

THE FLORISTIC FEATURES OF
ROCK CREEK CIRQUE,
CHALLIS NATIONAL FOREST

by

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INTRODUCTION

The mountain ranges of east-central Idaho contain the highest elevations in the state, along with the largest extent of land above upper timberline. Botanical exploration of the alpine zone of east-central Idaho in the late 1970's and early 1980's catalogued numerous plant species that are rarely seen at lower elevations and identified several areas with high floristic values (Henderson *et al.* 1979; Brunsfeld 1981; Caicco and Henderson 1981; Henderson *et al.* 1981; Brunsfeld *et al.* 1983, Caicco 1983; Moseley 1985). One area that was apparently overlooked during these studies was the cirque in upper Rock Creek, below the north face of Borah Peak, in the central Lost River Range. During botanical exploration of the Rock Creek Cirque in 1987, I discovered four plant species that are considered rare in Idaho; three are arctic-alpine species whose populations in Idaho are widely disjunct from their main range and the fourth is endemic to the Lost River and Lemhi ranges. A fifth disjunct species was discovered in Rock Creek in 1991. Later sections of this report outline the extraordinary physical features and biological values of the Rock Creek Cirque in greater detail.

The high concentration of rare plants in Rock Creek Cirque, confined to a relatively small area, is unusual and matched by only a few other alpine areas of the state. I believe that it should be given special recognition commensurate with its botanical significance. The Special Interest "Botanical" Area designation, a program housed in the Recreation Branch, would provide adequate protection to this beautiful area while at the same time facilitate the interpretation of the unique botanical features at Rock Creek Cirque for the public.

SPECIAL INTEREST AREA DESIGNATION

The National Environmental Policy Act of 1970, section 101(b) 3 and 4, declares that it is the responsibility of federal agencies to attain the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable or unintended consequences, and to preserve important historic, cultural, and natural aspects of our national heritage, maintaining, wherever possible, an environment that supports biological diversity. Special Interest Areas (SIAs) are established on National Forests by the Regional Forester to preserve historically, culturally, and biologically significant areas pursuant to 36 CFR 294.1a. SIAs are addressed in section 2360 of the Forest Service Manual (FSM). The objectives of SIAs, as identified in the FSM, are to protect and, where appropriate, foster public use and enjoyment of areas with scenic, historical, geological, botanical, zoological, paleontological, or other special characteristics. The definition of a Botanical Area, found in FSM 2362.43 and 2372.05 is as follows: a unit of land that contains plant specimens, plant groups, or plant communities that are significant because of their occurrence, habitat, location, life history, ecology, rarity, or other features. FSM 2362.43 also states that an inventory of National Forest land and waters that have such characteristics will be maintained. FSM 2670 also gives direction to National Forests to protect and maintain the habitats of Sensitive Species. I believe that the botanical significance of Rock Creek Cirque qualifies it for designation as a Special Interest Botanical Area and that the Challis NF should pursue such a designation.

The goal of a Botanical Area designation, which is a recreation designation, is to acknowledge and highlight a special area of the National Forest. The unique botanical features of an area are protected, yet the purpose is also to provide appropriate access and interpretation of these features for public appreciation and enjoyment of the area. The area should have some public access and should lend itself

to interpretation to the public. The Rock Creek Cirque fits these goals well. Although no designated trail exists into the cirque, many people visit the southern edge of the cirque each year when climbing Borah Peak.

PHYSICAL FEATURES

Topography

The proposed Rock Creek Cirque SIA (Figure 1) consists of a large, glaciated basin at the head of the Rock Creek, on the west slope of the Lost River Range, ca. 17 miles northwest of Mackay, Custer County, Idaho. The predominant physical feature of the Rock Creek Cirque is the nearly 2,000 foot north-facing headwall. This north face of Borah Peak, the highest point in Idaho, has a large permanent snowfield that feeds several springs at the base of the large talus slopes. Although there are no glacial lakes, it is a relatively moist cirque, as compared with others in the Lost River Range, due to the north-facing orientation and large snowfields. Elevations of the area range from about 9,400 feet at timberline, to 12,662 feet on Borah Peak.

Climate

The following characterization of the climate of east-central Idaho is adapted from Wellner (1991). The Lost River Range lies between the northern Rocky Mountains, influenced primarily by Pacific Ocean air masses, and the Great Basin, influenced by storms through California and air from the Gulf of Mexico. In winter, cyclonic storms from the Pacific Ocean are the major influence, but even during these months, the Lost River Range is often on the periphery of storm tracks. In the summer season, storms the southern Pacific or air from the Gulf of Mexico are more important, but even in this season these mountains often are on the periphery of these storms. As a result, the Lost River Range, although containing the highest mountains in Idaho, is a relatively dry massif, and the valleys are some of the driest in Idaho. The precipitation peaks in May and June. Although the rest of the Lost River Range is dry, the large permanent snowfield on Borah Peak's north face creates a relative abundance of mesic and hydric habitats in Rock Creek Cirque.

No climatic data are available from Rock Creek Cirque, however, the record for Mackay, Idaho, 17 miles southeast of the area and 2,500 feet below its lower boundary gives an indication of climatic trends. Precipitation at Rock Creek is greater and temperatures lower than at Mackay. The following NOAA records are from summaries by Johnson (1978):

	Temperature °F	Precipitation inches	
Mean Annual		41.9	9.2
Mean April - October		54.6	5.9
Mean November - March		24.0	3.4

Figure 1. Rock Creek Cirque proposed
Special Interest Botanical Area

Geology

Rock Cirque was formed by alpine glaciation during the Pleistocene. It is this glacial action that formed the dominant topographic features of the area. A small, remnant glacier remains in the cirque and is considered the only active alpine glacier in Idaho (Otto 1976; 1977). It lies in a depression immediately below the headwall. Otto (1976; 1977) speculates that annual precipitation has less of an influence of maintaining the glacier than its shaded location below the massive headwall and arete and from snow accumulation from avalanches off the headwall. In 1975 measurements, the glacier was about 1,300 feet long and 1,000 feet wide at the widest point. Using seismic equipment, ice thickness was found to vary from 210 feet directly below the firn line to 60 feet near the toe of the glacier.

Ross (1947) is at present the best publication on the geology of Rock Creek Cirque, although recent mapping has taken place by Susanne Janecke, University of Utah, but has not yet been published. The entire area is underlain by carbonate Paleozoic sediments, mainly dolomites and limestones. Glacial deposits cover the cirque floor and large colluvial deposits lie below many of the slopes.

FLORISTIC FEATURES

The Rock Creek Cirque lies almost entirely above upper timberline. The climatic limit of upper timberline in this part of Idaho is normally around 10,000 feet. The upper limit of continuous forest in Rock Creek is at approximately 9,400 feet, controlled largely by snow avalanches and debris flows. Isolated stands of subalpine fir (*Abies lasiocarpa*) occur as high as 9,800 feet on ledges away from avalanche and debris flow paths. Much of the basin is comprised of talus and bedrock slopes that are either non- or lightly vegetated. Although low in both numbers of species and population densities, species of these habitats have evolved some marvelous adaptations allowing them to survive and reproduce in these chronically shifting substrates. A majority of the floristic diversity of the cirque is centered around wet areas, such as seeps on cliffs, springs, rivulets, and streams. Wetland vegetation associated with these habitats not only contain the largest number of species, but also the four, rare arctic-alpine disjunct species known from the cirque.

The alpine communities have not formerly been described, but three of the prominent wetland cover types occurring on the cirque floor include a snow willow - single-spike sedge (*Salix nivalis* - *Carex scirpoidea*) community in the drier portion of the meadows and a hummocky new sedge (*Carex nova*) community in the wettest areas. An east-central Idaho endemic, yellow marsh marigold (*Caltha leptosepala* var. *sulfurea*), is locally dominant on lightly vegetated muck around springs.

Five rare species are known from the Rock Creek Cirque. No thorough status surveys have been completed for any of the species, although several studies have treated one or more of them (Henderson *et al.* 1979; Caicco and Henderson 1981; Henderson 1983; Moseley 1989; Moseley and Bernatas 1992). Below is a brief review of their distribution, abundance, and conservation status, along with the significance of the Rock Creek Cirque populations. The rare plant populations are mapped in Figure 1. Detailed location, population, and habitat data is provided for each rare species in Appendix 1, which contains occurrence records from the Conservation Data Center's data base.

***Cymopterus douglassii* (Douglass' wavewing)** Douglass' wavewing is endemic to the central Lost River Range and central Lemhi Range, Custer and Lemhi counties, Idaho (Hartman and Constance 1985; Moseley 1989). It is known from eight sites; seven in the Lost River Range, all in

the vicinity of Borah Peak, and one on Sheep Mountain in the Lemhi Range. The population in Rock Creek Cirque occurs on a dry, nearly level bench on the cirque floor as well as in the gravelly soil of forest openings at timberline. A population also occurs north of the proposed SIA, on the divide between Rock Creek and Mahogany Creek.

This narrow endemic is a Category 2 candidate for listing under the Endangered Species Act (U.S. Fish and Wildlife Service 1990), and is a Forest Service Region 4 Sensitive Species (Spahr *et al.* 1991). The Idaho Conservation Data Center and The Nature Conservancy rank Douglass' wavewing as G2 S2 (G2 = Douglass' wavewing is imperilled globally because of rarity or because of other factors demonstrably making it vulnerable to extirpation; because it is endemic to Idaho, the state (S) rank equals the global (G) rank; Moseley and Groves 1990).

***Erigeron humilis* (low fleabane)** This circumpolar species was not known from Idaho until Henderson *et al.* (1981) reported it from the Lemhi and Lost River ranges. It was later reported from the Pioneer Mountains by Caicco and Henderson (1981). It is now known from only eight small sites in Idaho, all on the Challis NF. The population of low fleabane in the Rock Creek cirque occurs in two small areas with a total of approximately 200 individuals observed in 1987. It occurs around springs and late-lying snow banks on the cirque floor, mainly in the *Carex nova* community.

This circumpolar species is rare in the Rocky Mountains, including the states of Colorado, Wyoming, and Montana, in addition to Idaho (Moseley 1989). In his treatment of low fleabane, Moseley (1989) recommended that low fleabane be added to the Regional Sensitive Species List for the Challis NF. No information has come to light in the last two years that would change its status, and I again recommend that it be added to the Regional List. The Idaho Native Plant Society classifies it as a Monitor species, a category that includes species that are common within a limited range as well as those taxa which are uncommon, but have no identifiable threats (Idaho Native Plant Society 1992). The Idaho Conservation Data Center and The Nature Conservancy rank low fleabane as G4 S2 (G4 = Low fleabane is apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery; S2 = Imperilled in Idaho because of rarity or because of other factors demonstrably making it vulnerable to extirpation; Moseley and Groves 1990).

***Parnassia kotzebuei* (Kotzebue's grass-of-Parnassus)** This species was also not reported from Idaho until recently when Brunfeld *et al.* (1983) reported it from the Lost River Range and Pioneer Mountains. Four occurrences are now known from the state, all on the Challis NF. In the Rock Creek Cirque, it occurs at the upper end of a small meadow in the *Salix nivalis* - *Carex scirpoidea* community. Approximately 200 individuals were widely scattered in this community in 1992.

Kotzebue's grass-of-Parnassus is a Forest Service Region 4 Sensitive Species (Spahr *et al.* 1991). The Idaho Native Plant Society classifies it as a Monitor species, a category that includes species that are common within a limited range as well as those taxa which are uncommon, but have no identifiable threats (Idaho Native Plant Society 1992). The Idaho Conservation Data Center and The Nature Conservancy rank Kotzebue' grass-of-Parnassus as G4 S1 (G4 = Kotzebue' grass-of-Parnassus is apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery; S1 = Critically imperilled in Idaho because of rarity or because of factor of its

biology making it especially vulnerable to extirpation; Moseley and Groves 1990). In addition to Idaho, Kotzebue' grass-of-Parnassus is considered Sensitive in Washington (Washington Natural Heritage Program 1990).

***Saxifraga adscendens* (wedge-leaf saxifrage)** The North American representative of this wideranging species, var. *oregonensis*, occurs throughout the Rocky Mountains and northern Cascade Range. In Idaho, it is known from nine sites in the White Cloud Peaks, Pioneer Mountains, and Lost River Range. In 1987, the Rock Creek Cirque population consisted of a few individuals, widely scattered in gravels along a high-gradient stream. One individual was also seen in 1991, in talus next to the Borah Peak trail (occurrence number 009, Appendix 1), one half mile south of Rock Creek Cirque.

Wedge-leaf saxifrage is a Forest Service Region 4 Sensitive Species (Spahr *et al.* 1991). The Idaho Native Plant Society classifies it as a Monitor species, a category that includes species that are common within a limited range as well as those taxa which are uncommon, but have no identifiable threats (Idaho Native Plant Society 1992). The Idaho Conservation Data Center and The Nature Conservancy rank wedge-leaf saxifrage as G4 S1 (G4 = Wedge-leaf saxifrage is apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery; S1 = Critically imperilled in Idaho because of rarity or because of factor of its biology making it especially vulnerable to extirpation; Moseley and Groves 1990). In addition to Idaho, wedge-leaf saxifrage is considered endangered in Oregon (Oregon Natural Heritage Program 1991) and rare in Utah (Utah Natural Heritage Program 1990).

***Saxifraga cernua* (nodding saxifrage)** Seven small populations of this circumpolar species are known from Idaho. The Rock Creek Cirque population occurs on relatively inaccessible ledges, on the north face of Borah Peak, about 200 feet below the summit. In 1991, the population consisted of about 70 individuals, although more may exist in the inaccessible portions of the face. Associated species in this moist habitat included *Saxifraga oppositifolia* and *Draba lonchocarpa*. Nodding saxifrage was also collected in the vicinity by Steve and Pam Brunfeld. Although more information about the exact location is needed, they probably collected it in the late-1970's along the trail up Borah Peak.

Nodding saxifrage is a Forest Service Region 4 Sensitive Species (Spahr *et al.* 1991). The Idaho Native Plant Society classifies it as a Sensitive species, a category that includes species with small populations or localized distributions in Idaho (Idaho Native Plant Society 1992). The Idaho Conservation Data Center and The Nature Conservancy rank nodding saxifrage as G4 S2 (G4 = Nodding saxifrage is apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery; S2 = Imperilled in Idaho because of rarity or because of other factors demonstrably making it vulnerable to extirpation; Moseley and Groves 1990). In addition to Idaho, nodding saxifrage is considered Sensitive in Washington (Washington Natural Heritage Program 1990) and rare in Utah (Utah Natural Heritage Program 1990).

No systematic floristic inventory of the cirque has been done. Below is a list of vascular plants that are currently known or could be encountered in Rock Creek Cirque. Those species marked with an "*" were collected by myself and the specimens are deposited at the University of Idaho Herbarium (ID). Other species included are those listed for the alpine zone on Doug Henderson's "Checklist of Vascular Plants of the Mt. Borah Region" (Henderson n.d.). Nomenclature generally follows Hitchcock and Cronquist (1973).

SPECIES

Apiaceae

Cymopterus bipinnatus
Cymopterus douglassii
Cymopterus ibapensis

Asteraceae

Achillea millefolium
Agoseris glauca
Antennaria alpina
A. microphylla
A. umbrinella
Aster sibiricus
Chaenactis alpina
Erigeron asperugineus
E. compositus
*E. humilis**
E. leiomerus
E. radicans
*E. simplex**
E. tweedyi
Haplopappus macronema
H. suffruticosus
Hulsea nana
Senecio canus
S. fremontii
S. werneriaefolius
*Solidago multiradiata**
*Taraxacum lyratum**
Townsendia condensata
T. leptotes
T. montanum

Boraginaceae

Cryptantha sobolifera
Eritrichium nanum
Myosotis sylvatica

Brassicaceae

Anelsonia eurycarpa
Draba crassifolia
D. densifolia
*D. lonchocarpa**
D. oligosperma
D. paysonii
Lesquerella carinata
Smelowskia calycina

Caryophyllaceae

Arenaria nuttallii

A. obtusiloba

A. rossii

*A. rubella**

Cerastium arvense

*C. berringianum**

Stellaria longipes

Crassulaceae

Sedum lanceolatum

Cyperaceae

Carex albonigra

*C. nova**

*C. scirpoidea**

*C. subnigricans**

Fabaceae

Astragalus kentrophyta

Lupinus argenteus

Oxytropis besseyi

O. sericea

Gentianaceae

*Gentiana prostrata**

Grossulariaceae

Ribes montigenum

Hydrophyllaceae

Phacelia hastata

Juncaceae

Juncus drummondii

Luzula spicata

Linaceae

Linum perenne

Poaceae

Agropyron scribneri

Calamagrostis purpurascens

Festuca ovina

Leucopoa kingii

*Poa alpina**

P. pattersonii

P. rupicola
P. sandbergii
Sitanion hystrix
Trisetum spicatum

Polemoniaceae

Collomia debilis
Phlox pulvinata
Polemonium viscosum

Polygonaceae

Eriogonum caespitosum
E. ovalifolium
E. umbellatum
Oxyria digyna

Polypodiaceae

Cheilanthes feeii
Cystopteris fragilis
Pellaea breweri

Portulacaceae

*Claytonia megarhiza**

Primulaceae

Douglasia montana
Primula parryi

Ranunculaceae

Anemone drummondii
A. multifida
*A. parviflora**
Caltha leptosepala var. *sulfurea**
Delphinium glaucescens
*Thalictrum alpinum**

Rosaceae

Dryas octopetala
Ivesia gordonii
Kelseya uniflora
Petrophytum caespitosum
*Potentilla diversifolia**
*P. fruticosa**
P. ovina
Sibbaldia procumbens

Salicaceae

*Salix arctica**
S. nivalis

Saxifragaceae

Heuchera grossulariifolia
*Parnassia fimbriata**
*P. kotzebuei**
*Saxifraga adscendens**
S. bronchialis
S. caespitosa
*S. cernua**
S. debilis
S. oppositifolia

Scrophulariaceae

Castilleja inverta
Penstemon humilis
P. montanus
Synthyris pinnatifida

Selaginellaceae

Selaginella densa

MANAGEMENT RECOMMENDATIONS

The Rock Creek Cirque currently receives minimal recreational use. There is an old, unmarked, and overgrown trail that ascends Rock Creek from the end of the road, but apparently ends low in the upper basin or possibly continues through the low pass into Mahogany Creek. There is no trail in the proposed SIA. There is a well-worn trail that reaches the southern boundary of the proposed SIA on the summit of Borah Peak. There is little evidence of camping in the cirque. Occasionally, climbers hike through the cirque and climb the north face of Borah Peak (Lopez 1990). A guiding service out of Stanley is permitted by the Challis NF to guide clients on this route.

By and large, no clear anthropogenic threats to the populations of rare plants in Rock Creek Cirque were seen during 1987 and 1991, however, all populations are small and vulnerable to extirpation. In general, the Forest should give special consideration to this species when formulating plans for the area. Although there was no evidence of such activity, the small meadow containing the Kotzebue's grass-of-Parnassus population would be a likely camping spot and should be monitored if use increases.

The Challis NF should not change the management in Rock Creek Cirque from what it does presently. Each summer many people climb Borah Peak via the south ridge. This brings them to the southern edge of the proposed SIA, and the unique glacial and floristic attributes of Rock Creek Cirque can be interpreted from that point. The guiding service operating in Rock Creek should be made aware of the rare plants occurring in the wetlands of the basin. I also recommend that the ridge traversed by the trail up to the summit of Borah Peak be surveyed for rare plant species. At least two species, *Saxifraga adscendens*

and *S. cernua*, occur along the trail. The affect of the well-worn trail on these populations should be analyzed.

Following are some suggestions on how the Challis NF can interpret, promote, and protect the Botanical Area once it is established by the Regional Forester. These ideas have been adapted from those put forth by Barbara Williams, Botanist, Klamath NF.

- o Only preliminary biological and ecological data have been collected to date. A thorough botanical, faunal, and community inventory needs to be completed.
- o Upon completion of the biological and ecological inventories, the Forest should create brochures for distribution in offices and at the Borah Peak trailhead that outline and interpret the unique natural values of Rock Creek Cirque. This brochure could be produced cooperatively with interested organizations such as the Idaho Native Plant Society. Although revealing the precise locations of rare species is not recommended, educating the users about the rare plants and habitats of the area in a general way, will hopefully foster a sensitivity in their use of the area.
- o Make sure the area gets added to the next mapping updates on the Forest, and make sure the trail is correctly placed and labeled.
- o Make signs to place at the trailhead describing its values and interest, including rules for protection of the site.
- o Prepare and distribute publicity and educational material for local newspapers and newsletters of interested organizations.

Below is a draft outline for a possible management plan of the Rock Creek Cirque Botanical Area (adapted from Barbara Williams, Botanist, Klamath NF):

- o Review Forest Service Manual and Forest Plan direction; amend Forest Plan if necessary.
- o Description of the area and its botanical values.
- o Location of area and description of access.
- o Plan for interpretation; signs, brochures, etc.
- o Maintenance plan for trails and camping areas.
- o Activities allowed and prohibited and under what circumstances.

The following management prescription for SIAs on the Sequoia NF (from their Forest Plan) may be useful to the Caribou NF in developing similar management direction for Rock Creek Cirque or other SIAs on the Forest:

"Timber and firewood harvesting will not occur except where in accord with their establishment. Dispersed recreation, consistent with the emphasis, will be encouraged. ORV use will be allowed on designated trails if such use does not threaten values within the SIA. Developed recreation will not occur. Watershed improvements will occur only to protect special features. Transportation system management will favor the emphasis. Wildlife habitat will be provided by maintaining a natural state, but manipulation strictly for wildlife will not occur. Grazing may be compatible. Consider mineral withdrawal subject to existing claims. Fire suppression will be done with minimum ground disturbance."

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Appendix 1

Occurrence records for rare plant populations
in Rock Creek Cirque.

CYMOPTERUS DOUGLASSII
DOUGLASS' WAVEWING

Occurrence Number: 010

Survey Site Name: Rock Creek Cirque
County: Custer

USGS quadrangle: BORAH PEAK

Location:

Rock Creek Cirque, below the north face of Borah Peak.

Survey Date:

Last Observed: 1987-08-23

First Observed: 1944

Population Data:

1987: common; in two populations.

Habitat Description:

Level, gravelly areas with much frost heaving.

Elevation: 9100 - 9900 feet Size: ca. 3 acres

Land Owner/Manager:

Challis NF, Lost River RD

Comments:

Voucher Collections: C.L. Hitchcock and C.V. Muhlick 10958 (RM) -- originally identified as *C. nivalis*, annotated by L. Constance 1979-1980 and by R. Hartman 1985.

ERIGERON HUMILIS
LOW FLEABANE

Occurrence Number: 007

Survey Site Name: Rock Creek Cirque

County: Custer

USGS quadrangle: BORAH PEAK

Location:

Rock Creek Cirque below the north face of Borah Peak.

Survey Date:

Last Observed: 1987-08-23

First Observed: 1987

Population Data:

1987: two small populations of about 200 individuals each.

Habitat Description:

Moist meadows near snowbanks. *Carex nova* community

Elevation: 10,250 feet Size: few square feet

Land Owner/Manager:

Challis NF, Lost River RD

Comments:

Voucher Collection: Moseley 1200 (ID)

PARNASSIA KOTZEBUEI
KOTZEBUE'S GRASS-OF-PARNASSUS

Occurrence Number: 004

Survey Site Name: Rock Creek Cirque
County: Custer

USGS quadrangle: BORAH PEAK

Location:
Rock Creek Cirque below the north face of Borah Peak.

Survey Date:
Last Observed: 1987-08-23
First Observed: 1987

Population Data:
1987: Couple of hundred scattered individuals at upper end of meadow.

Habitat Description:
Moist *Salix nivalis*-*Carex scirpoidea* meadow.

Elevation: 9900 feet Size: few square yards

Land Owner/Manager:
Challis NF, Lost River RD

Comments:
Voucher Collection: Moseley 1198 (ID)

SAXIFRAGA ADSCENDENS
WEDGE-LEAF SAXIFRAGE

Occurrence Number: 004

Survey Site Name: Rock Creek Cirque

County: Custer

USGS quadrangle: BORAH PEAK

Location:

Rock Creek Cirque below the north face of Borah Peak.

Survey Date:

Last Observed: 1987-08-23

First Observed: 1987

Population Data:

1987: Several widely scattered individuals.

Habitat Description:

Moist gravel bars next to high-gradient stream.

Elevation: 9600 feet Size: few square yards

Land Owner/Manager:

Challis NF, Lost River RD

Comments:

Voucher Collection: Moseley 1214 (ID)

SAXIFRAGA ADSCENDENS
WEDGE-LEAF SAXIFRAGE

Occurrence Number: 009

Survey Site Name: BORAH PEAK TRAIL

County: Custer

USGS quadrangle: BORAH PEAK

Location:

Along trail to summit of Borah Peak, on NE-facing slopes ca 0.4 mile SE of summit.

Survey Date: 1991-08-18

Last Observed: 1991-08-18

First Observed: 1991

Population Data:

1991: 1 plant in flower; may be more plants on this slope.

Habitat Description:

NE-facing carbonate talus; ca 50% slope; growing in shallow soil between rocks; moderately unstable slope; no associated species in immediate vicinity, but *Arabis lemmonii* and *Polemonium viscosum* present on slope. Fair overall site quality.

Elevation: 11,750 feet Size: 1 SQ INCH

Land Owner/Manager:

Challis NF, Lost River RD

Comments:

Plant is on upper edge of a well-worn hikers' trail to summit -- may or may not be a threat to the population.

SAXIFRAGA CERNUA
NODDING SAXIFRAGE

Occurrence Number: 007

Survey Site Name: Rock Creek Cirque
County: Custer

USGS quadrangle: BORAH PEAK

Location:

Ca 200 feet below summit on the north face of Borah Peak.

Survey Date: 1991-08-18
Last Observed: 1991-08-18
First Observed: 1991

Population Data:

1991: ca 70 individuals covering an area of several square feet, 90% vegetative, 10% in flower.

Habitat Description:

Carbonate sedimentary rocks; moist mossy and gravelly lodges on vertical cliffs with *Saxifraga oppositifolia*, *Draba lonchocarpa*.

Elevation: 12,550 feet Size: few square feet

Land Owner/Manager:

Challis NF, Lost River RD

Comments:

Voucher Collection: Moseley 2436 (ID)