no sign of it above ground, while the next it may be a locally common understory species in the same forest stands. Stand ages in the Beauty Creek drainage are similar to those I've observed it in the Clearwater basin; generally in mid-seral, closed-canopy stands. The nearest known population of phantom orchid to Beauty Creek is approximately five miles to the north, in the Wolf Lodge Creek drainage (occurrence 035).

Viola sempervirens Although it was expected in the area, we observed no redwoods violet populations. The only violets observed were Viola adunca and V. orbiculata; none had stolons, a distinguishing characteristic for redwoods violet in our area. Occurrence 036, located near Killarney Mountain approximately two miles east of the analysis area, occurs in habitats very similar to those found in the Beauty Creek drainage. There is a high probability that it occurs in the drainage; it is very surprising none was found in the area.

Carex californica, Ivesia tweedyi, and Astragalus bourgovii As mentioned in the previous section, the ridgelines in the analysis area do not reach elevations high enough to have typically subalpine elements such as green fescue and beargrass. It is, therefore, not surprising the no populations of these three

species were found. They are all subalpine elements that occur in subalpine balds in the Coeur d'Alene Mountains, mostly above 6,000 feet. The nearest populations of any of the species are approximately 20 miles east of the study area (Caicco 1988).

Romanzoffia sitchensis Sitka mistmaiden occurs in moist to wet sheltered areas of steep, north-facing cirque headwalls at high elevations. It is not expected to occur in the Beauty Creek drainage because nowhere do the ridgelines reach subalpine elevations and the area was not glaciated. The nearest known population of this Forest Service Sensitive Species is on Stevens Peak (occurrence 005), approximately 30 miles to the east.

Carex tumulicola The exact location and habitat of foothill sedge on the Coeur d'Alene National Forest is not known (Caicco 1988). Throughout its range, however, it occurs on dry slopes and meadows. No sedge fitting the description of foothill sedge was seen on the grassland slopes of the analysis area. There is a remote possibility that it could occur there.

Carex aenea, Ludwigia polycarpa, and Scirpus cyperinus These species require relatively open wetland habitats. The nearest populations of Ludwigia polycarpa are known from the extensive wetlands at the head of Fernan Lake (occurrence 001) and at Rose Lake (occurrence 002), both approximately five miles from Beauty Creek. Scirpus cyperinus (occurrence 017) is also known from Rose Lake and other wetlands in the lower Coeur d'Alene River valley. The nearest population of Carex aenea is from French Gulch on the outskirts of Coeur d'Alene (occurrence 002; Caicco 1988). No habitat for any of these species was observed in the Beauty Creek drainage and it is doubtful whether they will be found there.

Dodecatheon dentatum White shooting-star could conceivably occur in seepy areas in the riparian zones of the Beauty Creek drainage. None was observed however. The nearest population known is south of Pinehurst (occurrence 007), approximately 15 miles east of the analysis area.

Cardamine constancei and Waldsteinia idahoensis Constance's bittercress and Idaho strawberry are not know from the western part of the Coeur d'Alene National Forest, but their presence in Beauty Creek drainage is possible, especially the bittercress. None was observed, however. The nearest locations of bittercress are south of Pinehurst (occurrence 036), approximately 15 miles east of the area, and near the Shoshone Work Center for the Idaho strawberry (occurrence 023), approximately 30 miles northeast of Beauty Creek.

Botrychium minganense This diminutive fern is not habitat specific and is easily overlooked. It can occur in any forest sere, from shrubfield to old-growth, and even in nonforested, mesic meadows (Lorain 1990). None was observed in the study area, although it is entirely possible that it occurs there. In addition to being easily overlooked, it occurs in small populations. For example, the nearest known site is in the upper Coeur d'Alene River drainage near Hearse Creek (occurrence 005) where the population consisted of a single plant in 1990.

Cypripedium fasciculatum Similar to Botrychium minganense, clustered lady's-slipper occurs in small populations that could be easily missed in a broad survey such as ours. It is, however, a much larger plant and more readily observable if you are in the vicinity. It also occurs in forest stands with relatively dense overstories and depauperate understories. The nearest known population, based on rather vague, 60-year-old collection data, is from the Fernan Saddle area, approximately ten miles north of Beauty Creek. It is possible that this Forest Service Sensitive Species occurs in the analysis area.

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