

Threatened & Sensitive Plants

Introduction

The ESA, as amended (16 U.S.C. 1536(c), 50 CFR 402), requires that the Forest Service conserve endangered and threatened species.

In accordance with Section 7(c) of the Act, the USFWS has determined that the following threatened or endangered listed species may be present on the Flathead National Forest:



Howellia aquatilis

- Water howellia (*Howellia aquatilis*) and
- Spalding's catchfly (*Silene spaldingii*) (USDI Fish and Wildlife Service 2007).

In addition, a letter was received on December 4, 2001, from R. Mark Wilson, Field Supervisor, USFWS, identifying these threatened, endangered, and proposed species that may occur on the Flathead National Forest. The letter states that the range of Spalding's catchfly includes the upper Flathead River System and that areas below 5,000 feet are considered within the range of water howellia.

In addition to plants protected under the ESA, the Forest Service identifies plant species for which population viability is a concern as "sensitive species" as designated by the Regional Forester (FSM 2670.44). Currently, 52 plant species are designated as sensitive on the Regional Forester's sensitive plant list for the Flathead National Forest (Project File Exhibit H-7). Forest Service policy requires that activities conducted on NFS lands be reviewed for possible impacts to threatened, endangered, or sensitive (TES) species (FSM 2670.32). The Forest Service has no jurisdiction to protect habitat of sensitive plant species on private lands.

Information Sources

Data sources used for this analysis include the Montana Natural Heritage Program's (MNHP) Element Occurrence Database; the Flathead National Forest's Threatened, Endangered, and Sensitive Species (TES) Survey Atlas; and the Flathead National Forest's TES Plant Location Database. These databases include data collected from field surveys conducted by the Forest Botanist, trained technicians, and other Botanist's contributing surveys and element occurrences to the MNHP. All other sources of information are cited in the text.

Analysis Area

The analysis area for the Porter Mount Management Project is based on the area of the project's influence/impacts on known occurrences or potential habitat for Federally threatened/endangered and Regional Forester's sensitive plants within the project area. The project area includes all treatment units and road systems with activity related to this proposed project.

Spatial Bounds

The analysis area is confined to the Porter Mount Project Area.

Temporal Bounds

The temporal bounds are 10 to 20 years after the decision is signed. Vegetation conditions would take approximately 10 to 20 years to return to more existing closed canopy and understory cover conditions following implementation of the thinning and burning treatments. During this time, opening of the canopy and increased soil disturbance from thinning and ground activities may increase the potential for weed establishment, possibly resulting in competition with known or potentially occurring sensitive plant species.

Affected Environment

General Surveys for TES Plants:

Water howellia: In Montana, water howellia is only known to occur in the Swan Valley, approximately 40 miles directly to the southeast. There are no known occurrences or potential habitat within the proposed treatment units of the Porter Mount Project Area. Aerial photo interpretation did not locate ponds, old oxbows, and other wet areas of potential habitat. No occurrences were located during the 2006 surveys within the project area. Water howellia is excluded from further discussion in this document due to the lack of occurrences and potential habitat within or near the project area.

Spalding's catchfly: In 2000, aerial photos of the entire Flathead National Forest were reviewed by Maria Mantas (previous Forest Botanist) to locate large expanses of grassland with potential habitat for Spalding's catchfly. Grassland openings were delineated from aerial photos in areas along the North Fork of the Flathead River floodplain from the Canadian border to Polebridge and at Danaher, Horse Hill, and Bar Creek Meadows within the Bob Marshall Wilderness. Spalding's catchfly was not located during focused surveys for this species in the above areas. These grassland habitats were determined to be unsuitable (too high in elevation) for Spalding's catchfly.

Additional potential grassland areas were located on aerial photos within the Hog Heaven Range (Swan Island Unit of the Swan Lake Ranger District) and the south slopes near Ashley Lake (Tally Lake Ranger District). Surveys specifically targeting Spalding's catchfly were conducted in 2006 within these potential grassland areas in the Swan Lake Ranger District; no new occurrences or suitable habitats were located during these surveys.

There are no known occurrences of Spalding's catchfly within the proposed Porter Mount Project boundaries or within the Flathead National Forest, based on MNHP database and Flathead National Forest sensitive plants database. No occurrences were located during the 2006 surveys within the project area. Spalding's catchfly is excluded from further discussion in this document due to the lack of occurrences and potential habitat within or near the project area.

Regional Forester's Sensitive Plants: The entire project area was evaluated for potential habitat for sensitive plants using aerial photos and knowledge of previous surveys conducted in the Island Unit. Project specific surveys for sensitive plants within the Porter Mount Project Area were conducted in 2006. The majority of units were not visited as the project area has low potential for sensitive plants based on the last 10 years of surveys in the Island Unit, where no sensitive plants have been located. Only areas with the highest potential for sensitive plants and areas with highest likelihood for invasive weed occurrences (roadside) were visited. Approximately 175 acres were



Spalding's Catchfly

surveyed in the project area, with the majority of those along roads. A complete species list of plants encountered is assembled for each area surveyed. All surveyors are trained and tested in the identification and habitat associations of the Flathead National Forest sensitive plants. No Regional Forester's sensitive plants were located during these surveys (Project File Exhibit H-6).

Historical & Existing Condition

A. Vegetation and Landform

The Porter Mount Project is located in the Salish Mountain Range on the Island Unit of the Swan Lake Ranger District. Elevation is relatively low with rolling topography. The project area is dominated by temperate coniferous forest with subalpine fir or lodgepole dominating the upper elevations and Douglas-fir, western larch or lodgepole dominating the lower elevations. Ponderosa pine, grand fir, western white pine and hardwood cover types are sparse and isolated on the upland landscape. Riparian areas are dominated with Engelmann spruce, Douglas-fir, subalpine fir, and grand fir. Hardwood (black cottonwood, quaking aspen, and paper birch) cover types are sparse in the riparian areas. The Island Unit has been managed for timber production over the past 20 years. This area is highly roaded with motorized trails used as a popular recreation activity.

Regional Forester's Sensitive Plants: Little is known about the historical condition for TES plants in the Island Unit. Botanical surveys that may have detected rare plants were not initiated in the area until the onset of the Forest's Botany Program in 1991.

Based on the information sources and surveys listed above, there are no sensitive plant species located within or near the project area (Project File Exhibit H-6).

Potential Occurrences: Based on the information sources and surveys listed above, the project area contains habitat types for sensitive plants associated with seven of the nine habitat guilds (upland coniferous forest; moist cliffs, seeps, and talus slopes; other wetlands; riparian; grasslands and forest openings; and alpine/subalpine) in listed in Project File Exhibit H-6. The majority of the project area is upland coniferous forest with small inclusions of these other habitat guilds.

In stands 10902012, 10902013 (Unit 3) and 10902065 (Unit 2), large areas of vernal moist rocky outcrops/cliffs and forest grassland openings are present. These areas are unique geologic features harboring sensitive plants associated with the habitat guild of moist cliffs/seeps/talus slopes and grasslands/forest openings. These areas were partially surveyed for sensitive plants in August 2007. No sensitive plants were located in these units; however, surveys were conducted after plants had flowered, fruited, and dried up making identification of some sensitive plants difficult.

These habitats are typically limited in extent on the landscape in the Salish Mountains scale and often provide highly specialized habitats for the rare species. The ecological processes that occur on cliffs and rock outcrops provide the basis for the specialized habitats. Spring and early summer precipitation, runoff, and ephemeral seeps are examples of such unique or seasonal processes or features. Lichen/moss crust that often cover the thin soils and bedrock is slow and difficult to recover after ground disturbance.

Environmental Consequences

Regional Forester's Sensitive Plants

Alternative A – No Action Direct, Indirect, and Cumulative Effects

This alternative proposes no ground disturbing activity. Therefore, there would be no direct short-term effects on any sensitive plant species or their habitats. The response of each of the sensitive plant species to management activity varies by species, and in some cases, is not fully known. Local native vegetation has evolved with and is adapted to the climate, soils, and natural processes such as forest succession, fire, insect and disease infestations, and windthrow. Any management or lack of



Grindelia howellii

management that causes these natural processes to be altered may have impacts on native vegetation, including sensitive plants. Indirect or cumulative long-term effects would depend on natural disturbances.

Alternative A would not increase the potential for establishment and spread of new noxious weed occurrences. Harvest and associated ground disturbing activities would disturb forest habitats and favor the spread and introduction of noxious weeds that could impact sensitive plant populations. Weed establishment and spread, facilitated by ground disturbance and vehicle traffic in and out of the project area, would not occur with Alternative A. In addition, the potential for weed invasion and competition for nutrients and light with sensitive plant populations and native vegetation would not occur.

Disturbance regime sensitive plants such as Howell's gumweed (*Grindelia howellia*) and some moonworts (*Botrychium* spp.) occasionally establish along road sides. These species can be opportunistic along artificially created roadside habitats. Alternative A would not create roadside habitat for this opportunistic establishment. The action alternatives described below propose temporary road construction; however, these temporary roads would be revegetated and would not remain on the landscape long enough for disturbance regime sensitive plants to establish and persist. In addition, roadside occurrences are not considered representative of the natural disturbance habitats such as grasslands or rocky outcrops that these sensitive plants more commonly occupy. Preservation of these roadside sensitive plant occurrences are secondary to those occurring in natural habitats.

Alternatives B and C Direct, Indirect, and Cumulative Effects

Potential Occurrences: The Porter Mount Project Area contains habitat types of upland coniferous forest; moist cliffs, seeps, and talus slopes; other wetlands; riparian; grasslands and forest openings; and alpine/subalpine) listed in Project File Exhibit H-1. For the potentially occurring Regional Forester's sensitive plants associated with the above habitat types the direct, indirect, and cumulative effects for undetected occurrences are unknown and can only be speculative due to lack of known locations.

Spread of noxious weeds has the greatest potential for indirect and cumulative effects on potentially occurring sensitive plant populations within the project area. Disturbed and exposed soils created from the action alternatives would increase from existing conditions. These newly created exposed soils may serve as noxious weed establishment and spread centers. Spread of noxious weeds into

new areas may alter vegetation composition and community structure of sensitive plants micro-habitats.

The areas with the highest potential for sensitive plants within the project area are in the rocky outcrops/cliffs and grassland openings located in Unit 3 (Stands 10902012 and 10902013) and Unit 2 (Stand 10902065). Alternatives B and C both propose 39 acres in Unit 2 (Stand 10902065) of Commercial Thinning with yarding tops of trees, and lopping and scattering or chipping of slash material. However, Alternative C would primarily use helicopter logging systems with some skyline operations, and Alternative B would primarily use a tractor logging system with some skyline operations in this stand. Helicopter logging systems would reduce the level of exposed soils potential for weed establishment. In addition, Alternative B, proposes construction of a temporary road within Unit 2 (north of this stand), further increasing the potential for weed establishment and spread into the unique habitats. Alternative B proposes 77 acres in Unit 3 (Stands 10902012 and 10902013) and Alternative C proposes 39 acres in Unit 3 (Stand 10902013) for Seed Tree treatments using skyline operations. Alternative C excludes Stand 10902012 from Unit 3 that has the majority of the rock outcrop and grassland openings. Both alternatives propose underburning. Alternative B would have a higher potential for weed establishment than Alternative C, due to the greater acres proposed in Alternative B for this unit.

Natural disturbance processes affecting these geologically influenced habitats include slumping, rock fall, and erosion. However, this project has the potential to increase exposed soils within these habitats and introduce exotic plants during implementation. In addition, some natural disturbance processes or management activities occurring adjacent to cliffs and rock outcrops could potentially influence the habitats. Stand-replacing fire or removal of the overstory canopy, either above or below the habitats, could alter the associated shade and moisture regimes.

Design Criteria would reduce the potential for weed establishment within these special habitat areas. Where trees are present along Road 5373 (adjacent to Units 2 and 3), a 50-foot leave tree buffer would be established along the road. This buffer would help continue to insulate the rocky outcrops and grasslands from potential new weed establishment after implementation. Ground-based equipment would avoid these areas when practical during implementation. In addition, lop and scatter with underburning or chipping would be used to reduce fuels within these stands. Concentrated pile burning would not occur within these stands or over the rock outcrops and grassland openings. These measures would not eliminate all weed seeds from establishing within these unique habitats, but would only reduce the potential for establishment and spread. In addition, equipment associated with this project would be washed prior to entry on the NFS lands to prevent the introduction of weeds into the disturbed areas.

Past, present and reasonably foreseeable activities such as fuels and vegetation management, timber sales, road construction/maintenance, special use permits, grazing, land sales for development, off-highway vehicle trails, and dispersed recreation may have and may continue to contribute to altering natural process of sensitive species habitats listed above. Undetected occurrences may experience mechanical compaction, noxious weed competition/displacement, roadside dusting, or hydrologic alteration. Please refer to the Cumulative Effects Worksheet in the Threatened and Sensitive Plants Project File (Project File Exhibit H-5) for more discussion of the past, current, and reasonably foreseeable activities that cumulatively contribute indiscernible effects to Sensitive Plants not included in this section.

Regulatory Framework and Consistency

Threatened or endangered status affords a species and its habitat special protection from adverse effects resulting from Federally-authorized or funded projects. It is the Forest Service's responsibility to design activities that contribute to the recovery of listed species in accordance with recovery plans developed as directed by the ESA (50 CFR Part 402). Forest Plan Amendment 20 provides for conservation measures to ensure the protection of water howellia. Amendment 21 has a goal to

“provide sufficient habitat to promote the recovery of threatened and endangered species and conserve the ecosystems upon which they depend.”

Federal laws and direction applicable to sensitive species include the NFMA and FSM 2670. Amendment 21 to the Forest Plan has standards to conduct analyses to review programs and activities, to determine their potential effect on sensitive species, and to prepare a BE. It also states:

“adverse impacts to sensitive species or their habitats should be avoided. If impacts cannot be avoided, the significance of potential adverse effects on the population or its habitat within the area of concern and on the species as a whole will be analyzed. Project decisions will not result in loss of species viability or create significant trends towards federal listing.”

Future conservation strategies for each species will present direction on maintaining habitat diversity and managing for population viability, as required by the NFMA and Forest Plan Amendment 21. The Forest Service is bound by Federal statutes (ESA, NFMA), regulations (USDA 9500-4) and agency policy (FSM 2670) to conserve biological diversity on NFS lands. A goal in Amendment 21 is to “ensure that Forest Service actions do not contribute to the loss of viability of native species.”

All alternatives of this proposed project would meet the direction of FSM 2670.3 (sensitive plant species) and are consistent with the Forest Plan direction for sensitive plants. In addition, the proposed project is also complies with ESA and Amendments 20 and 21, with respect to Federally-listed plants.