Attachment B – Conservation Measures for Special Status Species

Introduction

These Conservation Measures were displayed in Appendix 5 of the Final EIS. They are the product of the PEIS Biological Assessment and adopted by U.S. Fish and Wildlife Service and National Marine Fisheries Service Consultation, and apply to listed and proposed species as described in those consultation documents. These do not apply where a No Effect determination can be made without them, or where site-specific consultation identifies alternative ways to achieve appropriate protection. PEIS Mitigation Measures adopted by this Record of Decision also require implementation of certain of these conservation measures "When necessary to protect Special Status plant/fish and other aquatic organisms/wildlife species…." (see Attachment A).

Conservation Measures for Birds

Conservation Measures for the California Brown Pelican
Although treatment activities are unlikely to negatively affect the brown pelican or its habitat, extra steps could be taken by the BLM to ensure that herbicide treatments conducted in brown pelican wintering habitat did not result in negative effects to the species:

- If feasible, conduct vegetation treatments in brown pelican wintering habitat outside the period when pelicans are likely to be present.
- If herbicide treatments in brown pelican habitats must be conducted during the wintering period:
  - Do not use 2,4-D in pelican wintering habitat.
  - Prior to conducting herbicide treatments on pelican wintering habitat, survey the area for pelicans. Wait for pelicans to leave the area before spraying.
  - Do not broadcast spray clopyralid, glyphosate, hexazinone, picloram, or triclopyr in pelican wintering habitats.
  - If broadcast spraying imazapyr or metsulfuron methyl in pelican wintering habitats, use the typical rather than the maximum application rate.
  - If conducting manual spot applications of glyphosate, hexazinone, or triclopyr to vegetation in brown pelican wintering habitat, utilize the typical, rather than the maximum, application rate.

Conservation Measures for the Western Snowy Plover
The following conservation measures are the minimum steps required of the BLM to ensure that treatment methods would be unlikely to negatively affect TEP species. Survey for western snowy plovers (and their nests) in suitable areas on proposed treatment areas, prior to developing treatment plans.

- Do not treat vegetation in nesting areas during the breeding season (as determined by a qualified biologist).
- Do not allow human (or domestic animal) disturbance within ¼ mile of nest sites during the nesting period.
- Ensure that nest sites are at least 1 mile from downwind smoke effects during the nesting period.
- Conduct beachgrass treatments during the plant's flowering stage, during periods of active growth.
- Closely follow all application instructions and use restrictions on herbicide labels; in wetland habitats use only those herbicides that are approved for use in wetlands.
- Do not use 2,4-D in western snowy plover habitats; do not broadcast spray 2,4-D within ¼ mile of western snowy plover habitat.

- Where feasible, avoid use of the following herbicides in western snowy plover habitat: clopyralid, diuron, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr.
- Do not broadcast spray clopyralid, diuron, glyphosate, hexazinone, picloram, or triclopyr in western snowy plover habitat; do not broadcast spray these herbicides in areas adjacent to western snowy plover habitat under conditions when spray drift onto the habitat is likely.
- If broadcast spraying imazapyr or metsulfuron methyl in or adjacent to western snowy plover habitat, apply at the typical, rather than the maximum, application rate.
- If conducting manual spot applications of glyphosate, hexazinone, or triclopyr to vegetation in western snowy plover habitat, utilize the typical, rather than the maximum, application rate.

Additional, project-specific conservation measures would be developed at the local level, as appropriate.

Conservation Measures for the Northern Spotted Owl and Marbled Murrelet

The following programmatic-level conservation measures are the minimum steps required of the BLM to ensure that treatment methods would be unlikely to negatively affect the marbled murrelet or northern spotted owl.

- Survey for marbled murrelets and northern spotted owls (and their nests) on suitable proposed treatment areas, prior to developing treatment plans.
- Delineate a 100-acre buffer around nests prior to mechanical treatments or prescribed burns.
- Do not allow human disturbance within ¼ mile of nest sites during the nesting period (as determined by a local biologist).
- Ensure that nest sites are at least 1 mile from downwind smoke effects during the nesting period.
- Protect and retain the structural components of known or suspected nest sites during treatments; evaluate each nest site prior to treatment and protect it in the most appropriate manner.
- Maintain sufficient dead and down material during treatments to support spotted owl prey species (minimums would depend on forest types, and should be determined by a wildlife biologist).
- Do not conduct treatments that alter forest structure in old-growth stands.
- Do not use 2,4-D in marbled murrelet or northern spotted owl habitats; do not broadcast spray 2,4-D within ¼ mile of marbled murrelet or northern spotted owl habitat.
- Where feasible, avoid use of the following herbicides in northern spotted owl habitat: bromacil, clopyralid, diuron, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr.
- Where feasible, avoid use of the following herbicides in marbled murrelet habitat: clopyralid, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr.
- Do not broadcast spray clopyralid, glyphosate, hexazinone, picloram, or triclopyr in marbled murrelet or northern spotted owl habitat; do not broadcast spray these herbicides in areas adjacent to marbled murrelet or northern spotted owl habitat under conditions when spray drift onto the habitat is likely.
- Do not broadcast spray diuron in northern spotted owl habitat; do not broadcast spray these herbicides in areas adjacent to northern spotted owl habitat under conditions when spray drift onto the habitat is likely.
- If broadcast spraying imazapyr or metsulfuron methyl in or adjacent to marbled murrelet or northern spotted owl habitat, apply at the typical, rather than the maximum, application rate.
- If broadcast spraying bromacil in or adjacent to northern spotted owl habitat, apply at the typical, rather than the maximum, application rate.
- If conducting manual spot applications of glyphosate, hexazinone, or triclopyr to vegetation in marbled murrelet or northern spotted owl habitat, utilize the typical, rather than the maximum, application rate.
- Follow all instructions and Standard Operating Procedures to avoid spill and direct spray scenarios into aquatic habitats, particularly marine habitats where murrelets forage for prey.

Additional conservation measures would be developed, as necessary, at the project level to fine-tune protection of these species.

Conservation Measures for Aquatic Animals

Many local BLM offices already have management plans in place that ensure the protection of these species, and have completed formal or informal consultations on similar treatment activities. These consultations have identified protection zones alongside aquatic habitats that support these species. The conservation measures discussed below are probable steps required of the BLM to ensure that vegetation treatments would minimize impacts to TEP species. These conservation measures are intended as broad guidance at the programmatic level; further analysis of treatment programs and species habitats at the local level is required to better reduce potential impacts from proposed vegetation treatments. Completion of consultation at the local level will fine-tune conservation measures associated with treatment activities and ensure consistency of the treatments with ESA requirements.

The aquatic TEP species considered in the programmatic BA for the PEIS (and applicable to the Oregon Record of Decision) occur in varied habitats, over a large geographic area. The conservation measures guidance presented below is intended to apply broadly to aquatic species and habitats over the entire region covered by this BA, based on the common features found in nearly all aquatic and riparian habitats. Some species with alternate or unusual habitat requirements may require additional conservation measures to ensure a Not Likely to Adversely Affect determination at the local level. Such additional conservation measure are outside the scope of this BA, and will be completed at the local level.

Some local BLM plans have delineated protected riparian areas, or portions of watersheds where riparian-dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines (USDA Forest Service 1995). These protected riparian areas include traditional riparian corridors, wetlands, intermittent streams, and other areas that help maintain the integrity of aquatic ecosystems by 1) influencing the delivery of coarse sediment, organic matter, and woody debris to streams; 2) providing root strength for channel stability; 3) shading the stream; and 4) protecting water quality. Examples of protected riparian areas are the BLM's Riparian Reserves of the Pacific Northwest and the Interior Columbia Basin, as described in the Aquatic Conservation Strategy (USDA Forest Service and USDI BLM 1994). The term "riparian areas," as used in the conservation measures guidance below, refers to riparian protected areas, wherever such designations apply. However, since not all local BLM plans have made such designations, "riparian areas," when the above-mentioned use is not applicable, generally refers to: 1) for streams, the stream channel and the extent of the 100-year floodplain; and 2) for wetlands, ponds, and lakes, and other aquatic habitats, the area extending to the edges of the riparian vegetation, provided it is no less than the minimum buffer distance for a given site established by local BLM biologists.

Conservation Measures for Site Access and Fueling/Equipment Maintenance
For treatments occurring in watersheds with TEP species or designated or undesignated critical habitat (i.e., unoccupied habitat critical to species recovery):

- Where feasible, access work site only on existing roads, and limit all travel on roads when damage to the road surface will result or is occurring.
- Where TEP aquatic species occur, consider ground-disturbing activities on a case by case basis, and implement Standard Operating Procedures to ensure minimal erosion or impact to the aquatic habitat.
- Within riparian areas, do not use vehicle equipment off of established roads.
- Outside of riparian areas, allow driving off of established roads only on slopes of 20% or less.

- Except in emergencies, land helicopters outside of riparian areas.
- Within 150 feet of wetlands or riparian areas, do not fuel/refuel equipment, store fuel, or perform equipment maintenance (locate all fueling and fuel storage areas, as well as service landings outside of protected riparian areas).
- Prior to helicopter fueling operations prepare a transportation, storage, and emergency spill plan and obtain the appropriate approvals; for other heavy equipment fueling operations use a slip-tank not greater than 250 gallons; Prepare spill containment and cleanup provisions for maintenance operations.

Conservation Measures Related to Revegetation Treatments

- Outside riparian areas, avoid hydro-mulching within buffer zones established at the local level. This precaution will limit adding sediments and nutrients and increasing water turbidity.
- Within riparian areas, engage in consultation at the local level to ensure that revegetation activities incorporate knowledge of site-specific conditions and project design.

Conservation Measures Related to Herbicide Treatments

The complexity of this action within riparian areas requires local consultation, which will be based on herbicide risk assessments.

Possible Conservation Measures:

- Maintain equipment used for transportation, storage, or application of chemicals in a leak proof condition.
- Do not store or mix herbicides, or conduct post-application cleaning within riparian areas.
- Ensure that trained personnel monitor weather conditions at spray times during application.
- Strictly enforce all herbicide labels.
- Do not broadcast spray within 100 feet of open water when wind velocity exceeds 5 mph.
- Do not broadcast spray when wind velocity exceeds 10 mph.
- Do not spray if precipitation is occurring or is imminent (within 24 hours).
- Do not spray if air turbulence is sufficient to affect the normal spray pattern.
- Do not broadcast spray herbicides in riparian areas that provide habitat for TEP aquatic species. Appropriate buffer distances should be determined at the local level to ensure that overhanging vegetation that provides habitat for TEP species is not removed from the site. Buffer distances provided as conservation measures in the assessment of effects to plants (Chapter 4 of this BA) and fish and aquatic invertebrates should be consulted as guidance (Table A2-3). (Note: the Forest Service did not determine appropriate buffer distances for TEP fish and aquatic invertebrates when evaluating herbicides in Forest Service Environmental Risk Assessments; buffer distances were only determined for non-TEP species.)
- Do not use fluridone, terrestrial formulations of glyphosate, or triclopyr BEE, to treat aquatic vegetation in habitats where aquatic TEP species occur or may potentially occur.
- Avoid using glyphosate formulations that include R-11[1] in the future, and either avoid using any formulations with POEA, or seek to use the formulation with the lowest amount of POEA available, to reduce risks to aquatic organisms.
- Follow all instructions and Standard Operating Procedures to avoid spill and direct spray scenarios into aquatic habitats. Special care should be followed when transporting and applying 2,4-D, bromacil, clopyralid, diuron, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, tebuthiuron, and triclopyr.
- Do not broadcast spray diuron, glyphosate, picloram, or triclopyr BEE in upland habitats adjacent to

[1] The BLM does not use R-11.

aquatic habitats that support (or may potentially support) aquatic TEP species under conditions that would likely result in off-site drift.

- In watersheds that support TEP species or their habitat, do not apply bromacil, diuron, tebuthiuron, or triclopyr BEE in upland habitats within ½ mile upslope of aquatic habitats that support aquatic TEP species under conditions that would likely result in surface runoff.

Numerous conservation measures were developed from information provided in ERAs. The measures listed below would apply to TEP fish and other aquatic species at the programmatic level in all 17 western states. However, local BLM field offices could use interactive spreadsheets and other information contained in the ERAs to develop more site-specific conservation measures and management plans based on local conditions (soil type, rainfall, vegetation type, and herbicide treatment method). It is possible that conservation measures would be less restrictive than those listed below if local site conditions were evaluated using the ERAs when developing project-level conservation measures.

Local BLM offices should design conservation measures for treatment plans using the above conservation measures as guidance, but altering it as needed based on local conditions and the habitat needs of the particular TEP aquatic species that could be affected by the treatments. Locally-focused conservation measures would be necessary to reduce or avoid potential impacts such that a Not Likely to Adversely Affect determination would be reached during the local-level consultation process.

Conservation Measures for Butterflies and Moths

Many local BLM offices already have management plans in place that ensure the protection of these species during activities on public lands. The following conservation measures are the minimum steps required of the BLM to ensure that treatment methods would be unlikely to negatively affect TEP species.
Each local BLM office is required to draw up management plans related to treatment activities that identify any TEP butterfly or moth species or their critical habitat that are present in the proposed treatment areas, as well as the measures that will be taken to protect these species.
Management plans should, at a minimum, follow this general guidance:

- Use an integrated pest management approach when designing programs for managing pest outbreaks.
- Survey treatment areas for TEP butterflies/moths and their host/nectar plants (suitable habitat) at the appropriate times of year.
- Minimize the disturbance area with a pre-treatment survey to determine the best access routes. Areas with butterfly/moth host plants and/or nectar plants should be avoided.
- Minimize mechanical treatments and OHV activities on sites that support host and/or nectar plants.
- Carry out vegetation removal in small areas, creating openings of 5 acres or less in size.
- Avoid burning all of a species' habitat in any 1 year. Limit area burned in butterfly/moth habitat in such a manner that the unburned units are of sufficient size to provide a refuge for the population until the burned unit is suitable for recolonization. Burn only a small portion of the habitat at any one time, and stagger timing so that there is a minimum 2-year recovery period before an adjacent parcel is burned.
- Where feasible, mow or wet around patches of larval host plants within the burn unit to reduce impacts to larvae.
- In TEP butterfly/moth habitat, burn while butterflies and/or moths of concern are in the larval stage, when the organisms would receive some thermal protection.
- Wash equipment before it is brought into the treatment area.
- Use a seed mix that contains host and/or nectar plant seeds for road/site reclamation.

- To protect host and nectar plants from herbicide treatments, follow recommended buffer zones and other conservation measures for TEP plants species when conducting herbicide treatments in areas where populations of host and nectar plants occur.
- Do not broadcast spray herbicides in habitats occupied by TEP butterflies or moths; do not broadcast spray herbicides in areas adjacent to TEP butterfly/moth habitat under conditions when spray drift onto the habitat is likely.
- Do not use 2,4-D in TEP butterfly/moth habitat.
- When conducting herbicide treatments in or near habitat used by TEP butterflies or moths, avoid use of the following herbicides, where feasible: bromacil, clopyralid, diuron, glyphosate, hexazinone, imazapyr, picloram, tebuthiuron, and triclopyr.
- If conducting manual spot applications of diuron, glyphosate, hexazinone, tebuthiuron, or triclopyr to vegetation in TEP butterfly or moth habitat, utilize the typical, rather than the maximum, application rate.

Conservation Measures for Mammals

Conservation Measures for the Gray Wolf
Although the proposed vegetation treatments would not be likely to have negative effects on wolves or their habitat, the following programmatic-level conservation measures are recommended to ensure protection of the species. Additional or more specific guidance would also be provided at the project level, as appropriate.

- Avoid human disturbance and/or associated activities within 1 mile of a den site during the breeding period (as determined by a qualified biologist).
- Avoid human disturbance and/or associated activities within 1 mile of a rendezvous site during the breeding period (as determined by a qualified biologist).
- Do not use 2,4-D in areas where gray wolves are known to occur; do not broadcast spray within ¼ mile of areas where gray wolves are known to occur.
- Where feasible, avoid use of the following herbicides in gray wolf habitat: bromacil, clopyralid, diuron, glyphosate, hexazinone, imazapyr, metsulfuron methyl, picloram, and triclopyr.
- Do not broadcast spray clopyralid, diuron, glyphosate, hexazinone, picloram, or triclopyr in gray wolf habitat; do not broadcast spray these herbicides in areas adjacent to gray wolf habitat under conditions when spray drift onto the habitat is likely.
- If broadcast spraying bromacil, imazapyr, or metsulfuron methyl in or near gray wolf habitat, apply at the typical, rather than the maximum, application rate.
- If conducting manual spot applications of glyphosate, hexazinone, or triclopyr to vegetation in gray wolf habitat, utilize the typical, rather than the maximum, application rate.

Conservation Measures for the Columbian white-tailed deer (listed populations suspected on Salem District only)
The projected short-term negative effects of vegetation treatments on the Columbian white-tailed deer could be avoided by implementing the following programmatic-level conservation measures.

- Prior to treatments, survey for evidence of white-tailed deer use of areas in which treatments are proposed to occur.
- Address the protection of Columbian white-tailed deer in local management plans developed in association with treatment programs.
- In areas that are likely to support Columbian white-tailed deer, protect riparian areas from degradation by avoiding them altogether, or utilizing Standard Operating Procedures. Consult Chapter 5 for appropriate conservation measures to be used in protected riparian areas.
- In habitats used by deer, conduct treatments that use domestic animals during the plant growing season,

and remove the animals after clearing has been achieved.

- Do not use domestic animals to control weeds in woodland habitats utilized by Columbian white-tailed deer.
- In areas where Columbian white-tailed deer occur, or may possibly occur, avoid the use of fences to keep domestic animals out of sensitive habitats or to otherwise restrict their movement (fence accidents are associated with deer mortality).
- Avoid burning in deer habitats during the fawning season.
- Closely follow all application instructions and use restrictions on herbicide labels; in riparian habitats use only those herbicides that are approved for use in riparian areas.
- Avoid broadcast spray treatments in areas where Columbian white-tailed deer are known to forage.
- Do not use 2,4-D in Columbian white-tailed deer habitats; do not broadcast spray 2,4-D within ¼ mile of Columbian white-tailed deer habitat.
- Where feasible, avoid use of the following herbicides in Columbian white-tailed deer habitat: bromacil, clopyralid, diuron, glyphosate, hexazinone, imazapyr, metsulfuron methyl, Overdrive®, picloram, tebuthiuron, and triclopyr.
- Do not broadcast spray bromacil, clopyralid, diuron, glyphosate, hexazinone, Overdrive®, picloram, or triclopyr in Columbian white-tailed deer habitat; do not broadcast spray these herbicides in areas adjacent to Columbian white-tailed deer habitat under conditions when spray drift onto the habitat is likely.
- If broadcast spraying imazapyr, metsulfuron methyl, or tebuthiuron in or near Columbian white-tailed deer habitat, apply at the typical, rather than the maximum, application rate.
- If conducting manual spot applications of glyphosate, hexazinone, imazapyr, metsulfuron methyl, tebuthiuron, or triclopyr to vegetation in Columbian white-tailed deer habitat, utilize the typical, rather than the maximum, application rate.

In addition, site-specific and project specific conservation measures would need to be developed by local BLM offices to ensure complete protection of the Columbian white-tailed deer.

Conservation Measures for Plants

As dictated in BLM Manual 6840 (Special Status Species Management), local BLM offices are required to develop and implement management plans and programs that will conserve listed species and their habitats. In addition, NEPA documentation related to treatment activities (i.e., projects) will be prepared that identify any TEP plant species or their critical habitat that are present in the proposed treatment areas, and that list the measures that will be taken to protect them.

Many local BLM offices already have management plans in place that ensure the protection of these plant species during activities on public land. However, a discussion of these existing plans is outside the scope of the programmatic BA for the PEIS. The following general guidance applies to all management plans developed at the local level.

Required steps include the following:

- A survey of all proposed action areas within potential habitat by a botanically qualified biologist, botanist, or ecologist to determine the presence/absence of the species.
- Establishment of site-specific no activity buffers by a qualified botanist, biologist, or ecologist in areas of occupied habitat within the proposed project area. To protect occupied habitat, treatment activities would not occur within these buffers.
- Collection of baseline information on the existing condition of TEP plant species and their habitats in the proposed project area.

- Establishment of pre-treatment monitoring programs to track the size and vigor of TEP populations and the state of their habitats. These monitoring programs would help in anticipating the future effects of vegetation treatments on TEP plant species.
- Assessment of the need for site revegetation post treatment to minimize the opportunity for noxious weed invasion and establishment.

At a minimum, the following must be included in all management plans:

- Given the high risk for damage to TEP plants and their habitat from burning, mechanical treatments, and use of domestic animals to contain weeds, none of these treatment methods should be utilized within 330 feet of sensitive plant populations UNLESS the treatments are specifically designed to maintain or improve the existing population.
- Off-highway use of motorized vehicles associated with treatments should be avoided in suitable or occupied habitat.
- Biological control agents (except for domestic animals) that affect target plants in the same genus as TEP species must not be used to control target species occurring within the dispersal distance of the agent.
- Prior to use of biological control agents that affect target plants in the same family as TEP species, the specificity of the agent with respect to factors such as physiology and morphology should be evaluated, and a determination as to risks to the TEP species made.
- Post-treatment monitoring should be conducted to determine the effectiveness of the project.

In addition, the following guidance must be considered in all management plans in which herbicide treatments are proposed to minimize or avoid risks to TEP species. The exact conservation measures to be included in management plans would depend on the herbicide that would be used, the desired mode of application, and the conditions of the site. Given the potential for off-site drift and surface runoff, populations of TEP species on lands not administered by the BLM would need to be considered if they are located near proposed herbicide treatment sites.

- Herbicide treatments should not be conducted in areas where TEP plant species may be subject to direct spray by herbicides during treatments.
- Applicators should review, understand, and conform to the "Environmental Hazards" section on herbicide labels (this section warns of known pesticide risks and provides practical ways to avoid harm to organisms or the environment).
- To avoid negative effects to TEP plant species from off-site drift, surface runoff, and/or wind erosion, suitable buffer zones should be established between treatment sites and populations (confirmed or suspected) of TEP plant species, and site-specific precautions should be taken (refer to the guidance provided below).
- Follow all instructions and Standard Operating Procedures to avoid spill and direct spray scenarios into aquatic habitats that support TEP plant species.
- Follow all BLM operating procedures for avoiding herbicide treatments during climatic conditions that would increase the likelihood of spray drift or surface runoff.

The following conservation measures refer to sites where broadcast spraying of herbicides, either by ground or aerial methods, is desired. Manual spot treatment of undesirable vegetation can occur within the listed buffer zones if it is determined by local biologists that this method of herbicide application would not pose risks to TEP plant species in the vicinity. Additional precautions during spot treatments of vegetation within habitats where TEP plant species occur should be considered while planning local treatment programs, and should be included as conservation measures in local-level NEPA documentation.

The buffer distances provided below are conservative estimates, based on the information provided by ERAs, and are designed to provide protection to TEP plants. Some ERAs used regression analysis to predict the smallest buffer distance to ensure no risks to TEP plants. In most cases, where regression analyses were not performed, suggested buffers extend out to the first modeled distance from the application site for which no risks were predicted. In some instances the jump between modeled distances was quite large (e.g., 100 feet to 900 feet). Regression analyses could be completed at the local level using the interactive spreadsheets developed for the ERAs, using information in ERAs and for local site conditions (e.g., soil type, annual precipitation, vegetation type, and treatment method), to calculate more precise, and possibly smaller buffers for some herbicides.

2,4-D

- Because the risks associated with this herbicide were not assessed, do not spray within ½ mile of terrestrial plant species or aquatic habitats where TEP aquatic plant species occur.
- Do not use aquatic formulations in aquatic habitats where TEP aquatic plant species occur.
- Assess local site conditions when evaluating the risks from surface water runoff to TEP plants located within ½ mile downgradient from the treatment area.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Bromacil

- Do not apply within 1,200 feet of terrestrial TEP plant species.
- If using a low boom at the typical application rate, do not apply within 100 feet of an aquatic habitat in which TEP plant species occur.
- If using a low boom at the maximum application rate or a high boom, do not apply within 900 feet of an aquatic habitat in which TEP plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Chlorsulfuron

- Do not apply by ground methods within 1,200 feet of terrestrial TEP species.
- Do not apply by aerial methods within 1,500 feet of terrestrial TEP species.
- Do not apply by ground methods within 25 feet of aquatic habitats where TEP plant species occur.
- Do not apply by aerial methods at the maximum application rate within 300 feet of aquatic habitats where TEP plant species occur.
- Do not apply by aerial methods at the typical application rate within 100 feet of aquatic habitats where TEP plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Clopyralid

- Since the risks associated with using a high boom are unknown, use only a low boom during ground applications of this herbicide within ½ mile of terrestrial TEP plant species or aquatic habitats in which TEP plant species occur.
- Do not apply by ground methods at the typical application rate within 900 of terrestrial TEP species.
- Do not apply by ground methods at the typical application rate within ½ mile of terrestrial TEP species.
- Do not apply by aerial methods within ½ mile of terrestrial TEP species.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Dicamba

- If using a low boom at the typical application rate, do not apply within 1,050 feet of terrestrial TEP plant species.
- If using a low boom at the maximum application rate, do not apply within 1,050 feet of terrestrial TEP plant species.
- If using a high boom, do not apply within 1,050 feet of terrestrial TEP plant species.
- Do not apply within 25 feet of aquatic habitats where TEP plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Diflufenzopyr

- If using a low boom at the typical application rate, do not apply within 100 feet of terrestrial TEP plant species.
- If using a high boom, or a low boom at the maximum application rate, do not apply within 900 feet of terrestrial TEP plant species.
- If using a high boom, do not apply within 500 feet of terrestrial TEP plant species.
- Do not apply within 25 feet of aquatic habitats where TEP plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Diuron

- Do not apply within 1,100 feet of terrestrial TEP species.
- If using a low boom at the typical application rate, do not apply within 900 feet of aquatic habitats where TEP aquatic plant species occur.
- If using a high boom, or a low boom at the maximum application rate, do not apply within 1,100 feet of aquatic habitats where TEP aquatic plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Fluridone

- Since effects on terrestrial TEP plant species are unknown, do not apply within ½ mile of terrestrial TEP species.

Glyphosate

- Since the risks associated with using a high boom are unknown, use only a low boom during ground applications of this herbicide within ½ mile of terrestrial TEP plant species.
- Do not apply by ground methods at the typical application rate within 50 feet of terrestrial TEP plant species.
- Do not apply by ground methods at the maximum application rate within 300 feet of terrestrial TEP plant species.
- Do not apply by aerial methods within 300 feet of terrestrial TEP plant species.

Hexazinone

- Since the risks associated with using a high boom or an aerial application are unknown, only apply this herbicide by ground methods using a low boom within ½ mile of terrestrial TEP plant species and aquatic habitats that support aquatic TEP species.
- Do not apply by ground methods at the typical application rate within 300 feet of terrestrial TEP plant species or aquatic habitats that support aquatic TEP plant species.
- Do not apply by ground methods at the maximum application rate within 900 feet of terrestrial TEP plant species or aquatic habitats that support aquatic TEP plant species.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Imazapic

- Do not apply by ground methods within 25 feet of terrestrial TEP species or aquatic habitats where TEP plant species occur.
- Do not apply by helicopter at the typical application rate within 25 feet of terrestrial TEP plant species.
- Do not apply by helicopter at the maximum application rate, or by plane at the typical application rate, within 300 feet of terrestrial TEP plant species.
- Do not apply by plane at the maximum application rate within 900 feet of terrestrial TEP species.
- Do not apply by aerial methods at the maximum application rate within 300 feet of aquatic TEP species.
- Do not apply by aerial methods at the typical application rate within 100 feet of aquatic TEP species.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Imazapyr

- Since the risks associated with using a high boom are unknown, use only a low boom for ground applications of this herbicide within ½ mile of terrestrial TEP plant species or aquatic habitats in which TEP plant species occur.
- Do not apply at the typical application rate, by ground or aerial methods, within 900 feet of terrestrial TEP plant species or aquatic habitats in which aquatic TEP species occur.
- Do not apply at the maximum application rate, by ground or aerial methods, within ½ mile of terrestrial TEP plant species or aquatic habitats in which aquatic TEP species occur.
- Do not use aquatic formulations in aquatic habitats where TEP aquatic plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Metsulfuron Methyl

- Since the risks associated with using a high boom are unknown, use only a low boom for ground applications of this herbicide within ½ mile of terrestrial TEP plant species or aquatic habitats in which TEP plant species occur.
- Do not apply at the typical application rate, by ground or aerial methods, within 900 feet of terrestrial TEP plant species or aquatic habitats in which aquatic TEP species occur.
- Do not apply at the maximum application rate, by ground or aerial methods, within ½ mile of terrestrial TEP plant species or aquatic habitats in which aquatic TEP species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Overdrive® (Diflufenzopyr + Dicamba)

- If using a low boom at the typical application rate, do not apply within 100 feet of terrestrial TEP plant species.
- If using a low boom at the maximum application rate, do not apply within 900 feet of terrestrial TEP plant species.
- If using a high boom, do not apply within 900 feet of terrestrial TEP plant species.
- Do not apply within 25 feet of aquatic habitats where TEP plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Picloram

- Do not apply by ground or aerial methods, at any application rate, within ½ mile of terrestrial TEP plant species.
- Assess local site conditions when evaluating the risks from surface water runoff to TEP plants located within ½ mile downgradient from the treatment area.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Sulfometuron Methyl

- Do not apply by ground or aerial methods within 1,500 feet of terrestrial TEP species.
- Do not apply by ground methods within 900 feet of aquatic habitats where TEP plant species occur, or by aerial methods within 1,500 feet of aquatic habitats where TEP plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Tebuthiuron

- If using a low boom at the typical application rate, do not apply within 25 feet of terrestrial TEP plant species.
- If using a low boom at the maximum application rate or a high boom at the typical application rate, do not apply within 50 feet of terrestrial TEP plant species.
- If using a high boom at the maximum application rate, do not apply within 900 feet of terrestrial TEP plant species.
- Do not apply within 25 feet of aquatic habitats where TEP plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Triclopyr Acid

- Since the risks associated with using a high boom are unknown, use only a low boom during ground applications of this herbicide within ½ mile of terrestrial TEP plant species.
- Since the risks associated with using a high boom are unknown, use only a low boom during ground applications at the maximum application rate of this herbicide within ½ mile of aquatic habitats in which TEP plant species occur.
- Do not apply by ground methods at the typical application rate within 300 feet of terrestrial TEP plant species.
- Do not apply by aerial methods at the typical application rate within 500 feet of terrestrial TEP plant species.
- Do not apply by ground or aerial methods at the maximum application rate within ½ mile of terrestrial TEP plant species or aquatic habitats in which TEP plant species occur.
- If applying to aquatic habitats in which aquatic TEP plant species occur, do not exceed the targeted water concentration on the product label.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

Triclopyr BEE

- Since the risks associated with using a high boom are unknown, use only a low boom for ground applications of this herbicide within ½ mile of terrestrial TEP plant species or aquatic habitats in which TEP plant species occur.
- Do not apply by ground methods at the typical application rate within 300 feet of terrestrial TEP plant species or aquatic habitats in which TEP plant species occur.
- Do not apply by aerial methods at the typical application rate within 500 feet of terrestrial TEP plant species or aquatic habitats in which TEP plant species occur.
- Do not apply by ground or aerial methods at the maximum application rate within ½ mile of terrestrial TEP plant species or aquatic habitats in which TEP plant species occur.
- Do not use aquatic formulations in aquatic habitats where TEP aquatic plant species occur.
- In areas where wind erosion is likely, do not apply within ½ mile of TEP plant species.

At the local level, the BLM must make a determination as to the suitability of vegetation treatments for the populations of TEP species that are managed by local offices. The following information should be considered: the timing of the treatment in relation to the phenology of the TEP plant species; the intensity of the treatment; the duration of the treatment; and the tolerance of the TEP species to the particular type of treatment to be used. When

information about species tolerance is unavailable or is inconclusive, local offices must assume a negative effect to plant populations, and protect those populations from direct exposure to the treatment in question.

Treatment plans must also address the presence of and expected impacts on noxious weeds on the project site. These plans must be coordinated with BLM weed experts and/or appropriate county weed supervisors to minimize the spread of weeds. In order to prevent the spread of noxious weeds and other unwanted vegetation in occupied or suitable habitat, the following precautions should be taken:

- Cleared areas that are prone to downy brome or other noxious weed invasions should be seeded with an appropriate seed mixture to reduce the probability of noxious weeds or other undesirable plants becoming established on the site.
- Where seeding is warranted, bare sites should be seeded as soon as appropriate after treatment, and at a time of year when it is likely to be successful.
- In suitable habitat for TEP species, non-native species should not be used for revegetation.
- Certified noxious weed seed free seed must be used in suitable habitat, and preference should be given to seeding appropriate plant species when rehabilitation is appropriate.
- Straw and hay bales used for erosion control in suitable habitat must be certified weed- and seed-free.
- Vehicles and heavy equipment used during treatment activities should be washed prior to arriving at a new location to avoid the transfer of noxious weeds.

When BAs are drafted at the local level for treatment programs, additional conservation measures may be added to this list. Where BLM plans that consider the effects of vegetation treatments on TEP plant species already exist, these plans should be consulted, and incorporated (e.g., any guidance or conservation measures they provide) into local level BAs for vegetation treatments.

Table A5-1. State Director's Special Status Species List – Federally Threatened, Endangered, or Proposed, Oregon January 2008

Scientific Name	Common Name		Listed	Critical Habitat	Recovery Plan
Birds					
Endangered					
Pelecanus occidentalis californicus	California brown pelican		1970	None	Final 1983
Threatened					
Brachyramphus marmoratus	Marbled murrelet		1992	Designated 1996	Final 1997
Charadrius alexandrinus nivosus	Western snowy plover *(Pacific Coastal population)*		1993	Designated 2005	Final 2007
Strix occidentalis caurina	Northern spotted owl		1990	Designated 1992	Draft 2007
Fish					
Endangered					
Catostomus microps	Modoc sucker		1985	Designated 1985	None
Chasmistes brevirostris	Shortnose sucker		1988	Proposed 1994	Final 1993
Deltistes luxatus	Lost river sucker		1988	Proposed 1994	Final 1993
Gila boraxobius	Borax lake chub		1980	Final 1982	Final 1987
Oncorhynchus mykiss	Steelhead *(Upper Columbia River)*		1997	Designated 2005	Final 2007
Oncorhynchus tshawytscha	Chinook salmon *(Upper Columbia River Spring run)*		1999	Designated 2005	Final 2007
Threatened					
Catostomus warnerensis	Warner sucker		1985	Designated 1985	Final 1998
Gila bicolor ssp.	Hutton tui chub		1985	None	Final 1998
Oncorhynchus clarki henshawi	Lahontan cutthroat trout		1970	None	Final 1995
Oncorhynchus kisutch	Coho salmon	*(Lower Columbia River)*	2005	None	None
		(Northern CA / Southern Oregon Coast)	1997	Designated 1999	None
Oncorhynchus mykiss	Steelhead	*(Lower Columbia River)*	1998	Designated 2005	None
		(Middle Columbia River)	1999	Designated 2005	None
		(Upper Willamette River)	1999	Designated 2005	None
		(Snake River Basin)	1997	Designated 2005	None
Oncorhynchus tshawytscha	Chinook salmon	*(Lower Columbia River)*	1999	Designated 2005	None
		(Upper Willamette River)	1999	Designated 2005	None
		(Snake River – Fall/Spring/ Summer runs)	1992	Designated 1993	None
Rhinichthys osculus ssp.	Foskett speckled dace		1985	None	Final 1998
Salvelinus confluentus	Bull trout	*(Columbia River)*	1998	Final 2005	Draft 2002
		(Klamath River)	1998	Final 2005	Draft 2002
		(Coastal / Puget Sound)	1999	Final 2005	Draft 2004

Table A5-1. (Continued) State Director's Special Status Species List – Federally Threatened, Endangered, or Proposed, Oregon January 2008

Scientific Name	Common Name	Listed	Critical Habitat	Recovery Plan
Invertebrates				
Endangered				
Plebejus icarioides fenderi	Fender's blue butterfly	2000	Proposed 2005	None
Threatened				
Branchinecta lynchi	Vernal pool fairy shrimp	1994	Designated 2003	Final 2005
Speyeria zerene hippolyta	Oregon silverspot butterfly	1980	Designated 1980	Final 2001
Mammals				
Endangered				
Canis lupus	Gray wolf	2003	None in OR or WA	Final 1987
Odocoileus virginianus leucurus	Columbian white-tailed deer *(Columbia River population)*	1967	None	Final 1983
Threatened				
Lynx canadensis	Canada lynx	2000	Designated 2006	None
Vascular Plants				
Endangered				
Arabis macdonaldiana	Macdonald's rock-cress	1978	None	Final 1984
Arenaria paludicola	Marsh sandwort	1993	None	Final 1998
Astragalus applegatei	Applegate's milk-vetch	1993	None	Final 1998
Erigeron decumbens var. *decumbens*	Willamette valley daisy	2000	Proposed 2005	None
Fritillaria gentneri	Gentner's fritillary	1999	None	Final 2003
Lilium occidentale	Western lily	1994	None	Final 1998
Limnanthes floccosa ssp. *grandiflora*	Large-flowered wooly meadowfoam	2002	None	Draft 2006
Lomatium bradshawii	Bradshaw's desertparsley	1988	None	Final 1993
Lomatium cookii	Cook's lomatium	2002	None	Draft 2006
Plagiobothrys hirtus	Rough popcorn flower	2001	None	Final 2003
Stephanomeria malheurensis	Malheur wire-lettuce	1982	Final 1982	Final 1991
Threatened				
Castilleja levisecta	Golden paintbrush	1997	None	Final 2000
Howellia aquatilis	Water howellia	1994	None	Draft 1996
Lupinus sulphureus ssp. *kincaidii*	Kincaid's lupine	2000	Designated 2006	None
Mirabilis macfarlanei	Macfarlane's four o'clock	1979	None	Final 2000
Sidalcea nelsoniana	Nelson's checkermallow	1993	None	Final 1998
Silene spaldingii	Spalding's catchfly	2001	None	Final 2007
Thelypodium howellii ssp. *spectabilis*	Howell's spectacular thelypody	1999	None	Final 2002

Table A5-2. State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Amphibians	
Aneides flavipunctatus	Black salamander
Ascaphus montanus	Inland tailed frog
Batrachoseps attenuatus	California slender salamander
Batrachoseps wrightorum	Oregon slender salamander
Bufo woodhousii	Woodhouse's toad
Dicamptodon copei	Cope's giant salamander
Plethodon larselli	Larch mountain salamander
Plethodon stormi	Siskiyou mountains salamander
Rana boylii	Foothill yellow-legged frog
Rana luteiventris	Columbia spotted frog (Great Basin population)
Rana pipiens	Northern leopard frog
Rana pretiosa	Oregon spotted frog
Birds	
Agelaius tricolor	Tricolored blackbird
Ammodramus savannarum	Grasshopper sparrow
Bartramia longicauda	Upland sandpiper
Branta canadensis occidentalis	Dusky canada goose
Branta hutchinsii leucopareia	Aleutian canada goose
Bucephala albeola	Bufflehead
Centrocercus urophasianus	Greater sage-grouse
Charadrius alexandrinus nivosus	Western snowy plover (outside Pacific Coastal population)
Coccyzus americanus	Yellow-billed cuckoo
Coturnicops noveboracensis	Yellow rail
Cygnus buccinator	Trumpeter swan
Cypseloides niger	Black swift
Dolichonyx oryzivorus	Bobolink
Egretta thula	Snowy egret
Elanus leucurus	White-tailed kite
Eremophila alpestris strigata	Streaked horned lark
Falco peregrinus anatum	American peregrine falcon
Fratercula cirrhata	Tufted puffin
Haliaeetus leucocephalus	Bald eagle
Histrionicus histrionicus	Harlequin duck
Larus pipixcan	Franklin's gull
Leucosticte atrata	Black rosy finch
Melanerpes lewis	Lewis' woodpecker
Pelecanus erythrorhynchos	American white pelican
Picoides albolarvatus	White-headed woodpecker
Podiceps auritus	Horned grebe
Podiceps grisegena	Red-necked grebe
Pooecetes gramineus affinis	Oregon vesper sparrow
Progne subis	Purple martin
Seiurus noveboracensis	Northern waterthrush
Tympanuchus phasianellus columbianus	Columbian sharp-tailed grouse

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Fish	
Catostomus tahoensis	Tahoe sucker
Cottus pitensis	Pit sculpin
Gila alvordensis	Alvord chub
Gila bicolor eurysoma	Sheldon tui chub
Gila bicolor oregonensis	Oregon lakes tui chub
Gila bicolor ssp.	Summer basin tui chub
Gila bicolor ssp.	Catlow tui chub
Gila bicolor thalassina	Goose lake tui chub
Lampetra minima	Miller lake lamprey
Lampetra tridentata ssp.	Goose lake lamprey
Lavinia symmetricus mitrulus	Pit roach
Oncorhynchus clarki lewisi	Westslope cutthroat trout
Oncorhynchus clarkii	Coastal cutthroat trout (Columbia River / SW Washington)
Oncorhynchus keta	Chum salmon (Pacific Coast)
Oncorhynchus kisutch	Coho Salmon (Oregon Coast)
Oncorhynchus mykiss	Steelhead (Klamath Mountains Province)
Oncorhynchus mykiss	Steelhead (Oregon Coast)
Oncorhynchus mykiss	Inland redband trout
Oncorhynchus tshawytscha	Chinook salmon (Southern Oregon / N. California Coast)
Oregonichthys kalawatseti	Umpqua chub
Rhinichthys cataractae ssp.	Millicoma dace
Richardsonius egregius	Lahontan redside shiner
Mammals	
Antrozous pallidus	Pallid bat
Arborimus longicaudus	Oregon red tree vole (NW Oregon, North of Hwy. 20)
Brachylagus idahoensis	Pygmy rabbit (outside Columbia Basin population)
Corynorhinus townsendii	Townsend's big-eared bat
Enhydra lutris	Sea otter
Euderma maculatum	Spotted bat
Gulo gulo luteus	California wolverine
Martes pennanti	Fisher
Myotis thysanodes	Fringed myotis
Odocoileus virginianus leucurus	Columbian white-tailed deer (Douglas County population)
Spermophilus washingtoni	Washington ground squirrel
Vulpes macrotis	Kit fox

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Invertebrates	
Algamorda newcombiana	Newcomb's littorine snail
Allomyia scotti	Scott's apatanian caddisfly
Boloria bellona	Meadow fritillary
Boloria selene	Silver-bordered fritillary
Bombus franklini	Franklin's bumblebee
Callophrys johnsoni	Johnson's hairstreak
Callophrys polios maritima	Hoary elfin
Chloealtis aspasma	Siskiyou short-horned grasshopper
Cicindela hirticollis siuslawensis	Siuslaw sand tiger beetle
Colligyrus sp. nov. 1	Columbia duskysnail
Cryptomastix devia	Puget oregonian
Cryptomastix populi	Hells canyon land snail
Deroceras hesperium	Evening fieldslug
Euphydryas editha taylori	Taylor's checkerspot
Fluminicola insolitus	Donner und blitzen pebblesnail
Fluminicola sp. nov. 11	Nerite pebblesnail
Fluminicola sp. nov. 3	Klamath rim pebblesnail
Gliabates oregonius	Salamander slug
Gonidea angulata	Western ridged mussel
Helisoma newberryi newberryi	Great basin ramshorn
Helminthoglypta hertleini	Oregon shoulderband
Hemphillia glandulosa	Warty jumping-slug
Hesperarion mariae	Tillamook westernslug
Juga hemphilli dallesensis	Dalles juga
Juga hemphilli hemphilli	Barren juga
Juga hemphilli maupinensis	Purple-lipped juga
Lanx klamathensis	Scale lanx
Lanx subrotunda	Rotund lanx
Lygus oregonae	Oregon plant bug
Micracanthia fennica	Harney hot spring shore bug
Monadenia chaceana	Chase sideband
Monadenia fidelis beryllica	Green sideband
Monadenia fidelis celeuthia	Travelling sideband
Monadenia fidelis ssp. nov.	Deschutes sideband
Monadenia fidelis ssp. nov.	Modoc rim sideband
Ochlodes yuma	Yuma skipper
Oreohelix variabilis sp. nov.	Deschutes mountainsnail
Pisidium ultramontanum	Montane peaclam
Plebejus saepiolus littoralis	Insular blue butterfly
Polites mardon	Mardon skipper
Pomatiopsis binneyi	Robust walker
Pomatiopsis californica	Pacific walker
Pristiloma arcticum crateris	Crater lake tightcoil
Pristiloma pilsbryi	Crowned tightcoil
Prophysaon vanattae pardalis	Spotted tail-dropper

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	***Common name***
Pterostichus rothi	Roth's blind ground beetle
Pyrgulopsis intermedia	Crooked creek springsnail
Pyrgulopsis robusta	Jackson lake springsnail
Rhyacophila chandleri	A caddisfly
Rhyacophila haddocki	Haddock's rhyacophilan caddisfly
Saldula villosa	Hairy shore bug
Speyeria coronis coronis	Coronis fritillary
Vespericola sierranus	Siskiyou hesperian
Reptiles	
Actinemys marmorata marmorata	Northwestern pond turtle
Chrysemys picta	Painted turtle
Vascular plants	
Abronia turbinata	Trans montane abronia
Abronia umbellata ssp. *breviflora*	Pink sand-verbena
Achnatherum hendersonii	Henderson's ricegrass
Achnatherum speciosum	Desert needlegrass
Achnatherum wallowaensis	Wallowa ricegrass
Adiantum jordanii	California maiden-hair
Agastache cusickii	Cusick's giant-hyssop
Agoseris elata	Tall agoseris
Agrostis howellii	Howell's bentgrass
Allenrolfea occidentalis	Iodine bush
Allium geyeri var. *geyeri*	Geyer's onion
Amsinckia carinata	Malheur valley fiddleneck
Anemone oregana var. *felix*	Bog anemone
Arabis koehleri var. *koehleri*	Koehler's rockcress
Arabis sparsiflora var. *atrorubens*	Sickle-pod rockcress
Arctostaphylos hispidula	Hairy manzanita
Argemone munita	Prickly-poppy
Arnica viscosa	Shasta arnica
Artemisia arbuscula ssp. *longicaulis*	Lahontan sagebrush
Artemisia campestris ssp. *borealis* var. *wormskioldii*	Northern wormwood
Artemisia papposa	Owyhee sagebrush
Artemisia pycnocephala	Coastal sagewort
Asplenium septentrionale	Grass-fern
Asplenium trichomanes-ramosum	Green spleenwort
Astragalus californicus	California milk-vetch
Astragalus calycosus	King's rattleweed
Astragalus collinus var. *laurentii*	Laurence's milk-vetch
Astragalus cusickii var. *sterilis*	Sterile milk-vetch
Astragalus diaphanus var. *diurnus*	South fork john day milk-vetch
Astragalus gambelianus	Gambel milk-vetch
Astragalus geyeri var. *geyeri*	Geyer's milk-vetch
Astragalus mulfordiae	Mulford's milk-vetch
Astragalus peckii	Peck's milk-vetch
Astragalus platytropis	Broad-keeled milk-vetch
Astragalus tegetarioides	Bastard kentrophyta

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Astragalus tyghensis	Tygh valley milk-vetch
Bensoniella oregana	Bensonia
Botrychium ascendens	Upward-lobed moonwort
Botrychium campestre	Prairie moonwort
Botrychium crenulatum	Crenulate moonwort
Botrychium lineare	Slender moonwort
Botrychium lunaria	Moonwort
Botrychium minganense	Gray moonwort
Botrychium montanum	Mountain grape-fern
Botrychium paradoxum	Twin-spiked moonwart
Botrychium pedunculosum	Stalked moonwort
Botrychium pumicola	Pumice grape-fern
Brodiaea terrestris	Dwarf brodiaea
Bupleurum americanum	Bupleurum
Calamagrostis breweri	Brewer's reedgrass
Callitriche marginata	Winged water-starwort
Calochortus coxii	Crinite mariposa-lily
Calochortus greenei	Greene's mariposa-lily
Calochortus howellii	Howell's mariposa-lily
Calochortus indecorus	Sexton mt. Mariposa-lily
Calochortus longebarbatus var. *peckii*	Peck's mariposa-lily
Calochortus macrocarpus var. *maculosus*	Green-band mariposa-lily
Calochortus monophyllus	One-leaved mariposa-lily
Calochortus nitidus	Broad-fruit mariposa-lily
Calochortus persistens	Siskiyou mariposa-lily
Calochortus umpquaensis	Umpqua mariposa-lily
Calyptridium roseum	Rosy pussypaws
Camassia howellii	Howell's camas
Camissonia graciliflora	Slender-flowered evening-primrose
Camissonia pygmaea	Dwarf evening-primrose
Cardamine pattersonii	Saddle mountain bittercress
Carex abrupta	Abrupt-beaked sedge
Carex atrosquama	Blackened sedge
Carex brevicaulis	Short stemmed sedge
Carex capillaris	Hairlike sedge
Carex capitata	Capitate sedge
Carex comosa	Bristly sedge
Carex constanceana	Constances's sedge
Carex cordillerana	Cordilleran sedge
Carex crawfordii	Crawford's sedge
Carex diandra	Lesser panicled sedge
Carex dioica var. *gynocrates*	Yellow bog sedge
Carex gynodynama	Hairy sedge
Carex idahoa	Idaho sedge
Carex klamathensis sp. nov.	A sedge
Carex lasiocarpa var. *americana*	Slender sedge

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Carex livida	Pale sedge
Carex macrochaeta	Large-awn sedge
Carex media	Intermediate sedge
Carex nardina	Spikenard sedge
Carex nervina	Sierra nerved sedge
Carex pelocarpa	New sedge
Carex pyrenaica ssp. *micropoda*	Pyrenaean sedge
Carex retrorsa	Retrorse sedge
Carex scabriuscula	Siskiyou sedge
Carex scirpoidea var. *stenochlaena*	Alaskan single-spiked sedge
Carex serratodens	Saw-tooth sedge
Carex subnigricans	Dark alpine sedge
Carex vernacula	Native sedge
Castilleja chlorotica	Green-tinged paintbrush
Castilleja fraterna	Fraternal paintbrush
Castilleja mendocinensis	Mendocino coast indian paintbrush
Castilleja rubida	Purple alpine paintbrush
Castilleja thompsonii	Thompson's paintbrush
Caulanthus crassicaulis var. *glaber*	Smooth wild cabbage
Caulanthus major var. *gevadensis*	Slender wild cabbage
Chaenactis xantiana	Desert chaenactis
Chaetadelpha wheeleri	Wheeler's skeleton-weed
Cheilanthes covillei	Coville's lip-fern
Cheilanthes feei	Fee's lip-fern
Cheilanthes intertexta	Coastal lipfern
Chlorogalum angustifolium	Narrow-leaved amole
Cicendia quadrangularis	Timwort
Cimicifuga elata var. *elata*	Tall bugbane
Collomia mazama	Mt. Mazama collomia
Coptis trifolia	Three-leaf goldthread
Cordylanthus maritimus ssp. *palustris*	Point reyes bird's beak
Corydalis aquae-gelidae	Cold-water corydalis
Cryptantha leiocarpa	Seaside cryptantha
Cryptantha milo-bakeri	Milo baker's cryptantha
Cryptogramma stelleri	Steller's rockbrake
Cupressus bakeri	Baker's cypress
Cymopterus acaulis var. *greeleyorum*	Greeley's cymopterus
Cymopterus longipes ssp. *ibapensis*	Ibapah wavewing
Cymopterus nivalis	Snowline spring-parsley
Cymopterus purpurascens	Purple cymopterus
Cyperus acuminatus	Short-pointed cyperus
Cyperus lupulinus ssp. *lupulinus*	A cyperus
Cypripedium fasciculatum	Clustered lady's-slipper
Delphinium bicolor	Flathead larkspur
Delphinium leucophaeum	White rock larkspur
Delphinium nudicaule	Red larkspur

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Delphinium nuttallii	Nutall's larkspur
Delphinium pavonaceum	Peacock larkspur
Dicentra pauciflora	Few-flowered bleedingheart
Dodecatheon austrofrigidum	Frigid shootingstar
Dodecatheon pulchellum var. *shoshonense*	Darkthroat shootingstar
Draba howellii	Howell's whitlow-grass
Elatine brachysperma	Short seeded waterwort
Eleocharis bolanderi	Bolander's spikerush
Epilobium oreganum	Oregon willow-herb
Ericameria arborescens	Golden fleece
Erigeron cervinus	Siskiyou daisy
Erigeron disparipilus	White cushion erigeron
Erigeron engelmannii var. *davisii*	Engelmann's daisy
Erigeron howellii	Howell's daisy
Erigeron latus	Broad fleabane
Erigeron oreganus	Oregon daisy
Eriogonum brachyanthum	Short-flowered eriogonum
Eriogonum chrysops	Golden buckwheat
Eriogonum crosbyae	Crosby's buckwheat
Eriogonum cusickii	Cusick's buckwheat
Eriogonum hookeri	Hooker's wild buckwheat
Eriogonum lobbii	Lobb's buckwheat
Eriogonum prociduum	Prostrate buckwheat
Eriogonum salicornioides	Playa buckwheat
Eriogonum umbellatum var. *glaberrimum*	Green buckwheat
Eriophorum chamissonis	Russet cotton-grass
Erythronium elegans	Coast range fawn-lily
Erythronium howellii	Howell's adder's-tongue
Eschscholzia caespitosa	Gold poppy
Eucephalus gormanii	Gorman's aster
Eucephalus vialis	Wayside aster
Filipendula occidentalis	Queen-of-the-forest
Fritillaria camschatcensis	Black lily
Galium serpenticum ssp. *warnerense*	Warner mt. Bedstraw
Gentiana newberryi	Newberry's gentian
Gentiana plurisetosa	Elegant gentian
Gentiana prostrata	Moss gentian
Gentiana setigera	Waldo gentian
Gentianella tenella ssp. *tenella*	Slender gentian
Geum rossii var. *turbinatum*	Slender-stemmed avens
Gilia millefoliata	Seaside gilia
Gratiola heterosepala	Boggs lake hedge-hyssop
Hackelia bella	Beautiful stickseed
Hackelia cronquistii	Cronquist's stickseed
Hackelia ophiobia	Three forks stickseed
Hastingsia bracteosa var. *atropurpurea*	Purple-flowered rush-lily

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Hastingsia bracteosa var. *bracteosa*	Large-flowered rush-lily
Heliotropium curassavicum	Salt heliotrope
Hieracium horridum	Shaggy hawkweed
Horkelia congesta ssp. *congesta*	Shaggy horkelia
Horkelia tridentata ssp. *tridentata*	Three-toothed horkelia
Hydrocotyle verticillata	Whorled marsh-pennywort
Hymenoxys lemmonii	Cooper's goldflower
Iliamna latibracteata	California globe-mallow
Iris tenax var. *gormanii*	Gorman's iris
Ivesia rhypara var. *shypara*	Grimy ivesia
Ivesia rhypara var. *shellyi*	Shelly's ivesia
Ivesia shockleyi	Shockley's ivesia
Juncus triglumis var. *albescens*	Three-flowered rush
Kalmiopsis fragrans	Fragrant kalmiopsis
Keckiella lemmonii	Bush beardtongue
Kobresia bellardii	Bellard's kobresia
Kobresia simpliciuscula	Simple kobresia
Lasthenia ornduffii	Large-flowered goldfields
Lathyrus holochlorus	Thin-leaved peavine
Lepidium davisii	Davis' peppergrass
Lewisia columbiana var. *columbiana*	Columbia lewisia
Lewisia leana	Lee's lewisia
Limnanthes floccosa ssp. *bellingeriana*	Bellinger's meadow-foam
Limnanthes floccosa ssp. *pumila*	Dwarf meadow-foam
Limnanthes gracilis var. *gracilis*	Slender meadow-foam
Limonium californicum	Western marsh-rosemary
Lipocarpha aristulata	Aristulate lipocarpha
Listera borealis	Northern twayblade
Lobelia dortmanna	Water lobelia
Lomatium engelmannii	Englemann's desert-parsley
Lomatium erythrocarpum	Red-fruited lomatium
Lomatium foeniculaceum ssp. *fimbriatum*	Fringed desert-parsley
Lomatium ochocense	Ochoco lomatium
Lomatium ravenii	Raven's lomatium
Lomatium suksdorfii	Suksdorf's desert parsley
Lomatium watsonii	Watson's desert parsley
Lotus stipularis	Stipuled trefoil
Luina serpentina	Colonial luina
Lupinus lepidus var. *cusickii*	Cusick's lupine
Lupinus nevadensis	Nevada lupine
Lupinus tracyi	Tracy's lupine
Lycopodiella inundata	Bog club-moss
Lycopodium complanatum	Ground cedar
Malacothrix sonchoides	Lyrate malacothrix
Meconella oregana	White fairypoppy
Mentzelia congesta	United blazingstar

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Mentzelia mollis	Smooth mentzelia
Mentzelia packardiae	Packard's mentzelia
Microseris bigelovii	Coast microseris
Microseris howellii	Howell's microseris
Mimulus bolanderi	Bolander's monkeyflower
Mimulus congdonii	Congdon's monkeyflower
Mimulus evanescens	Disappearing monkeyflower
Mimulus hymenophyllus	Membrane-leaved monkeyflower
Mimulus latidens	Broad-toothed monkeyflower
Mimulus tricolor	Three-colored monkey-flower
Muhlenbergia minutissima	Annual dropseed
Navarretia leucocephala ssp. *leucocephala*	White-flowered navarretia
Nemacladus capillaries	Slender nemacladus
Oenothera wolfii	Wolf's evening-primrose
Ophioglossum pusillum	Adder's-tongue
Oxytropis sericea var. *sericea*	White locoweed
Pellaea andromedifolia	Coffee fern
Pellaea bridgesii	Bridges' cliff-brake
Pellaea mucronata ssp. *mucronata*	Bird's-foot fern
Penstemon barrettiae	Barrett's penstemon
Penstemon glaucinus	Blue-leaved penstemon
Penstemon peckii	Peck's penstemon
Perideridia erythrorhiza	Red-rooted yampah
Phacelia argentea	Silvery phacelia
Phacelia gymnoclada	Naked-stemmed phacelia
Phacelia inundata	Playa phacelia
Phacelia leonis	Siskiyou phacelia
Phacelia lutea var. *mackenzieorum*	Mackenzie's phacelia
Phacelia minutissima	Dwarf phacelia
Phlox hendersonii	Henderson's phlox
Phlox multiflora	Many-flowered phlox
Physaria chambersii	Chambers' twinpod
Pilularia americana	American pillwort
Plagiobothrys austiniae	Austin's plagiobothrys
Plagiobothrys figuratus ssp. *corallicarpus*	Coral seeded allocarya
Plagiobothrys greenei	Greene's popcorn flower
Plagiobothrys lamprocarpus	Shiny-fruited popcorn flower
Plagiobothrys salsus	Desert allocarya
Platanthera obtusata	Small northern bog-orchid
Pleuropogon oregonus	Oregon semaphoregrass
Poa rhizomata	Timber bluegrass
Poa unilateralis	San francisco bluegrass
Pogogyne floribunda	Profuse-flowereed mesa mint
Polystichum californicum	California sword-fern
Potamogeton diversifolius	Rafinesque's pondweed
Pyrrocoma racemosa var. *racemosa*	Racemose pyrrocoma

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	***Common name***
Pyrrocoma radiata	Snake river goldenweed
Rafinesquia californica	California chicory
Ranunculus austrooreganus	Southern oregon buttercup
Ranunculus triternatus	Dalles mt. Buttercup
Rhamnus ilicifolia	Redberry
Rhynchospora alba	White beakrush
Ribes divaricatum var. *pubiflorum*	Straggly gooseberry
Romanzoffia thompsonii	Thompson's mistmaiden
Rorippa columbiae	Columbia cress
Rotala ramosior	Lowland toothcup
Rubus bartonianus	Bartonberry
Salix farriae	Farr's willow
Salix wolfii	Wolf's willow
Saxifraga adscendens ssp. *oregonensis*	Wedge-leaf saxifrage
Saxifragopsis fragarioides	Joint-leaved saxifrage
Scheuchzeria palustris var. *americana*	Scheuchzeria
Schoenoplectus subterminalis	Water clubrush
Scirpus pendulus	Drooping bulrush
Sedum moranii	Rogue river stonecrop
Senecio ertterae	Ertter's senecio
Sericocarpus rigidus	White-topped aster
Sesuvium verrucosum	Verrucose sea-purslane
Sidalcea hickmanii ssp. nov.	Hickman's checkerbloom
Sidalcea hirtipes	Bristly-stemmed sidalcea
Sidalcea malviflora ssp. *patula*	Coast checker bloom
Silene hookeri ssp. *bolanderi*	Bolander's catchfly
Sisyrinchium hitchcockii	Hitchcock's blue-eyed grass
Sisyrinchium sarmentosum	Pale blue-eyed grass
Solanum parishii	Parish's horse-nettle
Sophora leachiana	Western sophora
Stanleya confertiflora	Biennial stanleya
Stellaria humifusa	Creeping chickweed
Streptanthus glandulosus	Common jewel flower
Streptanthus howellii	Howell's streptanthus
Streptopus streptopoides	Kruhsea
Suksdorfia violacea	Violet suksdorfia
Sullivantia oregana	Oregon sullivantia
Symphoricarpos longiflorus	Long-flowered snowberry
Talinum spinescens	Spinescent fameflower
Thalictrum alpinum	Alpine meadowrue
Thelypodium brachycarpum	Short-podded thelypody
Thelypodium eucosmum	Arrow-leaf thelypody
Townsendia montana	Mountain townsendia
Townsendia parryi	Parry's townsendia
Trifolium douglasii	Douglas' clover

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	*Common name*
Trifolium leibergii	Leiberg's clover
Trifolium owyheense	Owyhee clover
Trillium kurabayashii	Siskiyou trillium
Trollius laxus var. *albiflorus*	American globeflower
Utricularia gibba	Humped bladderwort
Utricularia minor	Lesser bladderwort
Utricularia ochroleuca	Northern bladderwort
Viola primulifolia ssp. *occidentalis*	Western bog violet
Wolffia borealis	Dotted water-meal
Wolffia columbiana	Columbia water-meal
Zigadenus fontanus	Small-flowered death camas
Bryophytes	
Andreaea schofieldiana	Moss
Barbilophozia lycopodioides	Liverwort
Bryum calobryoides	Moss
Calypogeia sphagnicola	Liverwort
Campylopus schmidii	Moss
Chiloscyphus gemmiparus	Liverwort
Codriophorus depressus	Moss
Cryptomitrium tenerum	Liverwort
Diplophyllum plicatum	Liverwort
Encalypta brevicollis	Moss
Encalypta brevipes	Moss
Encalypta intermedia	Moss
Entosthodon fascicularis	Moss
Ephemerum crassinervium	Moss
Gymnomitrion concinnatum	Liverwort
Helodium blandowii	Moss
Herbertus aduncus	Liverwort
Iwatsukiella leucotricha	Moss
Jungermannia polaris	Liverwort
Kurzia makinoana	Liverwort
Limbella fryei	Moss
Lophozia laxa	Liverwort
Meesia uliginosa	Moss
Metzgeria violacea	Liverwort
Orthodontium pellucens	Moss
Peltolepis quadrata	Liverwort
Polytrichum sphaerothecium	Moss
Porella bolanderi	Liverwort
Pseudocalliergon trifarium	Moss
Ptilidium pulcherrimum	Liverwort
Rhizomnium nudum	Moss
Rhytidium rugosum	Moss
Schistidium cinclidodonteum	Moss
Schistostega pennata	Moss

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	***Common name***
Splachnum ampullaceum	Moss
Tayloria serrata	Moss
Tetraphis geniculata	Moss
Tetraplodon mnioides	Moss
Tomentypnum nitens	Moss
Tortula mucronifolia	Moss
Trematodon boasii	Moss
Tritomaria exsectiformis	Liverwort
Fungi	
Albatrellus avellaneus	
Alpova alexsmithii	
Arcangeliella camphorata	
Boletus pulcherrimus	
Bridgeoporus nobilissimus	
Chamonixia caespitosa	
Choiromyces venosus	
Cortinarius barlowensis	
Cudonia monticola	
Cystangium idahoensis	
Dermocybe humboldtensis	
Destuntzia rubra	
Gastroboletus imbellus	
Gastroboletus vividus	
Gomphus kauffmanii	
Gymnomyces fragrans	
Gymnomyces nondistincta	
Helvella crassitunicata	
Leucogaster citrinus	
Mythicomyces corneipes	
Octaviania macrospora	
Otidea smithii	
Phaeocollybia californica	
Phaeocollybia dissiliens	
Phaeocollybia gregaria	
Phaeocollybia olivacea	
Phaeocollybia oregonensis	
Phaeocollybia pseudofestiva	
Phaeocollybia scatesiae	
Phaeocollybia sipei	
Phaeocollybia spadicea	
Pseudorhizina californica	
Ramaria amyloidea	
Ramaria gelatiniaurantia	
Ramaria largentii	
Ramaria rubella var. *blanda*	
Ramaria spinulosa var. diminutiva	

Table A5-2. (Continued) State Director's Special Status Species List – Bureau Sensitive, January 2008, Oregon BLM

Scientific name	Common name
Rhizopogon chamaleontinus	
Rhizopogon ellipsosporus	
Rhizopogon exiguus	
Rhizopogon inquinatus	
Sowerbyella rhenana	
Stagnicola perplexa	
Thaxterogaster pavelekii	
Lichens	
Bryoria pseudocapillaris	
Bryoria spiralifera	
Bryoria subcana	
Calicium adspersum	
Chaenotheca subroscida	
Dermatocarpon meiophyllizum	
Erioderma sorediatum	
Heterodermia leucomela	
Heterodermia sitchensis	
Hypogymnia duplicata	
Hypotrachyna revoluta	
Leioderma sorediatum	
Leptogium burnetiae	
Leptogium cyanescens	
Lobaria linita	
Microcalicium arenarium	
Niebla cephalota	
Pannaria rubiginosa	
Pilophorus nigricaulis	
Pseudocyphellaria mallota	
Ramalina pollinaria	
Stereocaulon spathuliferum	
Teloschistes flavicans	
Texosporium sancti-jacobi	
Tholurna dissimilis	
Usnea nidulans	