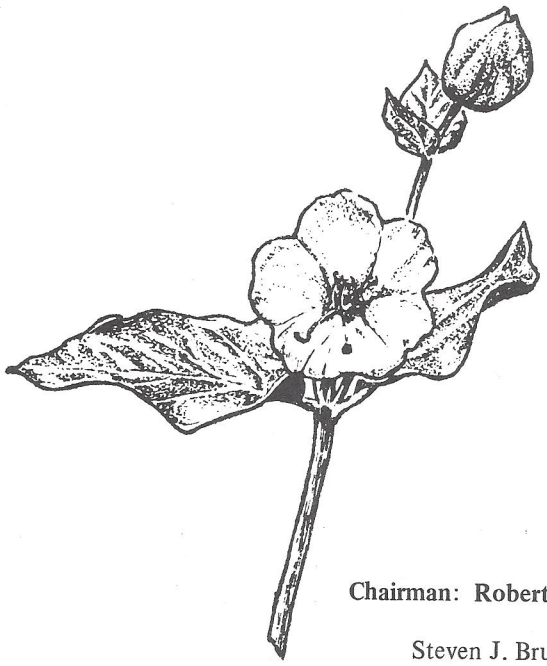
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Vascular Plant Species Of Concern In Idaho



by the
Rare and Endangered Plants
Technical Committee of the
Idaho Natural Areas Council

Chairman: Robert Steele, USDA Forest Service

Steven J. Brunsfeld, University of Idaho

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Karl E. Holte, Idaho State University

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This bulletin was compiled and edited by Bob Steele and Fred Johnson with assistance from Steve Brunsfeld

The recommendations and evaluation for each species are the responsibility of the person evaluating that taxon and are based on available data aided by evaluators' personal experience.

When citing individual taxa, please credit the evaluator named at the bottom of the page.

Questions on specific taxa should be directed to the evaluator of that taxon. Addresses are on the inside of the front cover.

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June 1981

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INTRODUCTION

National concern for survival of plant species first emerged as Public Law 93-205, the Endangered Species Act of 1973. This law provides for protection of endangered and threatened plants. Later, two lists of plants appeared, one proposing endangered status for certain taxa (*Federal Register,* June 16, 1976), the other proposing threatened status (*Federal Register,* July 1, 1975). These two lists included 68 taxa thought to occur in Idaho. Four members of the Idaho Rare and Endangered Plants Technical Committee then collected and assessed existing data on these 68 taxa (Henderson et al. 1977). During this project, it became evident that some listed taxa do not need endangered or threatened status and that some unlisted taxa deserve this consideration. Implementation of the Endangered Species Act by land managers also revealed a need to document which taxa are truly endangered or threatened. November 9, 1979, marked the deadline for officially designating endangered and threatened taxa from the two proposed Federal lists. As of that date, the lists were officially withdrawn and any taxon must now undergo a detailed review to be officially listed.

The *Federal Register* of December 15, 1980, contains a "review of plant taxa for listing as endangered or threatened species." Forty-seven plants noted as occurring in Idaho by the Office of Endangered Species are being reviewed for endangered or threatened status. Forty-two of the above taxa are included in this bulletin; five were not reviewed by our committee, they were added by the Office of Endangered Species, Washington, D.C., after our data were collected. Of these five taxa, three are not known to occur in Idaho, and we have no data on the other two (*Agastache cusickii* and *Howellia aquatilis*). All other species listed in the December 15, 1980 *Federal Register* are included in the annotated index.

A documented summary and analysis of current information on truly jeopardized plant taxa in Idaho is needed at both the Federal and State levels. The following evaluations consolidate opinions of those familiar with Idaho's flora regarding species of concern. Data for species also reflect information gained from numerous field studies since the publication of *Endangered and Threatened Plants of Idaho* (Henderson et al., 1977). These evaluations focus mainly on survival status of plants within the State of Idaho, but have been divided into two sections according to the level of recognition required.

The data in this bulletin are based on detailed review of 106 vascular plant taxa for consideration at the Federal level and 245 taxa for State consideration. A summary of our recommendations for the status of these 351 plants is presented (see Contents). It should be clearly understood that our recommendations herein presented do not exactly parallel those of the O.E.S. as listed in the *Federal Register* of December 15, 1980.

Section A – Taxa of Federal Concern

The pink sheets in the front portion of this bulletin treat the 68 taxa originally listed in the *Federal Register* for Idaho. Also included are the officially designated endangered species, *Mirabilis macfarlanei* and *Astragalus yoder-williamsii*. We also have assessed the few taxa listed in the *Federal Register* for other states, that have been ascertained to be in Idaho since publication of Henderson et al. in 1977. In addition we have included some taxa that did not appear in the *Federal Registers* (1975, 1976) but merit Federal consideration for listing. Although future studies may prove otherwise, our current data base implies that these taxa may need Federal protection. Plants considered for Federal status and rejected are also listed.

Section B – Taxa of State Concern

The green sheets in the back portion of this bulletin deal with Idaho plants which we feel merit special consideration at the State level. In general, these are wideranging taxa which are endangered, threatened, or in need of monitoring in Idaho. Plants considered for State status and rejected are also listed.

Definitions

Our definitions of endangered and threatened follow those originally given in the Federal Register, but apply only to populations in Idaho. Thus, an endangered species is one considered to be in danger of extinction throughout all or a significant portion of its range. Loss or repeated disturbance of habitat, exploitation, disease, or predation are the common causes of contemporary extinction. Species whose numbers or habitat have been critically reduced and those confined to limited or fragile habitats susceptible to disturbance are usually considered endangered. Generally, some threat to their survival is easily identified and some form of action is required to prevent their loss.

Threatened species are those likely to become endangered within the foreseeable future.

These have populations which are decreasing, or they may occupy limited habitat that could be exploited within the foreseeable future. In all likelihood, they will become endangered if present impacts expand or if other impacts materialize in the future.

Rare species are those with small populations within the State. They may be quite restricted, often with many individuals, or they may be widely scattered in very small numbers. Rare species may be endangered or threatened or may face no foreseeable threat, depending on their ecological role and survival strategy. They have, however, an inherent potential for becoming endangered or threatened, and the Committee will continue to collect data which may indicate a change in status. As a guideline, this Committee has used less than ten locations greater than ten air miles apart as a general criterion for rare status. We invite knowledgeable individuals to suggest to the Committee plants that they feel may be rare, endangered or threatened which do not appear in the following evaluations or in the lists of taxa considered and rejected.

METHODS

Following our evaluation of the Federal endangered and threatened lists (Henderson et al. 1977) we began compiling a species list of candidates for Idaho state status of endangered and threatened vascular plants. This initial list was derived from Wellner and Johnson (1974) and circulated among botanists familiar with various aspects of Idaho's flora. It was treated as an open list with taxa being added or deleted in light of new information accumulating from field studies.

In 1979, review comments were consolidated into a list of 182 species of concern which was redistributed to Idaho botanists for further review and field study. Again some taxa were added or deleted and the consolidated reviews formed a working list for conducting herbarium searches. Results of herbarium searches and nineteen field studies in the past two years provided the basis for analyzing survival status of taxa treated herein. Throughout this process, species considered and deleted were listed separately to avoid their being inadvertently resubmitted for consideration.

The authors chose from both the Federal and State lists those plants with which they were most familiar. In many cases they have conducted field studies involving those taxa. The remaining species were then assigned to whomever was most familiar with the geographic area in question. Joint and specific herbarium searches were conducted, sometimes by mail. Information was then summarized, a rough draft circulated among the authors, and after agreeing on interpretations, the authors prepared this document. Many people have helped in this undertaking, and we hope all are recognized in the acknowledgments on the last page.

Difficulties arose in determining distributions of some taxa. In many instances locations cannot be pinpointed from herbarium labels. Information that was speculative or thought to be in error was discarded. As a result of our appraisal of these plant distributions, we are convinced that many taxa are merely seldom collected and that further field work will fill gaps in our knowledge for some of these populations and help complete their distribution picture.

The knowledge of the autecology and synecology of the vast majority of species is very poor. For most, we have repeated and interpreted herbarium label data which are notoriously brief in ecologic description. Of particular interest is the reaction of these plants to disturbance–fire, grazing, logging, and browsing. Again, we have tried to interpret label data, but feel that for most species these interpretations are tentative.

We offer this listing as a current display of known facts, punctuated with interpretations by the authors and a modicum of personal observation on certain plants. We hope it will aid all persons interested in the rare plants of Idaho.

EXPLANATION OF FORMAT FOR EVALUATIONS

The data summary for each species follows the outline below. Species summaries are arranged alphabetically by genus.

Scientific Nomenclature

Scientific nomenclature follows Hitchcock and Cronquist (1973). In a few cases, plant names in the *Federal Register* did not agree with the above reference so we added synonymy that reflects current usage. A more nearly complete treatment of synonymy is available in Hitchcock et al. (1969, 1964, 1961, 1959, 1955), or in some cases references are cited for a specific taxon.

Location

Specific locations given mostly within Idaho reflect summarization of our herbaria search data

and field notes. General plant ranges outside of Idaho, unless otherwise credited, are mainly from Hitchcock et al. (1969, 1964, 1961, 1959, 1955) and Hitchcock and Cronquist (1973). All counties in Idaho are printed in capital letters; those from other states are in lower case.

Land Ownership

Land ownership in many instances is an educated guess based on the evaluator's knowledge of the area. It is quite possible that some of these plants grow on ownerships not listed. It is also possible that the listed ownership is incorrect in some cases.

Vegetation Type

The vegetation type generally denotes the major plant cover, zone or climax for the area.

Habitat

Habitat notations attempt to reflect the actual site requirements of the plant. Some habitat notations are quoted from herbarium labels. Notations out of quotes are either a synopsis of herbarium data or reflect the experience of the evaluator with that plant.

Hazards

The hazards given are usually the most evident form of disturbance that may jeopardize survival of that particular taxon. In some cases this evaluation was based on actual field examination by the evaluator or by colleagues. In other cases the evaluation of hazards was a subjective appraisal based on knowledge of the area and inferences from herbarium labels.

Herbarium Data

Herbarium data show the number of different sites within a county and thus the total known sites in Idaho can be quickly determined. This is the most important information to be drawn from herbarium summaries. The number of collections in each herbarium searched is also given. This pinpoints where specimens may be examined and gives some idea of rarity by showing how many herbaria have been searched. Caution should be exercised in using these data, for a large number of collections in a herbarium does not always reflect a large number of sites, for collectors often are attracted to a locale where a rare plant is known to exist. Explanations of the various herbarium acronyms are listed inside the back cover. Plant identifications were generally accepted as correct except for obvious errors or exceptional cases; these exceptions may be noted under remarks. It is probable that some misidentifications were inadvertently included, but we feel these are a relatively small percentage.

Remarks

The remarks are additional information considered important by the evaluator.

Recommendations

Recommendations reflect assessments by the authors based on their own experience and available data. These recommendations can only reflect the current data and may be changed as new information is gained. However, where a particular taxon has been thoroughly studied in the field and adequate data have been assessed, the recommendation is given as PROPOSE AS ENDANGERED (or THREATENED), thus indicating a basis for official listing. But where the taxon lacks adequate field study and data, the recommendation is given as TREAT AS ENDANGERED (or THREATENED), suggesting that further study is needed.

References

References noted provide specific information that is unavailable in standard floristic treatments (Hitchcock et al. 1969, 1964, 1961, 1959, 1955; Hitchcock and Cronquist 1973; Cronquist et al. 1972, 1977; Peck 1961; Davis 1952).

Evaluator

The evaluator is the author responsible for analysis and summary of that particular taxon. In most cases it is the person most familiar with that plant and any specific queries should be sent directly to that individual. Addresses are provided inside the front cover.

Distribution Map

The map is deliberately lacking in detail to obscure exact locations of taxa that are truly endangered. Locations are available to qualified individuals upon written request. Each dot represents a single collection site as interpreted from herbarium label data. In a few cases, sites peripheral to Idaho are mapped to illustrate geographic relationships. County maps of Idaho are provided (Sections A and B) to help orient the reader to areas within the State.

Identification

Because most plants treated herein may only be identified by using technical details, they are not illustrated here in order to avoid confusion with similar taxa. Identification of plants is based on detailed descriptions of often subtle morphological characteristics. In most cases positive identification should be made by a person with experience in both plant taxonomy and the local flora. Best current descriptions may be found in Hitchcock et al. (1969, 1964, 1961, 1959, 1955) and Cronquist et al. (1972, 1977).

Additions to These Evaluations

We are anxious for additional participation in this committee and welcome input from people in the field. Addresses of the authors of this bulletin are inside the front cover.

We anticipate that there will be a continual flow of data which will result in periodic revision of these evaluations. As a result, this bulletin is 3-hole punched, so that it may be disassembled and revisions added at the appropriate places.

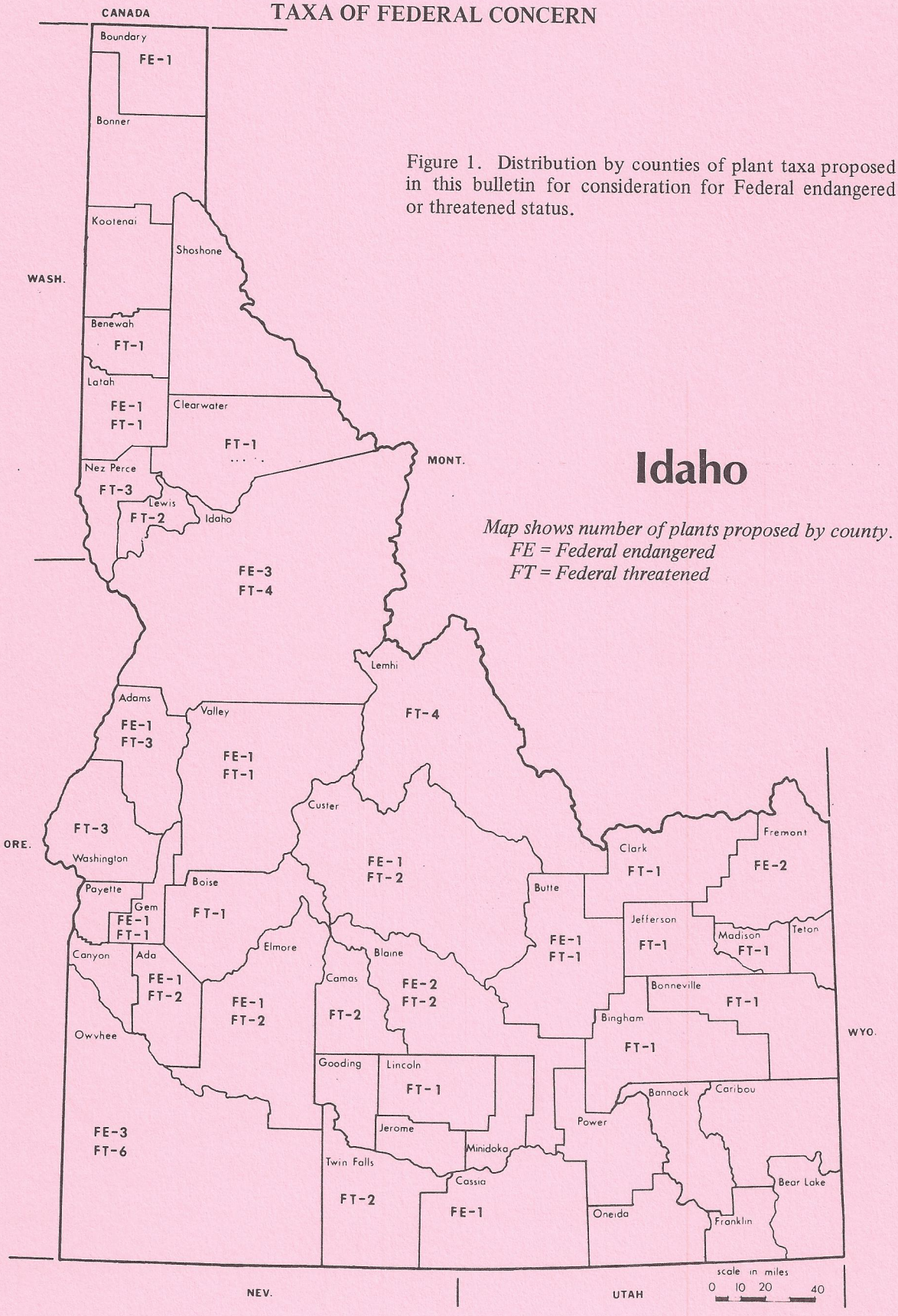


Figure 1. Distribution by counties of plant taxa proposed in this bulletin for consideration for Federal endangered or threatened status.

Endangered and Theatened Taxa of Federal Concern

Allium aaseae Ownbey

Recommended Federal Status
ENDANGERED

LILIACEAE

Location Idaho: ADA, GEM and possibly ELMORE counties, Idaho endemic

Land Ownership Mainly private, one site is in a Boise city park. Sites on public land have been sought in vain.

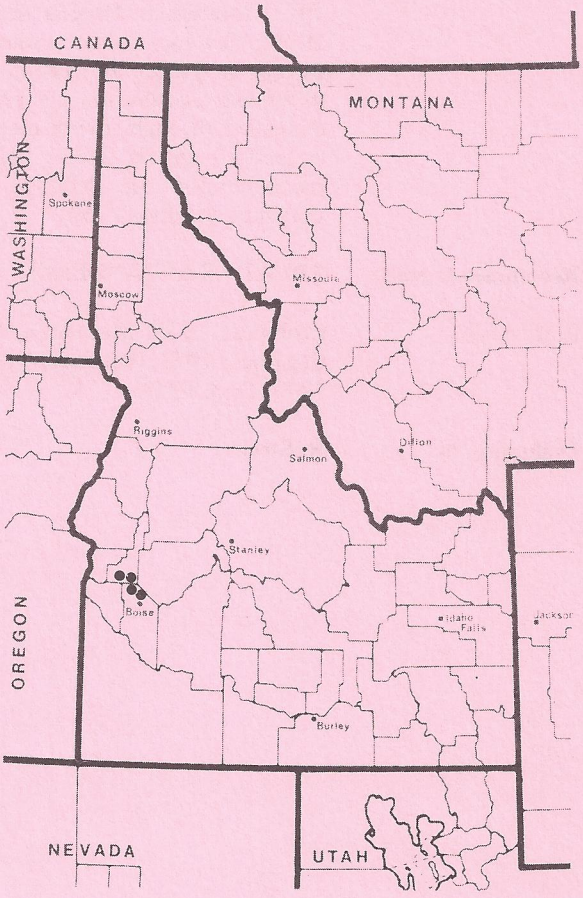
Vegetation Type Mostly in or near a depauperate *Purshia/Eriogonum* association within sagebrush/grass zone.

Habitat Usually bare sedimentary soil with fine gravel surface, most often on steep southerly aspects, 2,850 to 4,400 feet.

Hazards Loss of habitat for housing development and gravel pits is an immediate threat. Much of the habitat is adjacent to or within suburban areas, and some sites have been destroyed. Grazing animals can easily disturb this onion by trampling, but do not always destroy the bulb.

Herbarium Data Number of sites by county, Idaho only:
ADA-9, ELMORE-1 (resembles *A. simillimum*), GEM-4
Number of Idaho collections in herbaria searched: BOIS-8, BS-3, CIC-21, ID-2, IDF-2, IDS-0, IFGH-0, MONTU-0, NY-4, ORE-0, OSC-0, RENO-0, UTC-0, WS-1, WTU-2

Remarks This species appears restricted to portions of the Glenn's Ferry Formation. The plants may be abundant on proper habitat, but the sites are very restricted. It has been estimated that less than 15,000 individuals exist (Holsinger 1978). In Elmore County one site near Arrowrock Dam possibly supports intergrades between *A. similimum* and *A. aaseae*, but no true *A. aaseae* has yet been found there.



Recommendations PROPOSE AS ENDANGERED. Some habitat may eventually need to be purchased to preserve the species.

References Hitchcock and Cronquist 1973, Packard 1978

Evaluation by R. Steele

Antennaria arcuata Cronq.

Recommended Federal Status
ENDANGERED

ASTERACEAE (Compositae)

Location
Idaho: BLAINE County
Nevada: Elko County
Wyoming: Fremont County

Land Ownership
BLM (Shoshone Dist.)

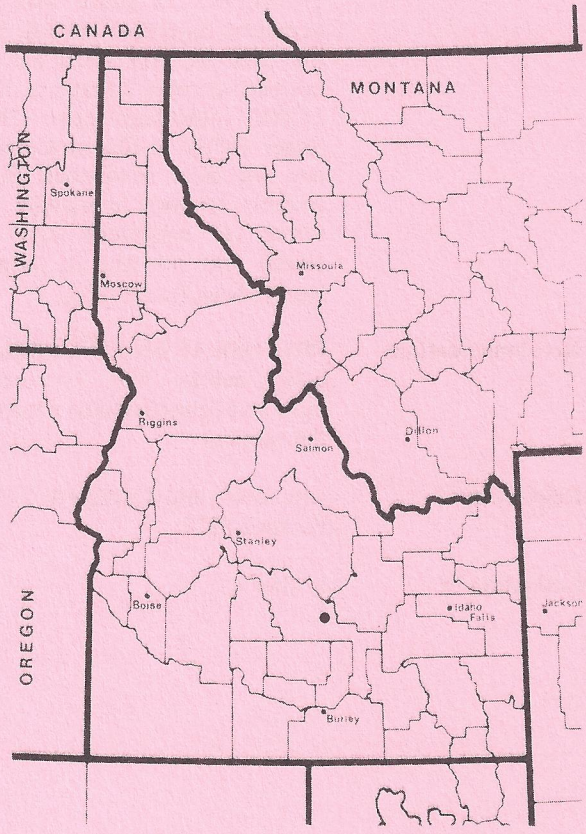
Vegetation Type
Sedge-grass meadows

Habitat
Small, bare or lichen-covered spots of soil among grasses, 5,250 ft (Idaho). On small mounds with sedges and rushes, 7,345 ft (Wyoming). In meadows on silt loam and black clay soil, 6,000 ft (Nevada).

Hazards
Light trespass grazing has periodically occurred on the Idaho site, but appears to have little impact. Some moderate trespass grazing has disturbed individual plants by trampling.

Herbarium Data
Number of sites by county, Idaho only:
BLAINE-1 (type locality)
Number of Idaho collections in herbaria searched: BOIS-1, BS-0, CIC-0, ID-0, IDF-0, IFGH-0, IDS-0, MRC-0, MONTU-0, NY-1, OGDF-1, ORE-0, OSC-0, RENO-0, UC-0, UTC-1, WS-1, WSCO-0, WTU-0

Remarks
A study of how this plant becomes established and its response to grazing impacts is needed before protective management can be applied. The previously cited (Henderson et al. 1977) location in Oregon resulted from a misidentified collection (Schultz and Schultz 1978). New locations in similar habitat have been sought in vain during several recent field surveys in Idaho. In Wyoming, its known distribution has been expanded through several recent collections and it is now being recommended for delisting in that state (Lichvar 1980).



Recommendations
TREAT AS ENDANGERED

References
Cronquist 1950, Hitchcock and Cronquist 1973, Henderson et al. 1977, Dorn 1979

Evaluation by
R. Steele

Aster jessicae Piper
Syn. *A. latahensis* Hend.

Recommended Federal Status
ENDANGERED

ASTERACEAE

Location
Idaho: BOUNDARY and LATAH counties
Washington: Columbia, Whatcom, and Whitman counties

Land Ownership
Primarily (or exclusively) private ownership

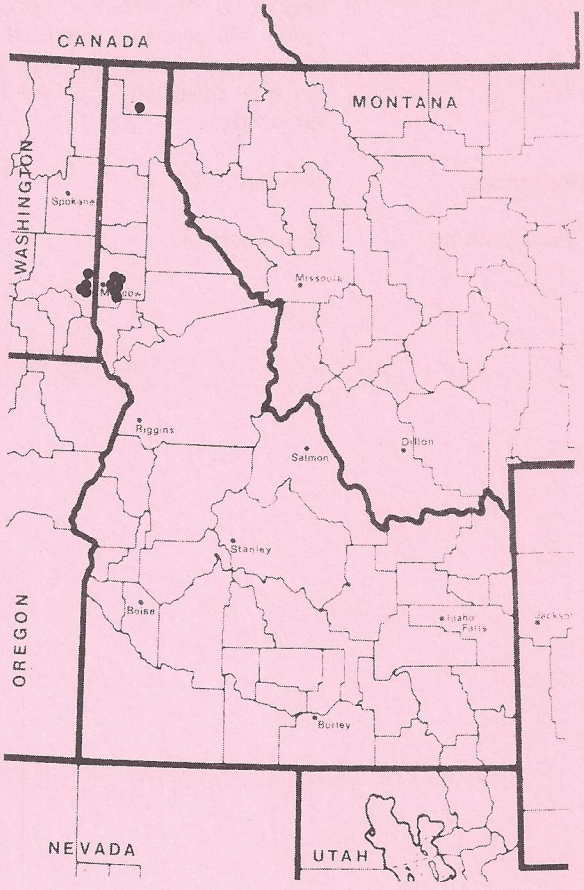
Vegetation Type
Palouse Prairie, forest/prairie ecotone (Douglas-fir?) and ponderosa pine forests

Habitat
"*Pinus ponderosa/Symphoricarpos albus* h.t." disturbed by logging; "R.R. bank"; "Gravel on road edge"; "basalt talus"; dry hillside

Hazards
Effects of grazing unknown, survives logging (effect on vigor unknown). Herbicide spraying on roadsides likely detrimental.

Herbarium data
Number of sites by county, Idaho only:
BOUNDARY-1, LATAH-6
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-3, IDF-1, IDS-0, IFGH-0, MONTU-0, NY-4, ORE-0, OSC-1, RENO-0, UTC-0, WS-3, WTU-3

Remarks
Piper noted in 1893 that this species was "rare" and apparently it still is. The most recent collection in Whitman County, WA, was in 1915. With Washington State University nearby, one might reasonably conclude that agricultural activities have eliminated this grassland population. A recent (1974) collection in Columbia Co., WA, is of high interest. A 1972 collection in Boundary Co., ID, is a 210-km northerly disjunct and may be misidentified. The 1970 Whatcom Co., WA, is not only a remarkable westward disjunct, but is ecologically suspicious, thus a likely misidentification. Of the 13 known locations in ID and WA, 4 are near Pullman, WA (extinct) and 6 are near Troy, ID, where it grows in forest and forest borders. Here collections have been made in 1975 and 1979.



Recommendations
TREAT AS ENDANGERED. Positive identification of the disjunct collections is imperative. The status of the Latah Co. populations should be investigated. This species should be treated as endangered; Heidel (1979) agrees.

References
Heidel 1979

Evaluation by
F. D. Johnson

Astragalus atratus Wats. var. *inseptus* Barneby

Recommended Federal Status
THREATENED

FABACEAE (Leguminosae)

Location Idaho: BLAINE, CAMAS, LINCOLN, possibly ELMORE and GOODING counties, Idaho endemic variety

Land Ownership BLM (Shoshone Dist.), possibly private and Idaho Dept. of Lands (South Central Area)

Vegetation Type Mosaics of *Artemisia tridentata - Artemisia arbuscula*

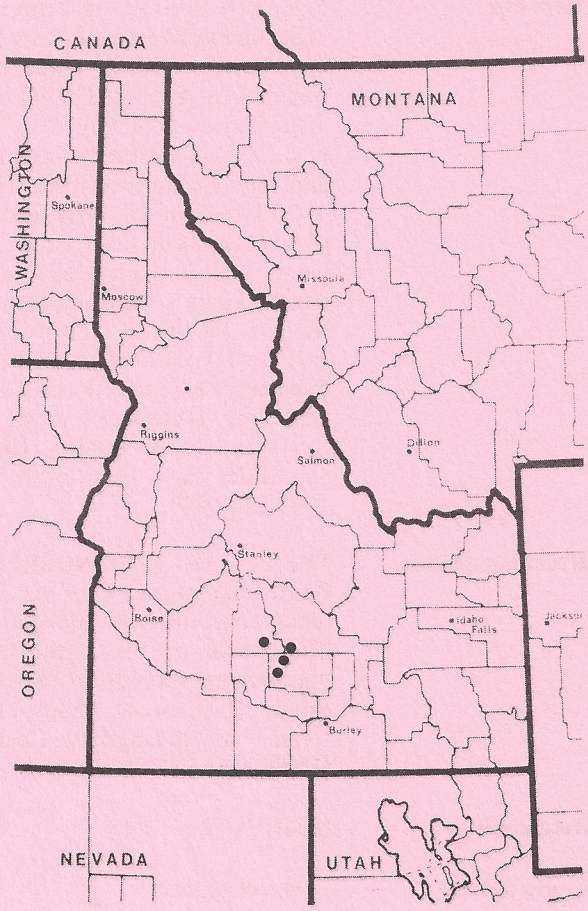
Habitat Thin soil over basalt, wet in the spring, but dry at other seasons

Hazards Range improvement programs and possibly grazing

Herbarium Data Number of sites by county, Idaho only:
BLAINE-2, CAMAS-3, LINCOLN-7 (Some in common with Camas County).
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-2, ID-1, IDF-0, IDS-0, IFGH-0, NY-2, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-0

Remarks This plant is apparently abundant some years in the Bennett Hills. Other years it doesn't seem to appear. This possibly indicates that it has a marginal existence. It is rarely collected, but may be more abundant than we now know.

Recommendations TREAT AS THREATENED. On the basis of present collections, it should be assumed that this species is threatened. Further study will probably reduce it to our federal watch list, but this is not justified by present knowledge.



References Barneby 1964

Evaluation by P. L. Packard

Astragalus camptopus Barneby

Recommended Federal Status
THREATENED

FABACEAE (Leguminosae)

Location Idaho: OWYHEE County, Idaho endemic

Land Ownership BLM (Boise Dist.), private

Vegetation Type *Atriplex confertifolia/A. spinosa* communities

Habitat Arid sandy soil.

Hazards Expanding agriculture, some mining and ORV's

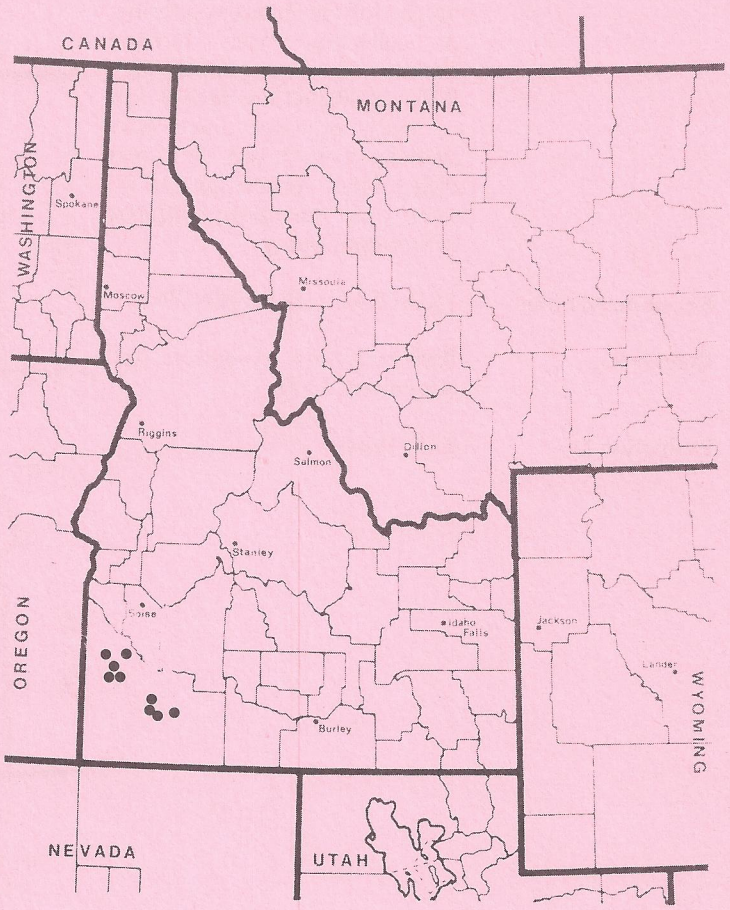
Herbarium Data Number of sites by county, Idaho only:
OWYHEE-many but narrow distribution
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-9, ID-5, IDF-1, IDS-3, IFGH-0, MONTU-0, NY-10, ORE-0, OSC-1, RENO-1, UTC-5, WS-5, WTU-3

Remarks This species is disappearing rapidly as its habitat is being turned into farmland. Although it has a number of populations now, it could easily be extirpated.

Recommendations PROPOSE AS THREATENED

References Barneby 1964

Evaluation by P. L. Packard



Astragalus ceramicus Sheld. var. *apus* Barneby

Recommended Federal Status
THREATENED

FABACEAE (Leguminosae)

Location Idaho: BINGHAM, BONNEVILLE, BUTTE, CLARK, JEFFERSON and MADISON counties
Idaho endemic

Land Ownership BLM (Idaho Falls Dist.), Idaho National Engineering Lab

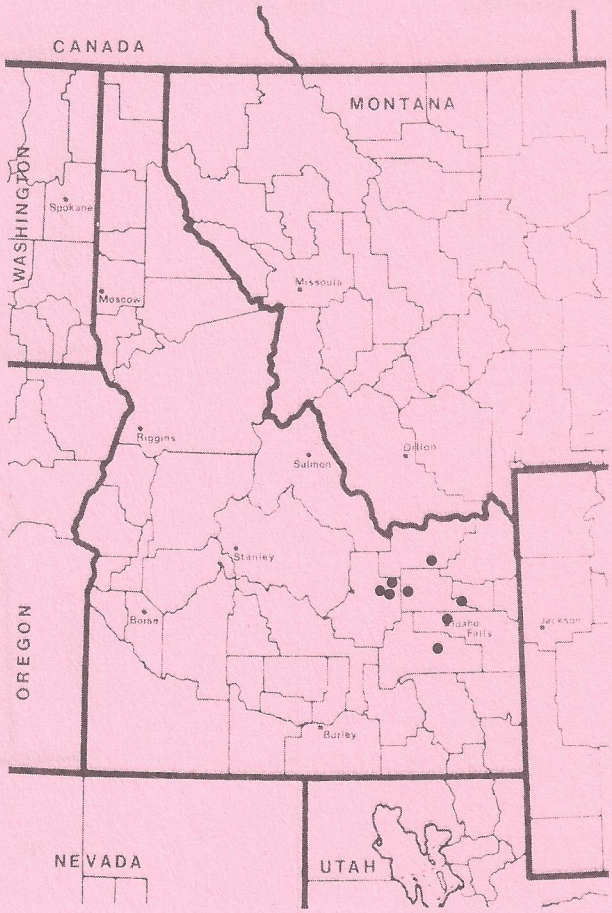
Vegetation Type Sagebrush/grass zone

Habitat Sand dunes, sandy hills and sandy alluvial fans

Hazards Range improvement programs, heavy grazing pressure, desert land entry and ORV's.

Herbarium Data Number of sites by county, Idaho only:
BINGHAM-1, BONNEVILLE-1, BUTTE-6, CLARK-1, JEFFERSON-1,MADISON-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-3, IDF-0, IDS-6, IFGH-0, MONTU-0, NY-3, ORE-1, OSC-0 (not taken to var., none from Idaho), RENO-0, UTC-1, WTU-2 (no var.)

Remarks Plants are restricted to sand dunes and sand hills and are scattered where they grow. Anything affecting this type of habitat could wipe out this variety. It would appear to be part of the climax vegetation.
A collection from Dawson County, Montana (Booth 523, WTU) is labeled this variety, but is likely in error since both Barneby (1964) and the Great Plains Flora Association (1977) show only the variety *filifolius* in Dawson County.



Recommendations TREAT AS THREATENED

References Barneby 1964 Anderson and Henderson, 1978

Evaluation by K. E. Holte

Astragalus mulfordiae M.E. Jones

Recommended Federal Status
THREATENED

FABACEAE (Leguminosae)

Location Idaho: ADA, OWYHEE and WASHINGTON counties
Oregon: Malheur County

Land Ownership BLM (Boise Dist.), private, possibly Idaho Dept. of Lands (Payette Lake and Southwest areas)

Vegetation Type Sagebrush/grass

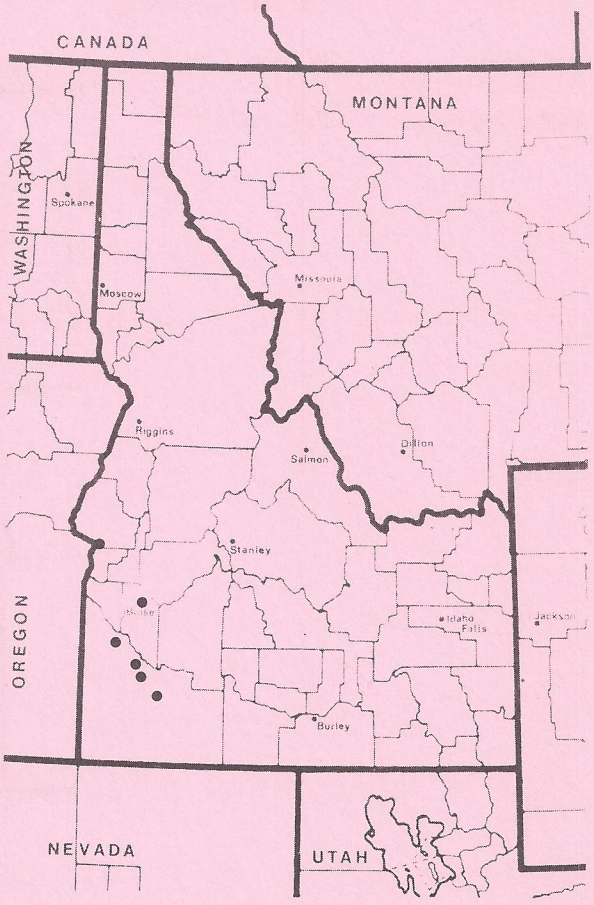
Habitat Sandy or gravely sites within sagebrush/grass zone

Hazards Housing, agriculture, possibly grazing

Herbarium Data Number of sites by county, Idaho only:
ADA-1, OWYHEE-4, WASHINGTON-3
Number of Idaho collections in herbaria searched: BOIS-1, BS-0, CIC-2, ID-2, IDF-0, IDS-0, IFGH-0, MONTU-1, NY-5, ORE-1, OSC-0, UTC-3, WS-4, WTU-3

Remarks This species grows on steep slopes, but the habitat is being destroyed by housing, agricultural activities and in places the plants are subject to grazing. Some sheets identified as this species are *A. oniciformis.*

Recommendations PROPOSE AS THREATENED. The Ada County population is decreasing and the Owyhee County populations may not all be extant because they are along the Snake River in vulnerable habitat.



References Barneby 1964

Evaluation by P. L. Packard

Astragalus oniciformis Barneby

Recommended Federal Status
ENDANGERED

FABACEAE (Leguminosae)

Location Idaho: BLAINE County, Idaho endemic

Land Ownership Private, possibly BLM (Shosone Dist.)

Vegetation Type Grassy areas with brush in sagebrush/grass zone

Habitat Sandy soil among rocks at the toes of the foothills.

Hazards Agricultural expansion.

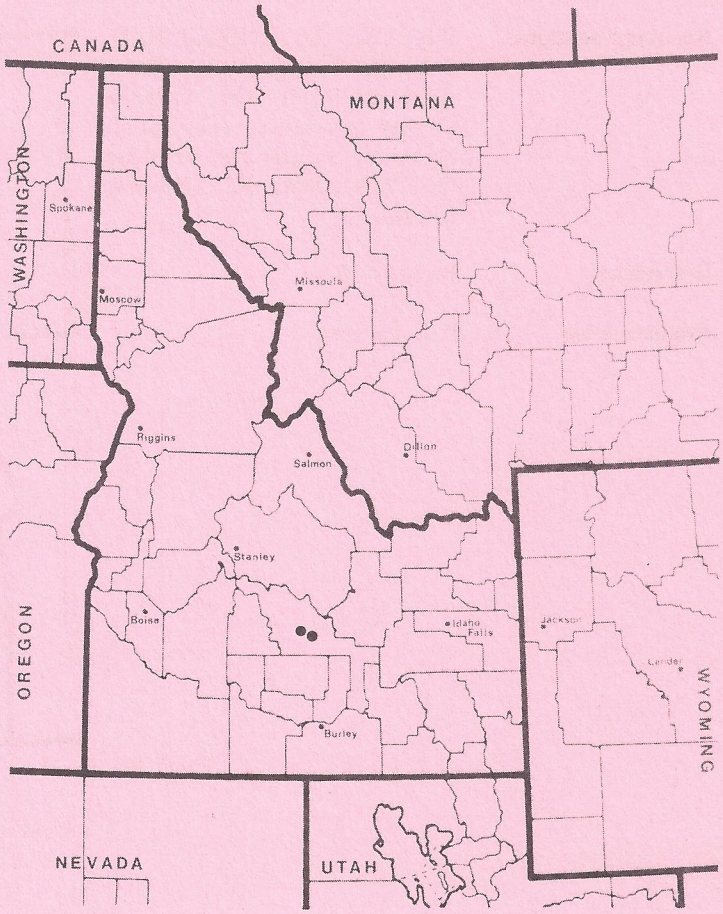
Herbariam Data Number of sites by county, Idaho only:
BLAINE-3
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-1, IDF-0, IDS-3, IFGH-0, MONTU-0, NY-1, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-1

Remarks The last collection was in 1947, and there has been considerable expansion of agricultural land into its habitat since then. This species may be extinct.

Recommendations TREAT AS ENDANGERED.
Field study is needed.

References Barneby 1964

Evaluation by P. L. Packard



Astragalus sterilis Barneby

Recommended Federal Status
ENDANGERED

FABACEAE (Leguminosae)

Location Idaho: OWYHEE County
Oregon: Malheur County

Land Ownership Private, or possibly BLM (Boise Dist.)

Vegetation Type Sagebrush/grass or shrubby chenopod communities

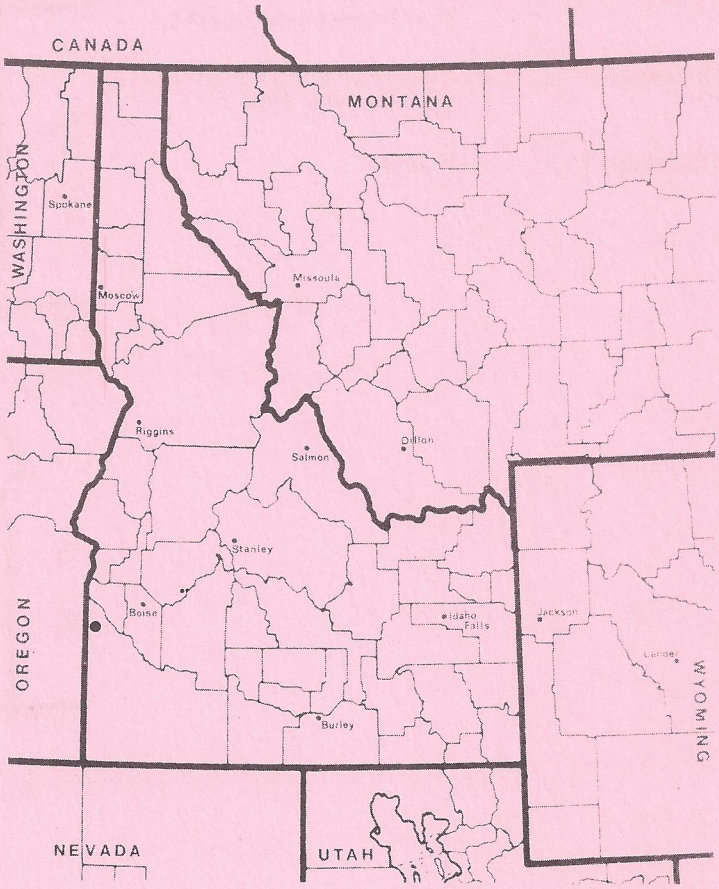
Habitat Bare patches of loose volcanic ash not disintegrating into clay.

Hazards ORV's, roads and mining

Herbarium Data Number of sites by county, Idaho only:
OWYHEE-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-0, IDS-1, IFGH-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-1

Remarks The type collection in 1948 was from Idaho. It has not been collected here since. Most of the ash in this area breaks down into clay, so this would be expected only on rare layers lacking this property. The substrate often has commercial value to mining. There are three, and possibly four, sites known in Malheur County, Oregon.

Recommendations TREAT AS ENDANGERED due to the commercial value of its substrate.



References Barneby 1964

Evaluation by P. L. Packard

Astragalus vexilliflexus Sheld. var. *nubilus* Barneby

Recommended Federal Status
THREATENED

FABACEAE (Leguminosae)

Location Idaho: CUSTER County, Idaho endemic variety

Land Ownership USFS (Challis N.F.)

Vegetation Type Alpine

Habitat Open stony ridges

Hazards Possibly mining activity

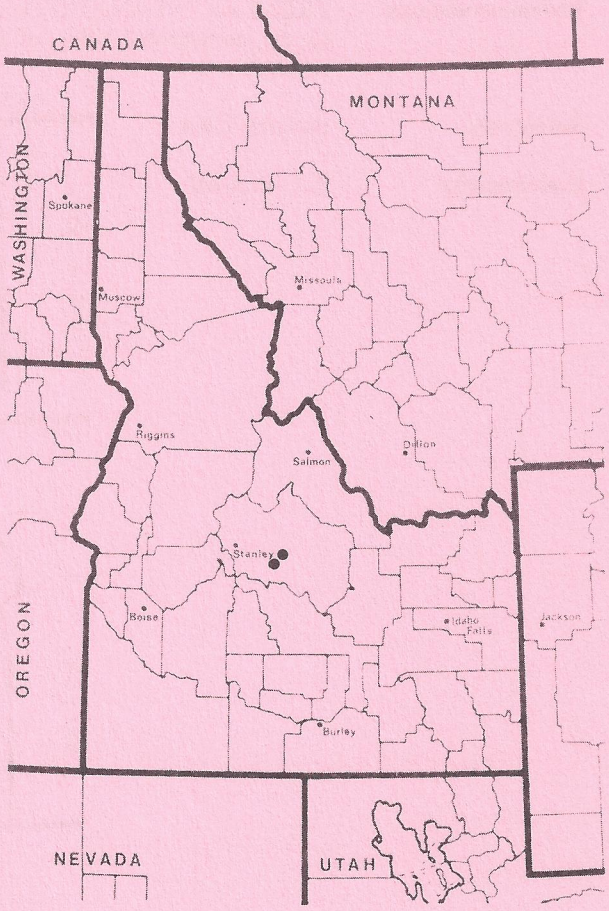
Herbarium Data Number of sites by county, Idaho only:
CUSTER-2
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-0, IDS-1, IFGH-0, OGDF-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, UTC-1, WS-2, WTU-1

Remarks This narrow endemic of the White Cloud Mountains may prove to not be threatened if more thoroughly sought in this poorly botanized area. For the present, however, it must be treated as such since one of the two known locations (Railroad Ridge) is subject to mining disturbances. A collection from Lemhi County (C.L. Hitchcock 25 June 1947 IDS) appears similar to var. *nubilus*.

Recommendations TREAT AS THREATENED until more locations can be found.

References Hitchcock and Cronquist 1973; Barneby 1956, 1964

Evaluation by R. Steele



Astragalus yoder-williamsii Barneby

Federal Status
ENDANGERED
As of August 13, 1980

FABACEAE (Leguminosae)

Location Idaho: OWYHEE County
Nevada: Humboldt County

Land Ownership BLM (Boise Dist.)

Vegetation Type *Atriplex/Artemisia* communities

Habitat By an ant hill.

Hazards Agricultural expansion

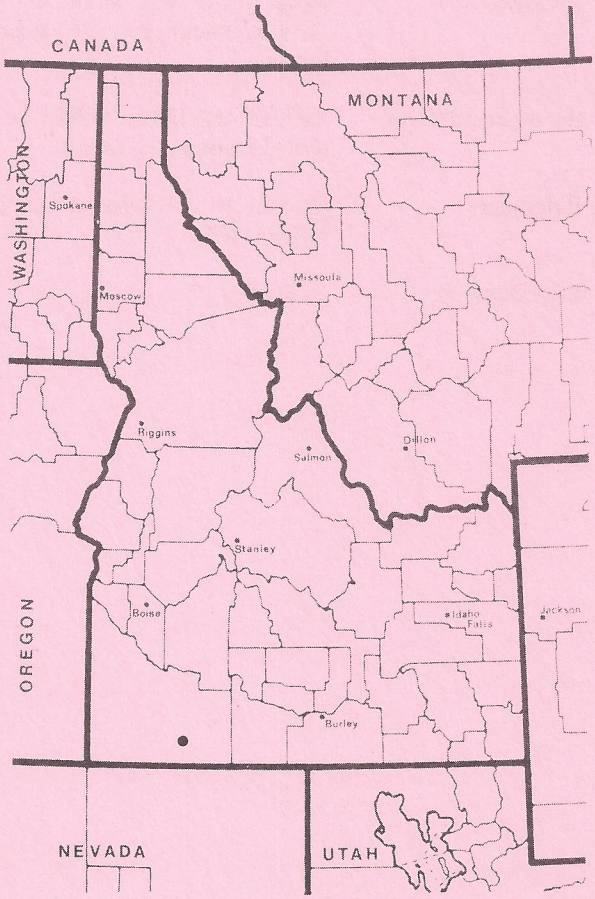
Herbarium Data Number of sites by county, Idaho only:
OWYHEE-2
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-2, ID-0, IDF-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, WS-0, WTU-0

Remarks Range is not completely known. It is known from only 3 collections. The Owyhee County populations were of only a few plants.

Recommendations Federal ENDANGERED because of its disjunct nature, the few populations and few individuals.

References *Federal Register* 13 August 1980

Evaluation by P. L. Packard



Calamagrostis tweedyi (Scribn.) Scribn.

Recommended Federal Status
THREATENED

POACEAE (Gramineae)

Location
Idaho: IDAHO County
Montana: Mineral County
Washington: Wenatchee Mountains

Land Ownership
USFS (Payette N.F.), BLM (Coeur d'Alene Dist.)

Vegetation Type
Pseudotsuga menziesii/Physocarpus malvaceus H.T., *Abies grandis/Clintonia uniflora* H.T., *Xerophyllum tenax* phase, Subalpine fir zone

Habitat
Moist open sites in forest, also in burned-over clearcuts.

Hazards
Possible conflicts with grazing activities.

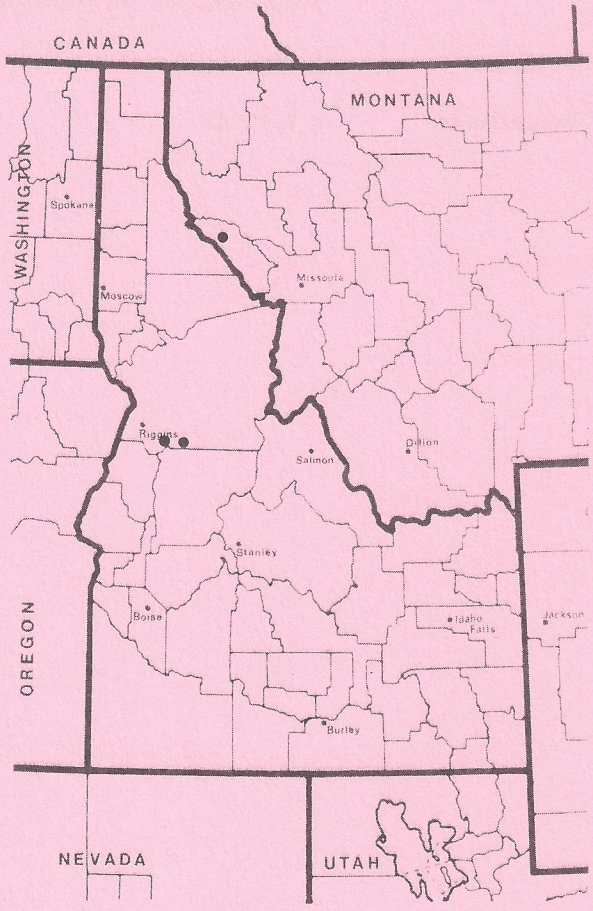
Herbarium Data
Number of sites by county, Idaho only:
IDAHO-2
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-0, IDS-1, IFGH-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, US-1, UTC-1, WS-0, WTU-0

Remarks
More Idaho sites should be sought. Relationships with soils and grazing need study. Data by Stickney (1980) suggest that this is an early seral species in clearcuts following burning.

Recommendations
TREAT AS THREATENED until more locations are found.

References
Hitchcock and Cronquist 1973, Heidel 1979

Evaluation by
R. Steele



Carex aboriginum M.E. Jones

Recommended Federal Status
ENDANGERED

CYPERACEAE

Location Idaho: ADAMS County

Land Ownership Private or possibly BLM (Boise Dist.)

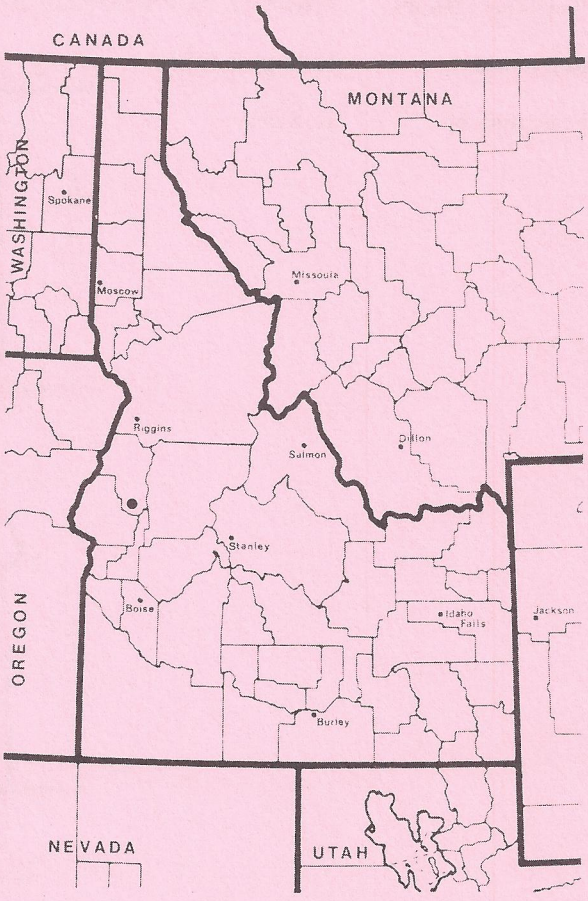
Vegetation Type Sagebrush/grass zone

Habitat "Dry gumbo soil, wet in the spring," about 3,000 ft.

Hazards Probably subjected to agricultural and grazing disturbances.

Herbarium Data Number of sites by county, Idaho only:
ADAMS-1 (Known only from type collection which was incorrectly recorded as Washington Co., 2,300 ft.)
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-0, IDS-0, IFGH-0, MONTU-0, MRC-0, NY-1, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-0

Remarks This species needs field investigation and may be extinct, but the notably rich representation of the Cyperaceae in the type locality suggests that it may still exist. A collection from Cache Co., Utah, near Mendon (Holmgren 8251, BYU, UTC, UT, RENO) is labeled *C. aboriginum,* but the collector now considers this identification to be invalid. A collection from Custer County (Thompson 13989 RENO) is from a bog by Stanley Lake and is most likely misidentified since the habitat contrasts sharply with the type locality. The type locality is "Indian Valley near Salubria." Indian Valley is in Adams County at about 3,000 ft elevation and lies roughly 12 air miles east of Cambridge, Idaho. The old townsite of Salubria is in Washington County at about 2,600 ft and (contrary to Herman 1970) lies about 1.5 air miles southeast of Cambridge. Practically all of Indian Valley is gumbo soil.



Recommendations TREAT AS ENDANGERED

References Hitchcock and Cronquist 1973, Hermann 1970

Evaluation by R. Steele

Castilleja christii N. Holmgren

Recommended Federal Status
ENDANGERED

SCROPHULARIACEAE

Location Idaho: CASSIA County, Idaho endemic

Land Ownership USFS (Sawtooth N.F.)

Vegetation Type Upper subalpine meadow

Habitat *Festuca idahoensis/Poa sandbergii* community, 9,100 ft. on rocky ridge with quartzite and mica schist stones and boulders.

Hazards ORV use, any additional construction of radio relay or lookout facilities and possibly grazing animals.

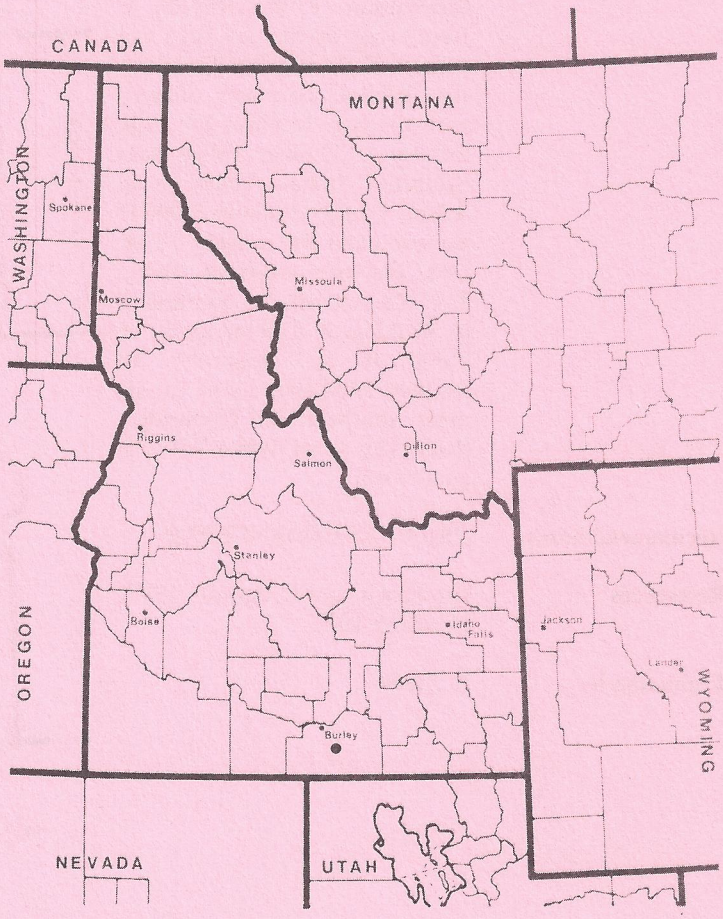
Herbarium Data Number of sites by county, Idaho only:
CASSIA-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-1, IDF-1, IDS-0, IFGH-0, MONTU-1, NY-1, ORE-0, OSC-1, RENO-1, UTC-1, WS-2, WTU-1

Remarks This species, known only from type locality, has been sought in similar adjacent habitat but not found. It has survived grazing for some 80 years but its response to grazing impact remains unknown.

Recommendations PROPOSE AS ENDANGERED

References Holmgren 1973

Evaluation by R. Steele



Claytonia lanceolata Pursh. var. *flava* (A. Nels.) C.L. Hitchc.
Syn. *C. flava* (A. Nels.)

Recommended Federal Status
ENDANGERED

PORTULACACEAE

Location Idaho: FREMONT County, Idaho endemic variety

Land Ownership USFS (Targhee N.F.) and private

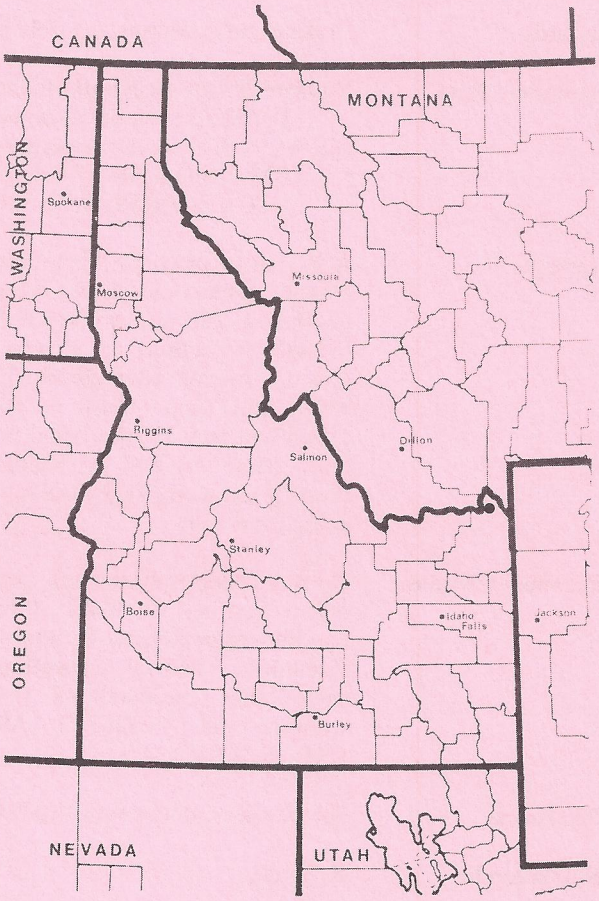
Vegetation Type Meadow

Habitat Medium moist meadows

Hazards Land development and flooding.

Herbarium Data Number of sites by county, Idaho only:
FREMONT-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-0, IDS-0, IFGH-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-1

Remarks Known only from Henry's Lake area. Davis (1952) says the range extends into Montana, but no collections have been found. Whitehead (Holte and Whitehead 1978) sought it for two summers but could not find it where previously collected. Douglas, Snyder-Douglas and Neilsen (1978) also searched for it without success. May be extinct.



Recommendations TREAT AS ENDANGERED, needs further searching in field.

References Hitchcock and Cronquist 1973

Evaluation by K. E. Holte

Cypripedium calceolus L. var. *parviflorum* (Salisb.) Fern.
Syn. *C. parviflorum* Salisb.

Recommended Federal Status
ENDANGERED

ORCHIDACEAE

Location
Idaho: possibly IDAHO and VALLEY counties
British Columbia
Oregon: possibly Currey and Josephine counties
Utah: possibly Cache and Utah counties
Washington: Okanogan and Spokane counties
Wyoming: Sheridan County

Land Ownership
Unknown, likely on USFS (Nezperce N.F.), BLM (Boise and Coeur d'Alene dists.) or private land

Vegetation Type
Apparently from subalpine forest zone to mountain shrub communities and river bottoms near lower timberline.

Habitat
Bogs, damp woods, and wet areas in thickets

Hazards
Grazing and collecting, possibly recreational developments and other construction.

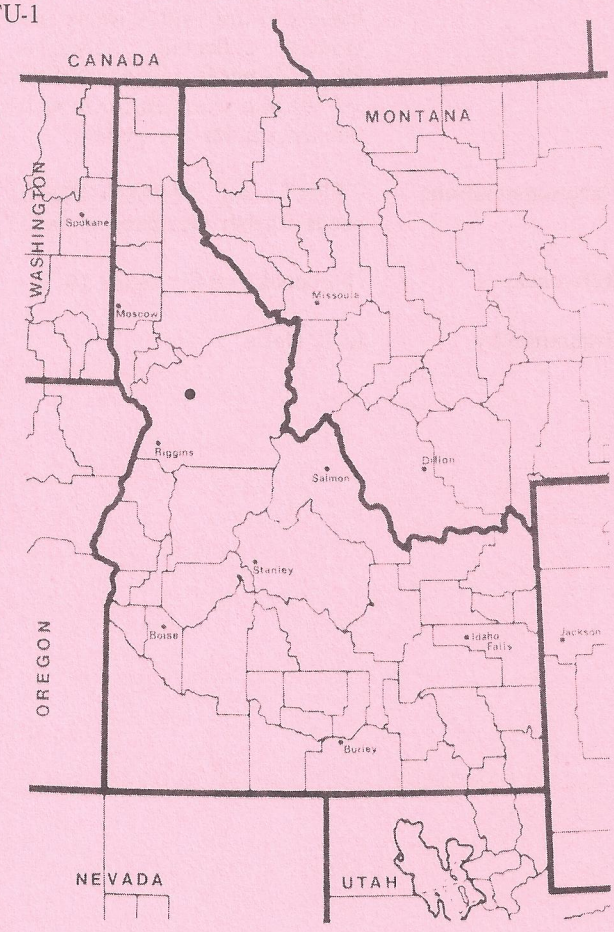
Herbarium Data
Number of sites by county, Idaho only:
IDAHO-1 (identification uncertain)
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, F-0, ID-0, IDF-0. IDS-0, MO-0, MONTU-0, NY-1, ORE-0, OSC-0, PH (only type collection searched)-0, UTC-0, RENO-0, WS-0, WTU-1

Remarks
Although reported for Idaho, no extant populations have been confirmed. This variety may need federal protection; it is very rare in Oregon (Siddall et al. 1979) and Utah (Welsh et al. 1975) and may be extirpated in both states as well as Idaho. Possibly sighted in Valley County a few years ago.

Recommendations
Do not collect; photograph and report sightings to Idaho Rare and Endangered Plants Technical Committee. Federal protection should be considered in the western U.S. TREAT AS ENDANGERED.

References
Hitchcock and Cronquist 1973

Evaluation by
R. Steele



Douglasia idahoensis D. Henderson, sp. nov. in ed.

Recommended Federal Status
ENDANGERED

PRIMULACEAE

Location Idaho: IDAHO and VALLEY counties, a central Idaho endemic

Land Ownership USFS (Nezperce and Payette N.F.'s)

Vegetation Type Subalpine fir/beargrass

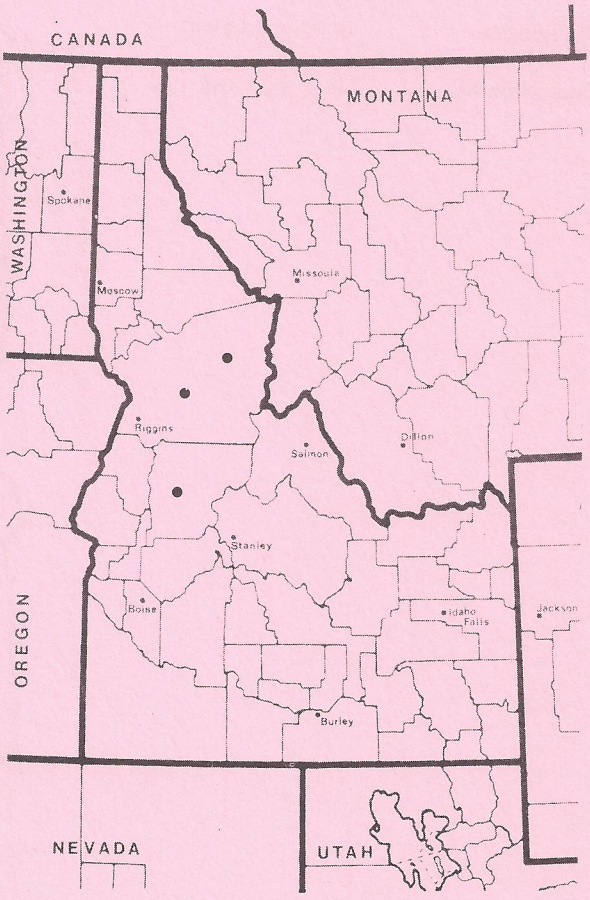
Habitat Open, gravelly areas within forest and unstable NE slopes and ridges where soils are derived from granite or quartzite.

Hazards Mainly recreational impacts.

Herbarium Data Number of sites by county, Idaho only:
IDAHO-2, VALLEY-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-7, IDF-0, IDS-0, MONTU-0, IFGH-0, NY-3, ORE-0, OSC-0, RENO-0, UC-2, UTC-0, WS-3, WTU-2

Remarks This new taxon, formerly considered as *D. montana* or *D. laevigata,* is known only from three sites in central Idaho and although each has been visited recently, only the Idaho County sites appear to support viable populations. A report of this species from Boise County has not yet been confirmed.

Recommendations Both populations in Idaho County accessible via road and this, coupled with the fact that only about 500 to 600 individual plants have been observed, could place this species in a rather precarious position. The occurrence of these small populations in areas of expanding recreational impact could jeopardize this taxon. TREAT AS ENDANGERED.



References Constance 1938, Hitchcock et al. 1959 Vol 4:47

Evaluation by D. M. Henderson

Erigeron latus (Nels. & Machr.) Cronq.

Recommended Federal Status
THREATENED

ASTERACEAE (Compositae)

Location Idaho: OWYHEE and TWIN FALLS counties
Nevada: Elko County

Land Ownership BLM (Boise Dist.), possibly private and Idaho Dept. of Lands (Southwest Area)

Vegetation Type Sagebrush/grass zone

Habitat Dry gravely thin soil over a volcanic substrate

Hazards Range improvement programs

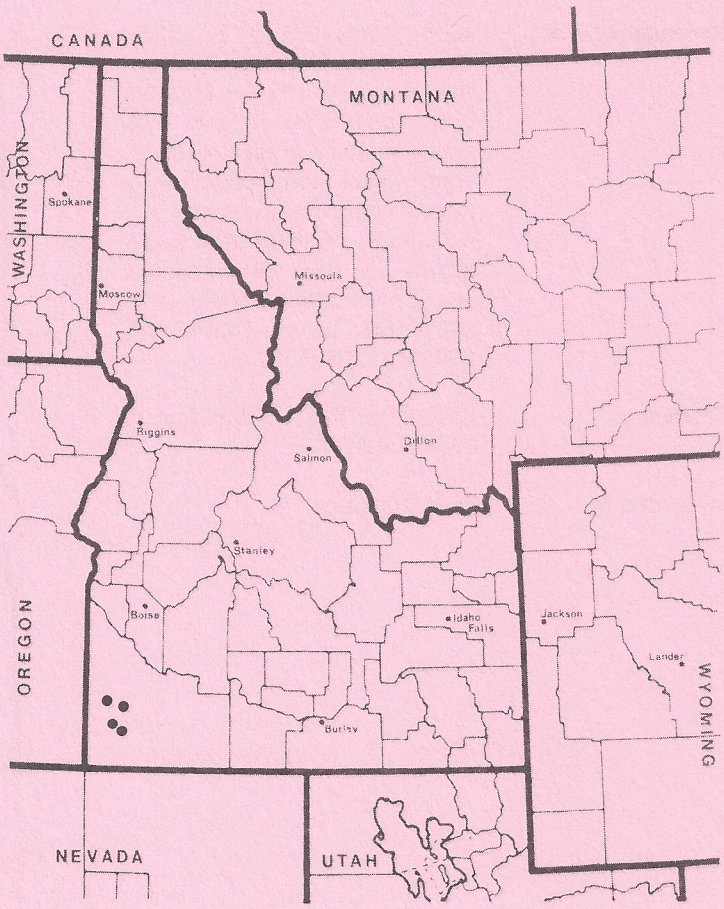
Herbarium Data Number of sites by county, Idaho only:
OWYHEE-5, TWIN FALLS-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-3, ID-0, IDF-0, IDS-0, IFGH-0, MONTU-0, NY-2, ORE-0, OSC-0, RENO-1, UTC-1, WS-2, WTU-2

Remarks This taxa intergrades with *E. nanus* to the east, but the two have different habitats.

Recommendations TREAT AS THREATENED. A study might further reduce this species to the Federal watch list.

References Cronquist 1947

Evaluation by P. L. Packard



Grindelia howellii Steyerm.

Recommended Federal Status
THREATENED

ASTERACEAE (Compositae)

Location
Idaho: BENEWAH County
Montana: Missoula and Powell counties
Bipartite endemic. (The type location is KOOTENAI County, on bluffs of the St. Maries River. The species has been rediscovered on bluffs above the St. Maries River in BENEWAH County, so the original county designation was probably incorrect.)

Land Ownership
USFS (St. Joe N.F.), and Idaho Dept. of Lands (St. Joe Area)

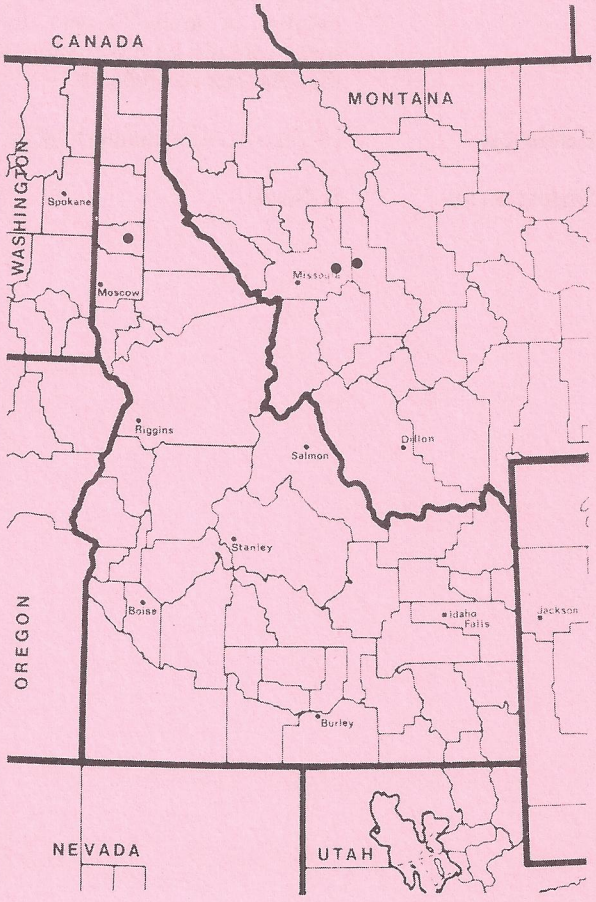
Vegetation Type
Openings in *Pinus ponderosa* and *Pseudotsuga menziesii* types

Habitat
Dry, rocky bluffs, forested slopes, and roadsides (Montana) – generally in bare soil.

Hazards
Trampling by cattle and humans, roadgrading, and roadside herbicide use have been recognized as threats to Montana populations (Watson 1976). These are not believed to be threats in Idaho, but have not been studied.

Herbarium Data
Number of sites by county, Idaho only:
BENEWAH-3 (in close proximity)
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-2, IFGH-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-0

Remarks
Highly restricted distribution in Idaho. One of the three populations is on a site that was strongly overgrazed in the past. The other two sites are much less disturbed. Grazing has been terminated in the area, and it is now being managed for wildlife winter range (Ted Rieger, St. Joe N.F., pers. comm.).



Recommendations
TREAT AS THREATENED. Search area for additional populations and monitor known populations for response to termination of cattle grazing. Initiate study of reproductive biology and ecology of the species.

References
Watson 1976, Heidel 1979

Evaluation by
S. J. Brunsfeld

Hackelia davisii Cronquist

Recommended Federal Status
THREATENED

BORAGINACEAE

Location Idaho: LEMHI County, Idaho endemic

Land Ownership USFS (Salmon N.F.)

Vegetation Type *Pinus ponderosa* zone

Habitat Moist crevices in limestone cliffs and ledges, 3,100 to 3,330 ft.

Hazards Mainly widening of adjacent road.

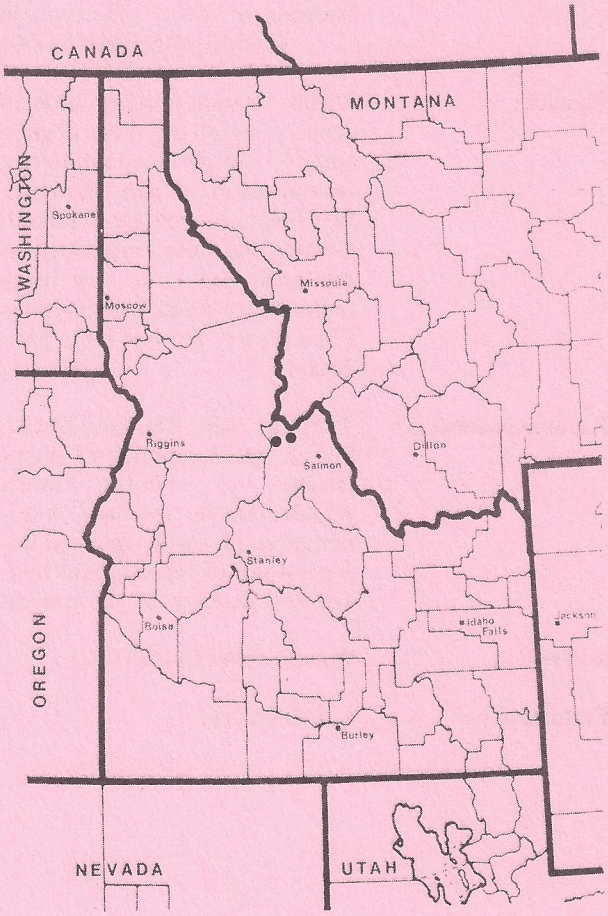
Herbarium Data Number of sites by county, Idaho only:
LEMHI-3
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-2, IDF-0, IDS-2, IFGH-0, MONTU-0, NY-3, ORE-0, OSC-0, RENO-0, UTC-1, WS-2, WTU-1

Remarks Other limestone outcrops should be sought in main Salmon and lower Middle Fork canyons for new possible locations. Dust conditions from increased use of adjacent dirt road may affect the plants' growth and reproduction.

Recommendations TREAT AS THREATENED until a field survey is accomplished. Because of limited access, this species should be more common than the records indicate.

References Hitchcock and Cronquist 1973

Evaluation by R. Steele



Halimolobos perplexa (Hend.) Rollins var. *lemhiensis* Hitchc.

Recommended Federal Status
THREATENED

BRASSICACEAE (Cruciferae)

Location Idaho: CUSTER and LEMHI counties, an endemic variety of northwestern Custer to northern and western Lemhi County

Land Ownership USFS (Challis and Salmon N.F.), and possibly BLM (Salmon Dist.)

Vegetation Type Mountain big sage/bluebunch wheatgrass, ponderosa pine/bluebunch wheatgrass, and Douglas-fir types

Habitat Dry, unstable, gravelly or sandy slopes, roadcuts, and dredge tailings of both quartzitic and granitic substrates.

Hazards Hazards other than road improvement are unknown at this time.

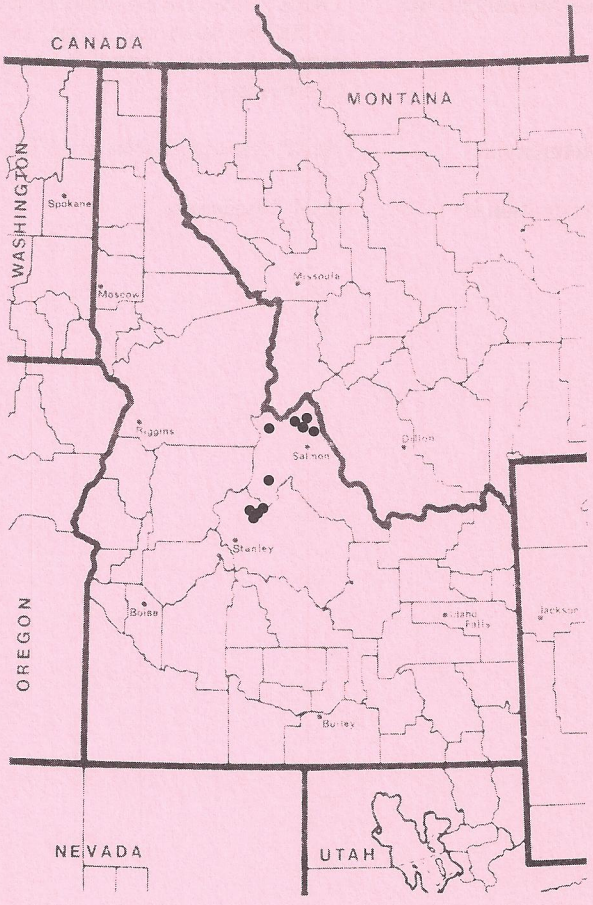
Herbarium Data Number of sites by county, Idaho only:
CUSTER-7, LEMHI-6
Number of Idaho collections in herbaria searched: BOIS-1, BS-0, CIC-1, ID-4, IDF-0, IDS-1, IFGH-0, MONTU-0, NY-3, ORE-0, OSC-0, RENO-2, UTC-2, WS-2, WTU-2

Remarks Recently discovered in the Loon Creek drainage of Custer County, this Idaho endemic is wider ranging than originally known. Insufficient information exists, however, to assess the proper status for this rare variety.

Recommendations TREAT AS THREATENED, re-evaluate after field studies determine total range and hazards

References Hitchcock and Cronquist 1973, Brunsfeld et al. 1980

Evaluation by S. J. Brunsfeld and D. M. Henderson



Halimolobos perplexa (Hend.) Rollins var. *perplexa*

Recommended Federal Status
THREATENED

BRASSICACEAE (Cruciferae)

Location Idaho: ADAMS and IDAHO counties in vicinity of Little Salmon River and Riggins—a west-central Idaho endemic variety

Land Ownership USFS (Payette and Nezperce N.F.s), BLM (Coeur d'Alene Dist.), private, and perhaps Idaho Department of Lands (Payette Lake Area)

Vegetation Type Mostly ponderosa pine with Idaho fescue and/or bluebunch wheatgrass

Habitat Loose gravel and talus of slopes, cliffs, and roadcuts of varying parent material

Hazards Most of the population would be affected by road improvement, less so by logging and/or grazing.

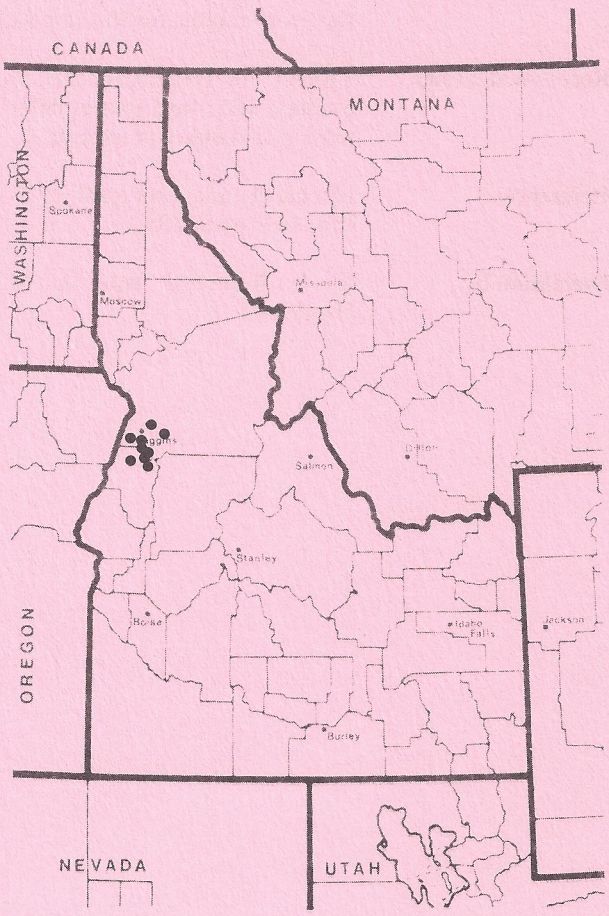
Herbarium Data Number of sites by county, Idaho only:
ADAMS-3, IDAHO-11
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-3, IDF-1, IDS-1, IFGH-0, MONTU-0, NY-8, ORE-1, OSC-0, RENO-4, UTC-0, WS-1, WTU-4

Remarks With the exception of three sites, all known plants are occupying a narrow corridor of only a few miles along the Little Salmon River.

Recommendations TREAT AS THREATENED due to highly restricted range and potential threats posed by road improvement.

References Hitchcock and Cronquist 1973

Evaluation by D. M. Henderson



Haplopappus insecticruris Henderson
Syn. *H. integrifolius* Gray ssp. *insecticruris* Hall

Recommended Federal Status
THREATENED

ASTERACEAE (Compositae)

Location Idaho: BLAINE and CAMAS counties, Idaho endemic

Land Ownership Private, USFS (Sawtooth N.F.)

Vegetation Type Sagebrush/grass

Habitat Meadows, 5,000-6,000 ft.

Hazards Hay and cattle production, some dry land farming and housing development.

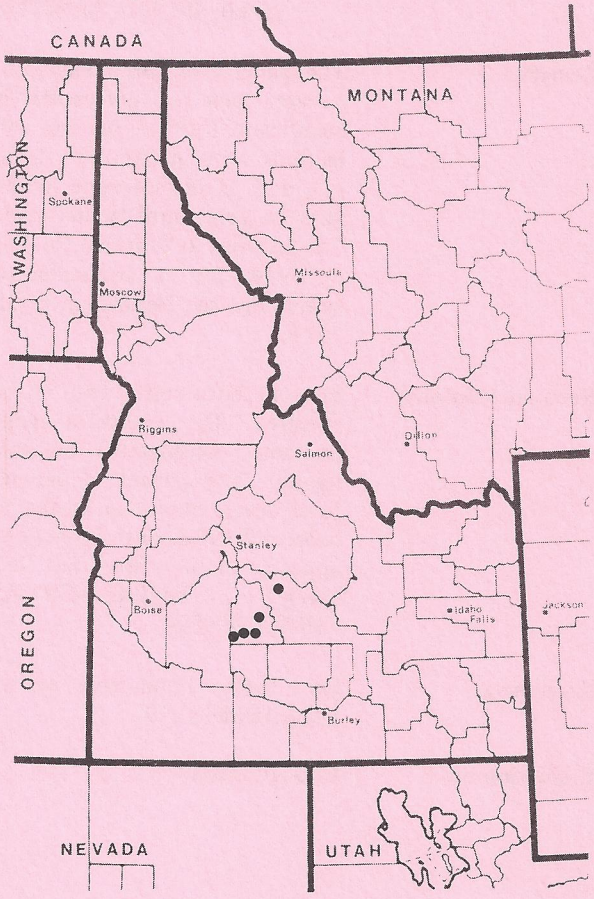
Herbarium Data Number of sites by county, Idaho only:
BLAINE-1, CAMAS-3
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-2, IDF-0, IDS-1, IFGH-0, MONTU-0, NY-3, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-0

Remarks This species has been sought in vain during two endangered plant surveys (Eidemiller, 1976, 1977). Habitat in older collection sites may no longer exist. No recent sightings or collections are known of this fairly accessible species.

Recommendations TREAT AS THREATENED; search for new locations. Federal listing seems appropriate

References Hitchcock and Cronquist 1973, Lee 1968

Evaluation by R. Steele



Haplopappus liatriformis (Greene) St. John
Syn. *Pyrrocoma liatriformis* Greene

Recommended Federal Status
THREATENED

ASTERACEAE (Compositae)

Location
Idaho: LATAH, LEWIS, and NEZPERCE counties
Washington: Spokane and Whitman counties

Land Ownership
Likely all private, but possibly BLM (Coeur d'Alene Dist.) and Idaho Dept. of Lands (Coeur d'Alene Area) toward their southern boundaries.

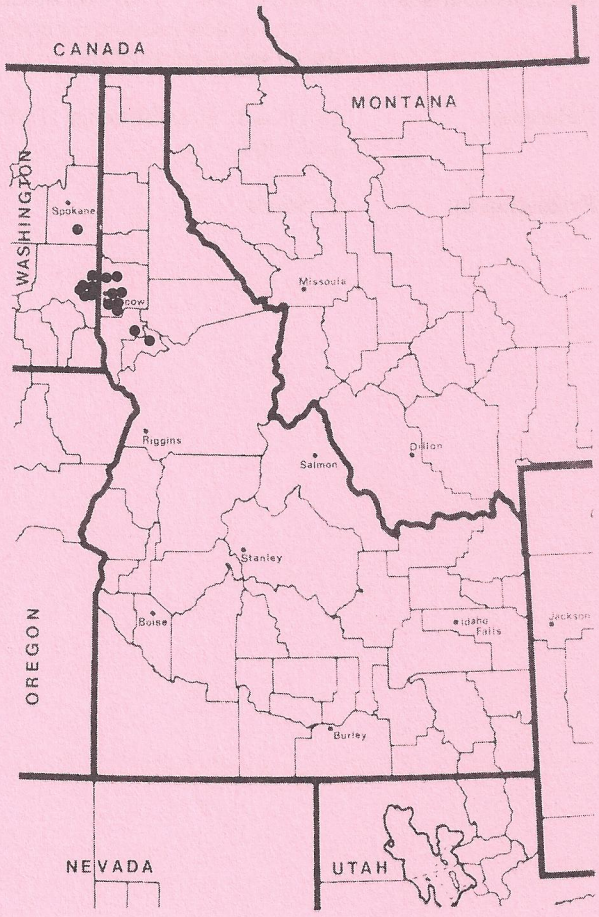
Vegetation Type
Palouse prairie, Pacific bunchgrass

Habitat
"Virgin fescue/wheatgrass prairie," "along highway, dry soil," "open areas on the ridge top and along upper parts of the slope," "rocky slope," "*Festuca idahoensis/Symphoricarpos albus* habitat type"

Hazards
Agricultural impacts. Herbicide spraying should be suspected, since most of the areas are cultivated.

Herbarium Data
Number of sites by county, Idaho only:
LATAH–7, LEWIS-1, NEZPERCE-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-6, IDF-0 IDS-0, IFGH-0, MONTU-0, NY-4, ORE-0, OSC-0, RENO-0, UTC-0, WS-1, WTU-0

Remarks
The paucity of specimens from an area near two universities is significant. Further, the last collections were in 1950 (2), 1952 (1), and 1956 (1)–none in the past 24 years until Heidel made 2 collections in Whitman Co. WA in 1979. For a discussion of synonymy see Henderson et al. 1977.



Recommendations
Sites in both states need to be revisited. The extensive range contains considerable suitable habitat. The impact of agricultural development, in particular broadleaf weed control practices, appears so negative that this species must be TREATED AS THREATENED.

References
Lee 1968, Henderson et al. 1977, Heidel 1979

Evaluation by
F. D. Johnson

Haplopappus radiatus (Nutt.) Cronq.
Syn. *H. carthamoides* (Hook.) Gray var. *maximus* Gray

Recommended Federal Status
THREATENED

ASTERACEAE (Compositae)

Location
Idaho: WASHINGTON County
Oregon: Baker and Malheur counties

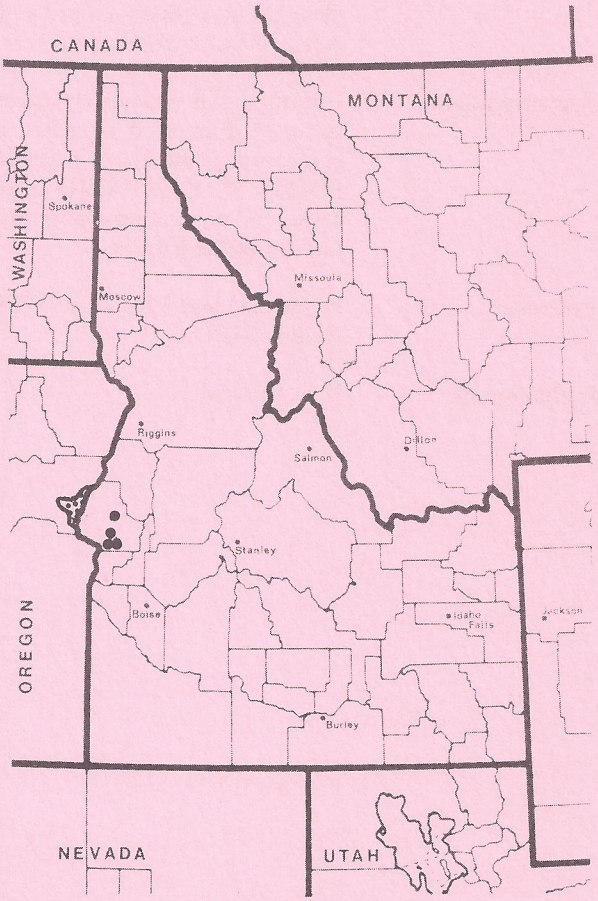
Land Ownership
BLM (Boise Dist.), possible USFS (Payette N.F.) and Idaho Dept. of Lands (Payette Lake Area), some private

Vegetation Type
Sagebrush/grass, possible on a few outliers of Pacific bunchgrass

Habitat
"Steep rocky hillside"; "gravelly terrace" - along creek; "grazing modified . . *Artemisia tridentata/Poa sandbergii* community . . . dominated by annuals." The native range of this plant has been intensively grazed, more in the past than now. However, Meinke (1978) feels that grazing pressure has altered the habitat so that seedlings of this plant cannot easily establish.

Herbarium Data
Number of sites by county, Idaho only:
WASHINGTON - 4
Number of Idaho collections in herbaria searched: BOIS-1, BS-0, CIC-1, ID-1, IDF-0, IDS-0, IFGH-0, MONTU-0, NY-2, ORE-0, OSC-0, RENO-0, UTC-0, WS-1, WTU-0

Remarks
Meinke (1978) notes 35 locations (mapped here) in Oregon including 6 study sites. He concludes that it should remain listed as endangered, although with 35 sites and little long-term trend data, this seems an extreme interpretation. The following year Meinke (1979) cites grasshopper damage and low seed production as factors important to endangerment. These phenomena are common in semi-arid environments. Johnson & Mattson (1978) searched the Snake River Canyon below Hells Canyon Dam with no success. It thus apparently avoids the principal bunchgrass formation. It is certainly rare in Idaho, but was collected in 1974 and 1978. There has been no deliberate searching in Idaho to my knowledge. Considering the relative inaccessibility of the Idaho side of Brownlee Reservoir, more might reasonably be expected.



Recommendations
Considering the 39 known sites, TREAT AS THREATENED seems a more reasonable status.

References
Siddall & Chambers 1978

Evaluation by
F. D. Johnson

Lepidium davisii Rollins

Recommended Federal Status
THREATENED

BRASSICACEAE (Cruciferae)

Location Idaho: ELMORE, OWYHEE, and TWIN FALLS counties
Oregon: Malheur County

Land Ownership BLM (Boise Dist.), possibly private and Idaho Dept. of Lands (Southwest and South Central Areas).

Vegetation Type *Atriplex-Artemisia* zone

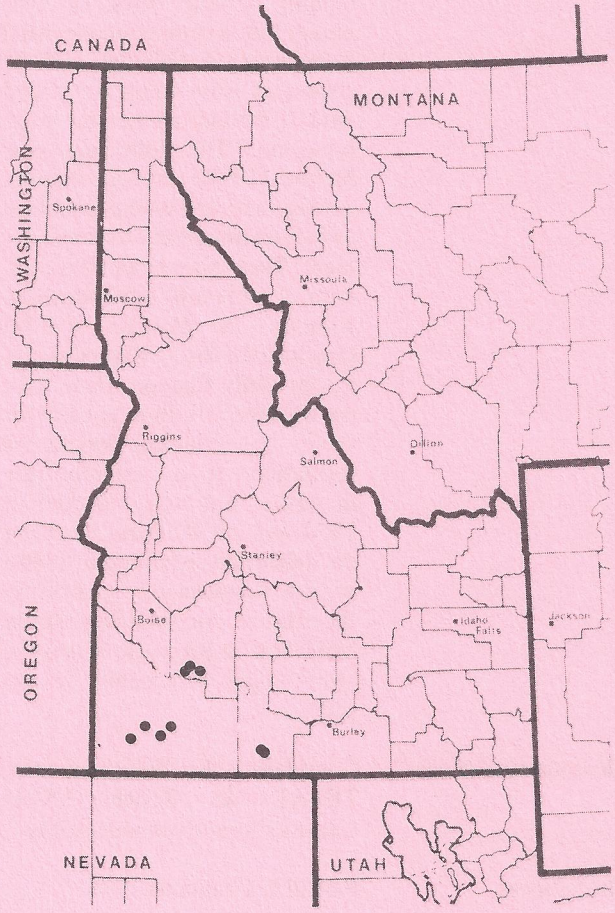
Habitat Hard bottom playas

Hazards These playas are being used for stock watering ponds, reservoirs, and race tracks. Their location in heavily grazed areas makes them highly vulnerable to disturbance.

Herbarium Data Number of sites by county, Idaho only:
ELMORE-4, OWYHEE-5, TWIN FALLS-2
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-6, ID-0, IDF-0, IDS-14, IFGH-0, MONTU-0, NY-3, ORE-0, OSC-3, RENO-0, UTC-0, WS-0, WTU-1

Remarks Of the 11 sites now known for this plant, only 4 are probably intact. BLM (Boise Dist.) plans 90 new reservoirs in the Owyhee EIS area (Bureau of Land Management 1980). It is feared that most sites for this species will be included in this plan.

Recommendations Although this species is known from 11 sites in 4 counties, it is recommended that it be PROPOSED AS THREATENED because of present and potential impact on the habitat.



References Hitchcock and Cronquist 1973, Rollins 1948

Evaluation by P. L. Packard

Lomatium rollinsii Math. & Const.

Recommended Federal Status
THREATENED

APIACEAE (Umbelliferae)

Location
Idaho: IDAHO and NEZPERCE counties
Oregon: Baker and Wallowa counties
Washington: Asotin County
Canyons of the Snake, lower Salmon, and Little Salmon rivers

Land Ownership
Private, BLM (Coeur d'Alene Dist.), USFS (Nezperce N.F.)

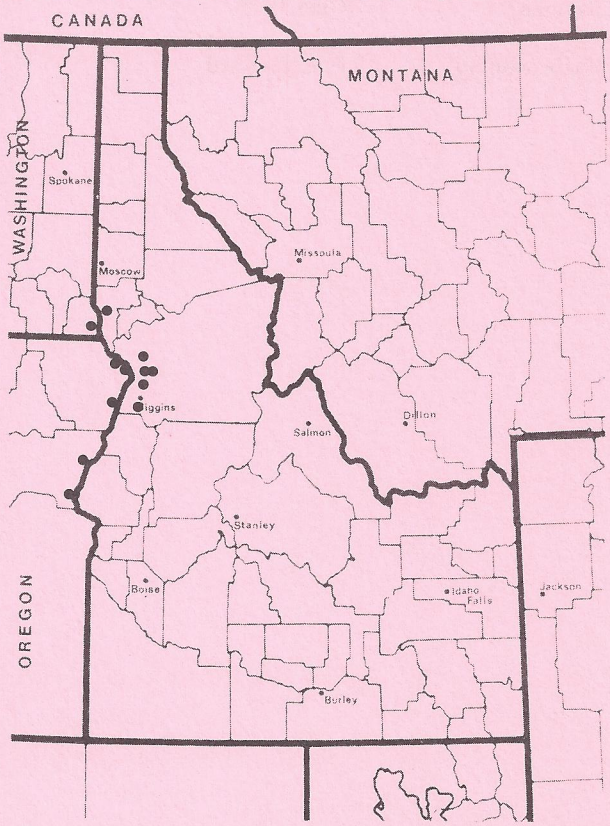
Vegetation Type
Primarily *Agropyron spicatum/Festuca idahoensis,* but also *Agropyron spicatum/Poa sandbergii*

Habitat
Mesic grassy slopes with deep soil; also on drier, rockier hillsides, sandy bars, and rarely in the crevices of rock outcrops. Ranging from 50 to 1,000 ft above river.

Hazards
Limited known range. Sensitivity to grazing has not been established. (Because the plant sets seed and withers early in the season, effects are expected to be minimal unless grazing is intense.)

Herbarium Data
Number of sites by county, Idaho only:
IDAHO-5, NEZPERCE-2
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-3, IDF-5, IDS-0, IFGH-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-7

Remarks
Improved knowledge of the plant's habitat has led to the recent discovery of several new sites. Miles of terrain still need to be searched. Because of the high diversity of *Lomatium* species in our canyons, visual inventories of *Lomatium rollinsii* should be performed with extreme caution.



Recommendations
TREAT AS THREATENED until more populations are discovered. Assess impact of grazing.

References
Hitchcock and Cronquist 1973

Evaluation by
S. J. Brunsfeld

Mentzelia mollis Peck

Recommended Federal Status
ENDANGERED

LOASACEAE

Location Idaho: OWYHEE County
Oregon: Malheur County

Land Ownership BLM (Boise Dist.), private and possibly Idaho Dept. of Lands (Southwest Area)

Vegetation Type *Artemisia-Atriplex* communities

Habitat Local areas of volcanic ash

Hazards Mining, range improvement, ORV's

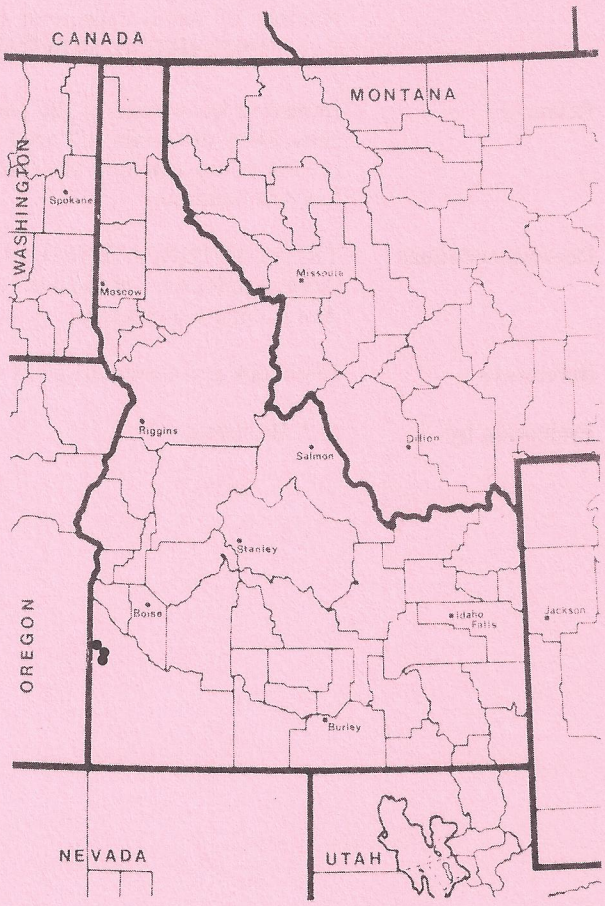
Herbarium Data Number of sites by county, Idaho only:
OWYHEE-7
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-6, ID-2, IDF-0, IDS-0, IFGH-0, MONTU-0, NY-1, ORE-0, OSC-0, RENO-0, UTC-2, WS-0, WTU-2

Remarks The habitat is endangered. The species is restricted to this one habitat and has not been successfully germinated or grown in greenhouse or garden. Range improvement programs have disturbed several sites.

Recommendations PROPOSE AS ENDANGERED. The small range, restricted habitat and human impact on the habitat are endangering this plant.

References Glad 1976

Evaluation by P. L. Packard



Mirabilis macfarlanei Constance & Rollins

Federal Status
ENDANGERED
as of Oct. 26, 1979

NYCTAGINACEAE

Location
Idaho: IDAHO County
Oregon: Wallowa County
Snake and Salmon River Canyon endemic
At present known from two (three?) locations in Oregon, two in Idaho.

Land Ownership
Idaho population - BLM (Coeur d'Alene Dist.), Oregon population - USFS (Wallowa-Whitman N.F.) - some private in Idaho.

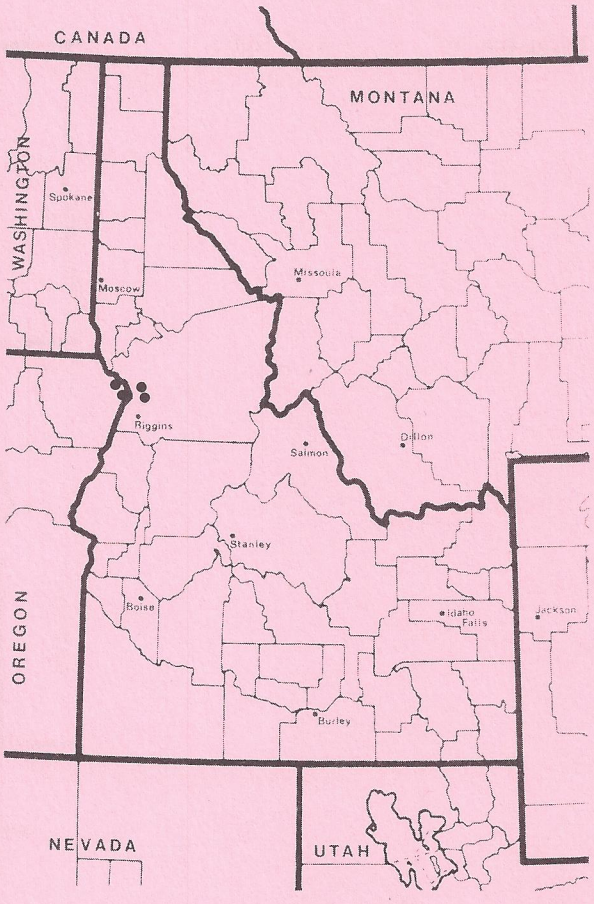
Vegetation Type
Grasslands immediately above river level

Habitat
No habitat types noted, but the grasses, forbs, and shrubs associated are typical of these canyon bottoms.

Hazards
May be susceptible to grazing pressure since it has very brittle stems. Insect predators were seen on two populations. An unknown fungus also is causing defoliation and possible seed loss. Picking by hikers is a very real threat since the flowers are very showy.

Herbarium Data
Number of sites by county, Idaho only:
IDAHO-2
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-2, IDF-2, IDS-2, LAGO-1, NY-2, ORE-0, OSC-2, RENO-3, UTC-0, WS-1, WTU-1

Remarks
This is one of Idaho's rarest plants. It was feared extinct in Idaho before rediscovery of the Salmon River population by Bonnie Heidel in 1979. It was declared endangered without declaring the critical habitat to avoid detailed maps being published. In 1980, personnel from the BLM (Coeur d'Alene Dist.) located a more extensive population on the Salmon River on BLM land. Protective steps are under way.



Recommendations
Federal - ENDANGERED

References
Constance and Rollins 1936, Johnson and Mattson 1978, Federal Register 26 Oct. 1979, Heidel 1979.

Evaluation by
F. D. Johnson

Oenothera caespitosa Nutt. var. *psammophila* (Nels. & Macbr.) Munz.
Syn. *O. psammophila* Nels. & Macbr.

Recommended Federal Status
ENDANGERED

ONAGRACEAE

Location Idaho: FREMONT County, Idaho endemic variety

Land Ownership BLM (Idaho Falls Dist.), possibly Idaho Dept. of Lands (Eastern Area)

Vegetation Type Sagebrush/grass zone

Habitat Lava outcrops surrounded by sand dunes, 5,000 to 5,300 ft

Hazards Mainly ORVs

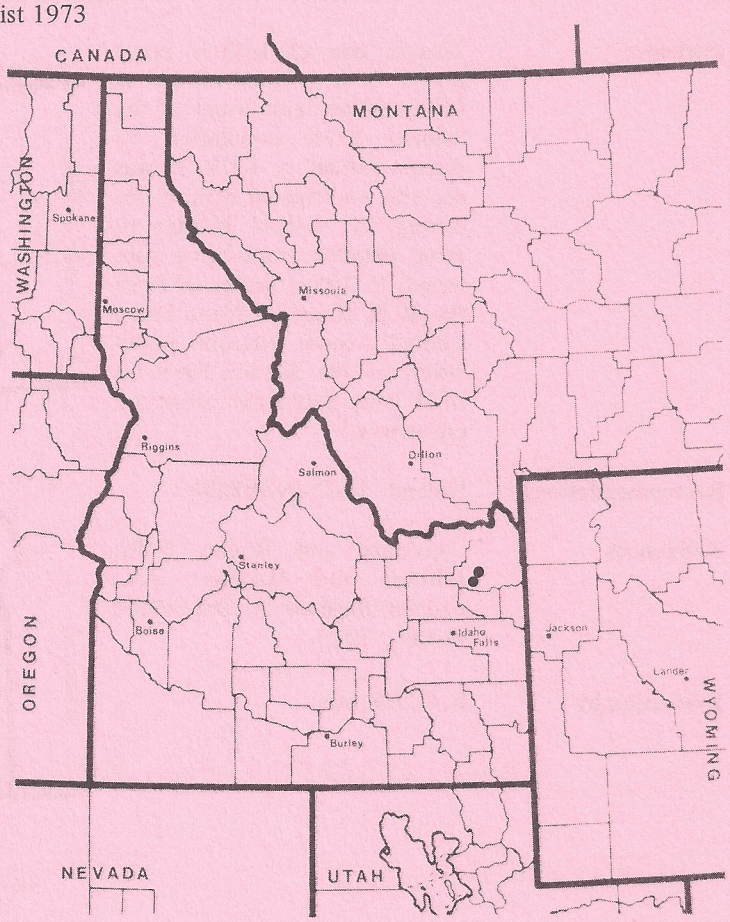
Herbarium Data Number of sites by county, Idaho only:
FREMONT-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-0, IDS-0, IFGH-0, MONTU-0, NY-on loan, ORE-0, OSC-0, RENO-1, WS-0, WTU-0

Remarks This plant is rarely collected but was observed in three locations well within the area of the larger dunes. Sites just beyond the main dunes area support another closely related taxon (Holte and Whitehead 1978).

Recommendations TREAT AS ENDANGERED

References Hitchcock and Cronquist 1973

Evaluation by K. E. Holte



Penstemon elegantulus Pennell

Recommended Federal Status
THREATENED

SCROPHULARIACEAE

Location
Idaho: IDAHO, NEZ PERCE and OWYHEE counties
Oregon: Wallowa County

Land Ownership
BLM (Boise and Coeur d'Alene Dist.), northern population largely private. Intermediate sites (if located) may be on USFS (Nezperce and Payette N.F.).

Vegetation Type
No clear information—but apparently subalpine to mid-elevation in nonforested openings or in high elevation grasslands.

Habitat
"Decaying granite hillside," "trail side," "ridges or cliffs at edge of grassland," "in grassland."

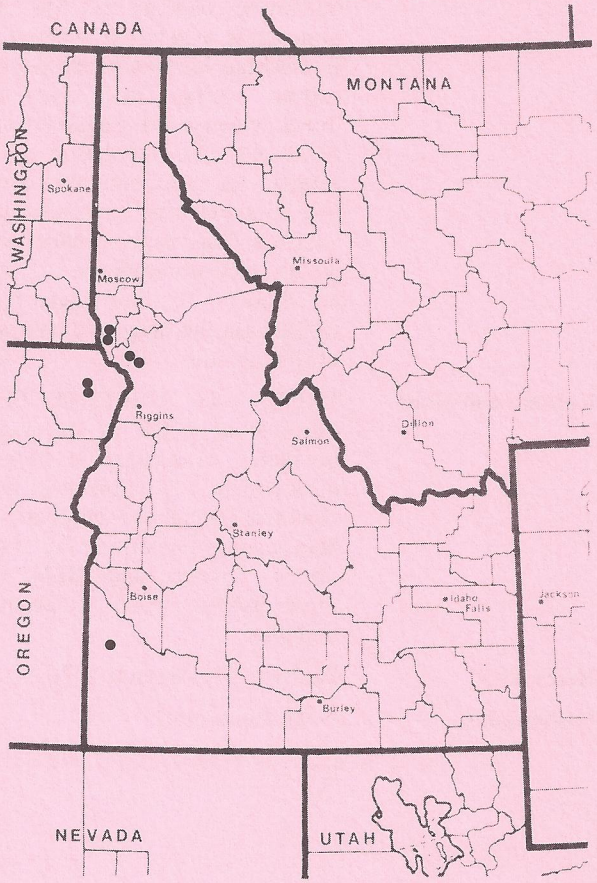
Hazards
Uncertain. Attractive to wildflower gardeners, possibly damaged by grazing.

Herbarium Data
Number of sites by county, Idaho only:
IDAHO-2, NEZ PERCE-2, OWYHEE-1 A collection from Kootenai Co. (ID) cannot be identified and is not counted here.
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-1?, IDF-0, IDS-1, IFGH-0, NY-3, ORE-0, OSC-0, WS-1, WTU-1.

Remarks
The two areas, the Owyhee Mountains and slopes near the mouth of the Salmon River are unlike ecologically and phytogeographically, making this a peculiar distribution. The Wallowa County, Oregon population indicates that intermediate stations in Idaho are quite possible.

Recommendations
TREAT AS THREATENED until more sites are found.

Evaluation by
F. D. Johnson



Penstemon lemhiensis (Keck) Keck & Cronquist

Syn. *P. speciosus* Dougl. ex Lindl. ssp. *lemhiensis* Keck

Recommended Federal Status
THREATENED

SCROPHULARIACEAE

Location
Idaho: LEMHI County
Montana: Beaverhead, Deerlodge, and Ravalli counties

Land Ownership
USFS (Bitterroot, Beaverhead, and Salmon N.F.s), BLM (Salmon Dist.), and National Park Service (Big Hole Battlefield, Montana)

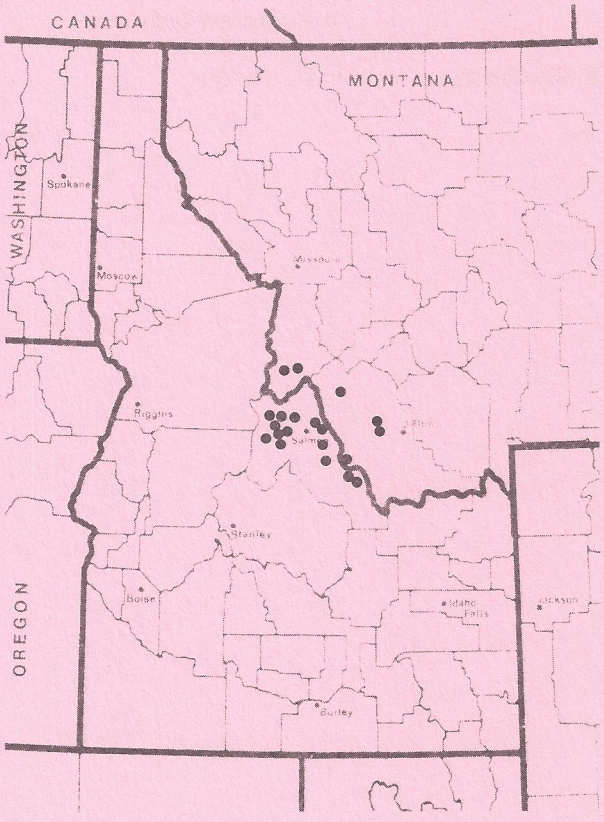
Vegetation Type
Ponderosa pine and Douglas-fir to mountain big sage/bluebunch wheatgrass

Habitat
Stable to semi-disturbed sites mostly on deep soils of varying parent materials on steep to gradual slopes (many road cuts), 4,000 to 7,500 ft elevation.

Hazards
Grazing, range improvement, road building or improvement (including roadside spraying)

Herbarium Data
Number of sites by county, Idaho only:
LEMHI-18
Number of Idaho collections in herbaria searched: BOIS-1, BS-0, ID-16, IDF-0, IDS-0, IFGH-0, MONTU-0, NY-6, ORE-0, OSC-0, RENO-1, UTC-2, WS-0, WTU-2

Remarks
Until recently, this taxon was better known in Montana, where Watson (1976) evaluated four of the six known populations. A special effort was made by this evaluator during the field season of 1980, however, to ascertain the abundance and distribution within Idaho. As a result, ten additional populations were located in Lemhi County, all of which were previously unknown. Likely habitats in the northern Lemhi Range were searched but without success. A large, nearly continuous population of well over 1,000 plants of all age classes occupies a portion of the northern Salmon River Mountains with many plants inhabiting roadcuts and fills. Although this species does occupy sites within sagebrush-bunchgrass vegetation where roads are not present, many populations, particularly in the Beaverhead Mountains are restricted to road cuts. This places this species in a rather precarious position since there is direct evidence of the elimination of at least one population by a program of indiscriminate roadside spraying with herbicides. In addition, range improvement programs incorporating herbicides are known to have occurred well within the range and habitat of this taxon.



Recommendations
TREAT AS THREATENED. Throughout much of its range in Idaho it occupies a rather narrow band of habitats near the sagebrush/Douglas-fir ecotone. Management practices by the Forest Service and BLM in these habitats need to be re-evaluated.

References
Phillips 1976, Watson 1976

Evaluation by
D. M. Henderson

Phacelia inconspicua Greene

Recommended Federal Status
ENDANGERED

HYDROPHYLLACEAE

Location Idaho: BUTTE County
Nevada: Pershing County

Land Ownership Idaho National Engineering Lab and possibly BLM (Idaho Falls Dist.)

Vegetation Type Sagebrush/grass zone

Habitat Open sandy spots in the sagebrush/grass zone

Hazards No immediate threat from human activities, but there is some activity in the area. This species is apparently endangered by its rarity and annual nature.

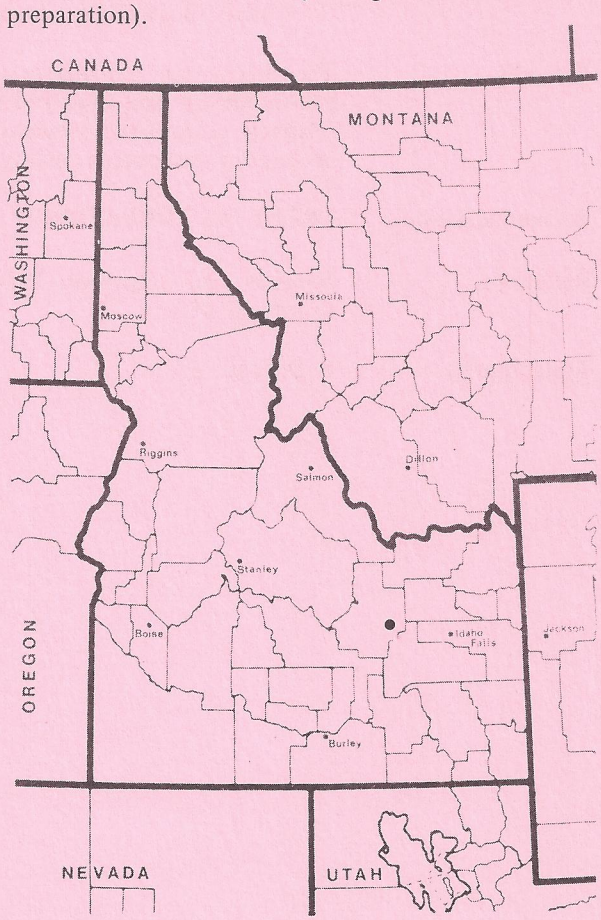
Herbarium Data Number of sites by county, Idaho only:
BUTTE-1
Number of Idaho collections in herbaria searched:
Was not searched

Remarks This species is said to be known from only two collections. Only a single location is known in Idaho (Cronquist and others, in preparation).

Recommendations TREAT AS ENDANGERED. This species occurs on Idaho National Engineering Laboratory land, where it should be relatively simple to insure protection and where it should be monitored.

References Cronquist and others, in preparation

Evaluation by P. L. Packard



Phlox idahonis Wherry

Recommended Federal Status
THREATENED

POLEMONIACEAE

Location Three meadows in CLEARWATER County, all in the same township.

Land Ownership The Potlatch Corporation owns all 3 locations.

Vegetation Type Moist to moderately dry meadows in *Thuja plicata* zone. Stumps in several locations indicate formerly a light forest was present; a *Thuja plicata* climax would be expected here.

Habitat Grass/sedge, grass/forb and shrub dominated meadow communities, at least in part, derived meadows.

Hazards Apparently sensitive to grazing. It is successional in forest/meadows, hence cutting and (experimental) fire seem not to be detrimental–at least to the point of exclusion. A leaf rust reduces vigor and may occasionally inhibit flowering. Collecting by gardeners may be a threat in the future.

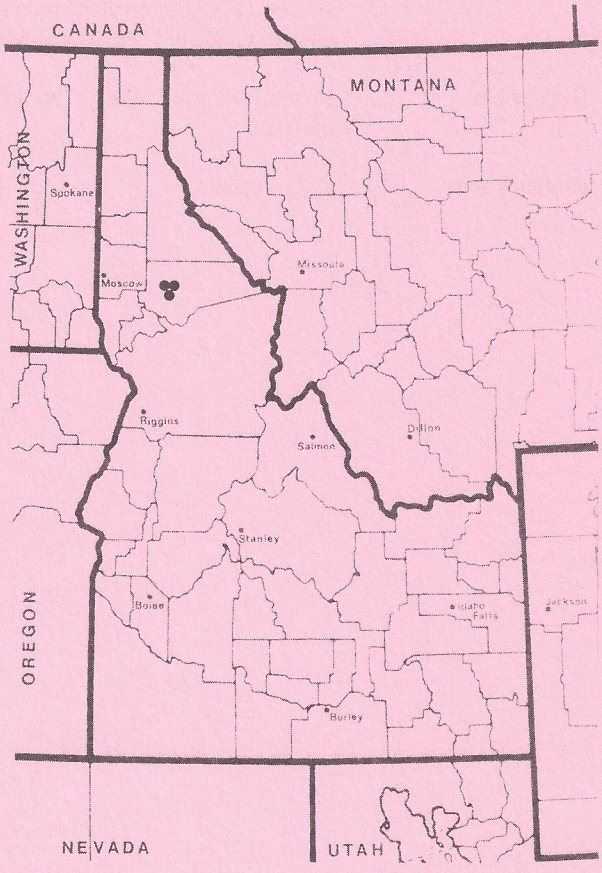
Herbarium Data Number of sites by county, Idaho only:
Crawford (1980) mapped the known population. All collections prior to his study were from a single meadow.

Remarks The distribution, autecology and synecology of this species were investigated in a two-year study by Rex Crawford (1980). The Potlatch Corporation has set aside the single relatively undisturbed meadow and has agreed to whatever protection or management is necessary to maintain a healthy population. It is being monitored.

Recommendations TREAT AS THREATENED

References Johnson and Crawford 1978, Crawford 1980

Evaluation by F. D. Johnson



Physaria didymocarpa (Hook.) Gray var. *lyrata* C. L. Hitch.
Syn. *P. alpestris* Suksd. var. *lyrata*

Recommended Federal Status
THREATENED

BRASSICACEAE (Cruciferae)

Location Idaho: LEMHI County, Idaho endemic variety

Land Ownership USFS (Salmon N.F.)

Vegetation Type Unknown.

Habitat Unknown, but usually exposed loose soils and talus for the species in general.

Hazards Unknown, possibly road construction and improvements.

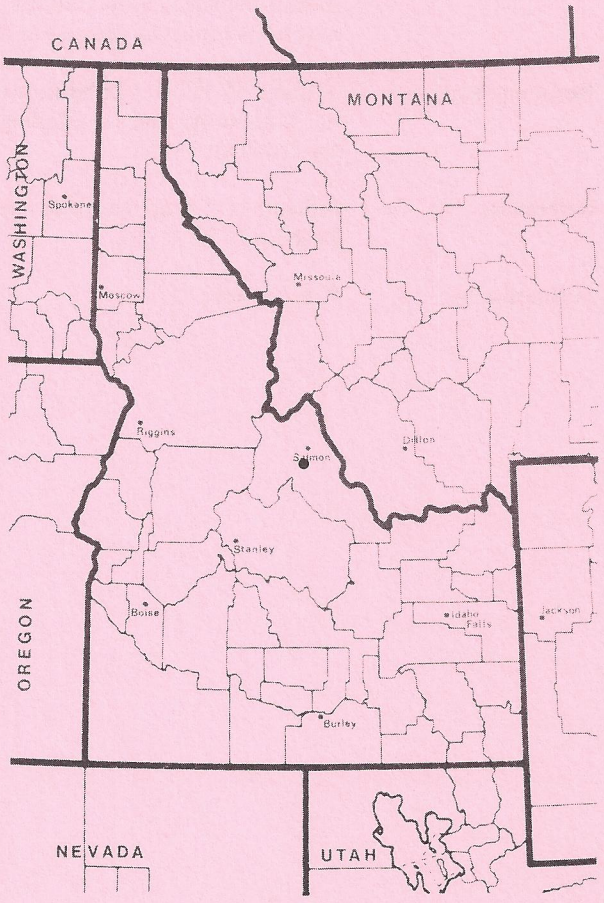
Herbarium Data Number of sites by county, Idaho only:
LEMHI-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-0, IDS-1, IFGH-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, UTC-0, WS-0, WTU-1

Remarks This taxon probably faces few threats since *Physarias* in general prefer loose exposed substrates and may increase on disturbed sites. An ongoing field survey should reveal what threats, if any, exist.

Recommendations TREAT AS THREATENED until hazards can be evaluated.

References Hitchcock and Cronquist 1973

Evaluation by R. Steele



Primula wilcoxiana nomen nudum

Recommended Federal Status
THREATENED

PRIMULACEAE

Location Idaho: ADA, BOISE, ELMORE and GEM counties
Formerly CANYON County, but not known there now

Land Ownership BLM (Boise Dist.), private, USFS (Boise N.F.) and probably Idaho Dept. of Lands (Southwest Area)

Vegetation Type Sagebrush/grass zone

Habitat Moist, often steep hillsides in *Artemisia "xericensis"/Festuca idahoensis* and *Artemisia tridentata* ssp. *vaseyana/Festuca idahoensis* habitat types.

Hazards Housing development threatens nearly half of currently known sites.

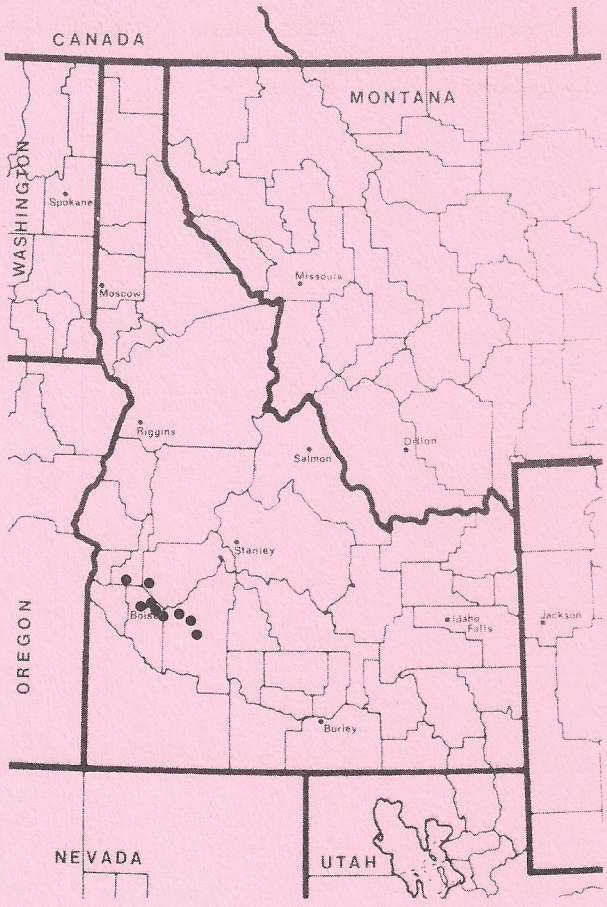
Herbarium Data Number of sites by county, Idaho only:
ADA-5, BOISE-1, ELMORE-5, GEM-1
Number of Idaho collections in herbaria searched:
BOIS-3, BS-5, CIC-12, ID-10, IDF-5, IFGH-0, MONTU-0, OSC-0, RENO-0

Remarks This *Primula* has been considered to be *Primula cusickiana* but appears to differ in several ways. *Primula wilcoxiana* is an unpublished name given to this form many years ago by local botanists. The taxonomy of this group is now being studied. A thorough search for new populations of this taxon is needed.

Recommendations TREAT AS THREATENED until its taxonomy and total range are clarified.

References Eidemiller 1976, Hironaka and Fosberg 1979

Evaluation by P. L. Packard



Silene spaldingii Wats.

Recommended Federal Status
THREATENED

CARYOPHYLLACEAE

Location
Idaho: ADAMS and LEWIS counties
Montana: Flathead Lake and Saunders County
Oregon: Wallowa County (extinct?)
Washington: Spokane and Whitman counties

Land Ownership
Mostly private. Possibly BLM (Coeur d'Alene Dist.) and Idaho Dept. of Lands (Coeur d'Alene Area). If the Adams County location is correct, then possibly USFS (Payette N.F.).

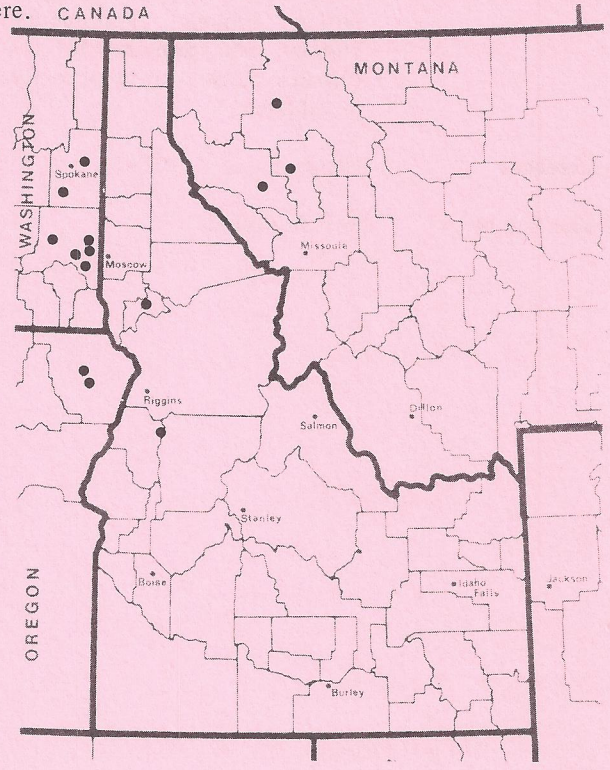
Vegetation Type
Palouse prairie, bunchgrass, shrub and sagebrush communities and ponderosa forest.

Habitat
"*Symphoricarpos albus/Festuca idahoensis* h.t.," *Pinus ponderosa* with *Symphoricarpos albus*, "*Artemisia tridentata* h.t.," "virgin *Festuca idahoensis* prairie"

Hazards
Possibly affected by herbicides or grazing. Nothing apparent in the way of hazards.

Herbarium Data
Number of sites by county, Idaho only:
ADAMS?-1, LEWIS-1
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-0, IDF-0, IDS-0, IFGH-0, MONTU-0, NY-0, ORE-0, OSC-0, RENO-0, UTC-0, WS-3, WTU-0

Remarks
Herbarium data do not support the contention that this species is confined to virgin grassland. The scattered distribution and varied habitat adds considerable confusion. The Adams County location is given for Washington state, 2 mi W of McCall. Finding no McCall in Adams Co. WA, and since the location fits Idaho, this is assumed to be an error in labeling. Heidel (1979) made 2 collections in Whitman Co. WA and recollected the Lewis Co. site. It was also collected in Montana in 1979, although Watson (1976) believes it to be endangered (extinct?) there.



Recommendations
TREAT AS THREATENED.

References
Siddall and Chambers 1978, Heidel 1979, Hitchcock and Maquire 1947, Watson 1976

Evaluation by
F. D. Johnson

Thelypodium repandum Rollins

Recommended Federal Status
ENDANGERED

BRASSICACEAE (Cruciferae)

Location Idaho: CUSTER County, Idaho endemic

Land Ownership BLM (Salmon Dist.), USFS (Challis N.F., possibly Sawtooth N.F.), probably Idaho Dept. of Lands (Eastern Area)

Vegetation Type *Artemisia tridentata* ssp. *wyomingensis/Agropyron spicatum* and similar but unclassified range types probably unique to the Challis area.

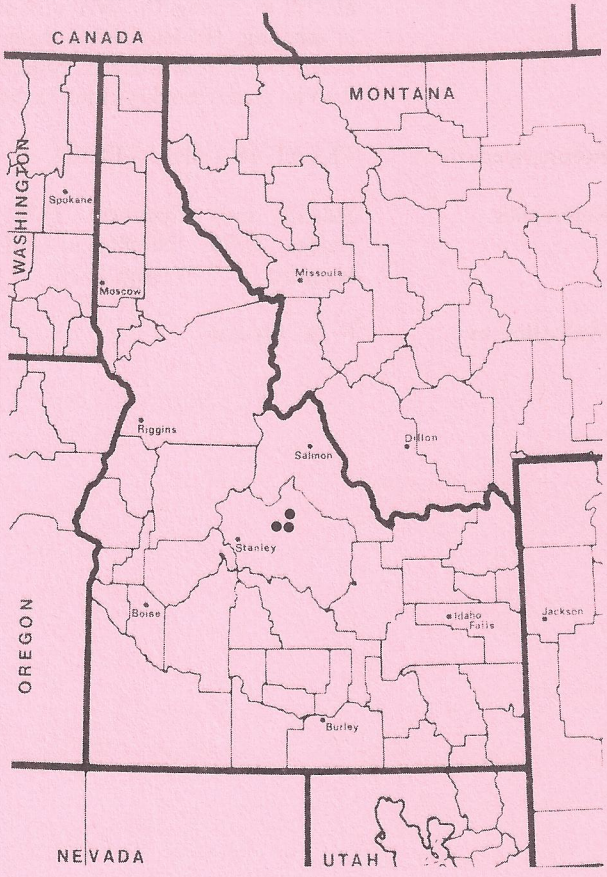
Habitat Dry, often steep slopes of volcanic material (primarily light-colored ash) or basaltic talus at lower elevations. Also known from roadcuts in these substrates. Often associated with *Astragalus amblytropis, Enceliopsis nudicaulis,* and *Hymenopappus filifolius* var. *idahoensis*.

Hazards Need to be identified.

Herbarium Data Number of sites by county, Idaho only:
CUSTER-8
Number of Idaho collections in herbaria searched: BOIS-0, BS-0, CIC-0, ID-2, IDF-0, IFGH-0, IDS-1, MONTU-0, NY-2, ORE-0, OSC-0, RENO-2, UTC-1, WS-1, WTU-5

Remarks This species has a restricted range and is represented by a relatively small number of plants at known locations. It inhabits naturally unstable sites that are usually characterized by their highly erosive soils. A thorough study of this species is necessary, especially to ascertain its relationship to natural and man-caused disturbance.

Recommendations TREAT AS ENDANGERED until further study of its distribution, ecology, reproductive biology, and response to disturbance allow it to be properly reevaluated.



References Henderson et al. 1979

Evaluation by S. J. Brunsfeld

Trifolium owyheense Gilkey

Recommended Federal Status
THREATENED

FABACEAE (Leguminosae)

Location Idaho: OWYHEE County
Oregon: Malheur County

Land Ownership BLM (Boise Dist.) or private

Vegetation Type Within sagebrush/grass or *Atriplex* communities

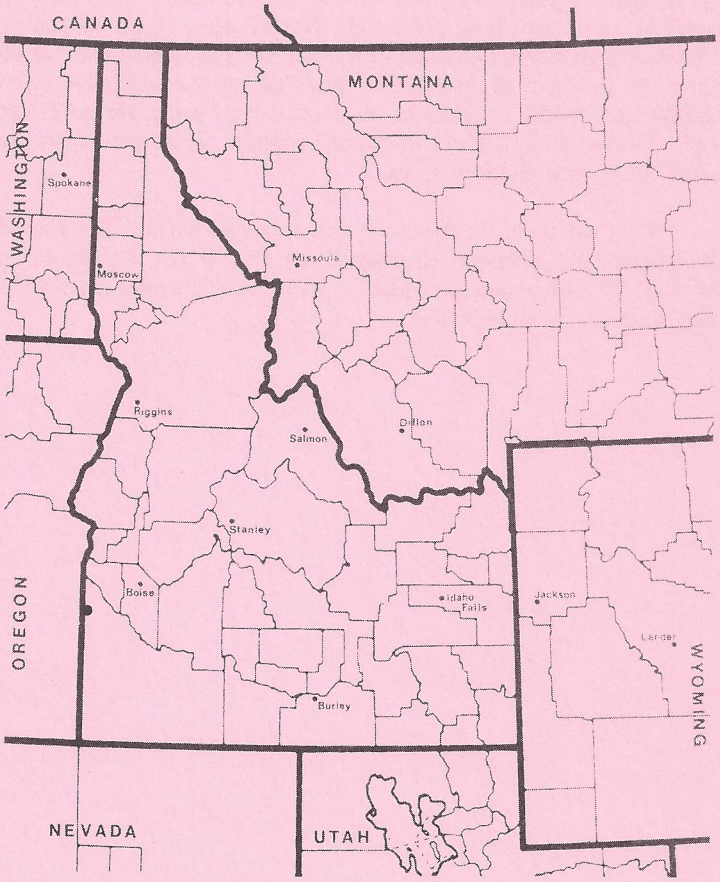
Habitat On ash or ash tuff, often in soil surrounding the outcrops

Hazards ORVs, range improvement, possibly grazing and mining

Herbarium Data Number of sites by county, Idaho only:
OWYHEE-1
Number of Idaho collections in herbaria searched: BOIS-1, BS-0, CIC-1, ID-0, IDF-0, IDS-0, IFGH-0, MONTU-0, NY-0, ORE-1, OSC-0, RENO-0, UTC-0, WS-0, WTU-0

Recommendations Most of this species occurs on private land. It grows on or near a substrate with commercial value. For these reasons, TREAT AS THREATENED

Evaluation by P. L. Packard



OTHER TAXA OF INTEREST AT THE FEDERAL LEVEL

(Federal Watch List)

The following taxa are rare generally (less than 10 locations more than 10 air miles apart), and although no threat to their survival is apparent, they do have the potential to become threatened because of their limited distribution. All of these species are either endemic to Idaho or to Idaho and an adjacent state(s). Certain land-use designations such as wild and scenic river, national recreation area, research natural area and wilderness now protect many of these taxa. Declassification of such areas that results in marked changes of land use could qualify these taxa for threatened status. Other plants such as cactus may not be rare but have some trait such as market value which predisposes them for threatened status. **None of these taxa is considered to be threatened by or sensitive to current land use trends. Nor are they to be considered sensitive under current trends as defined by USDA Forest Service Manual (Chapter 2670.5), USDI Bureau of Land Management Instruction Memo 80-722 (Sept. 8, 1980) or as intended by The Endangered Species Act of 1973 (Public Law 93-205). Thus their presence should not invoke restrictions on current land use patterns.** However, their rarity marks such plants as unusual and of value as indicators of special habitats. They are worth monitoring in case unforeseen impacts adversely affect their limited populations.

This list includes species which appeared on the Threatened list (*Federal Register,* July 1, 1975) and the Endangered list (*Federal Register,* June 16, 1976); for this list and a brief historical synopsis, see Henderson et al. 1977. Other narrow endemic plants which would merit federal listing if hazards to their survival are identified, have also been included.

Adiantum pedatum L. var. nov.?

Federal WATCH LIST

POLYPODIACEAE

Location Idaho: IDAHO County, Seven Devils Mountains

Land Ownership USFS (Nezperce N.F. - Seven Devils Wilderness, Hells Canyon N.R.A.)

Habitat Among rocks in open subalpine areas from about 7900 to 9000 feet elevation.

Remarks This is a dwarf subalpine form which has a morphology different from known varieties. D. Wagner (ORE - pers. corr.) doubts that this is "biologically identical" to the newly described coastal variety, *subpumilum* W.H. Wagner. It certainly doesn't fit the habitat. This plant was recently collected by C.A. Wellner in 1978, with two prior collections apparently all from the same general area. This plant is quite rare, but no threat is apparent.

References Wagner and Boydston 1978

Evaluation by F. D. Johnson.

Allium madidum Wats.

Federal WATCH LIST

LILIACEAE

Location Idaho: ADAMS and VALLEY counties
Oregon: Grant, Umatilla, Union, Wallowa and Wheeler counties

Land Ownership USFS - (Payette N.F.); some private land, possibly Idaho Dept. of Lands (Payette Lake Area)

Habitat Coniferous forest zones, 4000-5500 feet; "vernal wet spots in moist meadows near McCall"; "gravelly seepy slope" - Blue Mts.; "disturbed soil with annuals on edge of meadow"; "intermittent water course." I have collected it from soil overturned by pocket gophers and in a meadow heavily grazed by both cattle and sheep.

Remarks Meinke (1978) concludes: "not currently in need of protection" and recommends "removal from federal list"; Heidel (1979) concurs. Occurrence in grazed meadows is significant, as is the Oregon population.

References Ownbey 1950, Steele 1975, Henderson et al. 1977, Heidel 1979

Evaluation by F. D. Johnson

Allium tolmiei Baker var. *persimile* Ownbey

Federal WATCH LIST

LILIACEAE

Location Idaho: ADAMS and GEM counties, Idaho endemic variety
Oregon: Wallowa and Grant counties

Land Ownership Primarily USFS (Payette N.F.), probably some small private owners

Habitat Coniferous forest, primarily *Pseudotsuga menziesii* and *Abies grandis* climax; "rocky, sandy soil along road, open hillside"; "seasonal water course"; "on roadcut in seep area"; "sparse cover."

Remarks From knowledge of *Allium* and the area in general, it would seem likely that this variety is merely rare. This variety is found about midway between the variety *platyphyllum* (90 km to the north) and the variety *tolmiei* (150 km to the south). It extends west to Grant County, OR. Lacking any apparent threat, this species should be placed on a watch list. Heidel (1979) recommends threatened status.

References Meinke (1978) did not cover this variety, but covered the other two. Ownbey (1950).

Evaluation by F. D. Johnson

Allium tolmiei Baker ex Wats. var. *platyphyllum* (Tidestrom) Ownbey

Federal WATCH LIST

LILIACEAE

Location Idaho: IDAHO and LEWIS counties
Oregon: Baker, Umatilla, Union, and Wallowa counties

Land Ownership USFS (Nezperce N.F. and Hell's Canyon NRA), private, Nez Perce Indian Reservation, possibly BLM (Coeur d'Alene Dist.), and possibly State Department of Lands (Clearwater or Payette Lake Area)

Habitat Open areas near Douglas-fir or ponderosa pine to canyon grasslands with bluebunch wheatgrass and Sandberg bluegrass or mountain mahogany/bluebunch wheatgrass where soils are sandy, gravelly or clayey, often on relatively steep slopes.

Remarks This variety occupies numerous sites in four counties of northeastern Oregon and adjacent Lewis and Idaho counties, Idaho. Meinke (1978) reports it to be rare in Baker County and in need of protection, but more data are needed on total distribution and potential threats before protection status could be recommended.

Evaluation by D. M. Henderson

Artemisia papposa Blake & Cronq.

Federal WATCH LIST

ASTERACEAE (Compositae)

Location	Idaho: BLAINE, CAMAS, ELMORE, GOODING, LINCOLN and OWYHEE counties Also in Nevada
Land Ownership	BLM (Boise and Shoshone Dist.), private and possibly Idaho Dept. of Lands (Southwest and South Central areas)
Habitat	Thin soil over basalt within *Artemisia tridentata* - *A. arbuscula* mosaics
Remarks	There are many sites known for this species, but it is grazed heavily and is being exterminated by range improvement programs.
Evaluation by	P. L. Packard and J. Grimes

Astragalus amblytropis Barneby

Federal WATCH LIST

FABACEAE (Leguminosae)

Location	Idaho: CUSTER and LEMHI counties, known only from low elevations along the Salmon River in vicinity of Challis and from one site in the NW Lost River Range: a narrow endemic of east-central Idaho.
Land Ownership	USFS (Challis N.F.) and BLM (Salmon Dist.)
Habitat	Wyoming big sage/bluebunch wheatgrass and salt desert shrub—nearly restricted to unstable slopes of volcanic substrate (ash, cinders) where often subject to rapid erosion.
Remarks	Potential habitats appear to be numerous, but known populations are generally composed of few individuals. Monitoring of populations to ascertain impact of present land use would be desirable. Barneby 1964, Henderson et al. 1979.
Evaluation by	D. M. Henderson

Astragalus amnis-amissi Barneby

Federal
WATCH LIST

FABACEAE (Leguminosae)

Location Idaho: CUSTER and BUTTE counties, known from numerous canyons of the southern Lost River Range, Hawley Mountain, and the southern tip of the Lemhi Range: an endemic of east-central Idaho.

Land Ownership USFS (Challis N.F.) and BLM (Idaho Falls Dist.)

Habitat Douglas-fir/Rocky Mountain maple or mountain mahogany–ledges and crevises in near-vertical limestone rock and in stable talus at bases of cliffs

Remarks Known only from the type location in Pass Creek Gorge, Lost River Range until 1978 and 1979 when 15 additional major concentrations were discovered in the Lost River and Lemhi ranges. Barneby 1964, Henderson et al. 1979, Henderson et al. (in press)

Evaluation by D. M. Henderson

Astragalus aquilonius (Barneby) Barneby
Syn. *A. wootonii* Sheld. var. *aquilonius* Barneby

Federal
WATCH LIST

FABACEAE (Leguminosae)

Location Idaho: BUTTE, CUSTER, and LEMHI counties, an east-central Idaho endemic

Land Ownership Private, BLM (Idaho Falls and Salmon Dist.), USFS (Challis N.F.)

Habitat Sagebrush/bunchgrass and salt desert shrub, gravelly washes and unstable shale slopes at lower elevations

Remarks This species is locally abundant (Barneby 1964), but restricted to unstable habitats where subject to trampling by livestock. No clear threats at present.

Evaluation by D. M. Henderson

Astragalus atratus Wats. var. *owyheensis* (Nels. & Macbr.) M. E. Jones

Federal WATCH LIST

FABACEAE (Leguminosae)

Location Idaho: OWYHEE, TWIN FALLS, and WASHINGTON counties
Also in SW Oregon and NE Nevada

Land Ownership BLM (Boise and Burley Dist.), possibly some private and Idaho Dept. of Lands (Southwest and South Central areas)

Habitat Sagebrush/grass on open arid areas between sagebrush.

Remarks Also occurs in Baker and Malheur counties, Oregon and Elko County, Nevada.

Evaluation by P. L. Packard and J. Grimes

Astragalus cusickii Gray var. *flexilipes* Barneby

Federal WATCH LIST

FABACEAE (Leguminosae)

Location Idaho: ADAMS, BUTTE (?), and IDAHO counties
Idaho endemic

Land Ownership BLM (Boise Dist.), private, USFS (Nezperce N.F.)

Habitat Rocky or gravelly hillsides in grasslands of the lower Salmon and Little Salmon river canyons.

Remarks Though common within its range, the narrow distribution of this taxa qualifies it as rare. A collection from Butte County (Hitchcock and Muhlick 22726 ID, WS, WTU) is from rather incongruous habitat for this taxa.

Evaluation by R. Steele

Astragalus purshii Dougl. var. *ophiogenes* Barneby

Federal WATCH LIST

FABACEAE (Leguminosae)

Location Idaho: ADA, CANYON, ELMORE, GOODING, OWYHEE, and TWIN FALLS counties
Oregon: Malheur County

Land Ownership BLM (Boise, Burley, and Shoshone Dist.), private and possibly Idaho Dept. of Lands (Southwest and South Central areas)

Habitat Grows in depauperate *Artemisia-Atriplex* communities on loose sterile soil

Remarks Many collections of this species are not identified to variety. Thus it may be more abundant than collection records indicate. This taxon is now known from a number of sites, but many have only small populations. Its survival needs to be monitored.

Evaluation by P. L. Packard and J. Grimes

Astragalus scaphoides M. E. Jones

Federal WATCH LIST

FABACEAE (Leguminosae)

Location Idaho: CLARK and LEMHI counties.
Endemic to east-central Idaho and adjacent Montana.
Montana: Beaverhead County

Land Ownership BLM (Salmon Dist.), USFS (Salmon and Targhee N.F.), and some private

Habitat Big sagebrush/bunchgrass on plains and slopes where soil is relatively thin and gravelly; parent material varying

Remarks Since this species is a local endemic and only one location is known in adjacent Montana, an effort should be made to establish its abundance and distribution and to assess any potential threats.

References Barneby 1964.

Evaluation by D. M. Henderson

Calochortus macrocarpus Dougl. var. *maculosus* Nels. & Macbr. ex Macbr.
Syn. *C. maculosus* Nels. & Macbr.

Federal WATCH LIST

LILIACEAE

Location Idaho: IDAHO and NEZ PERCE counties, an endemic variety of the Palouse Region

Land Ownership Private and USFS (Nezperce N.F. - Hell's Canyon NRA), possibly some BLM (Coeur d'Alene Dist.)

Habitat Grasslands of the Snake River Canyon, mainly bluebunch wheatgrass/ Sandberg bluegrass on thin, rocky soils.

Remarks Much of this plant's habitat has either been (and continues to be) heavily grazed or has been lost by cultivation. Hitchcock and Cronquist (1973) do not recognize this taxon in their treatment of *Calochortus.* If taxonomic recognition is justified, I agree with Heidel (1979) that further study and perhaps monitoring of population trends would be justified.

Evaluation by D. M. Henderson

Calochortus nitidis Douglas
Syn. (see "Remarks")

Federal WATCH LIST

LILIACEAE

Location Idaho: CLEARWATER, IDAHO, LATAH, LEWIS, and NEZ PERCE counties
Washington: Whitman County "south to the Salmon/Clearwater divide (near Grangeville), west to the Seven Devils Mountains near Riggins" (Hitchcock et al. 1969)

Land Ownership Uncertain, but mostly private. Possibly USFS (Nez Perce N.F.), BLM (Coeur d'Alene) and Idaho Dept. of Lands (Clearwater and St. Joe areas)

Habitat Primarily a grassland plant, but also in ponderosa pine and Douglas-fir forests. "Cheatgrass"; "*Agropyron spicatum/Festuca idahoensis* h.t." (undisturbed); "rocky prairie remnant"; "open grassy slopes"

Remarks This plant was confused with *C. eurycarpus* until 1948 (see Henderson et al. 1977 and Hitchcock et al. 1969, pp. 769 & 773-775 for discussion). The western (Whitman Co., WA) portion of the range was searched by Hunter (1979) with no success. The Idaho portion of the range covers an extensive area, but there are but two recent collections, 1977 and 1979. But with 19 sites from 3 herbaria (ID, WS, WTU), there seems little threat. A recent collection label noted "abundant in cheatgrass."

References Ownby 1940, Henderson et al. 1977, Heidel 1979, Hunter 1979

Evaluation by F. D. Johnson

Camassia cusickii S. Wats.

Federal WATCH LIST

LILIACEAE

Location Idaho: ADAMS and WASHINGTON counties, an endemic of Hells Canyon and vicinity
Oregon: Baker and Wallowa counties and one report from Crook County

Land Ownership Private and possibly BLM (Boise Dist.)

Habitat Open areas within canyon grasslands or ponderosa pine and Douglas-fir, some possibly with grand fir on ". . . steeply sloping hillsides to precipitous cliffs and terraces . . . moist throughout the spring until mid-summer or later . . . about 1,700 feet at the Snake River to nearly 6,000 feet" (Jewell 1978)

Remarks This is an extremely attractive plant suitable for gardens and as such as been sought for this purpose. Grazing could be affecting some populations, although many are effectively isolated from access by cattle. The vast majority of populations are in adjacent Oregon, but the same potential threats exist for the two known Idaho colonies. Careful monitoring of these plants on both sides of the Snake River would be desirable. Meinke (1978) recommends protection of the Oregon plants and considers them to be threatened. Because this is a highly local species, consideration for future placement on the federal list of endangered and threatened species may be appropriate.

Evaluation by D. M. Henderson

Castilleja oresbia Greenm.

Federal WATCH LIST

SCROPHULARIACEAE

Location Idaho: ADAMS, VALLEY, and WASHINGTON counties
Oregon: Baker, Grant, Umatilla, and Wheeler counties

Land Ownership USFS (Payette N.F.) and some private

Habitat *Artemisia rigida/Poa sandbergii* and mountain shrub communities near forest zone. Exposed, sometimes eroded, scabland sites with *Artemisia rigida, Penstemon gairdneri* and *Lomatium nudicaule* (Phillips, 1976). *Artemisia tridentata-Symphoricarpos oreophilus* dominated openings in *Pinus ponderosa* forest with *Ribes cereum* and *Balsamorhiza sagittata* (Meinke, 1978). Apparently attached to *Artemisia rigida, Antennaria luzuloides,* and possibly other host species.

Remarks This species has survived an era of much heavier grazing and is now growing on portions of the Salmon River Sheep Driveway. It was also found on an old road cut. As Meinke (1978) states, "the coloration of this species is such that it is very difficult to detect in thick sagebrush"; however, when the inflorescences have extended fully and turned brown, the species is more easily observed. Under these conditions, a field survey in Adams and Washington counties showed it to be very abundant on certain *Artemisia rigida* scablands.

Evaluation by R. Steele

Chaenactis cusickii Gray

Federal
WATCH LIST

ASTERACEAE (Compositae)

Location Idaho: OWYHEE County
Also in Malheur County, Oregon

Land Ownership BLM (Boise Dist.) and private, possibly some Idaho Dept. of Lands (Southwest Area)

Habitat Local areas with *Artemisia-Atriplex* communities on loose volcanic ash that breaks down into clay minerals or where this type of substrate is mixed with "normal" soil.

Remarks One 1938 collection is from Canyon County, but the plant is apparently extinct there now; there is also a recent report from Ada County. *C. cusickii* is fairly restricted to a single habitat, but not as much as most volcanic ash plants.

Evaluation by P. L. Packard and J. Grimes

Chrysothamnus nauseosus (Pall.) Britt. var. *nanus* Cronq.

Federal
WATCH LIST

ASTERACEAE (Compositae)

Location Idaho: Nez Perce County
Mainly in Blue and Wallowa mountains of northeastern Oregon and southeastern Washington.

Land Ownership Private, possibly BLM (Coeur d'Alene Dist.) or Idaho Dept. of Lands (Clearwater Area)

Habitat Mainly dry basaltic ridges and cliffs

Remarks In Idaho, this taxon is known only from two collections taken in 1927 from the Craig Mountains and its survival there has not been recently verified (Kennison 1980). Although most taxa in this genus tolerate disturbance, field study and further searching are needed.

Evaluation by R. Steele

Collomia debilis (Wats.) Greene var. *camporum* Payson

Federal WATCH LIST

POLEMONIACEAE

Location Idaho: IDAHO and LEMHI counties
An Idaho-Montana endemic

Land Ownership USFS (Nezperce and Salmon N. F.)

Habitat Granitic rock slides and disturbed road banks (4,000 - 8,500 feet).

Remarks This rare taxon is locally common in the North Fork of the Salmon River drainage. It is also reported from the head of Panther Creek and the Seven Devils Mountains and from Montana. It should be monitored.

Evaluation by R. Steele

Crepis bakeri Greene ssp. *idahoensis* Babc. & Stebb.

Federal WATCH LIST

ASTERACEAE (Compositae)

Location Idaho: ADA, LATAH, NEZ PERCE, and WASHINGTON counties
Oregon: Baker County

Land Ownership Private

Habitat Dry, rocky slopes of *Agropyron spicatum/Poa sandbergii,* to sites with deeper soil at edge of the *Pinus ponderosa* zone.

Remarks The identification of specimens from Ada, Washington, and Baker counties requires verification because these sites are considerably beyond the published range of the variety (Nez Perce County). Five undisputed sites are known from the vicinity of Lewiston, Idaho, and nearby drainages. Hazards to the plant are unknown.

Evaluation by S. J. Brunsfeld

Cryptantha propria (Nels. & Macbr.) Pays.

Federal WATCH LIST

BORAGINACEAE

Location Idaho: OWYHEE County
Also in Malheur County, Oregon

Land Ownership BLM (Boise Dist.)

Habitat Sagebrush/grass zone on bare soil and ash

Remarks This genus has recently been reviewed by Higgins and is being redone again by Cronquist for the Intermountain Flora. Until herbaria have been searched and collections annotated, it is recommended that this be held on a watch list.

Evaluation by P. L. Packard and J. Grimes

Cymopterus nivalis S. Wats.

Federal WATCH LIST

APIACEAE (Umbelliferae)

Location Idaho: CASSIA, CUSTER, and LEMHI counties
Montana: Ravalli County
Nevada: Nye and Elko counties

Land Ownership USFS (Challis and Salmon N.F.)

Habitat Dry, subalpine rangelands with *Artemisia frigida, Phlox muscoides,* and *Trisetum spicatum* to dry, alpine tundra with *Poa alpina, Potentilla ovina,* and *Erigeron compositus*. Mainly on exposed slopes and ridges in gravelly soil derived from limestone (Custer and Lemhi counties) from 9,000 ft to over 11,500 ft elevation.

Remarks Central Idaho plants are yellow-flowered from bud through anthesis (contrary to published descriptions) and may represent a form taxonomically different from the remainder of Montana, southern Idaho, and Nevada populations.

References Henderson et al. 1979.

Evaluation by D. M. Henderson

Dasynotus daubenmirei Johnston

Federal WATCH LIST

BORAGINACEAE

Location Idaho: IDAHO County, Idaho endemic
Just north of the junction of the Lochsa and Selway rivers.

Land Ownership Exclusively USFS (Clearwater N.F.)

Habitat Mid-elevation forests of western redcedar, grand fir, Douglas-fir, subalpine fir, and western larch. A seral species, it is favored by stand opening and soil disturbance. *Thuja plicata/Pachistima myrsinites* h.t., *Abies grandis/Pachistima* h.t., *Abies lasiocarpa/Pachistima* h.t.

Remarks The distribution, autecology, and synecology of this species were investigated in a two-year study by Rex Crawford (1980). The Fog Mountain population (Nezperce N.F.) may have been extirpated by pack stock grazing; since numerous searches for it have failed, it is not mapped. A WS collection labeled Clearwater Co. (Cronquist No. 7858) is a location error. This species should be monitored. Despite its abundance, it is confined to a few square miles. Logging increases vigor and vitality. A natural area has been proposed for a portion of the population.

References Johnson and Crawford 1978, Crawford 1980

Evaluation by F. D. Johnson

Draba argyraea Rydb.

Federal WATCH LIST

BRASSICACEAE (Cruciferae)

Location Idaho: BLAINE, BOISE, CUSTER, and ELMORE counties
Idaho endemic

Land Ownership USFS (Boise, Challis and Sawtooth N.F.)

Habitat Upper subalpine zone "on rocks or in rock crevices, rarely in talus."

Remarks Apparently endemic to upper elevations (7,000-10,000 ft) of Sawtooth Mountains. A collection from Valley County on sandy soil (Hitchcock and Muhlick 14064, NY, RENO, UTC, WTU) has been annotated *D. sphaerocarpa* at WTU and NY. The only other collection from Valley County (Hitchcock and Muhlick 14047 NY) is also on "sandy soil" and was recently annotated *D. sphaerocarpa* (Pat Holmgren, NY, pers. comm.). At present all habitat notations for *D. argyraea* are either rock, rock crevices or talus. The proposed threatened status appears unnecessary due to inaccessibility and nature of its habitat.

Evaluation by R. Steele

Eriogonum ochrocephalum Wats. var. *nov.*

Federal WATCH LIST

POLYGONACEAE

Location Idaho: OWYHEE, TWIN FALLS and WASHINGTON counties
Idaho endemic (?) variety

Land Ownership BLM (Boise and Burley Dist.), possibly some private and Idaho Dept. of Lands (Southwest and South Central areas).

Habitat Local areas in *Atriplex* communities on bare, loose sandy soil of lacustrine origin, possibly some ash content.

Remarks Complete information on this variety is not available, but it appears to be of very limited distribution on a single habitat. It may require some protection and should be kept on a watch list.

Evaluation by P. L. Packard

Eriogonum salicornoides Gend.

Federal WATCH LIST

POLYGONACEAE

Location Idaho: OWYHEE County
Also in Malheur County, Oregon

Land Ownership BLM (Boise Dist.)

Habitat Within *Atriplex* - *Artemisia spinescens* - *A. tridentata* communities on loose ashy, bare outcrops

Remarks Some peripheral populations appear intermediate between *E. salicornoides* and possibly *E. baileyi*. *E. salicornoides* is confined to a single type of site and possibly to only two specific habitats, one of which has some commercial value. Although it may not require protection, it should be monitored.

Evaluation by P. L. Packard

Eriogonum shockleyi Wats. var. *nov.*

Federal WATCH LIST

POLYGONACEAE

Location Idaho: ADA County

Land Ownership BLM (Boise Dist.)

Habitat Grows on small areas within *Artemisia-Atriplex* communities. Occurs on thin wind-scoured soil over basalt on a canyon rim.

Remarks As far as is known, this taxon is confined to a single population of several dozen plants. There could possibly be one or two more populations in the vicinity, but as time goes by probability of finding another population decreases. This plant should be given protection, but until the variety is published, its status is uncertain.

Evaluation by P. L. Packard and J. Grimes

Frasera albicaulis Dougl. var. *idahoensis* (St. John) Hitchc.
Syn. *F. idahoensis* (St. John) Hitchc.

Federal WATCH LIST

GENTIANACEAE

Location Idaho: ADAMS County
Oregon: Baker, Union and Wallowa counties

Land Ownership USFS (Payette N.F.), BLM (Boise Dist.) probably Idaho Dept. of Lands (Payette Lake Area) and some private.

Habitat Within Douglas-fir and grand fir forest zone; open forests, dry meadow edges and basalt scab. "*Pseudotsuga menziesii/Symphoricarpos oreophilus* h.t.," "dry open ponderosa pine forest," "basalt scablands," "grassy slopes."

Remarks Few herbaria have taken this species to variety. Still Meinke (1978) notes 4 new locations in Baker County, Oregon, and recommends "threatened at federal level," based on small range and restricted habitat. While the range is not great, it is adequate, and the habitats noted are not restricted in this part of Idaho. This plant is resistant to heavy grazing.

References St. John 1941, Hitchcock & Cronquist 1973, Henderson et al. 1977, Meinke 1978

Evaluation by F. D. Johnson

Haplopappus aberrans (A. Nels.) Hall

Federal
WATCH LIST

ASTERACEAE (Compositae)

Location Idaho: BLAINE, BOISE, and ELMORE counties
Idaho endemic

Land Ownership USFS (Boise and Sawtooth N.F.)

Habitat Upper *Abies lasiocarpa* zone in rock crevices of granitic outcrops.

Remarks This endemic is known from relatively few collection sites in the Sawtooth and Trinity mountains; however, the difficult access within its range suggests that it is more abundant than the records imply. The inaccessability and nature of its habitat make the proposed threatened status unnecessary.

Evaluation by R. Steele

Lepidium montanum Nutt. var. *papilliferum* Hend.

Federal
WATCH LIST

BRASSICACEAE (Cruciferae)

Location Idaho: ADA, CANYON, ELMORE, GEM, and PAYETTE counties.
Idaho endemic variety

Land Ownership BLM (Boise Dist.), private, and possibly Idaho Dept. of Lands (Southwest Area).

Habitat Sage/grass zone, gentle depressions (mini-playas) on saline clay to sandy soil.

Remarks Though widely distributed in semi-desert areas of the above counties, this taxon is nowhere abundant and seldom collected. Hitchcock and Cronquist (1973) suggest that this variety may be extinct but recent sightings in several areas have verified its existence. Its apparent restriction to north of the Snake River may be an interesting subject for investigation.

Evaluation by R. Steele

Machaeranthera laetevirens Greene
Syn. *Aster leiodes* Blake

Federal WATCH LIST

ASTERACEAE (Compositae)

Location Idaho: CASSIA and CUSTER counties
Nevada: Elko County

Land Ownership USFS (Challis and Sawtooth N.F.)

Habitat Unknown at present other than high montane.

Remarks Only two herbarium sheets available from Idaho, both collected by Davis (IDS): Livingston Mine in the White Cloud Peaks and from Mt. Harrison. More data are needed on abundance, distribution, and potential threats.

Evaluation by D. M. Henderson

Mentzelia torreyi A. Gray var. *acerosa* (M. E. Jones) Barneby

Federal WATCH LIST

LOASACEAE

Location Idaho: ADA, GOODING, OWYHEE and TWIN FALLS counties
Idaho endemic

Land Ownership BLM (Boise, Burley, and Shoshone Dist.), possibly some private and Idaho Dept. of Lands (Southwest and South Central areas)

Habitat Small areas within *Atriplex-Artemisia* communities on sandy, cindery sites, oolitic limestone, or loose talus at base of basalt cliffs.

Remarks This endemic variety has a limited distribution and occurrence and restricted habitat.

Evaluation by P. L. Packard and J. Grimes

Oxytropis besseyi (Rydb.) Blank. var. *salmonensis* Barneby

Federal WATCH LIST

FABACEAE (Leguminosae)

Location Idaho: CUSTER County, a narrow endemic mostly restricted to the immediate vicinity of the Salmon River Canyon from Clayton downstream to a point a few miles north of Challis.

Land Ownership BLM (Salmon Dist.) and USFS (Challis N.F.)

Habitat Wyoming big sage with bluebunch wheatgrass and sandberg bluegrass to salt desert shrub in sandy washes or open slopes of rocky, volcanic soil.

Remarks This variety is apparently restricted to a narrow band of suitable habitats along a 25- to 30-mile portion of the main Salmon River near Challis. Even though it can be locally abundant in some drainages, I have not seen many populations, and there seem to be very few herbarium sheets of this taxon. If further study shows this to be an accurate picture of its true abundance and distribution, clearly this is a candidate for federal threatened status.

Evaluation by D. M. Henderson

Phacelia lutea (H. & A.) J. T. Howell var. *calva* Cronq.

Federal WATCH LIST

HYDROPHYLLACEAE

Location Idaho: OWYHEE County
Also in Malheur County, Oregon

Land Ownership BLM (Boise Dist.), private

Habitat In *Artemisia-Atriplex* communities on exposed loose volcanic ash, possibly confined to ash that breaks down into clay minerals.

Remarks This variety has a highly restricted distribution and is confined to a single habitat. It may be nothing more than segregation of adaptive blocks of genes.

Evaluation by P. L. Packard

Physaria geyeri (Hook.) Gray var. *purpurea* Rollins

Federal WATCH LIST

BRASSICACEAE (Cruciferae)

Location Idaho: CUSTER and LEMHI counties
Idaho endemic variety

Land Ownership USFS (Challis, Salmon and Sawtooth N.F.)

Habitat Sparsely vegetated, unstable slopes (natural and human-caused) of fine, gravelly talus, sand, or volcanic ash in the *Artemisia tridentata* ssp. *vaseyana* and *Pseudotsuga menziesii* zones.

Remarks Thirteen new populations were discovered and investigated on the Yankee Fork District of the Challis N.F. during the summer of 1980. Variety *purpurea* usually was found in mixed populations with var. *geyeri;* the two being indistinguishable except for the red pigmentation of the calyx and corolla of the var. *purpurea.* Degree of pigmentation varied in many populations, resulting in a full range of intermediates between the two taxa. Past human activities (mining, road building) created many of the habitats now occupied by the species. Continuing disturbance within the range of the taxon appears to be further increasing available habitat. The minor nature of the biological variation that this taxon represents, along with the lack of any clear threat to survival, clearly warrant the removal from federal threatened consideration. Federal Watch List status should be maintained until the remainder of the range of the variety is explored (Brunsfeld et al. 1980).

Evaluation by S. J. Brunsfeld

Rubus bartonianus Peck

Federal WATCH LIST

ROSACEAE

Location Idaho: ADAMS and IDAHO counties along Snake River
Oregon: Wallowa County.
Hells Canyon endemic

Land Ownership USFS exclusively (Nezperce and Payette N.F. in the Hells Canyon N.R.A. and Payette N.F.)

Habitat Shrub communities in lower bunchgrass zone, never far from Snake River. Upper edge of riparian fringe along streams, in ephemeral and seasonal streambeds that are shrub-dominated and on lower slopes in mixed shrub communities. No hazards apparent. Plant not easily damaged by recreationists; no evidence of grazing by domestic livestock or wildlife.

Remarks Still very few collections in herbaria. Prior to 1975, when the first Federal E&T list was published, there were but 3 known sites. In 1975 and 1976 collections were made from 2 new sites including an extensive population located in the 10 miles above (S of) Hells Canyon Dam. Field work in 1977 added several more sites when Johnson & Mattson (1978) surveyed the river corridor. They mapped 17 sites. In the stretch of river between Granite Creek (ID) and Kinney Creek (ID)–some 20 river miles–this plant is rather common, often dominating shrub communities. Despite limited herbarium collections, field data plus collections indicate this plant is thriving and is in no danger. It should be watched in case there is a change due to heavy recreational pressures or other events.

References Johnson & Mattson 1978

Evalutation by F. D. Johnson

Silene scaposa Robins var. *lobata* Hitchc. & Mag.

Federal WATCH LIST

CARYOPHYLLACEAE

Location

Idaho: BUTTE and CLARK counties (The type locality, "Lost River Mts., near Clyde, Blaine Co., Idaho"–should be Butte Co.)
Nevada: Eureka, Humboldt, Lander, and Nye counties
Oregon: Harney, Lake and Malheur counties

Land Ownership

BLM (Idaho Falls Dist.), USFS (Challis and Targhee N.F.)

Habitat

Moist sage/grass canyon bottoms and slopes. Primarily *Artemisia tridentata* ssp. *vaseyana/ Agropyron spicatum,* occasionally *Artemisia tridentata* ssp. *vaseyana/Festuca idahoensis;* often at the interface of one of the above types and *Cercocarpus ledifolius, Juniperus scopulorum, Artemisia tridentata* ssp. *tridentata* or the *Pseudotsuga menziesii* zone. One site is in the depauperate understory of *Pseudotsuga menziesii/Arnica cordifolia* in a dry canyon bottom (Henderson et al. 1979).

Remarks

An easily overlooked species, which, until 1978, was known from very few locations throughout its range. Subsequent intensive searching has revealed a total of twenty sites in Idaho. Recent experience suggests that improved knowledge of the habitat will lead to the discovery of many additional populations. This would probably justify a removal from the federal Watch List in spite of an unresolved question of the plant's sensitivity to grazing. If greater abundance is not established, threatened status may be warranted. ranted.

Evaluation by

S. J. Brunsfeld

Tauschia tenuissima (Geyer ex Hooker) Math. & Const.
Recently changed from *Lomatium orogenioides* (Coult. & Rose) Math.

Federal WATCH LIST

APIACEAE (Umbelliferae)

Location

Idaho: BENEWAH, CLEARWATER, and LATAH counties (type location–Santianne Creek bottoms, Coeur d'Alene Mts., KOOTENAI or SHOSHONE county?) and adjacent Washington

Land Ownership

Private

Habitat

Meadows and moist bottomlands along streams.

Remarks

Known from seven widely scattered sites in Idaho. Because many of the sites have had a long history of grazing, they should be revisited to assess their condition. If populations are healthy, federal Watch List status is appropriate until a number of additional populations are discovered; if populations are depauperate and apparently being harmed by disturbance, Endangered or Threatened status may be necessary. Synonym was recently changed (Madrono 22:71-73, 1973).

Evaluation by

S. J. Brunsfeld

Tofieldia glutinosa (Michx.) Pers. var. *absona* (Hitchc.) Davis

Federal WATCH LIST

LILIACEAE

Location Idaho: BONNER, IDAHO, and VALLEY counties
Idaho endemic variety

Land Ownership USFS (Kaniksu, Nezperce and Payette N.F.), Idaho Dept. of Lands (Priest Lake and Payette Lake areas), possibly on other ownerships with this restricted habitat.

Habitat Bogs in *Abies lasiocarpa* and *Tsuga heterophylla* zones. On sphagnum moss in open bogs.

Remarks This type of community is slow in developing and on a very specialized habitat. Any activity which would promote drainage or raise water levels would jeopardize this plant. This was first collected in 1900, and described by Piper in 1901 from Priest Lake. A 1930 collection in Idaho County was followed by a 1973 Valley County and a 1977 Idaho County collection. The Valley County location contains both the variety *absona* and the more common variety *montana.* We expect more intermediate stations to be located. Mass collections are needed. Maintain on Watch List. Though very rare, the habitat is not threatened in any discernable way with present Forest Service management.

References Johnson in Henderson et al. 1977

Evaluation by F. D. Johnson

TAXA CONSIDERED FOR FEDERAL LISTING AND REJECTED

Astragalus lentiginosus Dougl. ex Hook — FABACEAE (Leguminosae)
var. *latus* (M.E. Jones) M.E. Jones
- Apparently this taxon does not occur in Idaho. - P. L. Packard

Cardamine constancei Detl. — BRASSICACEAE (Cruciferae)
- Crawford (1980) and Johnson and Crawford (1978) have shown this plant to be abundant and under no threat. Transferred to State Watch List. - F. D. Johnson

Chaenactis evermannii Greene — ASTERACEAE (Compositae)
- A relatively widespread Idaho endemic that is adapted to unstable granitic soils. - R. Steele

Cirsium brevifolium Nutt. — ASTERACEAE (Compositae)
- There are at least twenty sites in Idaho. Cronquist states this to be the "typical thistle of the Palouse region" (Hitchcock et al. 1955). Why it appeared on the Federal list (*Federal Register,* July 1, 1975) remains a mystery. - F. D. Johnson

Cirsium davisii Cronq. — ASTERACEAE (Compositae)
- Grows on areas disturbed by roads, mining and agriculture. - K. E. Holte

Corydalis caseana Gray — FUMARIACEAE
var. *hastata* (Rydb.) Hitchc.
- Crawford (1980) and Johnson and Crawford (1978) have found this plant to be abundant, favored by disturbance, and under no threat. Transferred to State Watch List. - F. D. Johnson

Cryptantha breviflora (Osterh.) Pays. — BORAGINACEAE
- This species has been collected in Idaho and Utah from large populations that appear to be under no threat from present trends of land use (Shultz and Shultz 1978). Transferred to State Watch List. - R. Steele

Cryptantha interrupta (Greene) Pays. — BORAGINACEAE
- Known to be abundant from west-central to eastern and southern Idaho. - D. M. Henderson

Cryptantha nubigena (Greene) Pays. — BORAGINACEAE
Syn. *C. hypsophila* Johnst.
- Occurs in several states and is known from numerous locations in Idaho. There are no present or future threats conceivable. - D. M. Henderson

Cymopterus corrugatus M. E. Jones — APIACEAE (Umbelliferae)
Syn. *Rhysopterus pleurijugus* Coult. & Rose
- More abundant than previously thought; transferred to State Watch List. - P. L. Packard

Draba apiculata Hitchc. — BRASSICACEAE (Cruciferae)
var. *daviesiae* Hitchc.
- There is no evidence of its occurrence in Idaho. - D. M. Henderson

Draba douglasii Gray — BRASSICACEAE (Cruciferae)
var. *douglasii*
- This species has a wide discontinuous range with many known populations. - P. L. Packard

Draba sphaerocarpa Macbr. & Pays. — BRASSICACEAE (Cruciferae)
- A relatively widespread Idaho endemic that occurs in fairly inaccessible habitat. - R. Steele

Eriogonum thymoides Benth. — POLYGONACEAE
- More abundant than previously thought; transferred to State Watch List. - P. L. Packard

Hackelia hispida (Gray) Johnst. BORAGINACEAE

- There are numerous sites in three states along the Snake River Canyon and nowhere does it appear to be in danger due to the rocky, inaccessible nature of its habitat. - D. M. Henderson

Hymenopappus filifolius Hook. ASTERACEAE (Compositae)
var. *idahoensis* Turner

- This variety is abundant on highly disturbed sites throughout much of east-central Idaho. Man-caused disturbance appears to favor this taxon. (Henderson et al. Madrono, in press). - D. M. Henderson

Lesquerella carinata Rollins BRASSICACEAE (Compositae)

- This species is common across east-central Idaho, especially in disturbed habitats. It also is known from Wyoming and Montana (Henderson 1978). - D. M. Henderson

Lewisia columbiana (Howell) Robins. PORTULACACEAE
var. *wallowensis* Hitchc.

- Common from Wallowa Mountains east across central Idaho to Montana. - D. M. Henderson

Lomatium hendersonii Coult. & Rose APIACEAE (Umbelliferae)

- Can find no evidence that this plant occurs in Idaho. - P. L. Packard

Lomatium serpentinum (M. E. Jones) Math. APIACEAE (Umbelliferae)

- Johnson and Mattson (1978) map a population on fifty river miles in Hells Canyon. Our plant surveys in Hells Canyon confirm that in April one can scarcely hike the river trail in either Oregon or Idaho and not be in sight of this colorful plant. - F. D. Johnson

Lysimachia ciliata L. PRIMULACEAE
Syn. *Steironema laevigatum* Howell, *S. ciliatum* (L.) Raf.

- This is a widespread species in Idaho and elsewhere which does not warrant Federal or State listing. - R. Steele

Peteria thompsonae S. Wats. FABACEAE (Leguminosae)

- More abundant in other states than previously thought; transferred to State Threatened List. - P. L. Packard

Primula cusickiana Gray PRIMULACEAE

- This species, as currently treated, has a broad range in Idaho. - P. L. Packard. (See *P. wilcoxiana* on the Federal Threatened List.)

Synthyris pinnatifida Wats. SCROPHULARIACEAE
var. *canescens* (Pennell) Cronq.
Syn. *S. hendersonii* Pennell

- Known from numerous sites in central Idaho and in no danger due to the remoteness of habitat. It apparently thrives on disturbance. - D. M. Henderson

Synthyris platycarpa Gail & Pennell SCROPHULARIACEAE

- Crawford (1980) and Johnson and Crawford (1978) have shown this plant to be abundant, favored by disturbance, and under no threat. Transferred to State Watch List. - F. D. Johnson

Trifolium plumosum Dougl. FABACEAE (Leguminosae)
var. *amplifolium* Martin

- There are fourteen known localities in five northern Idaho counties. The areas have a history of grazing, and this plant appears resistant to and perhaps favored by some grazing. Heidel (1979) notes that no special management is needed at present. Transferred to State Watch List. - F. D. Johnson

Waldsteinia idahoensis Piper ROSACEAE

- Crawford (1980) and Crawford and Johnson (1978) have shown this plant to be abundant, favored by disturbance and under no threat. Transferred to State Watch List. - F. D. Johnson

SUMMARY OF PROBABLE LAND OWNERSHIP FOR TAXA OF FEDERAL CONCERN

BUREAU OF LAND MANAGEMENT

Boise District

Artemisia papposa FWL
Astragalus atratus v. *owyheensis* FWL
Astragalus camptopus F-T
Astragalus cusickii v. *flexilipes* FWL
Astragalus mulfordiae F-T
Astragalus purshii v. *ophiogenes* FWL
Astragalus sterilis F-E
Astragalus yoder-williamsii F-E
Camassia cusickii FWL
Carex aboriginum F-E
Chaenactis cusickii FWL
Cryptantha propria FWL
Cypripedium calceolus v. *parviflorum* F-E
Erigeron latus F-T
Eriogonum ochrocephalum v. *nov.* FWL
Eriogonum salicornoides FWL
Eriogonum shockleyi v. *nov.* FWL
Frasera albicaulis v. *idahoensis* FWL
Haplopappus radiatus F-T
Lepidium davisii F-T
Lepidium montanum v. *papilliferum* FWL
Mentzelia mollis F-E
Mentzelia torreyi v. *acerosa* FWL
Penstemon elegantulus F-T
Phacelia lutea v. *calva* FWL
Primula wilcoxiana F-T
Trifolium owyheense F-T

Burley District

Astragalus atratus v. *owyheensis* FWL
Astragalus purshii v. *ophiogenes* FWL
Eriogonum ochrocephalum v. *nov.* FWL
Mentzelia torreyi v. *acerosa* FWL

Coeur d'Alene District

Allium tolmiei v. *platyphyllum* FWL
Calamagrostis tweedyi F-T
Calochortus macrocarpus v. *maculosus* FWL
Calochortus nitidis FWL
Chrysothamnus nauseosus v. *nanus* FWL
Cypripedium calceolus v. *parviflorum* F-E
Halimolobos perplexa v. *perplexa* F-T
Haplopappus liatriformis F-T
Lomatium rollinsii F-T
Mirabilis macfarlanei F-E
Penstemon elegantulus F-T
Silene spaldingii F-T

Idaho Falls District

Astragalus amnis-amisii FWL
Astragalus aquilonius FWL
Astragalus ceramicus v. *apus* F-T
Oenothera caespitosa v. *psammophila* F-E
Phacelia inconspicua F-E
Silene scaposa v. *lobata* FWL

Salmon District

Astragalus amblytropis FWL
Astragalus aquilonius FWL
Astragalus scaphoides FWL
Halimolobos perplexa v. *lemhiensis* F-T
Oxytropis besseyi v. *salmonensis* FWL
Penstemon lemhiensis F-T
Thelypodium repandum F-E

Shoshone District

Antennaria arcuata F-E
Artemisia papposa FWL
Astragalus atratus v. *inseptus* F-T
Astragalus oniciformis F-E
Astragalus purshii v. *ophiogenes* FWL
Mentzelia torreyi v. *acerosa* FWL

CITY OF BOISE

Allium aaseae F-E

IDAHO DEPARTMENT OF LANDS

Clearwater Area

Allium tolmiei v. *platyphyllum* FWL
Calochortus nitidis FWL
Chrysothamnus nauseosus v. *nanus* FWL

Coeur d'Alene Area

Haplopappus liatriformis F-T
Silene spaldingii F-T

Eastern Area

Oenothera caespitosa v. *psammophila* F-E
Thelypodium repandum F-E

Payette Lake Area

Allium madidum FWL
Allium tolmiei v. *platyphyllum* FWL
Astragalus mulfordiae F-T

Frasera albicaulis v. *idahoensis* FWL
Halimolobos perplexa v. *perplexa* F-T
Haplopappus radiatus F-T
Tofieldia glutinosa v. *absona* FWL

Priest Lake Area

Tofieldia glutinosa v. *absona* FWL

South Central Area

Artemisia papposa FWL
Astragalus atratus v. *inseptus* F-T
Astragalus atratus v. *owyheensis* FWL
Astragalus purshii v. *ophiogenes* FWL
Erigeron latus F-T
Eriogonum ochrocephalum v. *nov.* FWL
Lepidium davisii F-T
Mentzelia torreyi v. *acerosa* FWL

Southwest Area

Artemisia papposa FWL
Astragalus atratus v. *owyheensis* FWL
Astragalus mulfordiae F-T
Astragalus purshii v. *ophiogenes* FWL
Chaenactis cusickii FWL
Eriogonum ochrocephalum v. *nov.* FWL
Lepidium davisii F-T
Lepidium montanum v. *papilliferum* FWL
Mentzelia mollis F-E
Mentzelia torreyi v. *acerosa* FWL
Primula wilcoxiana F-T

St. Joe Area

Calochortus nitidis FWL
Grindelia howellii F-T

IDAHO NATIONAL ENGINEERING LAB

Astragalus ceramicus v. *apus* F-T
Phacelia inconspicua F-E

NATIONAL PARK SERVICE

None

NEZ PERCE INDIAN RESERVATION

Allium tolmiei v. *platyphyllum* FWL

PRIVATE INDIVIDUALS OR CORPORATIONS

Allium aaseae F-E
Allium madidum FWL
Allium tolmiei v. *persimile* FWL
Allium tolmiei v. *platyphyllum* FWL
Artemisia papposa FWL
Aster jessicae F-E
Astragalus aquilonius FWL
Astragalus atratus v. *inseptus* F-T
Astragalus atratus v. *owyheensis* FWL
Astragalus camptopus F-T
Astragalus cusickii v. *flexilipes* FWL
Astragalus mulfordiae F-T
Astragalus oniciformis F-E
Astragalus purshii v. *ophiogenes* FWL
Astragalus scaphoides FWL
Astragalus sterilis F-E
Calochortus macrocarpus v. *maculosus* FWL
Calochortus nitidis FWL
Camassia cusickii FWL
Carex aboriginum F-E
Castilleja oresbia FWL
Chaenactis cusickii FWL
Chrysothamnus nauseosus v. *nanus* FWL
Claytonia lanceolata v. *flava* F-E
Crepis bakeri ssp. *idahoensis* FWL
Cypripedium calceolus v. *parviflorum* F-E
Erigeron latus F-T
Eriogonum ochrocephalum v. *nov.* FWL
Frasera albicaulis v. *idahoensis* FWL
Halimolobos perplexa v. *perplexa* F-T
Haplopappus insecticruris F-T
Haplopappus liatriformis F-T
Haplopappus radiatus F-T
Lepidium davisii F-T
Lepidium montanum v. *papilliferum* FWL
Lomatium rollinsii F-T
Mentzelia mollis F-E
Mentzelia torreyi v. *acerosa* FWL
Mirabilis macfarlanei F-E
Penstemon elegantulus F-T
Phacelia lutea v. *calva* FWL
Phlox idahonis F-T
Primula wilcoxiana F-T
Silene spaldingii F-T
Tauschia tenuissima FWL
Trifolium owyheense F-T

UNITED STATES FOREST SERVICE

Bitterroot National Forest

Penstemon lemhiensis F-T

Boise National Forest

Draba argyraea FWL
Haplopappus aberrans FWL
Primula wilcoxiana F-T

Caribou National Forest

None

Challis National Forest

Astragalus amblytropis FWL
Astragalus amnis-amisii FWL
Astragalus aquilonius FWL
Astragalus vexilliflexus v. *nubilus* F-T
Cymopterus nivalis FWL
Draba argyraea FWL
Machaeranthera laetevirens FWL
Oxytropis besseyi v. *salmonensis* FWL
Physaria geyeri v. *purpurea* FWL
Silene scaposa v. *lobata* FWL
Thelypodium repandum F-E

Clearwater National Forest

Dasynotus daubenmirei FWL

Coeur d'Alene National Forest

None

Kaniksu National Forest

Tofieldia glutinosa v. *absona* FWL

Nezperce National Forest
(includes Hells Canyon N.R.A.)

Adiantum pedatum v. *nov.* FWL
Allium tolmiei v. *platyphyllum* FWL
Astragalus cusickii v. *flexilipes* FWL
Calochortus macrocarpus v. *maculosus* FWL
Calochortus nitidis FWL
Collomia debilis v. *camporum* FWL
Cypripedium calceolus v. *parviflorum* F-E
Douglasia idahoensis F-E
Halimolobos perplexa v. *perplexa* F-T
Lomatium rollinsii F-T
Penstemon elegantulus F-T
Rubus bartonianus FWL
Tofieldia glutinosa v. *absona* FWL

Payette National Forest

Allium madidum FWL
Allium tolmiei v. *persimile* FWL
Calamagrostis tweedyi F-T
Castilleja oresbia FWL
Douglasia idahoensis F-E
Frasera albicaulis v. *idahoensis* FWL
Halimolobos perplexa v. *perplexa* F-T
Haplopappus radiatus F-T
Penstemon elegantulus F-T
Rubus bartonianus FWL
Silene spaldingii F-T
Tofieldia glutinosa v. *absona* FWL

Salmon National Forest

Astragalus scaphoides FWL
Collomia debilis v. *camporum* FWL
Cymopterus nivalis FWL
Hackelia davisii F-T
Halimolobos perplexa v. *lemhiensis* F-T
Penstemon lemhiensis F-T
Physaria didymocarpa v. *lyrata* F-T

Sawtooth National Forest

Castilleja christii F-E
Draba argyraea FWL
Haplopappus aberrans FWL
Haplopappus insecticruris F-T
Machaeranthera laetevirens FWL
Thelypodium repandum F-E

St. Joe National Forest

Grindelia howellii F-T

Targhee National Forest

Astragalus scaphoides FWL
Claytonia lanceolata v. *flava* F-E
Silene scaposa v. *lobata* FWL

Universities and Colleges

None

SUMMARY OF RECOMMENDED STATUS FOR TAXA OF FEDERAL CONCERN

FEDERAL ENDANGERED

Astragalus yoder-williamsii
Mirabilis macfarlanei

PROPOSE AS ENDANGERED

Allium aaseae
Castilleja christii
Mentzelia mollis

TREAT AS ENDANGERED

Antennaria arcuata
Aster jessicae
Astragalus oniciformis
Astragalus sterilis
Carex aboriginum
Claytonia lanceolata v. *flava*
Cypripedium calceolus v. *parviflorum*
Douglasia idahoensis
Oenothera caespitosa v. *psammophila*
Phacelia inconspicua
Thelypodium repandum

PROPOSE AS THREATENED

Astragalus camptopus
Astragalus mulfordiae
Lepidium davisii

TREAT AS THREATENED

Astragalus atratus v. *inseptus*
Astragalus ceramicus v. *apus*
Astragalus vexilliflexus v. *nubilus*
Calamagrostis tweedyi
Erigeron latus
Grindelia howellii
Hackelia davisii
Halimolobos perplexa v. *lemhiensis*
Halimolobos perplexa v. *perplexa*
Haplopappus insecticruris
Haplopappus liatriformis
Haplopappus radiatus
Lomatium rollinsii
Penstemon elegantulus
Penstemon lemhiensis
Phlox idahonis
Physaria didymocarpa v. *lyrata*
Primula wilcoxiana
Silene spaldingii
Trifolium owyheense

FEDERAL WATCH LIST

Adiantum pedatum var. *nova*
Allium madidum
Allium tolmiei var. *persimile*
Allium tolmiei var. *platyphyllum*
Artemisia papposa
Astragalus amblytropis
Astragalus amnis-amissi
Astragalus aquilonius
Astragalus atratus var. *owyheensis*
Astragalus cusickii var. *flexilipes*
Astragalus purshii var. *ophiogenes*
Astragalus scaphoides
Calochortus macrocarpus var. *maculosus*
Calochortus nitidis
Camassia cusickii
Castilleja oresbia
Chaenactis cusickii
Chrysothamnus nauseosus var. *nanus*
Collomia debilis var. *camporum*
Crepis bakeri ssp. *idahoensis*
Cryptantha propria
Cymopterus nivalis
Dasynotus daubenmirei
Draba argyraea
Eriogonum ochrocephalum var. *nov.*
Eriogonum salicornoides
Eriogonum shockleyi var. *nov.*
Frasera albicaulis var. *idahoensis*
Haplopappus aberrans
Lepidium montanum var. *papilliferum*
Machaeranthera laetevirens
Mentzelia torreyi var. *acerosa*
Oxytropis besseyi var. *salmonensis*
Phacelia lutea var. *calva*
Physaria geyeri var. *purpurea*
Rubus bartonianus
Silene scaposa var. *lobata*
Tauschia tenuissima
Tofieldia glutinosa var. *absona*