# INTEGRATED PEST MANAGEMENT PROGRAM (IPMP)

**U.S. ARMY CORPS OF ENGINEERS**

**WALLA WALLA DISTRICT**

**MANAGED LANDS**

## Implementation Instructions

## Terrestrial &

## Aquatic (Aquatic Pest Management Program [APMP])

Not all mechanical or manual control methods can be performed due to a lack of coverage under a valid Endangered Species Act and/or National Historic Preservation Act consultation.

APMP activities on levees are excluded/not permitted.

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## Acronyms

| | |
|---|---|
| AOR | area of responsibility |
| APHIS | Animal Plant and Health Inspection Service, USDA |
| APMP | Aquatic Pest Management Program |
| BA | biological assessment |
| BMP | Best Management Practice |
| db | database |
| EDRR | Early Detection and Rapid Response |
| ESA | Endangered Species Act |
| GIS | Geographic Information System |
| GPS | Global Positioning System |
| IDEQ | Idaho Department of Environmental Quality |
| IDFG | Idaho Department of Fish and Game |
| IPMP | Integrated Pest Management Program |
| mph | miles per hour |
| NMFS | National Marine Fisheries Service |
| NPDES | National Pollution Discharge Elimination System |
| O&M | operations and maintenance |
| ODFW | Oregon Department of Fish and Wildlife |
| OHWM | ordinary high water mark |
| USACE | U.S. Army Corps of Engineers |
| USDA | U.S. Department of Agriculture |
| USFS | U.S. Forest Service |
| USFWS | U.S. Fish and Wildlife Service |
| WDFW | Washington Department of Fish and Wildlife |
| WS | Wildlife Services, Animal and Plant Health Inspection Services (APHIS), USDA |

# 1. Introduction

The purpose of this document is to provide implementation instructions for pest management activities on U.S. Army Corps of Engineers (USACE), Walla Walla District (District) federal administered lands. These instructions outline biological and chemical control methods and record keeping for managing animal and vegetation pests on USACE-administered lands within the District. The requirements set forth in this document are in addition to all other applicable laws, rules, and regulations. The District is issuing these instructions to ensure that pesticide applications comply with those additional requirements and ensure consistent record keeping and reporting in all areas of the District. Pest management activities are ongoing and will continue as long as there are pest problems on USACE-administered lands within the District.

# 2. Purpose

The purpose of the IPMP is to accomplish routine daily operation and maintenance (O&M) in areas within the District affected by terrestrial and aquatic pests. This is achieved by continuing to use an integrated pest management (IPM) approach, as part of the District's overall Integrated Pest Management Program (IPMP). IPM is a holistic, multifaceted approach, which minimizes pesticide usage and resistance of invasive pests to pesticides through use of diversified control methods and achieves effective management and eradication of targeted pests wherever practical and possible. These methods also encompass the use of natural pest predators or competitors through establishment of native plant species, or a "positive native seed bank." The overall long-term goal is to reduce aquatic pest management treatments once control or eradication is achieved.

The APMP has two pest management components: routine control and maintenance, and early detection rapid response/eradication (EDRR). Control and maintenance is managing already established invasive pest species to control either spreading from their current location, or managing them within their location to meet mission goals.

EDRR primarily focuses on newly discovered or established pest species in order to take care of the incipient stage of those infestations before they become too large. Adopting the EDRR strategy allows for controlling new infestations that are small thus decreasing cost and the need for repeated applications. It is also advantageous because: 1) the precise location of individual target plants is subject to rapid and/or unpredictable change; and 2) presently known infestations may grow during the time it typically takes to complete the environmental compliance process.

EDRR is projected to primarily consist of active management of an infestation for two to three years, followed by monitoring of the site to ensure there is no new establishment or reestablishment of pest species. If EDRR is unsuccessful, then assessment of the invasive species will occur to move actions into the control and maintenance of pest species under IPM, based on mission and management goals.

# 3. Roles and Responsibilities

U.S. Army Corps of Engineers, Walla Walla District will:

- Issue implementation instructions.
- Perform quality control and data management on application records submitted by grantees and data submitted by contractors and USACE employees.
- Provide contractors historic use data. All information will be compiled into a geographic information system (GIS) database in the District.
- Compile anticipated use and annual use reports for reporting requirements under the Endangered Species Act (ESA).
- Annual reports for grantees will be generated by the USACE using data collected in the GIS database from actual use records.
- Provide anticipated and actual use record training materials to grantees, contractors, and USACE employees.
- Provide database training materials to contractors and USACE employees.

Grantees & Contractors:

- Perform pest management activities in accordance with all applicable laws, rules, and regulations, and these implementation instructions.
- Provide accurate anticipated use data.
- Provide accurate actual use data.
- Use sound IPM strategies.

# 4. Terrestrial (IPMP) Instructions

## 4.1. Current Target Species

**Vegetation**

Vegetation control and pest management activities may be implemented at any time of the year, except for chemical use for vegetation control. ***Chemical use for vegetation control will occur only from March 1st through October 31st*.** Vegetation control will target all Class A, B, and C weeds for the State of Washington[1], Idaho[2], and Oregon[3] listed weeds, as well as some nuisance native plants in landscaped or wildlife areas identified by USACE biologists. The plants on all these lists (current as of the date of this document) are listed in the following table (Table 1) for reference purposes. Those highlighted in orange were identified in Idaho's Special Status Vascular and Nonvascular Plants[4] (see Section 13 of this document for the complete list).

[1] Washington State Noxious Weed Control Board

[2] Noxious Weeds ID — Invasive Species of Idaho

[3] http://www.oregon.gov/ODA/PLANT/WEEDS/pages/statelist2.aspx

[4] https://fishandgame.idaho.gov/ifwis/portal/sites/ifwis/files/user/idfg-jstrickland/INHP_Tracked_Plant_Species--2012-10.pdf

All broadleaf species found in manicured and managed recreation area lawns and landscaping around buildings are also treated. Vegetation treatments will include manual and mechanical, biological, and chemical control methods to control or eradicate nuisance and noxious weeds. Any weed population found as a monoculture stand greater than 2,500 square feet will be brought to the attention of the District Pesticide Coordinator as soon as possible.

The following table lists the most common vegetation targets in the District by common and scientific name. Scientific names are used to ensure that the same species is not duplicated because of varying common names used in various areas. This table should help with consistent record keeping and reporting throughout the District. "Bare ground" will allow for flexibility when making bare ground treatments, and "Other" can be used when treating a species not found on the states' lists.

**Table 1 Vegetation list from the States' weed lists and from USACE target species.**

| **Vegetation Target Species** | | | |
|---|---|---|---|
| **Common Name** | **Scientific Name** | **Common Name** | **Scientific Name** |
| Bare Ground | --- | Morning Glory | *Ipomoea eriocarpa* |
| Black Locust | *Robinia pseudoacacia* | Nodding Plumeless Thistle | *Carduus nutans* |
| Blackberry | *Rubus* | North Idaho Monkeyflower | *Mimulus clivicola* |
| Broadfruit Mariposa Lily | *Calochortus nitidus* | Orange Hawkweed | *Hieracium aurantiacum* |
| Bull Thistle | *Cirsium vulgare* | Orthotrichum Moss | *Orthotrichum* |
| California amphidium moss | *Amphidium californicum* | Other | --- |
| Camel Thorn | *Acacia erioloba E.* | Oxeye Daisy | *Leucanthemum vulgare* |
| Canada Thistle | *Cirsium arvense* | Palouse Thistle | *Cirsium brevifolium* |
| Cheatgrass | *Bromus tectorum* | Perennial Pepperweed | *Lepidium latifolium* |
| Chicory | *Cichorium* | Phantom Orchid | *Cephalanthera austiniae* |
| Clustered Lady's Slipper | *Cypripedium fasciculatum* | Poison Hemlock | *Conium maculatum* |
| Common Cocklebur | *Xanthium strumarium* | Puncturevine | *Tribulus terrestris* |
| Common Duckweed | *Lemna minor* | Purple Loosestrife | *Lythrum salicaria* |
| Common Mullein | *Verbascum thapsus* | Rabbitfoot Clover | *Trifolium arvense* |
| Common Reed | *Phragmites australis* | Racomitrium Moss | *Racomitrium* |
| Common St. Johnswort | *Hypericum perforatum* | Rush Skeletonweed | *Chondrilla juncea* |
| Conifer Broomrape | *Orobanche pinorum* | Russian Olive | *Elaeagnus angustifolia* |
| Constance's bittercress | *Cardamine constancei* | Russian Thistle | *Salsola* |
| Dalmatian Toadflax | *Linaria dalmatica* | Scapania Bolanderi | *Scapania bolanderi* |

| Vegetation Target Species | | | |
|---|---|---|---|
| **Common Name** | **Scientific Name** | **Common Name** | **Scientific Name** |
| Dalmation Toadflax | *Linaria dalmatica ssp. Dalmatica* | Scotch Broom | *Cytisus scoparius* |
| Dandelion | *Taraxacum officinale* | Scotch Thistle | *Onopordum acanthium* |
| Deer Fern | *Blechnum spicant* | Sierra Fumewort | *Corydalis caseana* |
| Devilsclub | *Oplopanax horridus* | Spotted Knapweed | *Centaurea stoebe* |
| Diffuse Knapweed | *Centaurea diffusa* | Spruce | *Scapania apiculata* |
| Dyer's Woad | *Isatis tinctoria* | Sulphur Cinquefoil | *Potentilla recta* |
| False Indigo Bush | *Amorpha fruticosa* | Tree-of-heaven | *Ailanthus altissima* |
| Fernleaf Biscuitroot | *Lomatium dissectum* | Tripterocladium Moss | *Tripterocladium* |
| Field Bindweed | *Convolvulaceae arvensis* | Water Hemlock | *Cicuta* |
| Flowering Rush | *Butomus umbellatus* | Western Brackenfern | *Pteridium aquilinum* |
| Honey Locust | *Gleditsia triacanthos* | White Shootingstar | *Dodecatheon dentatum* |
| Hounds Tongue | *Hieracium cynoglossoides* | Whitetop | *Cardaria draba* |
| Houndstongue | *Cynoglossum officinale* | Yellow Hawkweed | *Hieracium caespitosum* |
| Jessica's aster | *Symphyotrichum jessicae* | Yellow Starthistle | *Centaurea solstitialis* |
| Kochia | *Kochia scoparia* | Yellow Sweetclover | *Melilotus altissimus* |
| Meadow Hawkweed | *Hieracium caespitosum* | Yellowflag Iris | *Iris psudocorus* |
| Meadow Knapweed | *Centaurea debeauxii* | | |

**Mammals, Birds, and Arthropods**

The need for small mammal control usually occurs along levees, in or around recreational facilities, in shrub/tree plots within intensively managed (irrigated) habitat management units, and on leased land, where nuisance mammal species may cause damage to, or safety hazards in parks, campgrounds, habitat management units, levees, etc., on USACE federal lands. Treatments will target marmots and other burrowing mammals found in levees and dams, small rodents located in recently planted tree and shrub areas, nuisance animals such as skunks and opossums when found in developed recreation areas and near buildings and facilities, and feral (released and/or breeding) cats, dogs, rabbits, ducks and geese, and other animals.

The need for arthropod control of nuisance arthropods, such as spiders and hornets, arises from a safety threat to the public and USACE employees in and on facilities on USACE managed lands. Treatments will include manual and mechanical, and chemical control methods. Insects and arthropods will be treated in and near developed recreation areas, buildings and structures, and vehicles and equipment. The following table lists the most common mammal, bird, and arthropod targets in the District. This table should help with consistent record

keeping and reporting throughout the District. "Other" will allow for flexibility when treating a species not found on the states' lists.

Treatment of mammals is done with rodenticides. Treatments other than the use of rodenticides identified in Table 2 are done by USACE (see Section 7 of this document).

**Table 2 Mammal, Bird, Arthropod list**

| Mammal Target Species | Bird Target Species | Arthropod Target Species |
|---|---|---|
| Beaver | Canada Goose | Ants |
| Deer | Mallard | Hornets |
| Domestic Cat | Trumpeter Swan | Spiders |
| Feral Cat | Unidentified Duck | Wasps |
| Gopher | Wood Duck | Yellow Jackets |
| Ground Squirrel | Other | Other |
| Marmot | | |
| Striped Skunk | | |
| Muskrat | | |
| Other | | |
| Pocket Gopher | | |
| Raccoon | | |
| Vole | | |

## Early Detection Rapid Response (EDRR)

It is reasonable to assume not all invasive plant sites have been located and that new sites will emerge throughout USACE lands in the District. New detections in all areas of the District will be subject to the EDRR process described in this section. The EDRR treatments will be conducted under the same guidance and criteria established for the District. Newly discovered infestations or sites will receive a high priority for treatment to eradicate the invasive plants while the infestation is small and easily treatable. No aerial treatment is authorized under EDRR. The following is adapted from the USFS' EDRR and will be implemented to have some adaptive management capability within any given treatment season:

### EDRR Herbicide Use Decision Process

**Yes (use herbicides)**: List approved herbicide choices available and integrated prescription. Review label directions and project design criteria. Consider non-target vegetation surrounding treatment sites and use selective herbicides as appropriate. Consider soil conditions at the treatment site. Consider previous treatments that have occurred on the site. Were they effective? Would another herbicide or combination of methods be more effective? Go to 2.

**No**: Use non-herbicide methods.

- Do the size, density, and/or distribution of invasive plants warrant the broadcast application method?

**Yes**: Is the treatment site within the riparian zone and/or on a road that has high potential to deliver herbicide to surface waters? Is the site in an area that has specific restrictions to broadcasting? Go to 3.

**No:** Go to 4.

- Apply buffers as appropriate. Is this site within an area where broadcasting is prohibited?

**Yes:** Do not broadcast. Go to 5.

**No**: Go to 5.

- Are there ESA-listed plant species or suitable habitat within 300 feet of the treatment site?

**Yes**: Survey as needed within suitable habitats. Apply botanical buffers as appropriate. Go to 5.

**No:** Broadcasting is an acceptable treatment method for herbicides as described in the instructions. Use lowest effective label rates for each given situation. Do not exceed typical label rates. Consider wildlife habitats in the area and implement seasonal restrictions if required.

- Will spot and/or selective methods be reasonably effective in this situation?

**Yes**: Apply spot/selective buffers and use aquatic labeled herbicides as appropriate.

**No:** Seek guidance from the District Pesticide Coordinator.

## 4.2. Chemical Application Methods

- Hand/select
- Spot
- Broadcast
- Aerial

**Hand/Select**

Any of the following hand/select methods may be employed:

- Wicking and wiping
- Basal bark
- Frill or hack and squirt
- Stem injection
- Cut-stump

**Spot**

Chemical applications are made by either ground-based sprayers (mounted to small all-terrain vehicles (ATVs), trucks or tractors), or with backpack sprayers. These applicators range from motorized vehicles with spray hoses, to backpack sprayers, to hand-pumped spray or squirt bottles. Hand-pumped spray and squirt bottles can target very small plants or parts of plants.

**Broadcast**

A boom (a long horizontal tube with multiple spray heads) is mounted or attached to a helicopter, airplane, tractor, ATV, or other vehicle. Nozzles control the droplet size and the area being covered. Boomless nozzles and backpack sprayers may also be used as a broadcast tool.

**Aerial**

Helicopters may be used for aerial application of sprays or granules for rapid broadcast coverage of large or inaccessible areas. Aerial application of chemicals has been used only on larger tracts of steep, rugged land with no road or trail access, but will not be employed within 300 feet of water. The USACE must provide notification to, and coordinate with, the regulatory agencies prior to a large-scale aerial application.

## 4.3. Herbicides & Chemicals

The following table (Table 3) lists the active ingredients allowed for use in the District[5] and identifies some common trade (label) names, although these labels are not the only ones that are allowed for use for each of the active ingredients.

**Table 3 Active ingredients allowed for use in the District, with some example trade names.**

| Chemical | Example Trade Names |
|---|---|
| 2,4-D | Weedone |
| | Weedar 64 |
| Aminopyralid | Milestone |
| Chlorsulfuron | Telar |
| | Glean |
| Clopyralid | Transline |
| | Stinger |
| Dicamba | Banvel |
| | Vanquish |
| Glyphosate | Roundup |
| | Rodeo |
| Imazapic | Plateau |
| Imazapyr | Habitat |
| Metsulfuron-methyl | Escort |
| | Ally XP |

[5] Another form of vegetation control that does not necessarily fit into any of the other categories will be environmentally friendly products such as ordinary vinegar.

| Chemical | Example Trade Names |
|---|---|
| Picloram | Tordon 22K |
| Sethoxydim | Poast |
| Sulfometuron-methyl | Oust |
| Triclopyr | Garlon 4 |
| Pyrethrins, Piperonyl Butoxide, Butane, and Propane | Skidoo |
| Chlorpyrifos | Dursban Pro |
| Beta-cyfluthrin | Tempo SC ultra |
| Zinc Phosphide | Grant's Mole Bait |
| Strychnine alkaloid | Strychnine treated oats |

Any of these chemicals may be used during the spraying season, and applied by the application methods, with buffers and wind speeds described in the following table. The following table (Table 4) lists the adjuvants allowed for use in the District.

**Table 4 Adjuvants allowed for use in the District.**

| Adjuvants | Purpose |
|---|---|
| AgriDex | Surfactant |
| M-90 | Surfactant |
| Grounded | Drift Control |
| Methylated Seed Oil | Surfactant |
| Spreader 90 | Surfactant |
| Highlight | Dye |

The following table (Table 5) illustrates specific buffer distances and wind speeds by application method for chemical applications in the District.

**Table 5 Buffer distances and wind speeds by application method for chemical applications in the District.**

| Color Key | Application Method | | | |
|---|---|---|---|---|
| | Hand/Select | Spot | Broadcast | Aerial |
| **Max Wind Speed**<br>NA = No Application<br><5 mph<br><10 mph | **WATER** (PESTICIDE APPLICATIONS WILL NOT BE MADE IN OR TO THE WATER, OR ALLOWED TO GET INTO THE WATER) | | | |
| **Application Buffer (Distance from Water/OHWM)** | **ORDINARY HIGH WATER MARK** | | | |
| | **Application Method** | | | |
| | **Hand/Select** | **Spot** | **Broadcast** | **Aerial** |
| **0-15 ft**<br>(ONLY AQUATIC LABELED HERBICIDES) | 2,4-D | 2,4-D | NA | NA |
| | Aminopyralid | NA | | |
| | Chlorsulfuron | NA | | |
| | Clopyralid | Clopyralid | | |
| | Dicamba | NA | | |
| | Glyphosate | Glyphosate | | |
| | Herbicide Mixtures | NA | | |
| | Imazapic | NA | | |
| | Imazapyr | Imazapyr | | |
| | Metasulfuron-methy | Metasulfuron-methy | | |
| | Sulfometuron methyl | NA | | |
| | Triclopyr | NA | | |
| **15-50 ft** | 2,4-D | 2,4-D | NA | NA |
| | Aminopyralid | Aminopyralid | | |
| | Chlorsulfuron | Chlorsulfuron | | |
| | Clopyralid | Clopyralid | | |
| | Dicamba | Dicamba | | |
| | Glyphosate | Glyphosate | | |
| | Herbicide Mixtures | Herbicide Mixtures | | |

| Application Buffer (Distance from Water/OHWM) | ORDINARY HIGH WATER MARK | | | |
|---|---|---|---|---|
| | Application Method | | | |
| | Hand/Select | Spot | Broadcast | Aerial |
| **15-50 ft (cont.)** | Imazapic | Imazapic | NA | NA |
| | Imazapyr | Imazapyr | | |
| | Metasulfuron-methyl | Metasulfuron-methyl | | |
| | Triclopyr | Triclopyr | | |
| | Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo) | Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo) | | |
| | Chlorpyrifos (Dursban Pro) | Chlorpyrifos (Dursban Pro) | | |
| | Beta-cyfluthrin (Tempo SC ultra | Beta-cyfluthrin (Tempo SC ultra | | |
| **50-100 ft** | 2,4-D | 2,4-D | 2,4-D | NA |
| | Aminopyralid | Aminopyralid | NA | |
| | Chlorsulfuron | Chlorsulfuron | NA | |
| | Clopyralid | Clopyralid | Clopyralid | |
| | Dicamba | Dicamba | NA | |
| | Glyphosate | Glyphosate | Glyphosate | |
| | Herbicide Mixtures | Herbicide Mixtures | NA | |
| | Imazapic | Imazapic | | |
| | Imazapyr | Imazapyr | | |
| | Metasulfuron-methyl | Metasulfuron-methyl | | |
| | Sethoxydim | Sethoxydim | | |
| | Sulfometuron methyl | Sulfometuron methyl | | |
| | Triclopyr | Triclopyr | | |
| | Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo) | Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo) | | |
| | Chlorpyrifos (Dursban Pro) | Chlorpyrifos (Dursban Pro) | | |
| | Beta-cyfluthrin (Tempo SC ultra | Beta-cyfluthrin (Tempo SC ultra | | |
| **100-300 ft** | 2,4-D | 2,4-D | 2,4-D | NA |
| | Aminopyralid | Aminopyralid | Aminopyralid | |
| | Chlorsulfuron | Chlorsulfuron | Chlorsulfuron | |
| | Clopyralid | Clopyralid | Clopyralid | |
| | Dicamba | Dicamba | Dicamba | |
| | Glyphosate | Glyphosate | Glyphosate | |

| Application Buffer (Distance from Water/OHWM) | ORDINARY HIGH WATER MARK | | | |
|---|---|---|---|---|
| | Application Method | | | |
| | Hand/Select | Spot | Broadcast | Aerial |
| | Herbicide Mixtures | Herbicide Mixtures | Herbicide Mixtures | |
| | Imazapic | Imazapic | Imazapic | |
| | Imazapyr | Imazapyr | Imazapyr | |
| | Metasulfuron-methyl | Metasulfuron-methyl | Metasulfuron-methyl | |
| | Picloram | Picloram | Picloram | |
| **100-300 ft (cont.)** | Sethoxydim | Sethoxydim | Sethoxydim | |
| | Sulfometuron methyl | Sulfometuron methyl | Sulfometuron methyl | |
| | Triclopyr | Triclopyr | Triclopyr | |
| | Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo) | Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo) | NA | NA |
| | Chlorpyrifos (Dursban Pro) | Chlorpyrifos (Dursban Pro) | | |
| | Beta-cyfluthrin (Tempo SC ultra | Beta-cyfluthrin (Tempo SC ultra | | |
| **300+ ft** | 2,4-D | 2,4-D | 2,4-D | |
| | Aminopyralid | Aminopyralid | Aminopyralid | |
| | Chlorsulfuron | Chlorsulfuron | Chlorsulfuron | NA |
| | Clopyralid | Clopyralid | Clopyralid | |
| | Dicamba | Dicamba | Dicamba | |
| | Glyphosate | Glyphosate | Glyphosate | Glyphosate |
| | Herbicide Mixtures | Herbicide Mixtures | Herbicide Mixtures | NA |
| | Imazapic | Imazapic | Imazapic | Imazapic |
| | Imazapyr | Imazapyr | Imazapyr | NA |
| | Metasulfuron-methyl | Metasulfuron-methyl | Metasulfuron-methyl | NA |
| | Picloram | Picloram | Picloram | Picloram |
| | Sethoxydim | Sethoxydim | Sethoxydim | Sethoxydim |
| | Sulfometuron methyl | Sulfometuron methyl | Sulfometuron methyl | NA |
| | Triclopyr | Triclopyr | Triclopyr | Triclopyr |
| | Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo) | Pyrethrins, Piperonyl butoxide, Butane, and Propane (Skidoo) | NA | NA |
| | Chlorpyrifos (Dursban Pro) | Chlorpyrifos (Dursban Pro) | | |
| | Beta-cyfluthrin (Tempo SC ultra | Beta-cyfluthrin (Tempo SC ultra | | |

The buffer is measured from the ordinary high water mark (OHWM)[6]. For the purposes of this document, the OHWM will be the point from which all buffers in this document will be measured, and includes but is not limited to: rivers, streams, lakes, ponds, reservoirs, ditches draining into fish-bearing waters, seasonal streams, intermittent streams, ephemeral streams, and concrete channels draining into or containing fish. For reservoirs on USACE lands, the OHWM is defined as the maximum normal operating pool elevation. The wind speeds have been limited to two categories for implementation, and the wind direction must not be in the direction of the adjacent water body during applications.

Through ESA consultation, the USACE has identified specific controls for some of the active ingredients:

> Only aquatic labeled herbicides and surfactants will be used for use within 15 feet of "live" waters or areas with shallow water tables.
> Picloram will not be applied within 100 feet of water or be sprayed in roadside ditches (dry or wet) that drain to fish-bearing streams.
> The buffer is measured from the OHWM.
> Applications will not occur when the wind direction is in the direction of the adjacent water body during applications made less than 300 feet from water.
> Marker dyes will be used to assist in determining proper coverage and targeting of treated species.

Applications will use nozzles and pressures that produce droplets in the 177 to 428 micron range (medium, coarse, very coarse) to reduce the possibility of drift. Nozzles and pressures which create droplet sizes of 176 microns or less will not be used. Droplet sizes of 429 microns or larger (extremely coarse and ultra coarse) are acceptable and encouraged, provided that the volume of the spray solution is not so great as to cause runoff and leaching problems.

## 4.4. Biological Control

Biological control is used when invasive plant populations have become so large that eradication or control is no longer deemed possible. Biological control could include targeted and controlled grazing where site conditions are appropriate. Targeted grazing would require controls that would prevent damage to desirable vegetation communities, such as timing or herding.

[6] The OHWM is defined in 33 CFR §329.11.

**Table 6 Biological control methods currently employed in the District.**

| Biological Control Methods |
|---|
| Blunt Knapweed Flower Weevil (*Larinus obtusus*) |
| Canada Thistle Stem Weevil (*Ceutorhynchus litura*) |
| Chrysolina Leaf Beetle |
| Competition: Restoration of vegetation with native or naturalized species. |
| Grazing |
| Insects |
| Klamath Weed Beetle (*Chrysolina quadrigemina*) |
| Knapweed Root Weevil (*Cyphocleonus achates*) |
| Lesser Flowerhead Weevil (*Larinus minutus*) |
| Mold |
| Other |
| Rush Skeletonweed Gall Mite (*Eriophyes chondrillae*) |
| St. Johnswort Inchworm (*Aplocera plagiata*) |
| Stem Boring Weevil (*Meccinus janthinus*) |
| Thistle Stem Gall Fly (*Urophora cardui*) |
| Virus |
| Yellow Starthistle Bud Weevil (*Bangerasternus orientalis*) |
| Yellow Starthistle Flower Weevil (*Larinus curtus*) |
| Yellowstar Thistle Hairy Weevil |

## 4.5. Mammal and Bird Control

Small mammal control is conducted at many locations in the District through contract with the U.S. Department of Agriculture (USDA), Animal Plant and Health Inspection Service (APHIS), and Wildlife Services (WS). Some small mammal control is also performed at Dworshak with project personnel who are certified in vertebrate control.

Chemical mammal control will include the use of EPA-approved rodenticides (Zinc Phosphide [e.g., Grant's Mole Bait] and strychnine alkaloid [strychnine treated oats]). Surveys for Washington ground squirrel will be conducted in treatment areas where rodenticides will be used in Columbia, Franklin, Walla Walla, and Umatilla counties prior to treatment to determine if the species is present. The USACE will coordinate with a qualified state (WDFW/ODFW/IDFG) biologist trained in identification of Washington ground squirrels and their habitat for the surveys, using approved state procedures and protocols. Rodenticides will only be used in areas where Washington ground squirrel may occur after surveys for the species have confirmed no presence, or if suitable habitat does not exist in the treatment area.

Rodenticides (baits) have no restrictions on use for wind speed or any buffers from the OHWM, although rodenticides will not be used in the water.

## 4.6. Arthropod Control

Spot spray for arthropods will be no closer than 15 feet from the water's edge using Skidoo (butane and propane), Dursban Pro (chlorpyrifos), or Tempo SC ultra (beta-cyfluthrin). Usage of insecticides will occur inside and outside of structures and facilities, and in park and leased areas. Insecticides will not be applied using broadcast methods.

## 4.7. Best Management Practices

The following best management practices (BMPs) will be implemented and adhered to in addition to label requirements and other State or Federal law:

- All applicators will be state licensed or certified.
- All application equipment (e.g. booms, back packs, etc.) will be properly calibrated according to the chemical manufacturer's suggested application rates printed on the chemical label prior to use. Equipment and settings will be properly maintained for the duration of the application period.
- Dyes will be used to reduce the potential for over-application.
- Appropriately sized nozzles will be used to maximize droplet size and reduce the potential for drift.
- All concentrated or mixed solution pesticides will be placed in locked storage in closed containers with watertight lids, placed in secondary containment vessels of 125% when not in use on site or on USACE federal property.
- All mixing for spray bottles, and backpack sprayers will be done within secondary containment of 125% capacity of the liquid.
- Wind speeds identified in Section 5 by chemical will be adhered to.
- Buffers from water identified in Section 5 will be adhered to.
- All applications will be made in temperatures of 90 degrees Fahrenheit or less, unless the label conditions are more restrictive.
- Applications will not be made 24 hours prior to a predicted precipitation event sufficient to cause runoff (using NOAA's National Weather Service[7] to determine probability of a major precipitation event).
- All applications will be recorded on USACE Pest Control Application Record in accordance with the instructions in this document. Annual reports for grantees will be generated by the USACE using data collected in the GIS database from actual use records.
- ATV storage tanks will be limited to 30 gallons.
- A spill kit will be available to all persons making applications within 150 feet from the site of the application.

[7] http://www.weather.gov is suggested, but other similar sources may be used.

- Refueling of equipment in areas not designed for refueling (i.e., in HMUs) will not occur within 100 feet of open water. This includes ATVs, trucks, tractors, aircraft, etc.
- All applicators will develop and carry a Spill Prevention and Control Plan, or detailed requirements will be explicitly spelled out in contract specifications by the USACE prior to contractor personnel or equipment operation near any stream drainage. The Plan will provide detailed descriptions on how to prevent a spill or ensure effective and timely containment of any chemical spill. The Spill Prevention and Control Plan will include spill control, containment, clean up, and reporting procedures.
- Each Contractor vehicle carrying herbicides will be equipped with a spill cleanup kit. The cleanup kit will be capable of containing and holding at least 125% of the total mixture and concentrate that are present on the work site. The Contractor will report all details of herbicide spills, exposure incidents, or accidents and/or worker health complaints, if any occur, to the USACE as soon as practicable. Contractor vehicles already equipped with secondary containment must have this spill cleanup kit available within a 5-minute response time.
- No herbicide mixing will be authorized within 100 feet from any body of water or stream channels. Equipment will have either an anti-back siphon valve or an air break on tank fill connections or openings to prevent contamination of on-site water sources.
- Mixing (other than that of equipment that mixes internally as applications are being made) will be performed within a temporary structure made of impermeable material such as plastic that is capable of containing at least 125% of the capacity of the spray tank that is being used, or on appropriate absorbent materials of sufficient capacity to absorb the entirety of that volume of the tank being mixed. Examples of the temporary mixing structure will be a wooden frame lined with plastic sheeting or a child's wading pool.
- Equipment will be inspected for leaks and cleaned prior to crossing any stream. Any detected leaks will be repaired before the equipment crosses the stream or near open water when not on an existing road.
- Equipment will be inspected and cleaned prior to any application of herbicides within 150 feet of open water.
- Application equipment will be maintained to ensure proper application rates, to minimize leakage potential, reduce the potential for drift, and ensure applicator safety. Equipment will be maintained, and visually inspected prior to each application includes, but is not limited to: hoses, nozzles, backpacks, and booms.
- All applicators will comply with all applicable federal, state (OR, ID, and WA) and herbicide manufacturer's directions and requirements for handling herbicides and insecticides, including storage, transportation, application, container disposal, and cleanup of spills.
- Herbicide treatments to foliage of weed species will be according to the chemical manufacturer's recommendations for best results, unless this document identifies more stringent requirements that must be followed. Applicators will use caution to minimize the application of herbicides to non-target species and structures within the application areas.

- Any ESA-listed plant that is found will be inventoried, and its location captured either in GIS or by GPS, or both, and put into the District's inventory for future avoidance and planning purposes. Herbicides will not be applied with aircraft within 300 feet, broadcast within 100 feet, or spot sprayed within 15 feet of ESA-listed plant locations identified during applications. Spraying of targeted species is limited to vinegar or similar within 300 feet or closer to known ESA-listed plant locations. See Attachment 3 for ESA-listed plants that are listed in counties within the treatment areas within the District.
- Crossing any open water body with spray equipment (i.e., floating vessels or land vehicles) or chemicals will be avoided if there is any land access (e.g., road or ATV trail) to the treatment areas. If land access is not available or inaccessible due to steep terrain, all concentrated or mixed chemicals will be transported within floating secondary containment vessels of 125% capacity of the liquid.
- Disposal of waste materials will be in accordance with the label and in accordance with all applicable federal, state, and county laws regulations, as well as label restrictions and instructions.
- All invasive, non-native riparian vegetation that is treated with herbicides will be monitored for 2 years following treatment. If desirable vegetation does not reestablish itself naturally, the USACE may plant or seed new native riparian vegetation in order to reduce the need for future chemical application in the area, and to improve shade and cover for listed fish and their habitat.
- Motorized herbicide application equipment will not be operated on slopes greater than 25 percent (if not on existing roads) in order to minimize risk of soil erosion, spills, or chemical runoff, as well as for safety reasons.
- No more than one application of picloram will be made on an area in any given year to reduce the potential for picloram accumulation in the soil.
- No spraying of picloram will be authorized within 100 feet of any flowing waters or areas with shallow water tables. Avoid application of picloram within dry ephemeral stream channels and dry roadside ditches that drain directly into fish bearing streams.
- Applicators will not spray if snow or ice covers the target foliage.
- Nozzles and pressures which create droplet sizes of 176 microns or less will not be used.
- All aerial applications will be done on the contour. No turns would be allowed over "live" waters (e.g., flowing ditches, streams, ponds, springs, etc.) even though the booms are turned off at the end of each run.
- Only aquatic labeled herbicides and surfactants will be used within 15 feet of "live" waters or areas with shallow water tables. For example, only the aquatic formulations of 2,4-D and glyphosate will be used within 15 feet of water.
- Only non-ester forms of 2,4-D will be used (no use of 2,4-D ester formulations will be used).
- Skidoo (pyrethrins, piperonyl butoxide, butane, and propane) and Tempo SC ultra (beta-cyfluthrin) (insecticide) applications will be limited to spot spraying no closer than 15 feet from the water's edge. Applications will not be made when the wind is blowing

toward the water, or when the insecticide has the potential to enter the water through drift or run-off.

- Surveys for Washington ground squirrel will occur prior to using rodenticides in those areas where they are listed as candidates for listing under the ESA. Rodenticides will only be used in areas where Washington ground squirrel may occur after surveys for the species have confirmed no presence, or if suitable habitat does not exist in the treatment area. If the species is confirmed in an area, the USACE will work with the USFWS and local state wildlife agencies to minimize the potential impacts to Washington ground squirrel.

## 4.8. Reseeding/Site Restoration

If a site were to be cleared for some reason, replanting would occur to enhance the native vegetation's ability to revegetate the site. Because of the forested conditions at Dworshak, reseeding does not typically occur, and native vegetation is allowed to recolonize any treated areas. The following actions will be taken to prevent erosion, restore native vegetation, and stop the proliferation of noxious weeds.

The geographic relief will be returned to pre-work state, to include removal of ruts, mounding and any access road(s) deemed unacceptable to remain on site by USACE. The area will be shallowly disked or harrowed (approximately 2 inches deep), and hand-raked or hand-pulled to remove all large weeds and skeletons from last year's weeds. The soil surface should have furrows approximately 1-2 inches deep after this activity. The entire impacted area will be immediately seeded with seed mix using a seeder. All ground preparation and seeding will be initiated no earlier than February 1 and completed no later than March 1.

Anyone performing reseeding will use native seed appropriate to the area, with the greatest potential habitat value. Plantings could include trees, shrubs, and forbs. Examples of selected species and seeding lbs. per acre include:

Great basin Wildrye - *Leymus cinerius*; 4 lbs. per acre
Idaho Fescue - *Festuca idahoensis*; 4 lbs. per acre
Indian Rice Grass - *Anchnatherum hymendides*; 4 lbs. per acre
Needle and Thread - *Hesperostipa comate*; 6 lbs. per acre
Sherman Big Blue - *Poa secunda*; 2 lbs. per acre
Secar Bluebunch Wheatgrass - *Pseudoregneria spicata*; 4 lbs. per acre
Sand Dropseed - *Sporobolus cryptandrus*; ½ lbs. per acre

Herbicidal control for the following noxious weeds will be completed for 2 consecutive years following site restoration: Canada thistle, scotch thistle, bull thistle, yellow star, knapweed species, rush skeletonweed, field bindweed, dalmation toadflax, camethorn, water hemlock, kochia, purple loosestrife, and puncture vine. Application of herbicides will occur during spring and early summer when weeds are in the rosette stage of growth. After final application of herbicide, the absence of noxious weeds on affected grounds to be commensurate with that on surrounding un-impacted grounds.

All invasive, non-native riparian vegetation that is treated with herbicides will be monitored for 2 years following treatment. If desirable vegetation does not reestablish itself naturally,

managers will plant or seed new native riparian vegetation to reduce the need for future chemical application in the area, and to improve shade and cover for listed fish and their habitat.

# 5. Aquatic (APMP) Instructions

## 5.1. Additional Restrictions for APMP

The requirements set forth in this document are in compliance with, and in many cases, are in addition to all other applicable laws, rules, and regulations, including in addition to, but not superseding or replacing label restrictions. It's important for everyone involved in implementation of the APMP to understand that, as with the terrestrial portion of the District's IPMP, implementation instructions issued by the District for the APMP help describe how to comply with these "additional restrictions" that have resulted from compliance with a variety of environmental laws and regulations.

All aquatic applications must comply with National Pollution Discharge Elimination System (NPDES) permits. In Washington that is the federal Environmental Protection Agency (EPA) Pesticide General Permit (PGP) for 2021 located at: https://www.epa.gov/npdes/pesticide-permitting-2021-pgp. In Idaho that is the Idaho Department of Environmental Quality (IDEQ) NPDES permit for federal agencies is currently the EPA NPDES 2016 permit. In Oregon, Walla Walla District does not have a permit and NO aquatic applications are permitted at this time.

In the case of both the terrestrial and aquatic (APMP) portions of the District's IPMP, most of what could be interpreted by applicators as "additional restrictions" comes from the Endangered Species Act (ESA), National Historic Preservation Act (NHPA), and the District's compliance with them. The District, as with all federal agencies, must consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) (collectively referred to as the "Services") when authorizing, funding, or carrying out activities ("federal actions") that "may affect" species listed as threatened or endangered under the ESA or designated critical habitat. The areas identified in the District where APMP activities may occur have a variety of ESA-listed species and critical habitats.

Section 7(a)(2) of the ESA outlines the process for consulting with NMFS and USFWS (the Services). While there are many intricacies that go into the consultation process itself, the basic requirements are that any federal agency must develop a biological assessment (BA) if listed species or critical habitat may be present in the area affected by a federal action. The BA describes the "proposed action" (scope of work) and analyzes potential effects of the action (beneficial, neutral, or adverse). The federal agency, known as the "action agency" under the ESA, then makes an "effect determination" based on all of the information and analysis in the BA.

The BA is then sent to NMFS and USFWS, where they use it to understand the action and the effects of the action. They also, through the consultation process, work together with the agency to iron out any gaps in their understanding. This often leads to discussions about incorporating scope changes that would help avoid adverse effects that could delay or stop the consultation process, which did happen for the APMP consultations with NMFS and USFWS.

ESA consultation ends with NMFS and USFWS issuing either a “letter of concurrence”, concurring with the action agency determination, which was the case for the aquatic portion of the IPMP, or a biological opinion (BO). A BO is a further analysis by the Service(s) to develop their opinion as to whether or not the effects of the agency’s action would “jeopardize the continued existence of the species or adversely modify or destroy critical habitat.” A BO is also issued with requirements (i.e. “additional restrictions”) that minimize the effects of the action.

These are called “terms and conditions.” These must be adhered to by the action agency, and by those operating under the proposed action. Otherwise the compliance with the ESA may no longer be valid, and work could be shut down. Stopping work would be an extreme case, but it did happen in the District in 2009. The worst-case scenario for not complying with BO terms and conditions could be civil and criminal penalties, which could apply down to the applicator.

For the APMP, the BA determined that the action would have beneficial and adverse effects to ESA-listed species and critical habitats. The Services both issued BOs with a variety of requirements (“additional restrictions”). These “additional restrictions” are included throughout the following sections in this document to ensure that these requirements are met and that all users of this document understand them.

For the APMP, the section 106 of the National Historic Preservation Act (NHPA) review determined some integrated activities/methods could potentially cause effects on historic resources and some activities will have no potential to cause effects. These instructions differentiate which activities/methods are allowed/permitted by NHPA and which ones are not.

If the activity (method) is not described henceforth in these instructions, that activity (method) is not “covered” for NHPA section 106, ESA, and NEPA.

*Note: Methods not permitted/allowed are currently not covered under the NHPA 106 programmatic “no potential to effect” determination and therefore are not permitted at this time. The methods and activities not consulted on would require additional review and are foreseen to have a potential effect to historic properties. Outgrantees and Projects could choose to incur the cost of additional NHPA section 106 consultation with no guarantee of permission being granted. Activity/method and location that the activity is to be performed are a significant factor in consultation and that is why NWW was unable to perform a programmatic or blanket district coverage on these activities/methods that are listed as not allowed/permitted.

## 5.2. Vegetation

The APMP is designed to control noxious weeds and to eradicate or limit the spread of invasive weeds in riparian and aquatic habitats within the District. Most weed control treatments will occur in project operations areas, habitat management units, recreation areas, and outgrant areas. The Corps, their contractors, and a limited number of grantees (entities that have received outgrants from the Corps to use government property by lease, easement, license, or permit) may treat pests. Note that management around private docks is not permitted. Aquatic vegetation treatments will include manual, mechanical, and chemical control methods to control or eradicate nuisance and noxious weeds

Treatments will target all Class A, B, and C weeds for the States of Washington, Idaho, and Oregon listed weeds, as well as some nuisance native plants in areas identified by USACE biologists. The plants on all these lists (current as of the date of this document) are listed in Table 2 for reference purposes with specific species identified for early detection and rapid response (EDRR).

Table 2 lists the most common vegetation targets in the District by common and scientific name. Scientific names are used to ensure that the same species is not duplicated because of varying common names used in various areas. This table should help with consistent record keeping and reporting throughout the District. "Other" can be used when treating a species not found on the states' lists but should not be used when the target is clearly identified.

**Table 2 Common Vegetation Targets**

| Target Common Name | Target Scientific Name | WA List | OR List | ID List | Target Intensity |
|---|---|---|---|---|---|
| Eurasian Watermilfoil | *Myriophyllum spicatum* | B | B | B | Nuisance only* |
| Parrotfeather | *M. aquaticum* | B | B | B | Routine O&M |
| Curly-leaf Pondweed | *Potamogeton crispus* | C | | C | Routine O&M |
| False Indigo | *Amorpha fruticose* | B | B | | Routine O&M |
| Flowering Rush | *Butomus umbellatus* | A | A | C | Routine O&M /EDRR |
| Hairy Willow-Herb | *Epilobium hirsutum* | B | | | Routine O&M |
| Japanese Knotweed | *Polygonum cuspidatum* | B | B | B | Routine O&M |
| Narrowleaf Cattail | *Typha angustifolia* | C | | | Routine O&M |
| Cattail hybrid | *T. glauca* | | | | Routine O&M |
| Perennial Pepperweed | *Lepidium latifolium* | B | B | C | Routine O&M |
| Phragmites (common reed) | *Phragmites australis* | B | B | B | Routine O&M |
| Poison Hemlock | *Conium maculatum* | B | B | C | Routine O&M |
| Purple Loosestrife | *Lythrum salicaria* | B | B | C | Routine O&M /EDRR |
| Reed Canarygrass | *Phalaris arundinacea* | C | | | Routine O&M |
| Russian Olive | *Elaeagnus angustifolia* | C | | | Routine O&M |
| Saltcedar | *Tamarix ramosissima* | B | B | C | Routine O&M |
| Tree-of-Heaven | *Ailanthus altissima* | C | B | | Routine O&M |
| Yellow-flag Iris (Pale Yellow Iris) | *Iris pseudacorus* | C | B | C | Routine O&M |
| Algae | *Various species* | | | | Routine O&M |
| New Invasive Species | varies | | | | Routine O&M /EDRR |

Milfoil only to be treated on a nuisance occurrence (e.g., around marinas, boat ramps, and swim beaches).

## 5.3. Early Detection Rapid Response (EDRR)

It is reasonable to assume not all invasive plant locations have been identified and new sites will emerge throughout District lands. New detections in all areas of the District shall be subject to the EDRR process described in this section. Present species identified for EDRR are listed in Table 1. The EDRR treatments shall be conducted under the same guidance and criteria established for the District. Newly discovered infestations or sites shall receive a high priority for treatment to eradicate the invasive plants while the infestation is small and easily treatable. No aerial treatment is authorized under EDRR.

In the context of biological invasion, EDRR is a series of sustained and coordinated actions to eradicate an invasive species population before it establishes and spreads so widely that eradication (i.e. the elimination of the population) is no longer feasible. More specifically, early detection is a process for surveying for, reporting, and verifying the presence of a non-native species before the founding population becomes established or spreads. Rapid response is a process to eradicate the founding population of a non-native species from a specific location.

Invasive species infestations often cross jurisdictional boundaries. Therefore, coordination among neighboring jurisdictions is essential for EDRR to be successful. Anyone finding something should report it to:

- USACE- Walla Walla District Pest Manager
- 509-527-7136
- NWW.DistrictPestManager@usace.army.mil

The following is the decision process used in the District for EDRR herbicide use. It's adapted from the U.S. Forest Service's (USFS) (2010) EDRR and will be implemented in order to have some adaptive management capability within any given treatment season:

- EDRR Aquatic Herbicide Use Decision Process

  **Yes (use herbicides)**: List approved herbicide choices available and integrated prescription. Review label directions and project design criteria. Consider non-target vegetation (aquatic and terrestrial) surrounding treatment locations and use selective herbicides as appropriate. Consider sediment conditions at the treatment site. Consider previous treatments that have occurred on the site. Were they effective? Would another herbicide or combination of methods be more effective? Go to 2.

  **No**: Use non-herbicide methods. **Mechanical and Manual methods must have cultural clearance prior to action taking place.**
- Do the size, density, and/or distribution of invasive plants warrant the broadcast application method?

  **Yes**: Is the noxious/invasive plant treatment location a monoculture? Monoculture is defined as any contiguous body of aquatic plants greater than 2,500 square feet in area. Is the site in an area that has specific restrictions to broadcasting? Go to 3.

  **No**: Use spot and/or selective methods.

- Will spot and/or selective methods be reasonably effective in this situation?
  **Yes**: Apply spot/selective buffers and use aquatic labeled herbicides.
  **No**: Seek approval for treatment through additional decision process (NEPA/section 7 processes).

## 5.4. Application Windows

## 5.5. All District Areas Except Chemical Controls at Mill Creek

The following application windows apply everywhere in the District where APMP activities are authorized, except for Mill Creek. Mill Creek's specific windows are listed in the next section. Timing is summarized in Table 2.

- **Manual** control methods (excluding controlled burning) may be used **year-round**.
- **Controlled burning** would occur **January 1 – April 15 and September 15 – December 31**. No burning would occur from April 15 – September 15. (No NHPA coverage)
- **Biological controls** can be released **year-round**, depending on the target plant (Eurasian watermilfoil or purple loosestrife) and control species.
- **Mechanical** control timing is different for emergent and submerged plants.
- **Emergent** plant control may occur **year-round** (e.g., mowing).
- **Submerged** plant control may only occur from **July 1 – September 15.**
- **Chemical** control timing is different for emergent and submerged plants. Mill Creek has different windows and additional restrictions, see below.
- **Submerged** vegetation treatment may occur **July 1 – September 15.**
- **Emergent** plant treatment with spot spray and other hand methods may **begin April 15, except for the active ingredient Diquat (see below).**
- **Necessary emergent broadcast application with a prior use check-in with the Services may occur April 15 to June 1.**
- **Emergent Diquat spot spray** and other hand application methods may **begin May 5.**
- **Emergent Diquat broadcast** application with a prior use **check-in with the Services may occur May 5-June 1.**
- **All other broadcast** chemical applications may occur **June 1 – October 15**.

## 5.6. Mill Creek Chemical instructions

Because of requirements in the USFWS BO, at Mill Creek, all chemical emergent manual, and submerged manual APMP activities at Mill Creek are only allowed from July 1 – 15. There are specific terms and conditions required prior to APMP activities at Mill Creek:

During the month of July there is required check in 7 days prior to work. This means that a Corps fish biologist and USFWS fish biologists from the USFWS' Eastern Washington Field Office must confirm that program activities are implemented during conditions where bull trout are unlikely to occur in the area. These conditions are:

- Water temperatures below 18 Celsius
- Flows (see below)
- Weather (see below)
- Bull trout detection and distribution information

The above conditions must be documented in comment section of the IPMP Reporting Tool.

***If stream temperatures are below 18°C (64.4°F) or if a significant rain event (>0.5 inches) is anticipated with 2 days of treatment, hold off on treatment until any increased flows have subsided and stream temperatures are above 18°C (fish will have moved out of the area).***

From August 15 and September 15 at Mill Creek, chemical, submerged mechanical, and submerged manual APMP activities may occur without the above contingencies.

## 5.7. District-wide Application Window Table

| Activity | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Chemical | Emergent (spot spray and other hand methods) (Except Diquat) | | | | | | | | | | | | |
| | Necessary Emergent broadcast application with a prior use check-in with the Services. | | | | | | | | | | | | |
| | -Diquat **Diquat spot spray** and other hand application methods - (beginning May 5) | | | | | | | | | | | | |
| | -Diquat Broadcast with check-in (May 5-June 1) **broadcast** application with a prior use **check-in with the Services may occur** | | | | | | | | | | | | |
| | -Broadcast without check-in (begins June 1) | | | | | | | | | | | | |
| | Submerged | | | | | | | | | | | | |
| Mechanical (McNary Only)* | Emergent | | | | | | | | | | | | |
| | Submerged | | | | | | | | | | | | |
| Burning (NO NHPA coverage) | Emergent | | | | | | | | | | | | |
| | Submerged (NA) | | | | | | | | | | | | |
| Bio Control | Emergent (DEP ON SPP) | | | | | | | | | | | | |
| | Submerged (NA) | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

*Mechanical control may be used only at private (leased) marinas and only in McNary Pool.

# 6. NWW IPMP Reporting Tool Instructions

Grantees, contractors, and USACE employees who perform pest management work will submit records for anticipated *and* actual pest management activities via the NWW IPMP Reporting Tool in Survey123. All information will be compiled into a GIS database.

Notification as early as practical is required for large-scale aerial applications of herbicides (or other pesticides) that are intended to prevent large weed infestations or damage to native vegetation following a wildfire or other natural disaster.

## 6.1. Purpose of the IPMP Database

The purpose of the Integrated Pest Management Plan (IPMP) database (db) is to comply with legal requirements, to maintain District data regarding animal and vegetation pest control, to supply information to managers and planners, and to support planning and execution of the program.

Specifically, the objectives of the IPMP db are to:

Maintain records of actual pest management actions

Maintain records on anticipated pest management actions

Screen Outgrant applications by proposed pest management actions

Produce annual plan of proposed pest management actions

Produce annual reports of actual pest management actions

## 6.2. Flow of information

All anticipated and actual pest management activities will be captured using the NWW IPMP Reporting Tool in Survey123. The tool is customized depending on the selections made throughout.

Training materials will be provided to applicators via email or may be accessed on the internet at: http://www.nww.usace.army.mil/Missions/Projects/Pest-Management/

## 6.3. Survey123 Application

**Figure 6-1. Current Survey123 App Logo**

The easiest way to report anticipated and actual pest management activities is using the free ArcGIS Survey123 application (app) published by ESRI, available for all mobile devices in the App Store, Play Store, or wherever you download apps. Once the app is installed on your mobile phone and/or tablet, use the camera on your mobile device to scan the QR codes below or enter URL into an internet browser. You will be prompted to select to open the survey in a mobile browser (select this if you are using a desktop or laptop computer) or in the Survey123 field app (select this if you are using a mobile device and have the app installed). Although you can access the survey without an account by selecting “Continue Without Signing In”, it is highly recommended that you create a free account. Creating an account will allow you to download the survey to your device so you can enter responses even if you do not have internet

connection, save answers as your “Favorites” in the mobile app to save you time, and look back at all the survey responses you have submitted for your reference, regardless of the device you use.

| | | |
|---|---|---|
| **Anticipated** | https://arcg.is/um0m40 | |
| **Actual** | https://arcg.is/1rOaa3 | |

**Figure 6-2. QR Codes and Links for Anticipated and Actual Survey Forms**

**Helpful tips:**

If you have an account and are using the mobile app, you can set the app to remember answers to questions that will be the same for you every time (e.g., grantee, outgrant number, contact information, applicator license number). This will save you time from re-entering the same data every time you submit a response. Once the survey questions that you would like the app to remember are filled out, click the three lines in the top right corner and select “Set as favorite answers.” The next time you go to fill out a survey, click the three lines in the top right corner and select “Paste answers from favorite.” This will auto-populate the fields with your favorite answers, and you can continue to fill out the remainder of the fields as normal.

Another option to auto-populate fields is to copy data from a previously submitted survey to a new survey. To do this, select “Sent” at the bottom of your screen. Then, click on the survey you would like to copy and select “Copy sent data to a new survey.” You can then change fields as needed for your new survey response.

## 6.4. Instructions for Anticipated Use Form

**Report Information**

**Form ID:** number is automatically assigned when opening the survey and is a unique identifiable number for each submission.
**USACE Project:** use the drop-down box and select the USACE project where the pest management application will occur (see attachment maps as a reference for USACE project footprints).
**Real Estate Outgrant:** if the application is associated with a real estate outgrant, select "Yes" and fill out all required boxes (Grantee name and Outgrant Number).

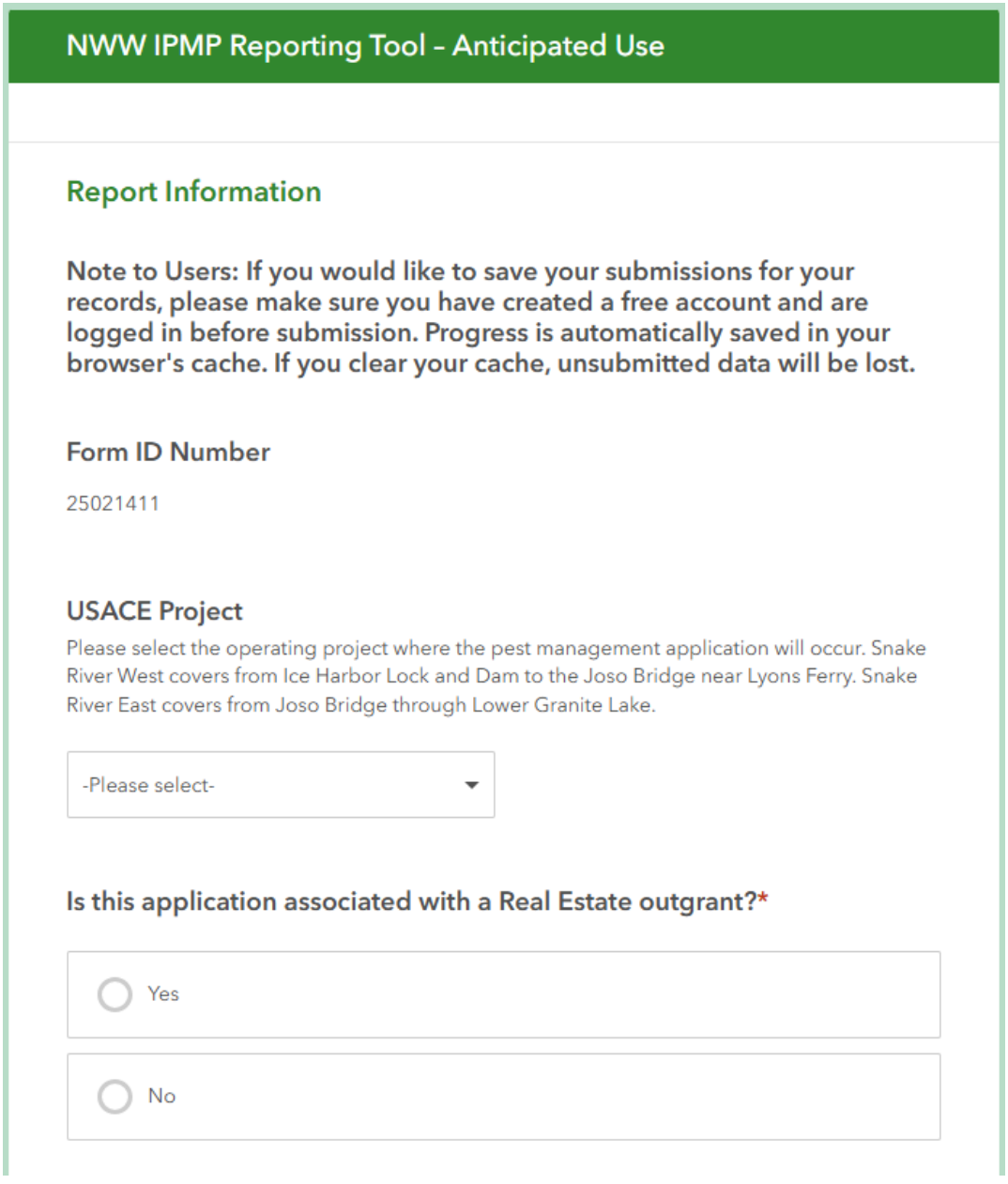



**Figure 6-3 First Half of First Page of Anticipated Use Form**

**Point of Contact**

**Contact Information:** Please enter all contact information relevant to the individual submitting the form (all fields must be filled out to submit form). You can click the dots in the upper right-hand corner to "save as favorite" the data entered.
**Once all fields are correctly filled out hit the (Next) button to proceed.**

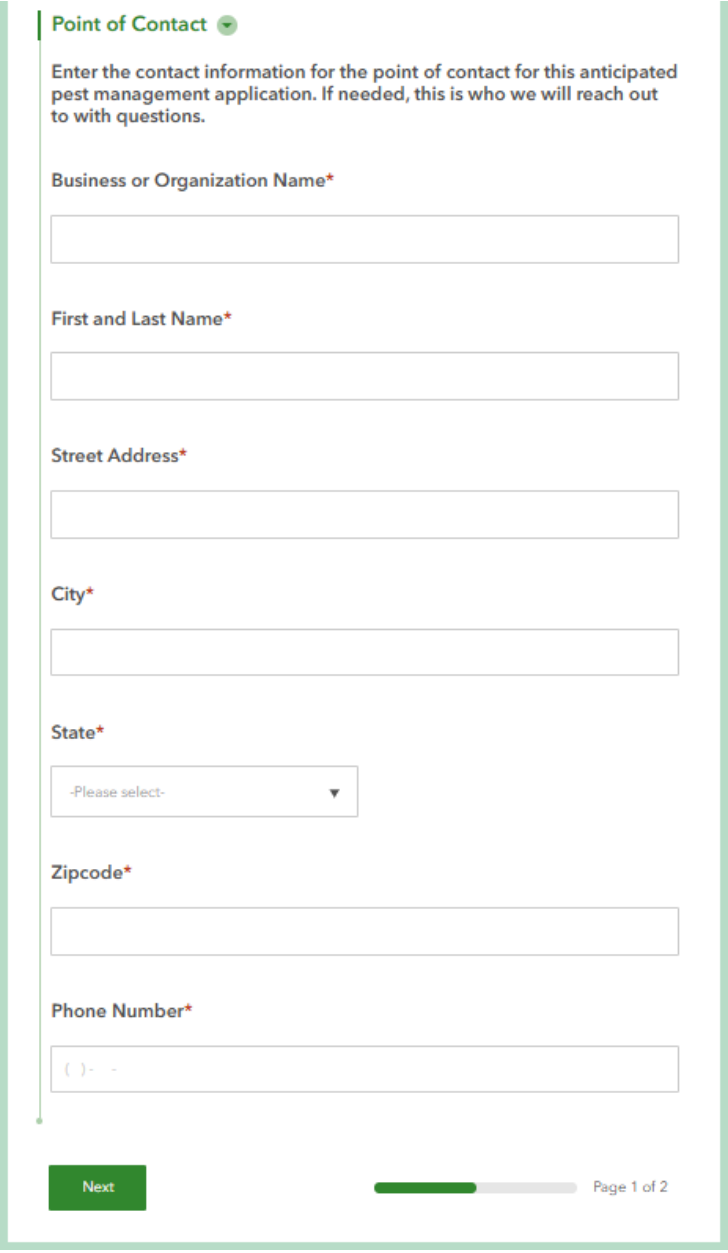



**Figure 6-4 Second Half of First Page of Anticipated Use Form**

### Treatment and Pest Type

**-Pest control medium:** Use the drop-down arrow to select the pest control medium. The OHWM can be determined by visually observing the "bathtub ring" left by the receding water line. For USACE lands, the OHWM is defined as the maximum operating pool elevation.

**Note:** Subsequent fields will change after selecting the medium.

**-Treatment Method:** Use the drop-down arrow to select the treatment method (Chemical, Biological, Manual, or Mechanical) that will be used (you can only select one per submission – if multiple treatment methods were used, you must make a separate submission for each).

**Note:** Subsequent fields will change after selecting your treatment type.

**Target Species:**

**Pest Category:** Use the drop-down to select the pest category.
**Pest Name:** Use the drop-down to select the name of the target species. If your application included multiple target species, select the plus sign to add additional entries. You can toggle between target species by selecting the numbered circles.
**Once all fields are correctly filled out hit the (Submit) button to submit your entry.**

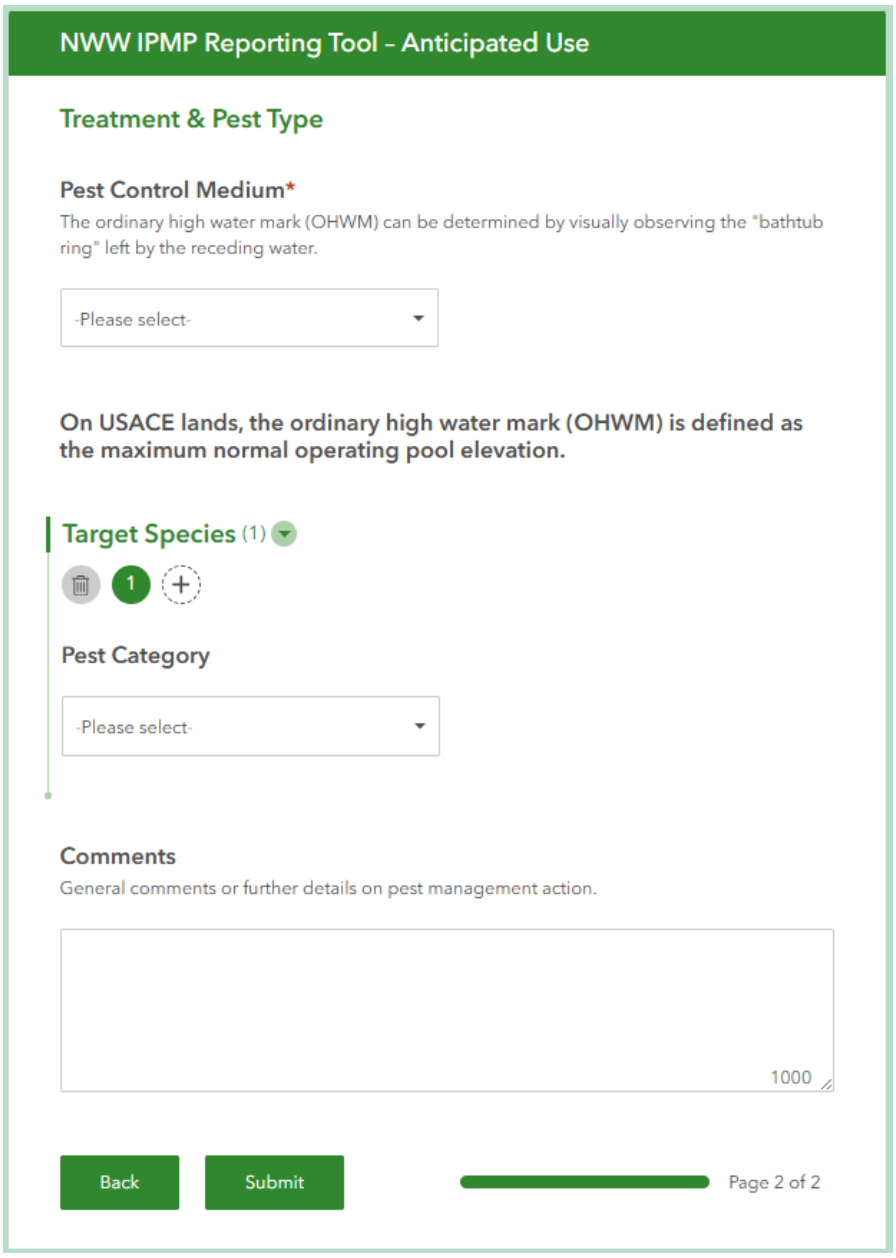



**Figure 6-5 Second Page of Anticipated Use Form**

## 6.5. Instructions for Actual Use Form

### Report Information

**Form ID:** number is automatically assigned when opening the survey and is a unique identifiable number for each submission.
**USACE Project:** use the drop-down box and select the USACE project that best describes your application location (see attachment maps as a reference)
**Real Estate Outgrant:** if the application is associated with a real estate outgrant, select "Yes" and fill out all required boxes (Grantee name and Outgrant Number).

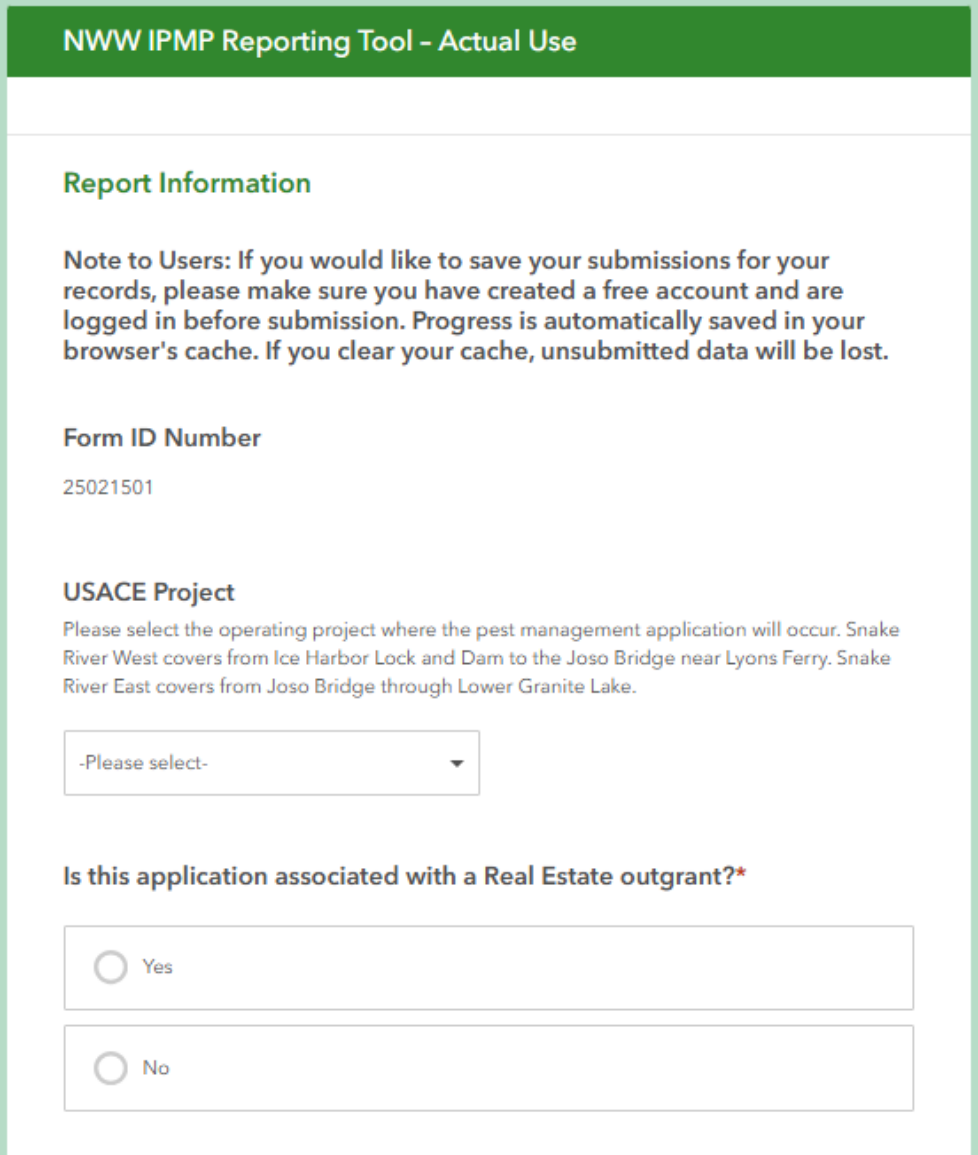



**Figure 6-6 First Section of First Page of Actual Use Form**

### Pest Management Point of Contact

**Contract:** If the application is associated with a contract, please select "Yes" and enter the Contract ID and Contract Name.
**Select the statement that best represents the role of the person filling out the form.** Contact information will appear after this selection.
**Contact Information:** Please enter all contact information relevant to the individual submitting the form (all fields must be filled out to submit form). If the individual filling out the form is not the licensed pest applicator, contact information for both the report submitter and the licensed applicator will need to be entered.
**License Number:** Enter the license number for the applicator.
**State Where Licensed:** Enter the state in which the applicator is licensed. The applicator must be licensed in the state in which they are applying.

**Alternate Pest Applicator:** If a person is making the application under the supervision of a licensed pest applicator, enter the information for the alternate pest applicator.
**Once all fields are correctly filled out, hit the (Next) button to proceed.**

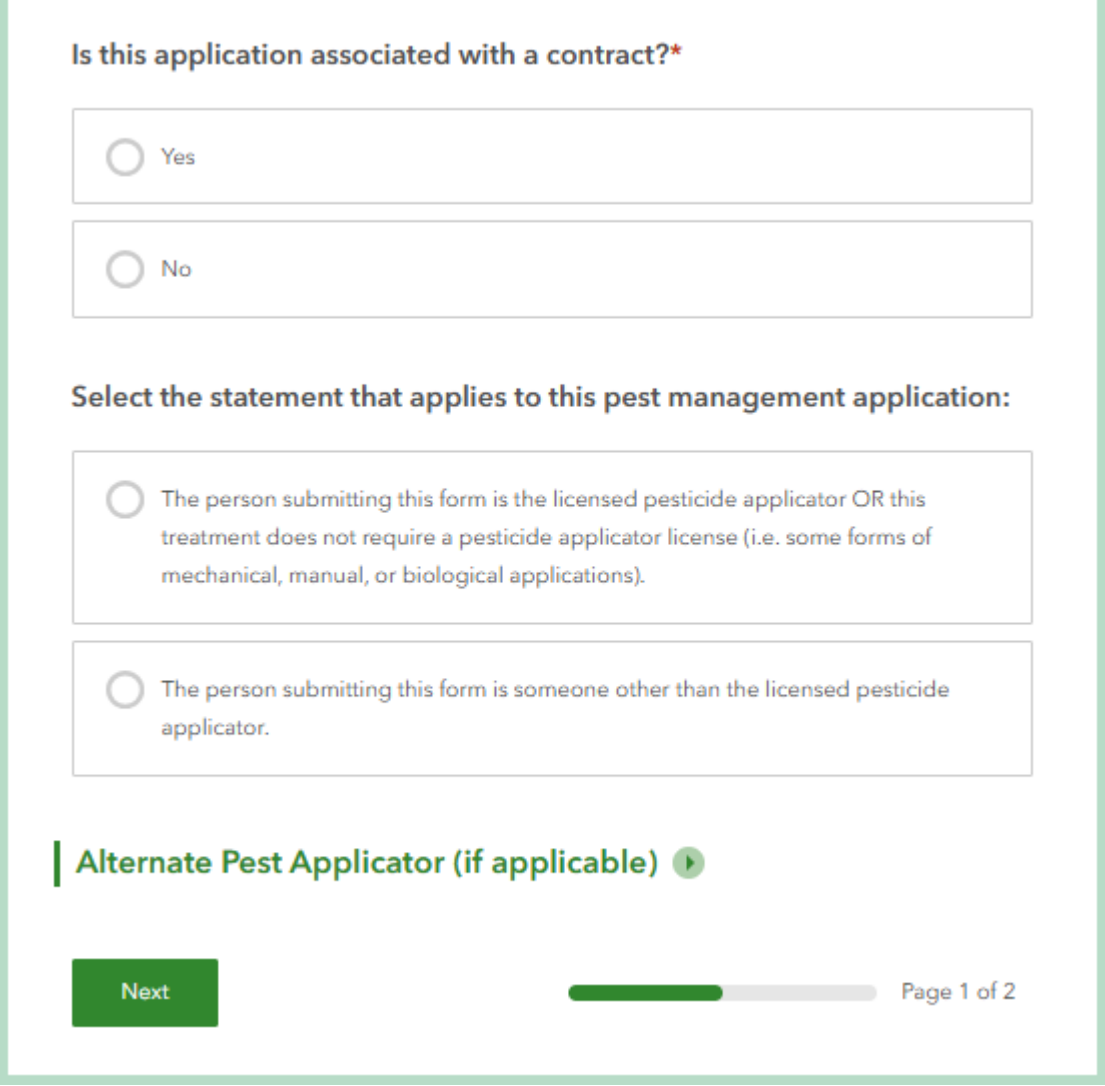



**Figure 6-7 Second Section of First Page of Actual Use Form**

### Treatment & Pest Type

### Target Species

**Pest Category:** Use the drop-down to select the pest category.
**Pest Name:** Use the drop-down to select the name of the target species. If the pest management activity included multiple target species, select the plus sign to add additional entries. You can toggle between target species by selecting the numbered circles. Use the "Comments" field at the bottom of the page to provide more information if "other" was selected.
**Number of Pests Treated:** Use the drop-down to select the approximate number of pests treated.

**Pest control medium:** Use the drop-down arrow to select the pest control medium. This block contains information on the type of application: Terrestrial (Above OHWM or Water's edge to OHWM) or Aquatic application. The District has two separate ESA consultations covering the type of application and these consultations dictate the types of chemical, biological, and mechanical methods that can be used. The District must track these applications separately to meet reporting requirements under the District's Environmental Protection Agency (EPA) National Pollution Discharge Elimination System Pest General Permit. The OHWM can be determined by visually observing the "bathtub ring" left by the receding water line. For USACE lands, the OHWM is defined as the normal operating level of the pool.

**Note:** Subsequent fields will change after selecting the medium.

**Treatment Method:** Use the drop-down arrow to select the treatment method (Chemical, Biological, Manual, or Mechanical) that will be used (you can only select one per submission – if multiple treatment methods were used, you must make a separate submission for each). Fill out corresponding fields that appear once the selection is made.

If Chemical is selected, enter the **registered** product's label name in the 'Trade Name' field. The chemical must have an Active Ingredient from the approved list in the 'Active Ingredient (AI)' field. Note that this is not the amount of chemical product as sold, but only the weight of the active ingredient. If the pest management activity included multiple active ingredients, select the plus sign to add additional entries. You can toggle between active ingredients by selecting the numbered circles.

**Pest Management Application**

**Date of Pest Management Activity:** enter the date of the pest management activity by using the calendar that opens when you click the box.

**Start and Stop Time:** Enter the approximate start and stop time of the pest management activity using the dialog box that opens when you click the box.

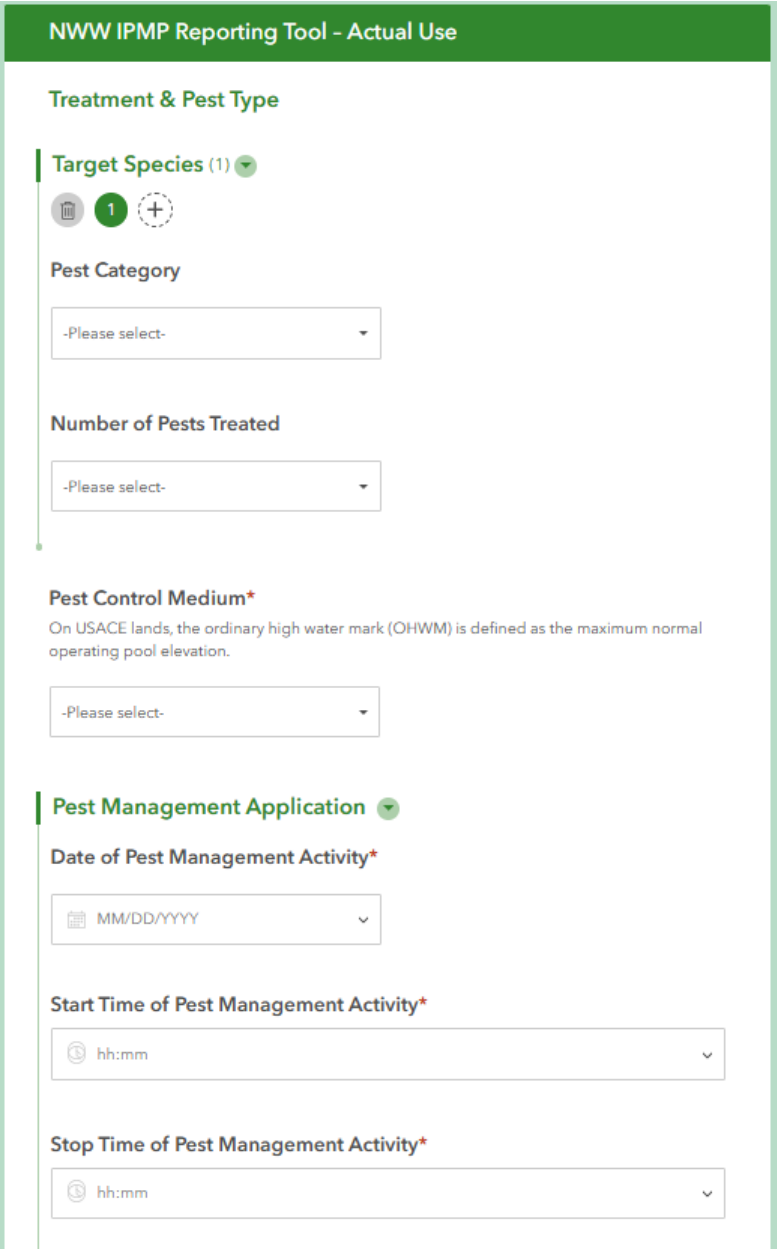



**Figure 6-8 First Section of Second Page of Actual Use Form**

## Location

**Area Treated:** Select “Line” or “Polygon” for the treatment area(s) to determine the type of mapping tool that pulls up. If the application is along the edge of a parking lot, for instance, the line tool would be the tool to select.

**Map controls:**

**Computer:**

Once the type of geometry is selected, a map will open under “Polygon Shape” or “Line Shape”.

Press and hold while you drag to pan the map view to the application area. To zoom in or out, use the plus and minus buttons, double click, or hold the Control key on your keyboard while you scroll in or out with your mouse.
To draw the area treated, select the line or polygon tool in the top right corner of the map view.
Use your cursor to drop vertices of your line or polygon. You can use the “undo” button at the bottom of the map to erase mistakes. Once the line or polygon is complete, select the “Finish” checkmark at the bottom of the map. Your polygon or line will be saved in the map. If you need to adjust the geometry of the line or polygon, you can select the “Edit” (pencil icon) button to adjust the vertices.
The map will appear in the form with the shape you drew, along with the approximate acres or the length of the line drawn. You will have to calculate acreage for line treatments based on the length and width of the treatment area.
To add another application area, press the “+” above the map. You can only add application areas of the same type; if you initially added a “line” application area, you can only add more line-type application areas.

**Tablet or Mobile Phone:**

Once the type of geometry is selected, press the “+” button to pull up the map. Press the “map” icon to pull up the mapping tool.
Use one finger to pan the map view to the application area. To zoom in or out to your application area, use a pinching motion with 2 fingers.
To draw the area treated, select the line or the polygon tool in the bottom left corner of the screen.
Use your finger to drop vertices and draw the line or polygon. You can use the “undo” button in the bottom right corner to erase mistakes. Once the line or polygon is complete, press the drawing tool in the lower right corner with the checkmark below. If the line/polygon is correct, press the checkmark in the bottom right corner. If you need to adjust the geometry of the application area, you can select the map to reopen the mapping tool for editing.
The map will appear in the form with the shape you drew, along with the approximate acres or the length of the line drawn. You will have to calculate acreage for line treatments based on the length and width of the treatment area.
To add another application area, press the “+” under the “acres” field. You can only add application areas of the same type; if you initially added a “line” application area, you can only add more line-type application areas.

**Acres:** Enter the approximate number of acres treated. Use the acreage calculated from the drawn polygon or enter the acreage calculated at the time of application. Note: For chemical treatments, the acres entered should be the same as the number of acres calculated to mix the treatment solution for the pounds of active ingredient applied.

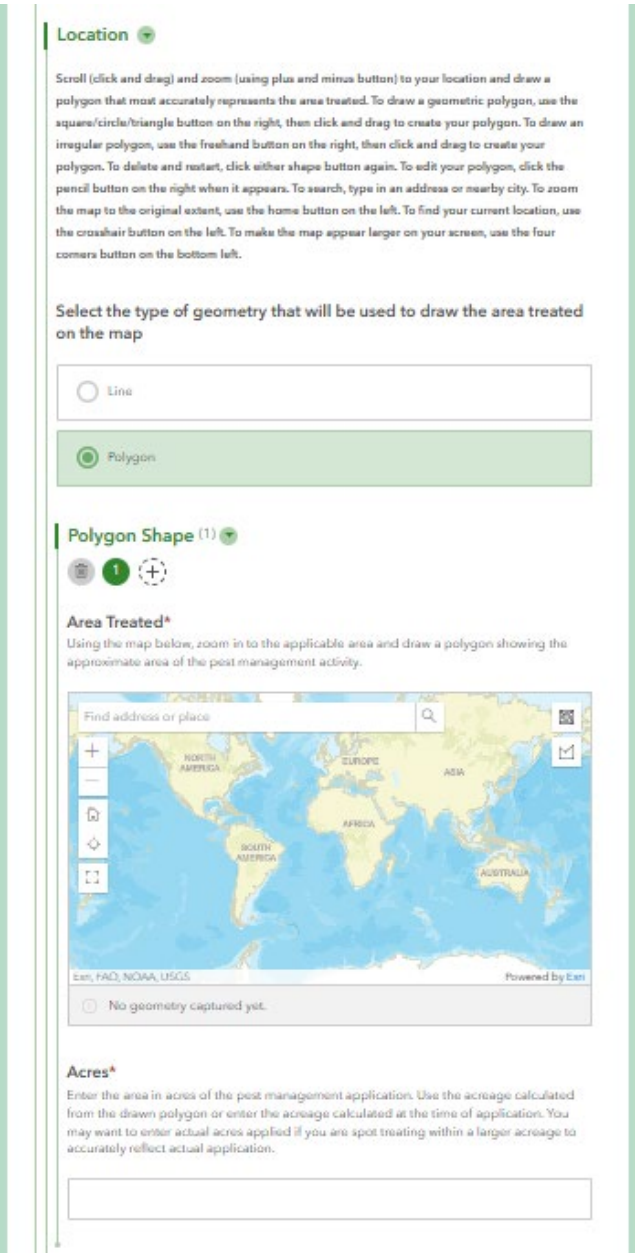



**Figure 6-9 Second Section of Second Page of Actual Use Form**

## Application Information

**Treatment Tool:** Use the drop-down box to select whether the pest management activity was Aerial, Broadcast, or Spot treatment.
**Platform:** Use the drop-down box to select the platform used for the pest management activity. If other is selected, type in details in the “Other” text box that appears.
**Note: License Plate:** Enter the license plate of the vehicle if spraying pesticides from a vehicle. This only appears when “full-size vehicle” is selected.
**Medium:** Use the drop-down box to select the application medium.
**Wind Direction:** Use the drop-down box to select the wind direction at the time of the pest management activity.

**Wind Speed:** Enter the wind speed in miles per hour (MPH) at the time of the pest management activity.
**Temperature:** Enter the temperature in degrees Fahrenheit (°F) at the time of the pest management activity.
**Comments:** Use comments to provide additional information, such as the exact method if "other" was selected, or the description of the location of the site and the reason for application (Ex: parking lot on west side of Charbonneau Park to treat weeds growing through asphalt and around vegetation islands). This box can help the QA process.

Once all necessary fields are filled out and the form is complete, hit "Submit" to send the actual use form to the NWW Pest Manager.

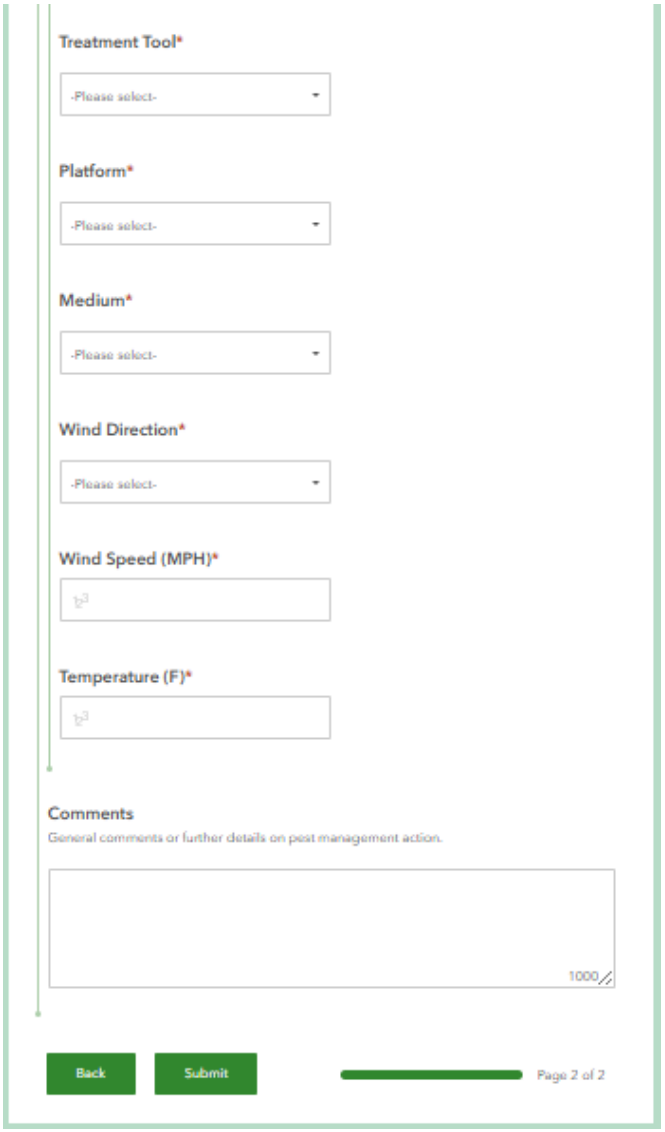



**Figure 6-10 Third Section of Second Page of Actual Use Form**

## 6.6. Instructions for Realty Specialists

**Pest Control <u>Anticipated</u> Application Record (Real Estate / Construction):** Grantees are required to provide information about their anticipated use of pest controls to USACE by February 15th of the application year. Because the report is an estimate of total pest control use for a year, detailed geographic information about application locations is not required. To reduce the burden on Grantees, Realty Specialists will email the information for the 'Grantee' and 'Outgrant No' fields as appropriate by November 1st, prior to the application year.

When the Grantee submits the form, it returns the data to the District Pest Manager. Upon a successful QA review, it will be ingested into the enterprise geodatabase. The assigned Realty Specialist will query the geodatabase and record compliance by the Grantee with the requirement to provide anticipated pest control information.

**Pest Control <u>Actual</u> Application Record (Real Estate / Construction):** Grantees are required to provide detailed information about a pest control application within 7 days of conducting a pest management activity. This is accomplished by completing and submitting the NWW IPMP Reporting Tool for the application. Realty Specialists will email information for the 'Grantee' and 'Outgrant No.' fields to Grantees by November 15th, prior to the application year.

## 6.7. Instructions for Applicators (Grantees/Construction Contractors)

**Pest Control <u>Anticipated</u> Application Record (Real Estate / Construction):** This record must be completed and returned by February 15th of the application year. A separate record must be completed for each pest control category or change in chemical formulation. Once completed, data is sent to the District Pest Manager.

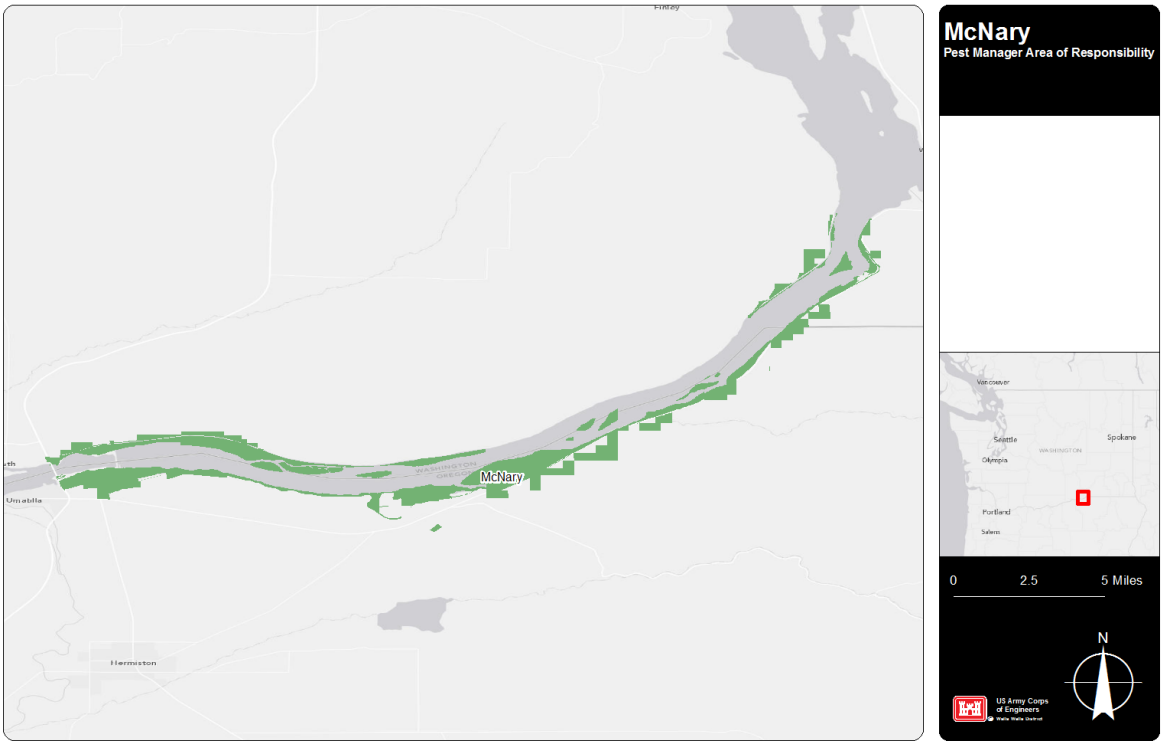



**Figure 6-11 McNary AOR**

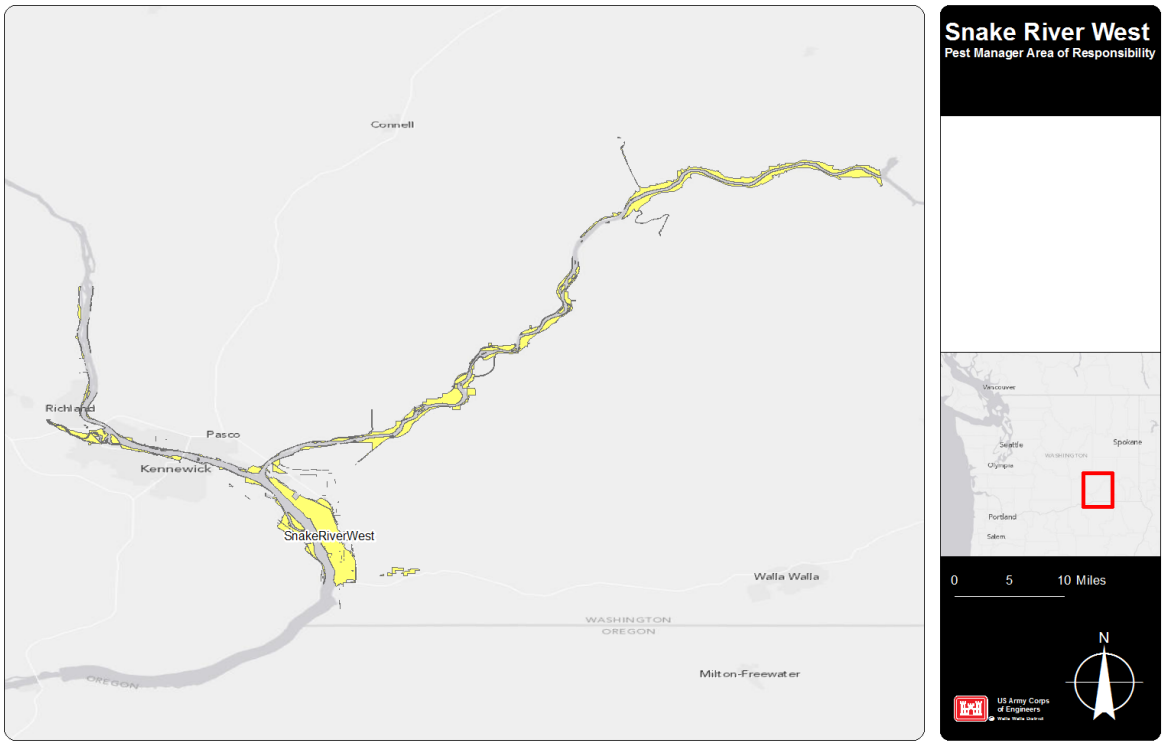



**Figure 6-12 Snake River West AOR**

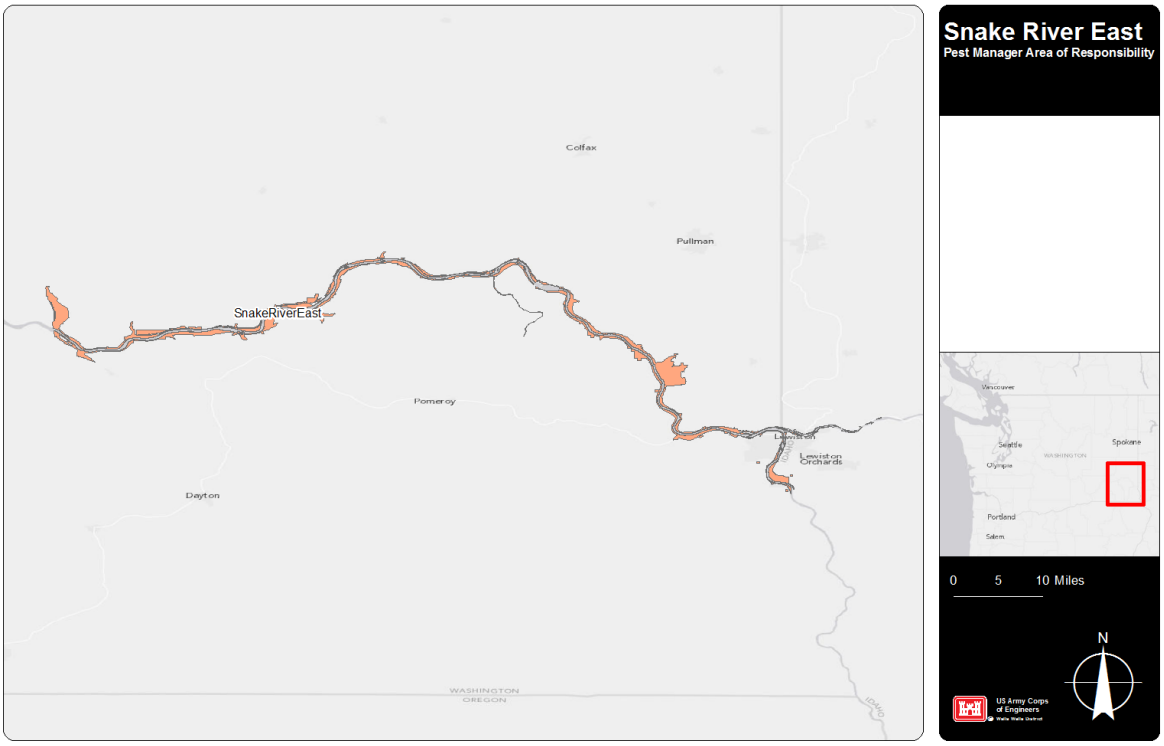



**Figure 6-13 Snake River East AOR**

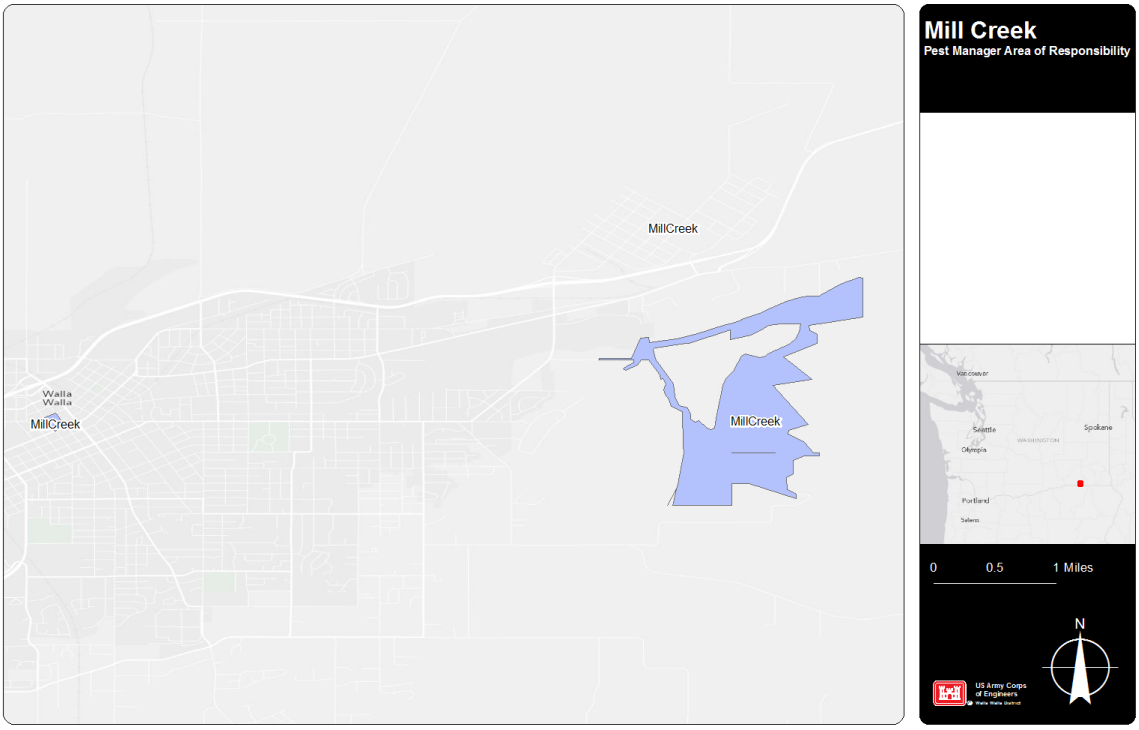



**Figure 6-14 Mill Creek AOR**

# 7. ESA Plants Listed in the District

The following table shows the plant species that are listed under the ESA by county in the District. The list also shows where Washington ground squirrel may occur.

**Table 7 Potential Presence of ESA-Listed Plants in the District as well as Washington Ground Squirrel**

| | Idaho | | | | | Washington | | | | | | | Oregon |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ada | Boise | Elmore | Clearwater | Nez Perce | Asotin | Garfield | Whitman | Columbia | Franklin | Walla Walla | Benton | Umatilla |
| | Lucky Peak | | | Dworshak | Lower Granite | | | | Lower Monumental | | | | |
| | | | | | | | Little Goose | | | McNary | | | |
| | | | | | | | | | | | Mill Creek | | |
| **Species** | | | | | | | | | | | | | |
| Slickspot Peppergrass | X | | X | | | | | | | | | | |
| Spalding's' catchfly | | | | | X | X | | X | | | | | |
| Umtanum desert buckwheat | | | | | | | | | | | | X | |
| Ute ladies'-tresses | | | | | | X | X | X | X | X | X | X | |
| White Bluffs Bladderpod | | | | | | | | | | X | | | |
| Washington ground squirrel | | | | | | | | | X | X | X | | X |

Plant guides are provided below for ESA-listed plant identification.

# SLICKSPOT PEPPERGRASS

## *Lepidium papilliferum* (L.F. Hend.) A. Nelson & J.F. Macbr.

Plant Symbol = LEPA17

*Contributed by*: USDA NRCS Idaho Plant Materials Program

Sheri Hagwood, USDI Bureau of Land Management

**Alternate Names**

Idaho pepperweed.
*Lepidium montanum* Nutt. Var. *papilliferum* (L.F. Hend.) C.L. Hitchc.

**Uses**

Slickspot peppergrass is a small, flowering plant in the mustard family which grows in unique microsites known as slick spots within the semiarid sagebrush-steppe of the Snake River Plain of southwestern Idaho. No large ungulates, either domestic or wild use the plant (USDI, 2009). This species has no known agricultural, economic, or other human uses at this time. This species may have scientific significance due to its evolutionary isolation which is an important subject in conservation biology research.

**Status**

The U.S Fish and Wildlife Service determined that slickspot peppergrass is a threatened species under the Endangered Species Act of 1973. The ruling became effective December 7, 2009.

**Description**

*General*: Slickspot peppergrass is an intricately branched, tap-rooted plant, averaging 2 to 8 inches tall, but occasionally reaching up to 16 inches in height. Leaves and stems are covered with fine, soft hairs, and the leaves are divided into linear segments. Flowers are numerous, 0.1 inches in diameter, white, and have four petals. Fruits (siliques) are 0.1 inch across, round in outline, flattened and two-seeded (Moseley, 1994). Plants can be annual or biennial. The annual form reproduces by flowering and setting seed in its first year, and dies within one growing season. The biennial form initiates growth in the first year as a vegetative rosette and flowers and sets seed the second year (Meyer, 2005). A third, but uncommon flowering pattern involves two episodes of reproduction, one late in the first year and one in the second year (White, 2009).

*Distribution*: For current distribution, consult the Plant Profile page for this species on the PLANTS Web site.

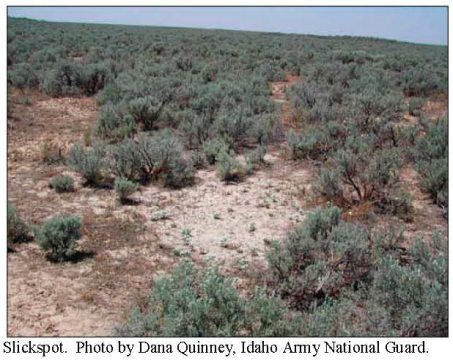
*Habitat*: Slickspot peppergrass is specialized to occupy a specific microhabitat within the sagebrush steppe vegetation of the Snake River Plains of southwestern Idaho. This specific microhabitat is referred to as "slick spots" which are small-scale sites of water accumulation in the gently undulating landscape. Dominant perennial species of the sagebrush steppe are usually excluded from slick spots, presumably because of the their inability to tolerate winter flooding even though the climatic regime of this region is characterized by low and variable winter and spring precipitation and dry summers with a mean annual precipitation under 10 inches (Meyer, 2005).

Slick spots are visually distinct small-scale (mostly between 10 to 20 square feet) depressions in the soil that collect water. These sparsely vegetated microsites are created by unusual edaphic conditions. Drainage swales commonly bisect the landscape and often contain the slick spots with ponded water. Slick spot soils are silt to clay in texture and mostly devoid of vegetation. Below the surface layer is a vesicular layer (defined as a structure probably caused by capillary pressure within air-filled voids surrounded by water) that is partially impermeable to water infiltration and can cause water ponding. The soil profile below the vesicular layer is dominated by a clay layer. Chemical properties indicate that soils are sodic and/or saline (high electrical conductivity, EC), have very low levels of C and N, and P and K levels are variable. The compositions of humic acids within slick spots fall within the range of values commonly reported for other soils (Palazzo 2008).

Slick spots have a common visual appearance. The first visual cue is the smooth pan-like surface. Typically, the slick spot follows the general slope of prevailing landforms with a slight leveling or break on steeper

slopes. On mostly level surfaces, slick spots are very shallow but rarely are closed depressions. They sometimes include smaller areas where remnants of thin soil-algal crusts indicate surface ponding of water (Fisher, 1996).

Slick spots contain no perennial grasses or shrubs. Other than slickspot peppergrass, a wide variety of moss and lichen species cover 10 to 90 percent of the surface. Weedy invasions of cheatgrass, *Bromus tectorum* and burr buttercup *Ceratocephala falcata* (*Ranunculus testiculatus*) rooted in surface cracks and in surface crusts are common (Fisher, 1996).



Slickspot. Photo by Dana Quinney, Idaho Army National Guard.

**Adaptation**

Slickspot peppergrass is found almost exclusively in the slick spots of southwestern Idaho. It has been infrequently documented to occur on disturbed soils along graded dirt roads and badger mounds but these observations are rare. In adapting to the environment of the lower Snake River Plains, slickspot peppergrass has undergone modifications in its adaptive strategy relative to a closely related and possible ancestor *Lepidium montanum*, a widely distributed species (biennial to perennial growth form) that is found in a variety of open habitats in arid to semiarid regions of the southern Intermountain area. The most obvious adaptation is the shift from biennial to summer annual. The dry summers in southwest Idaho have apparently applied strong selection pressure to the annual habit. Even in years when biennial forms are successful, their contribution to seed production may be small (Meyer, 2005). A third, but uncommon flowering pattern which involves two episodes of reproduction, one late in the first year and one in the second year is also an adaptive strategy to maintain gene flow within the species (White 2000). Another major adaptive feature is the evolution of seed dormancy that permits seeds to persist in the seed bank (Meyer, 2005).

**Establishment**

Slickspot peppergrass reproduces by seed. Seed germinates in the spring. Annual types are single-stemmed with few flowers and seeds. Biennial types overwinter as rosettes, blooming and setting seed the following spring or summer. The biennial types have multiple stems with hundreds of flowers and seeds. . Flowering usually takes place in late April and May, fruit set occurs in June and seed is ripe in late June to early July. Based on a 4 year demography study, survivor ship of the annual form was demonstrated to be higher than survivorship of biennial forms and the number of plants can vary widely from year to year depending on seasonal precipitation patterns (Meyer, 2005).

Laboratory seed germination studies with various combinations of temperatures, moist chilling, and gibberlic acid treatments resulted in low germination percentages. Highest laboratory germination percentages (10 %) are obtained with 6 weeks of dry after-ripening at 50° C followed by 8 weeks of moist chilling. Tetrazolium viability studies in combination with seed bank retrieval studies consistently showed seed viability to be very high (95 %+) (Meyer, 2005). Seed located near the soil surface show higher rates of germination and viability and the greatest seedling emergence rate. Deep burial of seed (greater than 5.5 inches) may preserve them beyond the 12 year period of viability (USDI 2009).

Slickspot peppergrass relies primarily on cross pollination for successful seed production (Robertson, 2004). Through hand pollination experiments, it was determined that individual plants receiving pollen from distant sources had significantly higher percent fruit set than those relying on pollen from neighboring plants. Self pollinated plants produced little or no fruit.

Twenty five insect families from 5 orders have been observed and collected from slickspot peppergrass at 2 study sites in southwestern Idaho. The diversity of insects encountered on flowers differed between the study sites. The insects most likely responsible for pollinating slickspot peppergrass include members of the Apidae, Colletidae and Halitidae families of the Hymenoptera order (bees, ants, and wasps) (Robertson 2003).

**Management**

Conservation management plans have been implemented to address the need to: maintain and enhance habitat; reduce intensity, frequency, and size of natural- and human-caused wildfires; minimize loss of habitat associated with wildfire-suppression activities; reduce the potential for invasion of nonnative plant species from wildfire; minimize the loss of habitat associated with rehabilitation and restoration techniques; minimize the establishment of invasive non-native species; minimize the degradation or loss of habitat from off road vehicle use; mitigate the negative effects of military training and other associated activities; and minimize the impact of ground disturbances caused by livestock trampling during periods when soils are saturated (USDI, 2009).

**Pests and Potential Problems**
The most abundant insect herbivore of slickspot peppergrass is a chrysomelid beetle, *Phyllotreta* sp. which chews holes in the petals of the flower. This herbivory reduces the effectiveness of insect pollination, but does not physically inhibit pollination or seed production (Leavitt, 2006). The U.S. Fish and Wildlife Service does not consider herbivory by the chrysomelid beetle to be a significant threat at this time (USDI, 2009).

The Owyhee harvester ant was recently identified as a potentially important seed predator of slickspot peppergrass but there is no information indicating what the actual magnitude or severity of this threat may be (USDI, 2009).

**Environmental Concerns**
The U.S Fish and Wildlife Service determined that slickspot peppergrass is a threatened species under the Endangered Species Act of 1973. The ruling became effective December 7, 2009. The primary threat to slickspot peppergrass is the present or threatened destruction, modification, or curtailment of its habitat and range due to the increased frequency and extent of wildfires under a fire regime modified and exacerbated by the spread of invasive plants, particularly nonnative annual grasses such as cheatgrass. Other threats to slickspot peppergrass include human development, potential seed predation by harvester ants, and habitat fragmentation and isolation of small populations (USDI 2009).

**Seeds and Plant Production**
No commercial or restoration known.

**Cultivars, Improved, and Selected Materials (and area of origin)**
None

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USDI, 2009. Endangered and Threatened Wildlife and Plants; Listing *Lepidium papilliferum* (Slickspot Peppergrass) as a Threatened Species Throughout its Range. Federal Register Vol. 74, No. 194 October 8, 2009/ Rules and Regulations.

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**Prepared By**

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Dan Ogle, USDA NRCS Idaho State Office, Boise, Idaho


**Citation**
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Published December, 2009

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PLANTS is not responsible for the content or availability of other Web sites.

# SPALDING'S CATCHFLY

## *Silene spaldingii* S. Watson

Plant Symbol = SISP2

Contributed by: USDA NRCS Idaho Plant Materials Program

Figure 1. Spalding's catchfly. Photo by C. Menke.

**Alternate Names**
Spalding's campion, Spalding's silene

**Status**
Spalding's catchfly was listed as threatened by the US Department of the Interior, Fish and Wildlife Service in 2001. It is listed in Idaho as threatened (State of Idaho, 2009) and endangered in Oregon (Oregon Department of Agriculture, 2009). In Washington state it is considered threatened with a status of S2 (Washington State, 2010), and in Montana it has a rank of S1 (Montana Natural Heritage Program, 2010). Natureserve ranks it G2, Globally imperiled, with a US national status of N2, and Canada national status N1 (Natureserve, 2010). It is listed as endangered in Canada (Government of Canada, 2010).

**Description**
*General*: Carnation or pink family (Caryophyllaceae). Spalding's catchfly is a long-lived perennial forb that emerges in spring from a woody root crown and dies back to below ground level each fall. Plants range from 8 to 30 inches tall with generally one to few yellow-green stems per plant. Each stem bears four to seven (up to 12) pairs of 2- 3 inch long, lance-shaped leaves (Hitchcock et al., 1964). It has swollen nodes where the leaves attach to the stem. The plant is covered in dense sticky hairs that frequently trap dust and insects, hence the common name catchfly. Flowers have a tubular calyx approximately 0.6 inches long; the pale white petals extend slightly beyond the sepals. Flowers bloom from mid-July through August and sometimes into September. It may remain dormant for 3- 6 consecutive years without emerging. The plant has a very large taproot (3 ft or longer).

*Distribution*:
Spalding's catchfly is native to portions of Idaho, Montana, Oregon, Washington, and British Columbia, Canada. It occupies five physiographic regions: the Palouse Grasslands in west-central Idaho and southeastern Washington; the Channeled Scablands in eastern Washington; the Blue Mountain Basins in northeastern Oregon; the Canyon Grasslands of the Snake River and its tributaries in Idaho, Oregon, and Washington; and the intermountain valleys of northwestern Montana. There are currently 99 known populations of Spalding's catchfly, 66 populations are composed of fewer than 100 individuals each. Twenty-three populations contain 100 or more individuals apiece, and the 10 largest populations are each made up of more than 500 plants (USDI Fish and Wildlife Service, 2007). For current distribution, consult the Plant Profile page for this species on the PLANTS Web site.

*Habitat*:
The species occurs in dry to moist grasslands in bunchgrass and sagebrush-steppe habitats with Idaho fescue and bluebunch wheatgrass being the dominant components. Occasionally plants can be found in open pine habitats. (USDI Fish and Wildlife Service, 2007).

**Adaptation**
Plants can be found from 1900 to 3600 ft in elevation. Spalding's catchfly grows on all aspects but is most often encountered on north facing slopes.

The plants prefer sites with deep silt-loam soils (Natureserve, 2010).

**Establishment**
Spalding's catchfly reproduces solely by seed. It does not spread by rhizomes or other asexual means. It is partially self-compatible (Lesica & Heidel 1996), but its offspring are more fit if cross-pollinated (Lesica 1993). Bumblebees appear to be the primary pollinator (Lesica and Heidel, 1996).

Seedlings germinate in the spring, form rosettes the first year, and occasionally flower the second year. Generally flowering does not occur until the third or subsequent growing seasons. Adult plants emerge from the caudex in spring as either a stemmed plant, a rosette, or occasionally as a plant with both rosette(s) and stem(s). Stemmed plants may remain vegetative or may become reproductive in July or August. Plants senesce or wither in fall (September or October), reappearing the next spring (USDI Fish and Wildlife Service, 2007).

Laboratory studies have shown that seed germination increases following a four to eight week cold stratification period (Lesica, 1993).

Spalding's catchfly arises from a very large tap root which may be up to 3 feet deep. This greatly reduces the potential for transplanting.

**Pests and Potential Problems**

Threats to Spalding's catchfly primarily involve loss of habitat. This includes habitat loss due to human development, habitat degradation associated with domestic livestock and wildlife grazing, changes in fire frequency and seasonality, and invasions of aggressive non-native plants. Plants are also susceptible to herbicide spray drift and off-road vehicle use. The species may also suffer loss of genetic fitness from population fragmentation (USDA Forest Service, 2009).

**Management**

Recovery strategies for Spalding's catchfly involve reducing identified threats to catchfly habitat. Measures include limiting adverse grazing and off-road vehicle use, protecting pollinators, incorporating integrated pest management strategies, and appropriate fire management (USDI Fish and Wildlife Service, 2010).

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**Citation**


Tilley, D., D. Ogle, and L. St. John. 2009. Plant guide for Spalding's catchfly (*Silene spaldingii*). USDA-Natural Resources Conservation Service, Idaho Plant Materials Center. Aberdeen, ID. 83210.

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For more information about this and other plants, please contact your local NRCS field office or Conservation District at http://www.nrcs.usda.gov/ and visit the PLANTS Web site at http://plants.usda.gov/ or the Plant Materials Program Web site http://plant-materials.nrcs.usda.gov.

PLANTS is not responsible for the content or availability of other Web sites.

## ***Eriogonum codium*** Reveal, Beck & Caplow

Umtanum desert buckwheat

Polygonaceae (Buckwheat Family)

**Status:** State Endangered, USFWS Candidate
**Rank:** G1S1

**General Description:** Low, caespitose (tufted), herbaceous perennial, the aboveground woody stem forming highly branched mats 8-28 inches across, arising from a stout, woody taproot; leaves basal, persistent, oblanceolate to elliptic, 1/4 to 1/2 inch long, 1/8 to 1/4 inch wide, densely white-tomentose on both surfaces; flowering stems scapose, erect 3/4 to 3 1/2 inches long, tomentose, often brittle; flowers are lemon-yellow with greenish midribs and yellowish-green bases, 1/16 to 1/8 inch long.

**Identification Tips:** The growth habit (low, matted, caespitose perennial) and its tomentose flowers and achenes readily distinguish the new species from other members of the genus within its range.

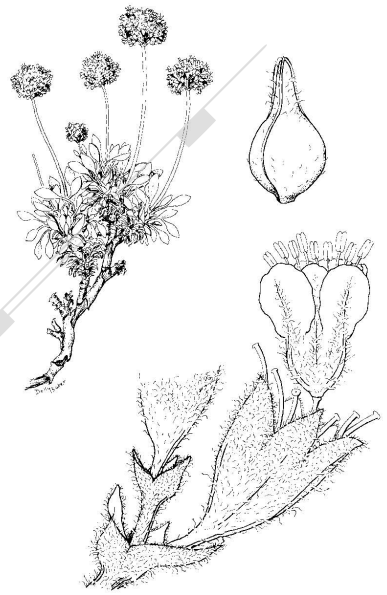
**Phenology:** The species flowers from May through late August, at least during wet years.

**Range:** The species is endemic to a very narrow range in Benton County in southcentral Washington. It is currently only known from one ridgeline in the Columbia Basin physiographic province.

**Habitat:** The only known population of this species occurs at elevations ranging between 1100 to 1320 feet on flat to gently sloping microsites near the top of the steep, north-facing basalt cliffs overlooking the Columbia River. It is apparently restricted to the exposed top of one particular basalt flow (the Lolo Flow). Associated species include spiny hopsage (*Grayia spinosa*), grayball sage (*Salvia dorrii*), threadleaf scorpionweed (*Phacelia linearis*), winged cryptantha (*Cryptantha pterocarya*), small eveningprimrose (*Camissonia minor*), and cheat grass (*Bromus tectorum*).

## ***Eriogonum codium***

Umtanum desert buckwheat





Known distribution of *Eriogonum codium* in Washington

● Current (1980+)
○ Historic (older than 1980)

## *Eriogonum codium*

Umtanum desert buckwheat

Jonathon Soll

Kelly Beck

1997 Produced as part of a cooperative project between the Washington Department of Natural Resources, Washington Natural Heritage Program, and the U.S.D.I. Bureau of Land Management. Persons needing this information in an alternate format may call (360)902-1940 or TTY (360)902-1125.

## *Eriogonum codium*

Umtanum desert buckwheat

Ecology: The species' restriction to exposures of one particular basalt flow may suggest a dependent relationship with the chemical composition of that flow. The relatively high water-holding capacity of the substrate has also been suggested as an important factor. The overall vegetation cover is quite low. A recent fire resulted in a decrease in the population.

State Status Comments: The species is known from only one site, most of which recently burned in a wildfire.

Inventory Needs: Ridge systems along the Columbia River in southcentral Washington should be inventoried for this species.

Threats and Management Concerns: Although not currently threatened by human activity, the area is being considered for a change in ownership and/or management responsibility. Public access could accompany such a change. ORV use and livestock grazing represent two potential significant threats. The effects of a recent fire are presently being studied.

References:

Reveal, J.L., F. Caplow, and K. Beck. 1995. *Eriogonum codium* (Polygonaceae: Eriogonoideae), A new species from southcentral Washington. Rhodora 97 (892): 350-356.

1997 Produced as part of a cooperative project between the Washington Department of Natural Resources, Washington Natural Heritage Program, and the U.S.D.I. Bureau of Land Management. Persons needing this information in an alternate format may call (360)902-1940 or TTY (360)902-1125.

# UTE LADYS' TRESSES

## *Spiranthes diluvialis* Sheviak

Plant Symbol = SPDI6

Contributed by: USDA NRCS Idaho Plant Materials Program

Teresa Prendusi, USDA Forest Service

**Uses**

Ute Ladies'-Tresses is a showy, perennial flowering orchid that has not been successfully propagated. It was first described by C.J. Sheviak in 1984. Ute Ladies'-Tresses are found in open wetland and riparian areas and is pollinated mostly by bumblebees (*Bombus spp.*). This species has scientific significance in studies addressing its evolutionary isolation, which has been an important subject in conservation biology research. It has no known agricultural, economic, or other human uses at this time.

**Status**

Consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values). In 1992, it was designated as Threatened in its Entire Range by the U.S. Fish and Wildlife Service.

**Description**

Ute Ladies'-Tresses is a perennial, terrestrial orchid with mainly 1 stem 12-50 cm tall, arising from tuberously thickened roots. Its linear-lanceolate (1cm wide) leaves can reach 28 cm long and persist during flowering. Basal leaves are the longest and become reduced in size up the stem. The inflorescence consists of few to many white or ivory flowers clustered in a spike of 3-ranked spirals at the top of the stem. The sepals and petals are oriented perpendicular to the stem, the lateral sepals often spreading abruptly from the base of the flower and all sepals are free to the base. The lip petal is somewhat constricted at the median. Flowering occurs in early August and may persist into early September barring frost or drought. Flowers are faintly fragrant with the scent of coumarin. The seed is ellipsoidal and dust-like, very well adapted to being carried by the wind.

**Adaptation and Distribution**

Ute Ladies'-Tresses occurs along riparian edges, gravel bars, old oxbows, high flow channels, and moist to wet meadows along perennial streams. It typically occurs in stable wetland and seep areas associated with old landscape features within historical floodplains of major rivers. It also is found in wetland and seep areas near freshwater lakes and springs

Teresa Prendusi, USDA Forest Service

Populations of Ute Ladies'-Tresses are known from three broad general areas of the interior western United States. Near the base of the eastern slope of the Rocky Mountains in southeastern Wyoming and adjacent Nebraska and north central and central Colorado; in the upper Colorado River Basin, particularly the Uinta Basin; and in the Bonneville Basin along the Wasatch Front and westward in the eastern Great Basin, in north-central and western Utah, extreme eastern Nevada and southeastern Idaho. It has also been discovered in southwestern Montana and in the Okanogan area and along the Columbia River in

north-central Washington. Many populations have less than 100 individuals, though a couple of populations have over 500 plants.

Ute Ladies'-Tresses are restricted to a small, sporadic microhabitat represented by calcareous, wet-mesic, temporarily-inundated meadow in shallow wetlands. The shallow meandered wetlands are in alluvial fans that correspond with two uncommon soils series. They are part of broad, flat, arid, open, low-elevation valley bottoms. The meandered wetlands include narrow channels and broader swales, both of which parallel the existing river courses, and most are set back over a mile from the river and without surface-water connections to the river. The microhabitat is temporarily inundated in the spring, often located right below the outer wetland margin. Subsurface hydrological conditions are ameliorated by high organic content at the surface, and course alluvial cobble directly below. Water chemistry as inferred from soils data is moderately alkaline and high in calcium carbonate. Soils are loamy calcareous wetland soils with gley features, generally high in micronutrients and organic matter, but are low in phosphorus compared to average values for agricultural soils. The range of pH values for these types of sites in Colorado and Utah are 6.6-8.1 and at sites in Nebraska, Wyoming and Montana 7.6-8.2. Most locations of Ute Ladies'-Tresses are classified as subirrigated ecological sites.

**Establishment**
Ute Ladies'-Tresses is a showy flowering orchid that has not been successfully propagated. Efforts are underway by the Denver Botanic Gardens and the Red Buttes Gardens of Salt Lake City to determine if Ute Ladies'-Tresses can be propagated. The plant can produce as many as 7,300 tiny seeds per fruit. Seedlings may persist for up to 8 years as subterranean saprophytes dependent on mycorrhizal fungi. Small inconspicuous leaf rosettes may emerge at the end of the growing season and overwinter. Individual plants may flower in consecutive years or under adverse environmental conditions and may persist below ground with their mycorrhizal symbionts. Reproduction is sexual in the strictest sense, though each year's plant comes from a separate lateral bud. Most orchids produce new tubers every year by lateral buds. There is no evidence that lateral buds produce underground shoots, but in collecting voucher specimens, it was observed that the multiple, tuberously-thickened roots have high turgidity and snap easily. Although the majority of plants are single-stemmed, a small number of multi-stemmed plants or small clumps have been noted in sites that were trampled by livestock that may indicate vegetative reproduction.

Ute Ladies'-Tresses exhibits a mixed-mating system. The degree of selfing depends in part upon the abundance of pollinators visiting the flowers. Outcrossing is promoted by male flowers maturing before female flowers and the movement of long-tongued bees on inflorescences. No self-fertile fruit set has been observed, indicating that a pollen vector is required for reproduction. The only pollinator visits observed have been late afternoon visits by bumblebees (*Bombus spp.*). Bees are provided nectar rewards but the pollen are in masses that are not available to them for food. The distinctive odor of coumarin from the flowers may indicate that there are other rewards to the bumblebee such as critical chemicals for producing pheromes. Other suspected pollinators are anthophorid bees and hawkmoths. Seeds are very short-lived and have a limited time span for germination after seeds dehisce and are generally considered to require endomycorrhizae to germinate in the field. Seeds are very small and require a narrow range of moisture and temperature conditions to germinate and it is likely they require direct contact with mineral soil.

**Management**
Modeling of monitored populations in Colorado and Utah project population extinction for almost all of the populations under most agricultural practices except the "grazed only" population and to a lesser extent the "twice clipped" population in modeling studies. Species' longevity and the primary causes of mortality are unknown. At most observation sites, leaves of Ute Ladies'-Tresses showed signs of browse by herbivores. Even plants represented by immature rosette leaves under a continuous canopy cover of grass had browse on one or more leaves, though sometimes only the tip of the leaf. Some of the browsing may be caused by whitetail deer because their numbers were high in the general area of observation. Livestock grazing takes place at many sites though it tends to be earlier in the growing season when the uplands are still green rather than during flowering when only the wetlands and riparian areas are green. Clear signs of trampled plants were found at one monitoring site where livestock grazing overlapped with the flowering period in part of one season. Vole herbivory of inflorescences at a Colorado site was identified as a significant threat. Land managers should include pollinators and pollen producing plants in their plans to preserve this rare orchid. The effects of pest management programs on bumblebees and the availability of suitable bee nesting habitat should be considered.

**Pests and Potential Problems**
Besides herbivory, the only other noted observations of pests were weevils browsing some inflorescences in Montana.

**Environmental Concerns**
In 1992, Ute Ladies'-Tresses was designated as Threatened in its Entire Range by the U.S. Fish and Wildlife Service. Modeling of monitored populations in Colorado and Utah project population extinction for almost all of the populations under most agricultural practices. The effects of pest management programs on bumblebees and the availability of suitable bee nesting habitat should be considered.

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## ***Lesquerella tuplashensis*** Rollins, Beck & Caplow

Whitebluffs bladderpod
Cruciferae (Mustard Family)

**Status:** State Threatened, USFWS Candidate
**Rank:** G2QS2

**General Description:** A perennial, grayish-pubescent herb with an undivided caudex, a well-developed taproot, and a dense, many-leaved rosette of gradually reduced leaves. The dense inflorescences of yellow flowers are born on numerous decumbent-ascending stems with broad cauline leaves at anthesis

**Identification Tips:** *L. tuplashensis* differs from *L. douglasii* in a number of characteristics, including the presence of dense rosettes of basal leaves that are extremely broad and are often spatulate. The short flowering stems are usually densely covered with relatively broad cauline leaves. It also blooms during the later summer months, well after *L. douglasii* has set fruit and become dormant.

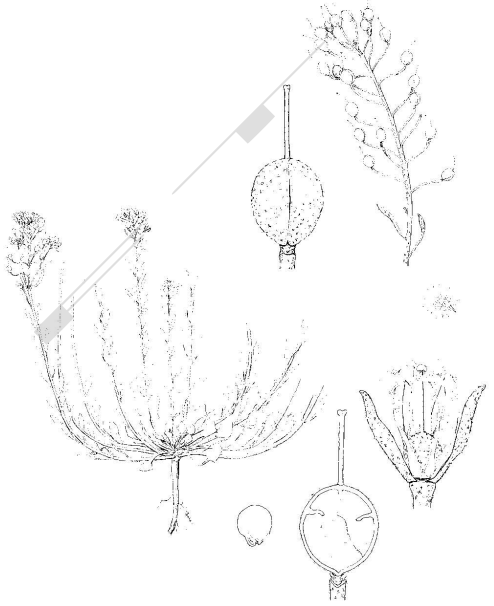
**Phenology:** Flowers late June through July.

**Range:** This narrow endemic species is restricted to a very small area in Franklin County adjacent to the Columbia River in southcentral WA. It is currently known from an area of a few meters wide by approximately 17 km (10 miles) long. It occurs in the Columbia Basin physiographic province.

**Habitat:** The species is restricted to a very small area along the Columbia River in the big sagebrush/bluebunch wheatgrass association of Daubenmire (1970). The species is restricted to dry, barren, nearly vertical exposures of calcium carbonate paleosol (a "caliche" soil). The substrate is extremely alkaline and highly calcareous. Elevation ranges between 780 and 890 feet. Associated species include big sagebrush, buckwheat milkvetch (*Astragalus caricinus*), slender buckwheat (*Eriogonum microthecum*), Snake River cryptantha (*Cryptantha spiculifera*), and Sandberg's bluegrass (*Poa sandbergii*).

## ***Lesquerella tuplashensis***

Whitebluffs bladderpod



©1995 Rhodora, Vol. 97, No. 891. Illustration by Dolly Baker.

Known distribution of *Lesquerella tuplashensis* in Washington

● Current (1980+)
○ Historic (older than 1980)

## *Lesquerella tuplashensis*

Whitebluffs bladderpod

Kelly Beck

Kelly Beck

1997 Produced as part of a cooperative project between the Washington Department of Natural Resources, Washington Natural Heritage Program, and the U.S.D.I. Bureau of Land Management. Persons needing this information in an alternate format may call (360)902-1340 or TTY (360)902-1125.

## *Lesquerella tuplashensis*

Whitebluffs bladderpod

Ecology: The range of this species is within the driest region in the state of WA; the general area receives an average of about 6 inches of precipitation/year. As a result, the overall cover of vegetation is extremely low. As noted above, the species is restricted to a highly alkaline substrate that most plants find inhospitable. The species is presumably reliant on periodic exposure of these substrates.

State Status Comments: This recently described species is known from only one population. It is within an area with increased slope failures resulting from irrigation of adjacent lands.

Inventory Needs: Other outcroppings of caliche substrate in Franklin and Grant counties, WA, should be inventoried.

Threats and Management Concerns: The population is vulnerable to both illegal ORV use of its habitat and to slope failure due to increased irrigation.

References:

Rollins, R.C., K.A. Beck, and F.E. Caplow. 1995. An Undescribed Species of *Lesquerella* (Cruciferae) from the State of Washington. Rhodora 97 (891): 201-207.

1997 Produced as part of a cooperative project between the Washington Department of Natural Resources, Washington Natural Heritage Program, and the U.S.D.I. Bureau of Land Management. Persons needing this information in an alternate format may call (360)902-1340 or TTY (360)902-1125.

# Idaho's Special Status Vascular and Nonvascular Plants

Tracked Plant List and Ranks. Version October, 2012 from Observations Database. Please Note, Idaho Region was not updated with this update but is included.

| SSciName | SCommon | G Rank | S Rank | US FWS | INPS | INPS Threat | BLM | USFS Reg1 | USFS Reg4 | USFS Reg6 | Idaho Region |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Agastache cusickii | Cusick's Giant-hyssop | G3G4 | SNR | | GP3 | 11 | TYPE 5 | | | | EC |
| Agoseris lackschewitzii | Pink Agoseris | G4 | S2 | | S | | TYPE 4 | | S | | EC |
| Allenrolfea occidentalis | Iodine Bush | G4 | S1 | | 1 | | | | | | SE |
| Allium aaseae | Aase's Onion | G3 | S3 | | S2S3 | | TYPE 2 | | | | SW, WC |
| Allium anceps | Two-headed Onion | G4 | S2 | | 2 | | TYPE 3 | | | | SE |
| Allium madidum | Swamp Onion | G3 | S3 | | GP3 | 8 | | | S | | WC |
| Allium tolmiei var. persimile | Tolmie's Onion | G4G5T3 | S3 | | GP3 | 12 | TYPE 3 | | S | | WC |
| Allium validum | Tall Swamp Onion | G4 | S3 | | S | | | | | | WC |
| Allotropa virgata | Candystick | G4 | S3 | | S | | | | S | | NC |
| Andreaea heinemannii | Heinemann's Andreaea Moss | G3G5 | S1 | | 1 | | | | | | ? |
| Andromeda polifolia | Bog-rosemary | G5 | S1 | | 1 | | | S | | | N |
| Angelica kingii | Nevada Angelica | G4 | S1 | | 1 | | TYPE 3 | | | | SW |
| Antennaria arcuata | Meadow Pussytoes | G2 | S1 | | GP2 | 5 | | | | | SE |
| Artemisia campestris ssp. borealis var. purshii | Northern Sagewort | G5T5 | S1 | | 1 | | | | | | EC |
| Aspicilia fruticulosa | Rim Lichen | G3 | S3 | | GP3 | 11 | TYPE 5 | | | | |
| Asplenium septentrionale | Northern Spleenwort | G4G5 | S1 | | 1 | | | | | S | SE |
| Asplenium trichomanes | Maidenhair Spleenwort | G5 | S1 | | S1 | | | S | | | N |
| Asplenium trichomanes-ramosum | Green Spleenwort | G4 | S1 | | 1 | | | | | S | SE |
| Astragalus adanus | Boise Milkvetch | G3G4 | SNR | | GP3 | ? | | | | | SW, WC, SE, EC |
| Astragalus amblytropis | Challis Milkvetch | G3 | S3 | | GP3 | 11 | TYPE 3 | | | | EC |
| Astragalus amnis-amissi | Lost River Milkvetch | G3 | S3 | | GP3 | 11 | TYPE 3 | | S | | EC |
| Astragalus anserinus | Goose Creek Milkvetch | G2 | S1 | C | GP2 | 2 | TYPE 1 | | S | | SE |
| Astragalus aquilonius | Lemhi Milkvetch | G3 | S3 | | GP3 | 5 | TYPE 2 | | S | | EC |
| Astragalus arrectus | Palouse Milkvetch | G2G4 | S2 | | GP2 | 2 | | | | S | NC |
| Astragalus asotinensis | Asotin Milkvetch | G2 | S1 | | G1,S1 | | | | | | NC |
| Astragalus atratus var. inseptus | Mourning Milkvetch | G4G5T3 | S3 | | M | | TYPE 3 | | | | SE |
| Astragalus bisulcatus var. bisulcatus | Two-grooved Milkvetch | G5T5 | S2 | | S | | TYPE 4 | | | | EC |
| Astragalus bourgovii | Bourgeau's Milkvetch | G5 | S1 | | 1 | | | | | | N |
| Astragalus conjunctus | Stiff Milkvetch | G4 | S2 | | S | | TYPE 5 | | | | SW |
| Astragalus cusickii var. packardiae | Packard's Milkvetch | G5T1 | S1 | C | S1 | | TYPE 1 | | | | SW |
| Astragalus cusickii var. sterilis | Barren Milkvetch | G5T2 | S1 | | GP3 | 3 | TYPE 3 | | | | SW |
| Astragalus diversifolius | Meadow Milkvetch | G2 | S2 | | GP2 | 11 | TYPE 3 | | S | | EC |
| Astragalus gilviflorus | Plains Milkvetch | G5 | S2 | | S | | TYPE 3 | | | | EC |
| Astragalus jejunus var. jejunus | Starveling Milkvetch | G3T3 | S2 | | GP3 | 9 | TYPE 2 | | S | | SE |
| Astragalus leptaleus | Park Milkvetch | G4 | S3 | | M | | | | | | EC |
| Astragalus microcystis | Least Bladdery Milkvetch | G5 | SH | | 1 | | TYPE 5 | S | | S | N |
| Astragalus mulfordiae | Mulford's Milkvetch | G2 | S2 | | GP2 | 2 | TYPE 2 | | | | SW |
| Astragalus newberryi var. castoreus | Newberry's Milkvetch | G5T5 | S2 | | M | | TYPE 4 | | | | SW |
| Astragalus oniciformis | Picabo Milkvetch | G3 | S3 | | GP3 | 11 | TYPE 3 | | | | SE |
| Astragalus paysonii | Payson's Milkvetch | G3 | S3 | | GP3 | 11 | TYPE 3 | S | S | | NC |
| Astragalus purshii var. ophiogenes | Snake River Milkvetch | G5T3 | S3 | | M | | TYPE 5 | | | | SW |
| Astragalus riparius | Piper's Milkvetch | G1G2 | SX | | SX | | TYPE 5 | | | | NC |
| Astragalus tetrapterus | Four-wing Milkvetch | G4G5 | S1 | | 1 | | TYPE 3 | | | | SW |

| SSciName | SCommon | G Rank | S Rank | US FWS | INPS | INPS Threat | BLM | USFS Reg1 | USFS Reg4 | USFS Reg6 | Idaho Region |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Astragalus vexilliflexus var. nubilus | White Clouds Milkvetch | G4T2 | S2 | | GP2 | 12 | | | S | | EC |
| Astragalus vexilliflexus var. vexilliflexus | Bent-flowered Milkvetch | G4T4 | S1 | | 1 | | | | | | WC |
| Astragalus yoder-williamsii | Mud Flat Milkvetch | G3 | S3 | | GP3 | 11 | TYPE 3 | | | | SW |
| Betula pumila | Swamp Birch | G5 | S2 | | S | | | S | | | N |
| Blechnum spicant | Deer-fern | G5 | S3 | | S | | TYPE 3 | S | | | N |
| Blepharidachne kingii | King's Desertgrass | G4 | S1 | | 1 | | TYPE 3 | | | | SW |
| Botrychium ascendens | Triangular-lobed Moonwort | G2G3 | S1 | | GP3 | 8 | | S | | S | N |
| Botrychium crenulatum | Crenulate Moonwort | G3 | S1 | | GP3 | 11 | | S | S | S | N |
| Botrychium lanceolatum var. lanceolatum | Lance-leaved Moonwort | G5T4 | S3 | | S | | | S | | | N |
| Botrychium lineare | Linear-Leaved Moonwort | G2? | SH | | GP1 | ? | TYPE 1 | S | S | S | N |
| Botrychium minganense | Mingan Moonwort | G4 | S3 | | S | | TYPE 4 | S | | | N |
| Botrychium montanum | Mountain Moonwort | G3 | S2 | | GP3 | 8 | | S | | S | N |
| Botrychium paradoxum | Peculiar Moonwort | G2 | S1 | | GP2 | ? | | S | | S | N |
| Botrychium pedunculosum | Stalked Moonwort | G2G3 | S1 | | GP3 | 5 | | S | | S | N |
| Botrychium pinnatum | Northern Moonwort | G4? | S2 | | S | | | S | | | N |
| Botrychium simplex | Least Moonwort | G5 | S2 | | 2 | | | S | S | | N |
| Bouteloua gracilis | Blue Grama | G5 | S2 | | 1 | | TYPE 3 | | | | EC |
| Bryoria tortuosa | Tortured Horsehair Lichen | G5 | S2 | | S | | | | | | NC |
| Bryum calobryoides | Beautiful Bryum | G3 | SH | | GP3 | 2 | | | S | S | WC |
| Buxbaumia aphylla | Leafless Bug-on-a-stick | G4G5 | S1 | | 1 | | | S | | | NC |
| Buxbaumia viridis | Green Bug-on-a-stick | G3G4 | S3 | | M | | | S | | | N |
| Calamagrostis tweedyi | Cascade Reedgrass | G3 | S2 | | GP3 | 8 | TYPE 2 | | S | | WC |
| Calandrinia ciliata | Red Maids | G4 | S1 | | M | | TYPE 5 | | | | |
| Callitriche trochlearis | Waste-water Winged Starwort | G3? | SNR | | GP3 | ? | | | | | ? |
| Calochortus macrocarpus var. maculosus | Green-band Mariposa Lily | G5T2 | S2 | | GP2 | 3 | TYPE 2 | | | S | WC |
| Calochortus nitidus | Broad-fruit Mariposa Lily | G3 | S3 | | GP3 | 8 | TYPE 2 | S | | S | NC |
| Camassia cusickii | Cusick's Camas | G4 | S2 | | M | | | | S | | WC |
| Camissonia pterosperma | Winged-seed Evening Primrose | G4 | S2 | | S | | TYPE 4 | | | | EC |
| Cardamine constancei | Constance's Bittercress | G3 | S3 | | GP3 | 8 | TYPE 2 | S | | | NC |
| Carex aboriginum | Indian Valley Sedge | G1 | S1 | | GP1 | 2 | TYPE 2 | | | | WC |
| Carex californica | California Sedge | G5 | S3 | | M | | | | | | NC |
| Carex chordorrhiza | String-root Sedge | G5 | S2 | | 1 | | | S | | S | N |
| Carex comosa | Bristly Sedge | G5 | S1 | | 1 | | TYPE 3 | S | | S | N |
| Carex engelmannii | Brewer's Sedge | G4G5 | S2 | | S | | | | | | EC |
| Carex flava | Yellow Sedge | G5 | S3 | | M | | | S | | | N |
| Carex idahoa | Idaho Sedge | G2 | S2 | | GP2 | 9 | TYPE 2 | | | S | EC |
| Carex incurviformis | Maritime Sedge | G4G5T4T5 | S1 | | 2 | | | | S | | EC |
| Carex lacustris | Lake-bank Sedge | G5 | S1 | | 1 | | | | | | N |
| Carex leptalea | Bristle-stalked Sedge | G5 | S2 | | S | | | S | | | N |
| Carex livida | Pale Sedge | G5 | S2 | | S | | TYPE 4 | S | | S | N |
| Carex magellanica ssp. irrigua | Poor Sedge | G5T5 | S2 | | 2 | | | S | | S | N |
| Carex rostrata | Beaked Sedge | G5 | S2 | | S | | | | | S | N |
| Carex straminiformis | Mt. Shasta Sedge | G5 | S2 | | S | | | | | | WC |
| Carex sychnocephala | Many-headed Sedge | G4 | S1 | | 1 | | | | | S | NC, SE |

| SSciName | SCommon | G Rank | S Rank | US FWS | INPS | INPS Threat | BLM | USFS Reg1 | USFS Reg4 | USFS Reg6 | Idaho Region |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Castilleja christii | Christ's Indian Paintbrush | G1 | S1 | C | GP1 | 2 | | | S | | SE |
| Castilleja pulchella | Beautiful Indian Paintbrush | G3G4 | S2 | | GP3 | 11 | | | | | EC |
| Catapyrenium congestum | Compact Earth Lichen | G4 | S2 | | S | | TYPE 4 | | | | SW |
| Ceanothus prostratus | Mahala-mat Ceanothus | G5? | S1 | | 1 | | TYPE 3 | | | | WC |
| Cephalanthera austiniae | Phantom Orchid | G4 | S3 | | M | | | | | | NC |
| Cercocarpus montanus | Birchleaf Mountain-mahogany | G5 | S2 | | 1 | | TYPE 5 | | | | SE |
| Chaenactis cusickii | Cusick's False Yarrow | G3 | S2 | | GP3 | 8 | TYPE 2 | | | | SW |
| Chaenactis stevioides | Desert Pincushion | G5 | S2 | | S | | TYPE 4 | | | | SW |
| Chrysosplenium tetrandrum | Northern Golden-carpet | G5 | S1 | | 1 | | | | | S | EC |
| Chrysothamnus nauseosus ssp. nanus | Dwarf Gray Rabbitbrush | G5T4 | S3 | | M | | TYPE 5 | | | | NC |
| Cicuta bulbifera | Bulb-bearing Waterhemlock | G5 | S2 | | S | | TYPE 4 | S | | S | N |
| Cirsium brevifolium | Palouse Thistle | G3 | S2 | | GP3 | 5 | | | | | NC |
| Cladonia andereggii | Anderegg's Cup Lichen | G1 | S1 | | GP1 | ? | | S | | | NC |
| Cladonia bellidiflora | Cup Lichen | G5 | S1 | | 1 | | | | | | N |
| Cladonia luteoalba | Reindeer Lichen | G2 | S1 | | GP2 | 8 | | | | | EC |
| Cladonia transcendens | Transcending Reindeer Lichen | G5 | S3 | | 2 | | | | | | N |
| Cladonia uncialis | Thorn Cladonia | G4G5 | S1 | | 1 | | | | | | N |
| Claytonia multiscapa | Yellow Spring Beauty | G4? | S1 | | M | | | | | | EC |
| Cleomella plocasperma | Alkali Cleomella | G4 | SH | | S1 | | TYPE 3 | | | | SW |
| Collema curtisporum | Short-spored Jelly Lichen | G3 | S2 | | GP3 | 11 | TYPE 3 | | | | N |
| Collomia debilis var. camporum | Flexible Alpine Collomia | G5T2 | S2 | | GP2 | 12 | | | S | | EC |
| Cornus nuttallii | Pacific Dogwood | G5 | S1 | | 1 | | | S | | | NC |
| Corydalis caseana ssp. hastata | Case's Corydalis | G5T3 | S3 | | GP3 | 12 | TYPE 3 | | | | NC |
| Crepis bakeri ssp. idahoensis | Idaho Hawksbeard | G4T2 | S2 | | GP2 | 3 | TYPE 2 | | | | NC |
| Cryptantha caespitosa | Tufted Cryptantha | G4 | S1 | | M | | TYPE 2 | | | | |
| Cryptantha sericea | Silky Cat's-eye | G4 | SNA | | 1 | | TYPE 5 | | | | SE |
| Cuscuta denticulata | Sepal-tooth Dodder | G4G5 | S1 | | 1 | | TYPE 3 | | | | WC |
| Cymopterus acaulis var. greeleyorum | Greeley's Wavewing | G5T2 | S2 | | GP2 | 6 | TYPE 3 | | | | SW |
| Cymopterus davisii | Davis' Wavewing | G3 | S3 | | GP3 | 11 | | | S | | SE |
| Cymopterus douglassii | Douglass' Wavewing | G3 | S3 | | GP3 | 11 | | | S | | EC |
| Cyperus bipartitus | Shining Flatsedge | G5 | S2 | | M | | | | | | SW |
| Cypripedium fasciculatum | Clustered Lady's-slipper | G4 | S3 | | 2 | | | S | | S | NC |
| Cypripedium parviflorum var. pubescens | Small Yellow Lady's-slipper | G5T5 | S1 | | 1 | | | | | | N |
| Damasonium californicum | Fringed Waterplantain | G4 | S2 | | M | | | | | S | SW |
| Dasynotus daubenmirei | Daubenmire's Dasynotus | G3 | S3 | | GP3 | 10 | | S | | | NC |
| Dermatocarpon lorenzianum | Silverskin Lichen | G2 | S1 | | GP2 | 11 | TYPE 3 | | | | WC |
| Dimeresia howellii | Dimeresia | G4? | S2 | | 2 | | TYPE 3 | | | | SW |
| Dodecatheon dentatum | White Shooting-star | G4 | S3 | | M | | | | | | NC |
| Douglasia conservatorum | Bloom Peak Douglasia | G1 | S1 | | G1,S1 | | | | | | N |
| Douglasia idahoensis | Idaho Dwarf-primrose | G3 | S2 | | GP2 | 11 | | S | S | | NC |
| Downingia bacigalupii | Bacigalupi's Downingia | G4 | S2 | | S | | TYPE 4 | | | | SW |
| Downingia insignis | Harlequin Calicoflower | G4 | S1 | | 1 | | TYPE 3 | | | | SW |
| Draba fladnizensis | Austrian Draba | G4 | S1 | | 2 | | | | | | EC |

| SSciName | SCommon | G Rank | S Rank | US FWS | INPS | INPS Threat | BLM | USFS Reg1 | USFS Reg4 | USFS Reg6 | Idaho Region |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Draba globosa | Pointed Draba | G3 | S2 | | 2 | | TYPE 4 | | S | | EC |
| Draba incerta | Yellowstone Draba | G5 | S2 | | S | | | | | | EC |
| Draba trichocarpa | Stanley Whitlow-grass | G2 | S2 | | GP2 | 11 | | | S | | WC |
| Drosera intermedia | Spoon-leaved Sundew | G5 | S1 | | 1 | | | S | | | N |
| Dryopteris cristata | Crested Shield-fern | G5 | S2 | | S | | | S | | S | N |
| Eatonella nivea | White Eatonella | G4G5 | S3 | | S | | TYPE 4 | | | | SW |
| Eleocharis elliptica | Slender Spike-rush | G5 | S1 | | 2 | | | | | | |
| Epilobium palustre | Swamp Willow-weed | G5 | S3 | | M | | TYPE 5 | S | | | N |
| Epipactis gigantea | Giant Helleborine | G3G4 | S3 | | 2 | | TYPE 3 | S | | | WC |
| Ericameria discoidea var. winwardii | Winward's Whitestem Goldenbush | GNR | SNR | | GP1 | 5 | | | | | SE |
| Ericameria parryi var. montana | Centennial Rabbitbrush | G5T1 | S1 | | GP1 | 12 | | | S | | EC |
| Erigeron humilis | Low Fleabane | G4 | S2 | | M | | | | | | EC |
| Erigeron salmonensis | Salmon River Fleabane | G3 | S3 | | GP3 | 11 | | | | | EC, WC |
| Eriogonum capistratum var. welshii | Welsh's Buckwheat | G4T2Q | S2 | | GP2 | 9 | TYPE 3 | | S | | EC |
| Eriogonum hookeri | Hooker's Buckwheat | G5 | S1 | | 1 | | | | | | SE |
| Eriogonum meledonum | Guardian Buckwheat | G2 | S2 | | GP2 | 11 | | | S | | WC |
| Eriogonum ochrocephalum var. calcareum | Calcareous Buckwheat | G5T3 | S2 | | GP3 | 12 | TYPE 3 | | | | SW |
| Eriogonum palmerianum | Palmer's Buckwheat | G4 | S1 | | 1 | | | | | | SW |
| Eriogonum prociduum var. mystrium | Pueblo Mountains Buckwheat | G3TNR | S1 | | GP3 | ? | | | | | SW |
| Eriogonum shockleyi var. packardiae | Packard's Buckwheat | G5T2Q | S2 | | GP2 | 9 | TYPE 2 | | | | SW |
| Eriogonum shockleyi var. shockleyi | Matted Cowpie Buckwheat | G5T4? | S2 | | 2 | | TYPE 3 | | | | SW |
| Eriogonum soliceps | Railroad Canyon Wild Buckwheat | G2 | S1 | | GP2 | 11 | | | | | EC |
| Eriophorum viridicarinatum | Green Keeled Cotton-grass | G5 | S2 | | 1 | | | S | | S | N |
| Eryngium alismifolium | Inland Coyote-thistle | G4 | S2 | | 1 | | | | | | SW |
| Eryngium articulatum | Jointed Coyote-thistle | G5 | SNR | | SX | | TYPE 5 | | | | NC |
| Escobaria vivipara | Cushion Cactus | G5 | S2 | | S | | TYPE 4 | | | | EC |
| Eupatorium maculatum var. bruneri | Joe Pye Weed | G5T4T5Q | SNR | | 1 | | | | | | EC |
| Gaultheria hispidula | Creeping Snowberry | G5 | S2 | | 2 | | | S | | S | N |
| Gentianella propinqua | Four-parted Gentian | G5 | S2 | | M | | | | | | EC |
| Gentianella tenella | Slender Gentian | G4G5 | S2 | | 2 | | | | | | EC |
| Githopsis specularioides | Common Bluecup | | S1 | | S1 | | | | | | |
| Glyptopleura marginata | White-margined Wax Plant | G4G5 | S3 | | S | | TYPE 4 | | | | SW |
| Grimmia brittoniae | Britton's Dry Rock Moss | G2 | S1 | | GP2 | 11 | | S | | | N |
| Grindelia howellii | Howell's Gumweed | G3 | S1 | | GP3 | 5 | | S | | | N |
| Hackelia cronquistii | Cronquist's Stickseed | G3 | S1 | | GP3 | 11 | TYPE 3 | | | | WC |
| Hackelia davisii | Davis' Stickseed | G3 | S3 | | GP3 | 11 | | | | | EC |
| Hackelia ophiobia | Rattlesnake Stickseed | G3 | S2 | | GP3 | 11 | TYPE 3 | | | | SW |
| Haematomma ochroleucum | Yellow Bloodstain Lichen | G5 | S1 | | | | | | | | |
| Halimolobos perplexa var. perplexa | Puzzling Halimolobos | G4T3 | S3 | | M | | TYPE 5 | S | S | S | WC |
| Haplopappus uniflorus var. howellii | One-flowered Goldenweed | G5T2T4Q | S1 | | S | | TYPE 4 | | | | SW |
| Helodium blandowii | Blandow's Helodium | G5 | S2 | | S | | | | | S | NC |
| Hierochloe odorata | Vanilla Grass | G5 | S1 | | 1 | | | | | | WC |
| Hookeria lucens | Light Hookeria | G5 | S1 | | 2 | | | S | | | NC |
| Howellia aquatilis | Water Howellia | G3 | S1 | LT | GP2 | | | | | S | NC |

| SSciName | SCommon | G Rank | S Rank | US FWS | INPS | INPS Threat | BLM | USFS Reg1 | USFS Reg4 | USFS Reg6 | Idaho Region |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hymenoxys cooperi | Cooper's Bitterweed | G4G5 | SNR | | S | | | | | | SE |
| Hypericum majus | Large Canadian St. John's-wort | G5 | S3 | | 2 | | TYPE 3 | S | | | N |
| Hypogymnia inactiva | Inactive Tube Lichen | G3 | S3 | | 2 | | | | | | NC |
| Ipomopsis polycladon | Spreading Gilia | G4 | S2 | | 2 | | TYPE 3 | | | | SW |
| Iris versicolor | Blueflag | G5 | S2 | | S | | | S | | | N |
| Ivesia tweedyi | Tweedy's Ivesia | G4 | S2 | | M | | | | | | NC |
| Juncus bolanderi | Bolander's Rush | G5 | SNR | | SX | | | | | | N |
| Kobresia simpliciuscula | Simple Kobresia | G5 | S2 | | 2 | | | | | S | EC |
| Lepidium davisii | Davis' Peppergrass | G3 | S3 | | GP3 | 5 | TYPE 3 | | | | SW |
| Lepidium integrifolium | Thickleaf Pepperwort | G2G3 | SNR | | GP2 | 2 | | | | | SE |
| Lepidium papilliferum | Slickspot Peppergrass | G2 | S2 | LT | GP3 | 2 | TYPE 1 | | T | | SW |
| Leptodactylon glabrum | Bruneau River Prickly Phlox | G2 | S2 | | GP1 | 11 | TYPE 3 | | | | SW |
| Leptodactylon pungens ssp. hazeliae | Hazel's Prickly Phlox | G5T2Q | S2 | | GP2 | 12 | TYPE 3 | | S | | WC |
| Lesquerella obdeltata | Middle Butte Bladderpod | G1G3T1T3 | SNR | | GP2 | 5 | | | | | |
| Lesquerella paysonii | Payson's Bladderpod | G3 | S2 | | GP3 | 11 | | | S | | SE |
| Lewisia sacajaweana | Sacajawea's bitterroot | G2 | S2 | | GP3 | 11 | | | S | | |
| Limosella acaulis | Southern Mudwort | G5 | S2 | | M | | | | | | SW |
| Lobaria linita | Smeared Lungwort | G4G5 | S1 | | 2 | | | | | S | NC |
| Lobaria scrobiculata | Pored Lungwort | G4 | S1 | | 2 | | | | | | NC |
| Lomatium bentonitum | Succor Creek lomatium | G1 | S1 | | G1,S1 | | | | | | |
| Lomatium brunsfeldianum | Brunsfeld's lomatium | | S1 | | S1 | | | | | | |
| Lomatium packardiae | Packard's Desert-parsley | G2 | S2 | | GP2 | 8 | TYPE 3 | | | | SW |
| Lomatium salmoniflorum | Salmon-flower Desert-parsley | G3 | S2 | | GP3 | 8 | TYPE 2 | S | | | NC |
| Lomatogonium rotatum | Marsh Felwort | G5 | S1 | | 1 | | TYPE 3 | | | | EC |
| Ludwigia polycarpa | Many-fruit False-loosestrife | G4 | S1 | | 1 | | | | | | N |
| Lupinus uncialis | Inch-high Lupine | G4 | S2 | | S | | TYPE 4 | | | | SW |
| Lycopodiella inundata | Northern Bog Clubmoss | G5 | S2 | | 2 | | | S | | S | N |
| Lycopodium dendroideum | Groundpine | G5 | S2 | | S | | | S | | S | N |
| Lycopodium sitchense | Sitka Clubmoss | G5 | S2 | | S | | | | | | N |
| Maianthemum dilatatum | False Lily-of-the-Valley | G5 | S1 | | 1 | | | | | | N |
| Meesia longiseta | Meesia | G4? | S1 | | 1 | | | S | | | EC |
| Mentzelia congesta | Congested Stickleaf | G5 | S1 | | M | | TYPE 5 | | | | |
| Mentzelia mollis | Smooth Stickleaf | G2 | S2 | | GP2 | 2 | TYPE 2 | | | | SW |
| Mertensia bella | Oregon Bluebells | G4 | S3 | | S | | | | | | NC |
| Mimulus alsinoides | Chickweed Monkeyflower | G5 | S1 | | 1 | | | S | | | NC |
| Mimulus ampliatus | Spacious Monkeyflower | G1 | S1 | | GP1 | 5 | TYPE 2 | S | | | NC |
| Mimulus clivicola | Bank Monkeyflower | G4 | S3 | | M | | TYPE 5 | | S | | NC |
| Mimulus evanescens | Short-flowered Monkeyflower | G2 | S1 | | GP2 | ? | TYPE 5 | | | S | SW |
| Mimulus hymenophyllus | Membrane-leaved Monkeyflower | G1 | S1 | | GP1 | 11 | TYPE 5 | | | S | WC |
| Mimulus patulus | Stalk-leaved Monkeyflower | G3Q | S1 | | GP3 | 2 | TYPE 2 | | | | WC |
| Mirabilis macfarlanei | Macfarlane's Four-o'clock | G2 | S2 | LT | GP2 | | TYPE 1 | | | S | WC |
| Musineon lineare | Rydberg's Musineon | G2 | S1 | | GP2 | 11 | | | | | SE |
| Nemacladus rigidus | Rigid Threadbush | G4 | S2 | | S | | TYPE 4 | | | | SW |
| Nymphaea leibergii | Leiberg's Water-lily | G5 | SH | | SX | | | | | | N |

| SSciName | SCommon | G Rank | S Rank | US FWS | INPS | INPS Threat | BLM | USFS Reg1 | USFS Reg4 | USFS Reg6 | Idaho Region |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Oenothera psammophila | St. Anthony Evening Primrose | G3 | S3 | | GP3 | 8 | TYPE 2 | | | | SE |
| Orobanche pinorum | Pine Broomrape | G4 | S2 | | S2 | | | | | | NC |
| Orthotrichum hallii | Hall's Orthotrichum Moss | G4 | S1 | | 1 | | TYPE 3 | | | | EC |
| Orthotrichum holzingeri | Holzinger's Orthotrichum Moss | G3 | S1 | | GP2 | ? | | | | | NC |
| Oxalis trilliifolia | Trillium-leaved Wood-sorrel | G5 | S1 | | 1 | | | | | | NC |
| Oxytropis besseyi var. salmonensis | Challis Crazyweed | G5T3 | S3 | | GP3 | 12 | TYPE 3 | | S | | EC |
| Papaver radicatum ssp. kluanense | Arctic Poppy | G5T3T4 | SX | | SX | | | | | | EC |
| Parnassia kotzebuei var. kotzebuei | Kotzebue's Grass-of-Parnassus | G4T4 | S2 | | M | | | | | | EC |
| Paronychia sessiliflora | Low Nailwort | G5 | S1 | | S1 | | | | | | |
| Pediocactus simpsonii | Simpson's Hedgehog Cactus | G4 | S3 | | M | | TYPE 5 | | | | SW |
| Penstemon compactus | Cache Penstemon | G2 | S2 | | GP2 | 8 | | | S | | SE |
| Penstemon idahoensis | Idaho Penstemon | G2 | S2 | | GP2 | 11 | TYPE 3 | | S | | SE |
| Penstemon janishiae | Janish's Penstemon | G4 | S2 | | 1 | | TYPE 3 | | | | SW |
| Penstemon laxus | Idaho Beardtongue | G2G3 | SNR | | GP2 | 8 | | | | | |
| Penstemon lemhiensis | Lemhi Penstemon | G3 | S3 | | GP3 | 11 | TYPE 3 | | S | | EC |
| Pentagramma triangularis ssp. triangularis | Gold-back Fern | G5T5 | S1 | | 2 | | TYPE 3 | S | | | NC |
| Peraphyllum ramosissimum | Wild Crab Apple | G4 | S2 | | 2 | | TYPE 3 | | | | WC |
| Petasites frigidus var. palmatus | Sweet Coltsfoot | G5T5 | S1 | | 1 | | | S | | | NC |
| Petasites sagittatus | Arrowleaf Coltsfoot | G5 | S3 | | M | | | | | | N |
| Peteria thompsoniae | Spine-noded Milkvetch | G4 | S2 | | S | | TYPE 4 | | | | SW |
| Phacelia inconspicua | Obscure Phacelia | G2 | S1 | | GP1 | 5 | TYPE 2 | | | | EC |
| Phacelia lutea var. calva | Malheur Yellow Phacelia | G4T3 | S3 | | GP3 | 12 | TYPE 3 | | | | SW |
| Phacelia lyallii | Lyall's Phacelia | G3 | S2 | | S | | | | | | EC |
| Phacelia minutissima | Least Phacelia | G3 | S2 | | GP3 | 5 | TYPE 2 | | S | S | SW |
| Phegopteris connectilis | Northern Beechfern | G5 | S2 | | 2 | | | S | | | N |
| Phlox idahonis | Clearwater Phlox | G1 | S1 | | GP1 | 2 | | | | | NC |
| Physaria didymocarpa var. lyrata | Salmon Twin Bladderpod | G5T1 | S1 | | GP1 | 3 | TYPE 2 | | S | | EC |
| Picea glauca | White Spruce | G5 | S1 | | 2 | | TYPE 4 | | | | EC |
| Pilophorus acicularis | Nail Lichen | G4 | S2 | | 2 | | | | | | NC |
| Pilophorus clavatus | Nail Lichen | G2G4 | S1 | | 1 | | | | | | N |
| Pinus albicaulis | Whitebark Pine | G3G4 | S3 | C | S3 | | TYPE 1 | | S | S | |
| Piptatherum micranthum | Small-flowered Ricegrass | G5 | S1 | | 2 | | TYPE 3 | | | | EC |
| Platismatia herrei | Herre's Ragged Lichen | G3G5 | S2 | | 2 | | | | | | NC |
| Poa abbreviata ssp. marshii | Marsh's Bluegrass | G5T2 | S1 | | GP2 | 12 | | | S | | EC |
| Pogogyne floribunda | Profuseflower Mesamint | G3 | S1 | | GP3 | 2 | | | | S | SW |
| Polypodium glycyrrhiza | Licorice Fern | G5 | S1 | | 1 | | | S | | | NC |
| Polystichum braunii | Braun's Sword-fern | G5 | S1 | | 2 | | | S | | | N |
| Polystichum kruckebergii | Kruckeberg's Sword-fern | G4 | S2 | | S | | | | | | WC |
| Potamogeton diversifolius | Water-thread Pondweed | G5 | S1 | | 1 | | TYPE 5 | | | S | |
| Potentilla bipinnatifida | Prairie Cinquefoil | G5? | S1 | | M | | | | | | |
| Prenanthella exigua | Desert Prenanthella | G5? | S1 | | 1 | | | | | | SW |
| Primula alcalina | Alkali Primrose | G2 | S2 | | GP2 | 8 | TYPE 2 | | S | | EC |
| Primula incana | Jones' Primrose | G4G5 | S1 | | 1 | | | | | | EC |
| Psathyrotes annua | Annual Brittlebrush | G5 | S2 | | 1 | | TYPE 3 | | | | SW |

| SSciName | SCommon | G Rank | S Rank | US FWS | INPS | INPS Threat | BLM | USFS Reg1 | USFS Reg4 | USFS Reg6 | Idaho Region |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Pseudocyphellaria anomala | Pseudocyphellaria Lichen | G2G4 | S2 | | S | | | | | | NC |
| Psilocarphus tenellus | Slender Woolly-heads | G4 | S2 | | S | | | | | | NC |
| Pyrrocoma hirta var. sonchifolia | Sticky Goldenweed | G4G5T3 | S1 | | GP3 | 6 | | S | | S | NC |
| Pyrrocoma insecticruris | Bugleg Goldenweed | G3 | S3 | | GP3 | 11 | TYPE 3 | | S | | SE |
| Pyrrocoma integrifolia | Entire-leaved Goldenweed | G3? | S1 | | GP3 | 11 | | | | | |
| Pyrrocoma liatriformis | Palouse Goldenweed | G2 | S2 | | GP2 | 2 | TYPE 2 | | | | NC |
| Pyrrocoma linearis | One-flower Goldenweed (thinleaf goldenhead) | G4? | S3 | | S3 | | | | | | SW |
| Pyrrocoma radiata | Snake River Goldenweed | G3 | S3 | | GP3 | 11 | TYPE 3 | | S | | WC |
| Ramalina pollinaria | Powdery Twig Lichen | G4 | S2 | | 2 | | | | | S | NC |
| Ranunculus gelidus | Arctic Buttercup | G4 | S1 | | M | | | | | | EC |
| Ranunculus pygmaeus | Pygmy Buttercup | G5 | S1 | | S | | | | | | EC |
| Rhizomnium nudum | Naked Rhizomnium Moss | G4 | S1 | | 2 | | | S | | | NC |
| Rhizoplaca idahoensis | White Grouse Pellets Lichen | G1 | SNR | | GP2 | 11 | | | | | |
| Rhynchospora alba | White Beakrush | G5 | S2 | | 1 | | | S | | S | N |
| Ribes sanguineum | Red-flowered Currant | G5 | S1 | | 1 | | | | | | N |
| Ribes wolfii | Wolf's Currant | G4 | S2 | | M | | | | | S | NC |
| Romanzoffia sitchensis | Sitka Mistmaiden | G4 | S2 | | S | | | | | | N |
| Rubus bartonianus | Bartonberry | G2 | S2 | | GP2 | 8 | | | S | S | WC |
| Rubus spectabilis | Salmonberry | G5 | S2 | | 1 | | | | | | N |
| Rupertia physodes | California Scurf-pea | G4 | S1 | | 1 | | | | | | NC |
| Sairocarpus kingii | King's Snapdragon | G4 | S1 | | 1 | | | | | | SW |
| Salicornia rubra | Red Glasswort | G5 | S2 | | S | | TYPE 4 | | | | SE |
| Salix candida | Hoary Willow | G5 | S2 | | S | | TYPE 4 | S | | S | N |
| Salix farriae | Farr's Willow | G4 | S1 | | 2 | | | | | S | EC |
| Salix glauca | Gray Willow | G5 | S2 | | 2 | | | | | | EC |
| Salix pedicellaris | Bog Willow | G5 | S2 | | 2 | | | S | | | N |
| Salix pseudomonticola | False Mountain Willow | G4G5 | S1 | | 2 | | TYPE 3 | | | S | EC |
| Sanicula graveolens | Sierra Sanicle | G4G5 | S1 | | S | | | | | | WC |
| Sanicula marilandica | Black Snake-root | G5 | S3 | | S3 | | | | | S | N |
| Saxifraga adscendens var. oregonensis | Wedge-leaf Saxifrage | G5T4T5 | S2 | | M | | | | | S | EC |
| Saxifraga bryophora var. tobiasiae | Tobias' Saxifrage | G5T2 | S2 | | GP2 | 6 | | | S | | WC |
| Saxifraga cernua | Nodding Saxifrage | G4 | S2 | | S | | | | | S | EC |
| Scheuchzeria palustris | Pod Grass | G5 | S2 | | 2 | | | S | | | N |
| Schistostega pennata | Luminous Moss | G3G4 | S1 | | S | | | | | S | WC |
| Schoenoplectus subterminalis | Water Clubrush | G4G5 | S3 | | S | | TYPE 4 | S | | S | N |
| Sedum borschii | Borsch's Stonecrop | G4? | S2 | | M | | | | | | NC |
| Sedum valens | Salmon River Sedum | G1G2 | S1S2 | | G1G2, S1S2 | | | | | | |
| Silene scaposa | Blue Mountain Catchfly | G4 | S3 | | M | | Type 5 | | | | EC, SE |
| Silene spaldingii | Spalding's Silene | G2 | S1 | LT | GP3 | | TYPE 1 | | | S | NC |
| Silene uralensis ssp. montana | Petalless Campion | G4TNR | S1 | | 1 | | | | | | EC |
| Sphaerocarpos hians | Liverwort | G1 | S1 | | GP1 | 2 | | | | | NC |
| Sphaeromeria potentilloides | Cinquefoil Tansy | G5 | S1 | | 2 | | | | | | SE |

| SSciName | SCommon | G Rank | S Rank | US FWS | INPS | INPS Threat | BLM | USFS Reg1 | USFS Reg4 | USFS Reg6 | Idaho Region |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sphaerophorus globosus | Tuckermann's Ball-bearing Lichen | G4G5 | S1 | | S | | | | | | NC |
| Sphagnum mendocinum | Peatmoss | G4 | S1 | | 2 | | | S | | | N |
| Sphagnum platyphyllum | Sphagnum | G5 | S1 | | 1 | | | | | | WC |
| Spiranthes diluvialis | Ute Ladies' Tresses | G2 | S1 | LT | GP3 | | TYPE 1 | | T | S | SE |
| Spiranthes porrifolia | Western Ladies' Tresses | G4 | S1 | | 1 | | TYPE 3 | | | S | NC |
| Sporobolus compositus var. compositus | Tall Dropseed | G5T5 | S1 | | 1 | | TYPE 3 | | | | SE |
| Stanleya confertiflora | Malheur Prince's Plume | G1 | S1 | | GP3 | 2 | TYPE 2 | | | S | SW |
| Stanleya tomentosa var. runcinata | Hairy Prince's-plume | G4T3? | SNR | | GP3 | | | | | | EC |
| Streptopus streptopoides | Kruhsea | G5 | S2 | | S | | | S | | S | N |
| Sullivantia hapemanii var. hapemanii | Hapeman's Sullivantia | G3T3 | S2 | | GP3 | 12 | | | | | EC |
| Symphyotrichum boreale | Rush Aster | G5 | S2 | | S | | TYPE 4 | S | | | N |
| Symphyotrichum jessicae | Jessica's Aster | G2 | S2 | | GP3 | 2 | TYPE 2 | | | | NC |
| Synthyris platycarpa | Evergreen Kittentail | G3 | S3 | | GP3 | 11 | | S | | | NC |
| Tauschia tenuissima | Leiberg's Tauschia | G3 | S3 | | GP3 | 11 | | | | | NC |
| Telesonix heucheriformis | False Saxifrage | G4 | SNR | | M | | | | | | |
| Telesonix jamesii | James' False Saxifrage | G4 | S1 | | M | | | | | | EC |
| Tellima grandiflora | Fringecup | G5 | S3 | | M | | | | | | N |
| Teucrium canadense var. occidentale | American Wood Sage | G5T5? | S2 | | 1 | | TYPE 3 | | | | SW |
| Texosporium sancti-jacobi | Wovenspore Lichen | G2 | S2 | | GP2 | 1 | TYPE 2 | | | S | SW |
| Thalictrum dasycarpum | Purple Meadow-rue | G5 | S1 | | S1 | | TYPE 3 | | | | N |
| Thamnolia subuliformis | Whiteworm Lichen | G3G5 | S1 | | 1 | | | | | | EC |
| Thelypodium laciniatum var. streptanthoides | Purple Thick-leaved Thelypody | G5T4Q | S2 | | M | | TYPE 5 | | | | WC |
| Thelypodium paniculatum | Paniculate Thelypody | G2 | S1 | | GP2 | ? | | | | | |
| Thelypodium repandum | Wavy-leaf Thelypody | G3 | S3 | | GP3 | 11 | TYPE 3 | | S | | EC |
| Thelypteris nevadensis | Sierra Wood-fern | G4 | S1 | | 1 | | TYPE 3 | S | | | NC |
| Thlaspi idahoense var. aileeniae | Stanley Thlaspi | G3G4T3 | S3 | | GP3 | 12 | | | S | | WC |
| Townsendia scapigera | Scapose Townsendia | G4G5 | S1 | | 2 | | TYPE 3 | | | | SE |
| Triantha occidentalis ssp. brevistyla | Short-style Tofieldia | G5T4 | S1 | | 1 | | | S | | | NC |
| Trichophorum alpinum | Hudson's Bay Bulrush | G5 | S1 | | 1 | | | S | | | N |
| Trichophorum pumilum | Rolland Bulrush | G5 | S1 | | 1 | | TYPE 2 | | | | EC |
| Trientalis europaea ssp. arctica | Northern Starflower | G5T5 | S3 | | S | | | S | | | N |
| Trientalis latifolia | Western Starflower | G5T5 | S3 | | M | | | | | | NC |
| Trifolium douglasii | Douglas' Clover | G2 | S2 | | GP3 | 2 | TYPE 2 | S | | S | NC |
| Trifolium owyheense | Owyhee Clover | G2 | S1 | | GP3 | 2 | TYPE 2 | | | | SW |
| Trifolium plumosum ssp. amplifolium | Plumed Clover | G4T2 | S2 | | GP2 | 6 | TYPE 2 | S | | | NC |
| Tripterocladium leucocladulum | Naked Rhizomnium Moss | G3 | S3 | | S | | | | | | NC |
| Tuckermannopsis sepincola | Chestnut Wrinkle Lichen | G5 | S2 | | 1 | | | | | | N |
| Ulota megalospora | Large-spored Ulota | G3G5 | S1 | | 1 | | | | | | N |
| Vaccinium oxycoccos | Bog Cranberry | G5 | S2 | | 2 | | | S | | | N |
| Vallisneria americana | Tapegrass | G5 | S1 | | S | | | | | | N |
| Viburnum opulus var. americanum | Highbush Cranberry | G5T5 | SX | | SX | | | | | | N |
| Viola selkirkii | Great-spurred Violet | G5? | S1 | | 1 | | | | | | N |
| Waldsteinia idahoensis | Idaho Strawberry | G3 | S3 | | GP3 | 11 | TYPE 3 | S | | | NC |
| Xanthoparmelia idahoensis | Idaho Range Lichen | G1 | S1 | | GP2 | 8 | TYPE 2 | | S | | EC |