

FIELD GUIDE TO THE  
SPECIAL STATUS PLANTS OF THE  
BUREAU OF LAND MANAGEMENT  
LOWER SNAKE RIVER DISTRICT

A Bureau of Land Management  
Challenge Cost Share Project  
with  
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## INTRODUCTION

The purpose of this field guide is to assist federal agency personnel, professionals, amateur botanists and interested lay persons in field work for the identification and management of BLM Special Status Plants. Field identification of rare plants is an essential element in development and implementation of the BLM rare plant program.

The introductory part of this guide discusses the rationale for its development, its purpose, acknowledgments, credits, definitions and codes for all taxa status codes, abbreviations used and illustration credits.

The second part provides a list of BLM Special Status Species for the Lower Snake River District and the four Resource Areas (RA): Bruneau RA (BRA), Cascade RA (CRA), Jarbidge RA (JRA), and the Owyhee RA (ORA). Additional lists provide information for taxa by soil characteristics and vegetation/habitat type. These have been provided to allow personnel a quick reference for community/habitat and soil data for each taxon. The species are arranged alphabetically by scientific name, by genus followed by species. The remainder of the guide provides pertinent data for each individual species on a single two-sided page. The front side includes a line drawing of each species, when available, with the key characters used to identify it. It also displays additional data for the specific taxon discussed, including: author(s), bibliographic reference, common name(s), synonyms, Idaho Native Plant Society status, Idaho Natural Heritage Program status, and distribution; data on habitat, phenology, elevational range, phenology, and a discussion of look-alikes based on similar taxa in Idaho. The reverse side of each page includes a close-up color photograph, the habitat (when available) and a distribution map for Idaho. The guide is arranged in a three-ring binder so additions and deletions of taxa can be made as new data becomes available.

Plant nomenclature is based primarily on Cronquist et al. in their current volumes of the Intermountain Flora, with a few exceptions (1984, 1989, 1994 and 1997); and Hitchcock and Cronquist in the Flora of the Pacific Northwest (1973). Other sources of information include: An Illustrated Guide to the Sensitive Plants of the Boise District Bureau of Land Management, Technical Bulletin 88-4, An Illustrated Guide to the Sensitive Plants of the Burley District Bureau of Land Management, Technical Bulletin 89-3, Sensitive Plants of the Jarbidge Resource Area, Technical Bulletin 96-7, and a few reports produced by the Idaho Natural Heritage Program.

Any new information gathered on the BLM Lower Snake River District rare plants should be sent to Ann DeBolt in the Lower Snake River District Office, 3948 Development Ave., Boise, Idaho 83705.

## ACKNOWLEDGMENTS

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The New York Botanical Garden, University of Washington Press, Great Basin Naturalist and The Army National Guard gave permission for the use of the following line drawings: The New York Botanical Garden- *Allium aaseae*, *Astragalus atratus* var. *inseptus*, *Astragalus conjunctus*, *Astragalus cusickii* var. *packardiae*, *Astragalus mulfordiae*, *Astragalus purshii* var. *ophiogenes*, *Astragalus sterilis*, *Astragalus vallis*, *Astragalus yoder-williamsii*, *Blepharidachne kingii*, *Carex buxbaumii*, *Chaenactis cusickii*, *Chaenactis stevioides*, *Cryptantha propria*, *Cymopterus acaulis* var. *greeleyorum*, *Dimeresia howellii*, *Downingia bacigalupii*, *Eatonella nivea*, *Epipactis gigantea*, *Gilia polycladon*, *Glyptopleura marginata*, *Hackelia cronquistii*, *Hackelia ophiobia*, *Haplopappus bloomeri*, *Haplopappus radiatus*, *Juncus hallii*, *Lupinus uncialis*, *Machaerocarpus californicus*, *Nemacladus rigidus*, *Penstemon janishiae*, *Peraphyllum ramosissimum*, *Peteria thompsoniae*, *Phacelia lutea* var. *calva*, *Phacelia minutissima*, *Psathyrotes annua*, *Stylocline filaginea*, *Teucrium canadense* var. *occidentale*, and *Trifolium owyheense*. University of Washington Press- *Camassia cusickii*, *Carex aboriginum*, *Ceanothus prostratus*, *Pediocactus simpsonii* var. *robustior*, and *Stanleya confertiflora*. Idaho Army National Guard- *Lepidium papilliferum*. The Great Basin Naturalist- *Lomatium packardiae*.

## DEFINITIONS AND CODES

### FEDERAL STATUS

US Fish and Wildlife Service (58 Federal Register 51147, 1993)

- E Endangered: taxa formally listed as endangered.
- T Threatened: taxa formally listed as threatened.
- P Proposed E or T: taxa formally proposed for listing as endangered or threatened.
- C1 Notice of Review, Category 1: taxa for which substantial biological information exists on file to support proposing to list as endangered or threatened.

**IDAHO NATIVE PLANT SOCIETY STATUS (INPS).** Not an official State Status in Idaho but used by the INPS and the INHP to rank individual taxa.

**GLOBAL RARE SPECIES** = species, varieties and subspecies (taxa) rare throughout their range.

**Global Ranks** are:

G1=Critically imperiled because of extreme rarity or because of some factor of its biology making it especially vulnerable to extinction (typically 5 or fewer populations).

G2=Imperiled because of rarity or because of other factors demonstrably making it very vulnerable to extinction (typically 6-20 populations).

G3=Rare or uncommon, but not imperiled (typically 21-100 populations).

G4=Not rare and apparently secure, but with cause for long-term concern (usually more than 100 populations).

G5=Demonstrably widespread, abundant and secure.

**STATE RARE** = Taxa rare within the political boundaries of Idaho, but more common elsewhere.

State Priority 1=A taxon in danger of becoming extinct or extirpated from Idaho in the foreseeable future if identifiable factors contributing to its decline continue to operate; these are taxa whose populations are present only at critically low levels or whose habitats have been degraded or habitat depleted to a significant degree.

State Priority 2=A taxon likely to be classified as Priority 1 within the foreseeable future in Idaho, if factors contributing to its population decline or habitat degradation or loss continue.

Sensitive=A taxon with small populations or localized distributions within Idaho that presently do not meet the criteria for classification as Priority 1 or 2, but whose populations and habitats may be jeopardized without active management or removal of threats.

Monitor=Taxa that are common within a limited range as well as those taxa which are uncommon, but have no identifiable threats (for example, certain alpine taxa).

Review=Global and State rare taxa which may be of conservation concern in Idaho by the INPS, but lack sufficient data to base a recommendation regarding their appropriate classification.

Global conservation ranks are used to assign taxa based on The Nature Conservancy system also used by the Natural Heritage Program and Conservation Data Center Network. This one-through-five ranking system is used to develop the INPS list; G1-G3 taxa are considered GLOBALLY RARE, while the STATE RARE categories are comprised of G4 or G5 taxa that are rare in Idaho.

## PLANT DISTRIBUTION BY VEGETATION TYPES/HABITAT

### **Aspen/Tall Forb**

*Phacelia minutissima*

### **Bitterbrush-Bluebunch Wheatgrass**

*Allium aaseae*

### **Bitterbrush/Sandberg Bluegrass**

*Astragalus sterilis*

### **Alkali Sage, Owyhee Sage, or Stiff Sage**

*Stylocline filaginea*

### **Mountain Big Sagebrush**

*Astragalus yoder-williamsii*

### **Big Sagebrush/Grass/Four-wing Saltbrush**

*Astragalus purshii* var. *ophiogenes*

### **Low Sagebrush**

*Astragalus yoder-williamsii*

*Blepharidachne kingii*

*Gilia polycladon*

*Pediocactus simpsonii* var. *robustior*

*Penstemon janishiae*

### **Sagebrush/Bunchgrass**

*Hackelia cronquistii*

*Peraphyllum ramosissimum*

### **Sagebrush/Grassland**

*Allium aaseae*

*Astragalus atratus* var. *inseptus*

*Astragalus conjunctus*

*Astragalus sterilis*

*Cryptantha propria*

*Dimeresia howellii*

*Hackelia cronquistii*

*Haplopappus radiatus*

*Lomatium packardiae*

*Lupinus uncialis*

*Peraphyllum ramosissimum*

*Primula "wilcoxiana"*

*Trifolium owyheense*

### **Wyoming Sagebrush**

*Astragalus cusickii* var. *packardiae*

*Astragalus vallis*

*Chaenactis cusickii*

*Chaenactis stevioides*

*Cymopterus acaulis* var. *greeleyorum*

*Eriogonum salicornioides*

*Lepidium davisii*

*Lepidium papilliferum*  
*Mentzelia mollis*  
*Nemacladus rigidus*  
*Texosporium sancti-jacobi*

**Wyoming Sagebrush-Shadscale**

*Cymopterus acaulis* var. *greeleyorum*  
*Eatonella nivea*  
*Eriogonum shockleyi* var. *shockleyi*  
*Glyptopleura marginata*  
*Mentzelia mollis*  
*Nemacladus rigidus*  
*Phacelia lutea* var. *calva*

**Four-wing Saltbrush**

*Chaenactis stevioides*  
*Eriogonum ochrocephalum* var. *calcareum*

**Greasewood**

*Blepharidachne kingii*  
*Glyptopleura marginata*

**Horsebrush**

*Blepharidachne kingii*  
*Chaenactis stevioides*  
*Gilia polycladon*

**Idaho Fescue**

*Haplopappus radiatus*  
*Primula "wilcoxiana"*

**Indian Ricegrass**

*Blepharidachne kingii*  
*Chaenactis stevioides*  
*Cymopterus acaulis* var. *greeleyorum*

**Needle-and-Thread Grass/Indian Ricegrass/Bitterbrush**

*Astragalus mulfordiae*

**False Hellebore/Forb**

*Phacelia minutissima*

**Mountain Shrub**

*Peraphyllum ramosissimum*

**Open Woods**

*Haplopappus bloomeri* var. *bloomeri*

**Ponderosa Pine/Shrub**

*Ceanothus prostratus*

**Rabbitbrush**

*Astragalus yoder-williamsi*  
*Blepharidachne kingii*

**Riparian**

*Carex aboriginum*  
*Carex buxbaumii*  
*Downingia bacigalupii*  
*Epipactis gigantea*  
*Juncus hallii*  
*Spiranthes diluvialis*  
*Teucrium canadense* var. *occidentale*

**Salt Desert Shrub**

*Blepharidachne kingii*  
*Chaenactis cusickii*  
*Chaenactis stevioides*  
*Cymopterus acaulis* var. *greeleyorum*  
*Eatonella nivea*  
*Eriogonum salicornioides*  
*Eriogonum shockleyi* var. *packardiae*  
*Gilia polycladon*  
*Glyptopleura marginata*  
*Lepidium davisii*  
*Mentzelia mollis*  
*Nemacladus rigidus*  
*Peteria thompsoniae*  
*Penstemon janishiae*  
*Phacelia lutea* var. *calva*  
*Psathyrotes annua*  
*Stanleya confertiflora*

**Canyon Wall or Base**

*Hackelia ophiobia*  
*Leptodactylon glabrum*

## PLANT DISTRIBUTION BY SOIL CHARACTERISTICS

### **Coarse Sand**

*Allium aaseae*  
*Astragalus mulfordiae*  
*Chaenactis stevioides*  
*Cymopterus acaulis* var. *greeleyorum*  
*Gilia polycladon*  
*Glyptopleura marginata*  
*Psathyrotes annua*

### **Fine Alluvial Sand**

*Astragalus purshii* var. *ophiogenes*  
*Eatonella nivea*

### **Volcanic Ash**

*Astragalus sterilis*  
*Chaenactis cusickii*  
*Cryptantha propria*  
*Cymopterus acaulis* var. *greeleyorum*  
*Eriogonum salicornioides*  
*Glyptopleura marginata*  
*Lomatium packardiae*  
*Mentzelia mollis*  
*Peteria thompsoniae*  
*Penstemon janishiae*  
*Phacelia lutea* var. *calva*  
*Stanleya confertiflora*  
*Trifolium owyheense*

### **Rhyolite Cliffs/Talus**

*Hackelia ophiobia*  
*Leptodactylon glabrum*  
*Lomatium packardiae*

### **Clay**

*Astragalus cusickii* var. *packardiae*  
*Cryptantha propria*  
*Eriogonum ochrocephalum* var. *calcareum*  
*Eriogonum salicornioides*  
*Lomatium packardiae*  
*Penstemon janishiae*  
*Peraphyllum ramosissimum*  
*Stanleya confertiflora*

### **Clay Loam**

*Astragalus vallis*  
*Peraphyllum ramosissimum*  
*Primula "wilcoxiana"*

### **Sandy Loam**

*Hackelia cronquistii*  
*Primula "wilcoxiana"*

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**Silt**

*Astragalus yoder-williamsii*

*Gilia polycladon*

*Haplopappus radiatus*

**Calcareous Hot/Cold Springs**

*Epipactis gigantea*

**Oolitic Limestone**

*Eriogonum shockleyi* var. *packardiae*

**Peat Bogs**

*Carex buxbaumii*

*Juncus halli*

**Moist bottom-lands**

*Carex aboriginum*

*Teucrium canadense* var. *occidentale*

**Margins of Lakes**

*Downingia bacigalupii*

*Juncus halli*

**Marshes**

*Carex buxbaumii*

*Machaerocarpus californicus*

**Wet Meadows**

*Carex buxbaumii*

*Downingia bacigalupii*

*Spiranthes diluvialis*

**Sloughs**

*Machaerocarpus californicus*

**Streambanks**

*Carex aboriginum*

*Downingia bacigalupii*

*Epipactis gigantea*

*Juncus halli*

*Machaerocarpus californicus*

*Spiranthes diluvialis*

*Teucrium canadense* var. *occidentale*

**Spring fed areas or slow moving water**

*Camassia cusickii*

**Vernal pools/Vernally moist areas**

*Downingia bacigalupii*

*Machaerocarpus californicus*

*Stylocline filaginea*

**Playa or Natric Sites**

*Lepidium davisii*

*Lepidium papilliferum*

**Thin Soil over Basalt**

*Astragalus atratus* var. *inseptus*

*Pediocactus simpsonii* var. *robustior*

*Stylocline filaginea*

**Volcanic Cinder**

*Astragalus conjunctus*

*Astragalus yoder-williamsii*

*Dimeresia howellii*

*Eatonella nivea*

*Glyptopleura marginata*

*Lupinus uncialis*

*Nemacladus rigidus*

*Peteria thompsoniae*

*Pediocactus simpsonii* var. *robustior*

*Stylocline filaginea*

**Cindery gravel over stony basalt**

*Astragalus conjunctus*

*Stylocline filaginea*

**Gravelly**

*Blepharidachne kingii*

*Dimeresia howellii*

*Eriogonum shockleyi* var. *shockleyi*

*Glyptopleura marginata*

*Haplopappus bloomeri* var. *bloomeri*

*Pediocactus simpsonii* var. *robustior*

**Granitic**

*Ceanothus prostratus*

**BRUNEAU RESOURCE AREA  
SPECIAL STATUS PLANT LIST**

*Astragalus atratus* var. *inseptus* (Mourning milkvetch)  
*Astragalus mulfordiae* (Mulford's milkvetch)  
*Astragalus purshii* var. *ophiogenes* (Snake River milkvetch)  
*Astragalus yoder-williamsii* (Osgood Mountains milkvetch)  
*Chaenactis stevioides* (Desert pincushion)  
*Cryptantha propria* (Malheur cryptantha)  
*Cymopterus acaulis* var. *greeleyorum* (Greeley's wavewing)  
*Dimeresia howellii* (Dimeresia)  
*Downingia bacigalupii* (Bacigalupi's downingia)  
*Eatonella nivea* (Eatonella)  
*Epipactis gigantea* (Chatterbox orchid)  
*Eriogonum salicornioides* (Annual salt buckwheat)  
*Eriogonum shockleyi* (Cowpie buckwheat)  
*Gilia polycladon* (Spreading gilia)  
*Glyptopleura marginata* (White-margined wax plant)  
*Hackelia ophiobia* (Rattlesnake stickseed)  
*Lepidium davisii* (Davis peppergrass)  
*Lepidium papilliferum* (Slickspot peppergrass)  
*Leptodactylon glabrum* (Bruneau River prickly-phlox)  
*Lupinus uncialis* (Inch-high lupine)  
*Machaerocarpus californicus* (Fringed waterplantain)  
*Nemacladus rigidus* (Rigid threadbush)  
*Pediocactus simpsonii* var. *robustior* (Simpson's hedgehog cactus)  
*Penstemon janishiae* (Janish's penstemon)  
*Peteria thompsoniae* (Spine-noded milkvetch)  
*Psathyrotes annua* (Turtleback)  
*Stylocline filaginea* (Stylocline)  
*Teucrium canadense* var. *occidentale* (American wood sage)  
*Texosporium sancti-jacobi* (Woven-spore lichen)

**CASCADE RESOURCE AREA  
SPECIAL STATUS PLANT LIST**

*Allium aaseae* (Aase's onion)  
*Astragalus cusickii* var. *packardiae* (Packard's milkvetch)  
*Astragalus mulfordiae* (Mulford's milkvetch)  
*Astragalus vallis* (Snake Canyon milkvetch)  
*Camassia cusickii* (Cusick's camas)  
*Carex aboriginum* (Indian Valley sedge)  
*Carex buxbaumii* (Buxbaum's sedge)  
*Ceanothus prostratus* (Squaw carpet)  
*Epipactis gigantea* (Chatterbox orchid)  
*Hackelia cronquistii* (Cronquist's stickseed)  
*Haplopappus radiatus* (Snake River goldenweed)  
*Lepidium papilliferum* (Slickspot peppergrass)  
*Peraphyllum ramosissimum* (Squaw apple)  
*Primula "wilcoxiana"* (Wilcox's primrose)  
*Stanleya confertiflora* (Malheur princesplume)  
*Teucrium canadense* var. *occidentale* (American wood sage)

**JARBIDGE RESOURCE AREA  
SPECIAL STATUS PLANT LIST**

*Astragalus atratus* var. *inseptus* (Mourning milkvetch)  
*Astragalus purshii* var. *ophiogenes* (Snake River milkvetch)  
*Chaenactis stevioides* (Desert pincushion)  
*Cymopterus acaulis* var. *greeleyorum* (Greeley's wavewing)  
*Eatonella nivea* (Eatonella)  
*Epipactis gigantea* (Chatterbox orchid)  
*Eriogonum salicornioides* (Annual salt buckwheat)  
*Eriogonum shockleyi* (Cowpie buckwheat)  
*Gilia polycladon* (Spreading gilia)  
*Glyptopleura marginata* (White-margined wax plant)  
*Lepidium davisii* (Davis peppergrass)  
*Lepidium papilliferum* (Slickspot peppergrass)  
*Leptodactylon glabrum* (Bruneau River prickly-phlox)  
*Nemacladus rigidus* (Rigid threadbush)  
*Pediocactus simpsonii* var. *robustior* (Simpson's hedgehog cactus)  
*Penstemon janishiae* (Janish's penstemon)  
*Peteria thompsoniae* (Spine-noded milkvetch)  
*Stylocline filaginea* (Stylocline)  
*Teucrium canadense* var. *occidentale* (American wood sage)

**OWYHEE RESOURCE AREA  
SPECIAL STATUS PLANT LIST**

*Astragalus conjunctus* (Stiff milkvetch)  
*Astragalus mulfordiae* (Mulford's milkvetch)  
*Astragalus purshii* var. *ophiogenes* (Snake River milkvetch)  
*Astragalus sterilis* (Barren milkvetch)  
*Astragalus yoder-williamsii* (Osgood Mountains milkvetch)  
*Blepharidachne kingii* (King's desertgrass)  
*Chaenactis cusickii* (Cusick's false yarrow)  
*Chaenactis stevioides* (Desert pincushion)  
*Cryptantha propria* (Malheur cryptantha)  
*Cymopterus acaulis* var. *greeleyorum* (Greeley's wavewing)  
*Dimeresia howellii* (Dimeresia)  
*Downingia bacigalupii* (Bacigalupi's downingia)  
*Eatonella nivea* (Eatonella)  
*Eriogonum salicornioides* (Annual salt buckwheat)  
*Eriogonum shockleyi* (Cowpie buckwheat)  
*Gilia polycladon* (Spreading gilia)  
*Glyptopleura marginata* (White-margined wax plant)  
*Hackelia ophiobia* (Rattlesnake stickseed)  
*Haplopappus bloomeri* var. *bloomeri* (Rabbitbrush goldenweed)  
*Juncus hallii* (Hall's rush)  
*Lepidium davisii* (Davis peppergrass)  
*Lomatium packardiae* (Packard's lomatium)  
*Lupinus uncialis* (Inch-high lupine)  
*Machaerocarpus californicus* (Fringed waterplantain)  
*Mentzelia mollis* (Smooth mentzelia)  
*Nemacladus rigidus* (Rigid threadbush)  
*Pediocactus simpsonii* var. *robustior* (Simpson's hedgehog cactus)  
*Penstemon janishiae* (Janish's penstemon)  
*Phacelia lutea* var. *calva* (Malheur yellow phacelia)  
*Phacelia minutissima* (Least phacelia)  
*Psathyrotes annua* (Turtleback)  
*Stanleya confertiflora* (Malheur princesplume)  
*Stylocline filaginea* (Stylocline)  
*Trifolium owyheense* (Owyhee clover)