

Appendix C
Response to Environmental Assessment Comments
Burdoin Mt. Vegetation Management
36 C.F.R. 215.6(d)

Environmental Impact Statement

COMMENT: The Forest should prepare an EIS for the proposed Burdoin Mountain thinning project because the proposed action will significantly affect the environment in terms of the context and intensity of the proposed action. The proposed action will occur within the congressionally designated Columbia River Gorge National Scenic Area (CRGNSA). The Forest Service must consider the beneficial results of the proposed action in addition to the negative impacts of the project as a measure of the intensity of the effects on the environment. The EA states that the project is necessary to prevent a catastrophic wildfire and the loss of life, property, and habitat. The adverse impacts to humans of the "preferred alternative" include the danger that burning slash piles may cause injuries to workers or threaten homeowners in the event of an accident.

RESPONSE: Please refer to the Decision Notice Finding of No Significant Impact statement for a full summary of the reasons why an EIS is not required.

COMMENT: The materials circulated for public review did not contain a map drawn to a scale of one-inch equals 200 feet containing the required elements. This information is required in order to afford the public a meaningful opportunity to comment on the proposed thinning operation. A final site plan map must be prepared before the Forest Service reaches a final decision.

RESPONSE: The map scale defined in the Management Plan is not applicable to a vegetation management project covering 1845 acres. It was intended for smaller scale development. We carefully analyzed the required information and created a document using more than one map to depict the details of the project and to describe the existing and desired conditions:

- **EA page 3-4 Vicinity map and the general description of the area.**
- **EA page 5-Map and acres of existing vegetation types.**
- **EA pages 6-10-Illustrated description of each vegetation type existing and desired condition.**
- **Appendix B-Implementation Guide and Vegetation Management Prescriptions including maps of vegetation treatment units and type of fuel treatments**
- **EA page 17 and 19-Maps of location of proposed haul routes, treatment areas, and fuel treatment types.**
- **EA page 32-Location of riparian areas.**

Water Resources

COMMENT: The environmental assessment states that no intermittent streams are in the planning area, but it also states that there are "several smaller unnamed ephemeral streams " in the project area. EA at 26. However, the Management Plan broadly defines the term "intermittent stream " to include ephemeral streams. The Management Plan defines streams as "areas where surface water produces a defined channel or bed, including bedrock channels, gravel beds, sand and silt beds, and defined-channel swales. The channel or bed does not have to contain water year-round. Management Plan Glossary. "Intermittent stream " is defined as "a stream that flows only part of the year, or seasonally, during years of normal precipitation. " The Management Plan makes no special distinction for ephemeral streams. Instead, ephemeral streams are covered by the definition for "intermittent stream. " Thus, if an ephemeral stream has a "defined channel or bed" and flows only part of the year, or seasonally, during years of normal precipitation " then it is classified as an intermittent stream. Finally, the Management Plan states, "all streams, including perennial and intermittent, shall be protected from adverse effects. " Management Plan at I-22.

Intermittent streams must be protected by a 50-foot buffer zone. The project proposes filling ephemeral streams in order to allow vehicles to cross. EA at 22. However, the SMA guidelines for natural resources state that buffer zones must not be disturbed unless the applicant can demonstrate that. The proposed action is allowed under the practicable alternatives test. Therefore, the Forest Service must demonstrate that no practicable alternative exists to the proposed filling of ephemeral streams for vehicle crossings. In addition, the Forest Service must demonstrate in its natural resources management plan that no adverse effects would result from filling the ephemeral channels.

RESPONSE: The streams that are defined as ephemeral in this project area do not fit the Management Plan definition for intermittent streams nor do they fit the Northwest Forest Plan definition (NWFP Record of Decision Standard and Guidelines C-31). While they have a defined channel, they do not flow during years of normal precipitation. These channels have several inches of duff and other organic debris accumulations in the channel bottom, indicating they probably last flowed many years ago. Even though they are not considered intermittent, we have several implementation requirements that will ensure protection of these channels (EA pages 21-22). These include keeping mechanized equipment at least 20 feet away from these channels, monitoring activities within riparian areas during project implementation and removing any fill that may be placed in these channels after project completion.

COMMENT: In addition to demonstrating that no practical alternative exists, the Forest Service must also demonstrate in a natural resources mitigation plan that entering the natural resource buffer zones will result in no adverse effects to natural resources.

The Forest Service's conclusion that no practical alternative exists to entering the natural resource buffer zones is not supported by fact. The Forest Service has not demonstrated that the projects objectives cannot be completed without entering the buffer areas, Furthermore, if the buffer zones are disturbed, the Forest Service will have difficulty showing that no adverse effects would result from the proposed action, a demonstration that is required by the Management Plan.

RESPONSE: The reason for treatment is to reduce the chance of high intensity wildfire within the buffer zones. If a severe fire occurs, it may damage this sensitive area since the buffer zones have a high likelihood of funneling fire due to fuel buildup and local topography. Treatments and implementation requirements are aimed specifically at maintaining function within the zones while reducing the hazard of fire damage. These requirements (EA pages 21-22) include keeping mechanized equipment out of riparian areas, monitoring activities within riparian areas during project implementation and protecting channel integrity by keeping small organic material out of the channels. Please refer to the practicable alternatives write-up in Appendix A on page 71 of the EA for more information.

Soil Productivity

COMMENT: The Forest Service's proposal to leave less than the required 25 tons per acre of dead and down wood material and less than 15 tons per acre of soil organic matter is inconsistent with the Management Plan.

RESPONSE: This project proposes to remove live trees only. Any dead and down material that exists prior to treatment will remain after project completion. We stated that we will leave all existing dead and down woody material (EA pp 84-86 and page 30). 25 tons of dead and down is above the range of natural variability for this area. The 25 tons described in the Management Plan came from expected dead or down material for western Cascade coniferous forests rather than eastside oak and pine. Such an amount would exceed the limit for fuel loading (fire hazard). Material we are removing is not considered large woody material (large woody material is >20" dbh and we are not removing this size class). For more information on the development of desired dead and down by plant community see the joint Forest Service/US Fish and Wildlife Service DECAID website: www.fs.fed.us/wildecology/decaid/decaid_background/decaid_whatism.htm

Scenic Resource Protection

The proposed thinning project may increase the visibility of development in and around the project planning area. The Forest Service should identify development that may be exposed by the thinning operation before the project takes place to ensure that adequate screening is retained.

Alternative 2 may have greater scenic impacts than Alternative 3 because Alternative 2 proposes removing more trees from the planning area than Alternative 3. In addition, the burning of large amounts of piling slash as proposed in Alternative 2 will likely contrast more with the surrounding landscape than scattering the slash as proposed in Alternative 3.

RESPONSE: Vegetation removal is planned not to exceed 5-20% of the understory. See Table on Page 92 and 94, column "New Canopy" and page 42 in the EA.

Implementation requirement #28 on page 23 of the EA identifies areas that will be field designed to provide screening of existing development. Concentrations near forest boundaries and Hwy 14 will provide screening of existing development.

Both alternatives require the removal of excess slash from the near foreground of all travel-ways and trails. Slash piles will not be visible from Key Viewing Areas. See implementation requirements 27-29 on page 23 of the EA.

Air Resources

COMMENT: The proposed project must conform to the Air Quality policy for Natural Resource Protection and Enhancement, which mandates that air quality must be protected and enhanced. Although the environmental assessment proposes mitigation measures, the Forest Service does not explain how Alternative 2 will protect and enhance air quality. Additionally, SMA Policy requires that existing levels of air visibility must not be degraded. Because of the impacts to air quality, the proposed project should not include slash burns.

Alternative 2 will likely degrade air quality in the short-term because it proposes emitting 12.4 tons of emissions from the burning of slash, while Alternative 3 will have no impact on air quality.

COMMENT: While I like your option #2, I do not like the burning of slash and therefore suggest that you go for option 3 (no burn). The fewer acres of no treatment are not enough to convince me of the need to burn. The risk to peoples' property and to the environment are just too great to risk your "playing with matches". You point out the need for improved air quality in the NSA and are involved with other agencies in studies which may cost as much as \$10,000,000.00 just to determine if there is bad AQ being generated in the CRGNSA. Your planned burning would be done during this study and could easily skew the findings if you are allowed to burn.

RESPONSE: Please refer to the Decision Notice for the complete rationale on alternative selection. It is correct that alternative 3 will have no short-term impacts on air quality. However, the long-term risk to air quality is slightly higher due to the smaller number of treated acres. If a severe fire occurs, there will be much more smoke than the preventive slash burns will create. Implementation requirements addressing this are included on page 21 of the EA. The air quality monitoring sites will be designed to monitor air quality over long periods of time. The impact of slash burning on days with good air drainage as described in the implementation requirements is expected to be low.

Wildlife

COMMENT: The Forest Service should follow WDFW's management recommendations for retention of wildlife snags. WDFW recommendations state that "an abundance of snags as well as broken, diseased, and dying trees, and live trees with cavities, heartwood rot, and insect infestations, should be preserved."Larsen & Morgan, supra, at 24. WDFW also recommends that snags be created by top-cutting trees rather than girdling.

RESPONSE: All snags and dead trees are proposed to be retained as stated in Appendix B, Implementation guide and vegetation management prescription, on pages 84-86. Girdling oaks is expected to produce a quicker decay rate than top-cutting so as to immediately address the lack of snags in the planning area. Project implementation will continue to be coordinated with WDFW biologists and the most desirable methods to produce snags will be addressed on-site.

COMMENT: Despite the EA's statement to the contrary, Vaux's swifts are likely present in the planning area. The planning area contains habitat suitable for Vaux's swifts and Friends staff have recently observed Vaux's swifts in the vicinity of Catherine Creek, which is near the planning area. The Forest Service should evaluate the projects impacts on Vaux's swifts.

RESPONSE: Vaux's swift may be present in this planning area, as they are commonly seen in other locations within the Columbia River Gorge while foraging in flight. The E.A. was evaluating the available nesting habitat for Vaux's swifts; considered to be large cavities within standing snags. This habitat is lacking within the treated units of this planning area. Vaux's swifts are neo-tropical migrants, arriving in early May and leaving by mid-September for central Mexico. No individuals of this species will be present during the fall and winter months when project implementation will occur.

COMMENT: The Forest service must consult with the US Fish and Wildlife Service, and/or the National Marine Fisheries Service (NMFS), as appropriate.

RESPONSE: All consultation requirements have been met under Section 7 of the Endangered Species Act. This includes project activity that is consistent with the programmatic consultation for forest management (fire program) as reviewed and concurred by the US Fish and Wildlife Service Lacey office, dated September 28, 2001.

COMMENT: The Forest Service has not submitted a site plan for public review that meets the requirements stated in the Management Plan on page II-97 and II-98. The site plan must include the location of sensitive species and habitat sites.

RESPONSE: To assure that the most current data is used to plan buffers, surveys for Western gray squirrel nest locations will occur in the year prior to unit implementation and are therefore not available at this time. Nest site locations are sensitive and are not released to the public.

COMMENT: Klickitat County is a core area for the Western gray squirrel, which is a Forest Service sensitive species and a Washington threatened species. EA pg 54. Western gray squirrels are particularly vulnerable to the proposed thinning activities because they are present in the planning area year-round and they do not hibernate. Western gray squirrel's primary food source is acorns. The proposed thinning activities are scheduled to occur during the fall and winter, which may adversely affect foraging squirrels because mature acorn species fall in September and October.

The impact of the thinning operation on western gray squirrels during the mature acorn production season should be analyzed more carefully particularly given the sporadic nature of acorn production. Oregon white oaks produce significant acorn yields only every few years. The removal of large numbers of oak trees may further reduce acorn production in the planning area. The timing of the proposed thinning operation may also present a danger to other species that rely on acorns for food such as acorn woodpeckers.

RESPONSE: Pages 50 and 54 of the EA discloses potential effects to oak-associated wildlife species, including disturbance to individuals of wildlife species due to thinning activities. Western gray squirrels are most active during the first few hours after sunrise, then again to a lesser extent in the late afternoon and evening. Hand-thinning activity has been proposed during the time of year and time of day (human business hours) that will incur the least possible impacts to these species while still attaining the goal of reducing the risk of catastrophic fire that will eliminate oak forest habitat for many years. The reduction of acorn production post-project is not expected to occur as only young and small trees, which produce few acorns, will be thinned from below the larger oak trees. These larger oaks are anticipated to produce more acorns post-project due to the reduction of competition from the younger, understory trees.

COMMENT: The WDFW recommends the retention of contiguous aerial pathways to facilitate migration of birds and western gray squirrels throughout the project area. WDFW states that "mixed oak/conifer associations should be retained where contiguous aerial pathways between oaks and conifers exist. Care should be exercised in determining where good mixed oak/conifer habitat ends and encroachment begins.

The EA does not address the need for aerial pathways, nor does it provide management direction for their retention. The Forest Service's site plan must include the location of sensitive wildlife and sensitive plant species and the location of riparian areas. Management Plan at I-123.

RESPONSE: Aerial pathways were considered during the planning process, which included project field visits in conjunction with Washington Department of Fish and Wildlife biologists. Aerial pathways will be maintained by retaining canopy cover. As stated on pages 92 and 94 of the EA, the canopy change will not exceed 20%. The majority of the treatment expects the canopy change to be less than 10%. WDFW's report, by Larsen and Morgan, recommends maintaining 25 to 50% canopy cover in oak woodland stands. In Washington, western gray squirrel nests have been found in canopy cover that varied from 25 to 80%. As noted on pages 84-86, post-projects stands within the thinning units will retain average canopy closure from 50-80%.

COMMENT: The US Fish and Wildlife Service agrees that thinning or removing trees 8 inches or less in diameter will reduce the risk of high-intensity wildfires, promote more open stands of large trees, and restore ecological stability of plant communities and the role of low-intensity fires.

Sections 23, 26, and 27 in the planning area include spotted owl (*Strix occidentalis*) habitat with connectivity to spotted owl activity centers located north of the project area. We recommend modifying the EA to include a discussion that describes the distance to spotted owl activity centers and the quantity of suitable spotted owl habitat that will be treated. Such a discussion would provide a more complete picture of the potential effects of the proposed thinning to this federally threatened species.

RESPONSE: The closest spotted owl activity centers have been documented 6 miles to the north, as well as 7 to 10 miles to the west. The EA conservatively evaluated the effects to spotted owls by presuming that there is owl use (dispersal, foraging and nesting) within section D of the planning area based on habitat potential (EA page 53). This area encompasses 120 acres and would be treated over a 5-year period (EA page 5 and 53). The thinning activity to reduce fuel accumulation is a fire program activity that has been informally conferenced with the US Fish and Wildlife Service on September 28 of 2001, with a determination that "programs and associated projects that are implemented outside the Limited Operating Period of March 1 through August 31 will have no effect on spotted owls"

Biodiversity

COMMENT: The Forest Service must not disturb old growth areas. "Old growth" is defined as, "Any stand of trees 10 acres or greater ... that contain mature and overmature trees in the overstory and are well into the mature growth state. . ."

The environmental assessment fails to identify how many acres of old growth exist in the project area and how the Forest Service will ensure that old growth areas are not disturbed.

RESPONSE: There are no stands in the Burdoin Mt. Project Area that meet the definition of old growth. We will not be treating any of the area identified by the Heritage mapping of old growth because it is designated Open Space. Stand type D currently contains mature over-story pine and fir with understory of Oregon Oak and immature pine and fir. However, this stand condition is the result of the removal of wildfire from the ecosystem. The Desired Condition for this stand type (see page 8 of the EA) would be characterized by fire-maintained early seral species of pine and Douglas-fir. In other words, it would be old growth with an entirely different definition, and will need treatment to get there.

COMMENT: The Management Plan requires a mix in the age and size of hardwoods in order to maintain vertical diversity. The management recommendations for Washington's Oregon white oak woodlands encourages the preservation of mixed age-class stands in oak woodlands because mixed age-class stands provides greater habitat diversity.

RESPONSE: Structural diversity (in all dimensions including vertical) was an important consideration in the development of the vegetation management prescriptions on pages 84-86 of the EA. Vertical diversity was addressed in three ways:

- **The requirement for untreated diversity islands,**
- **The maintenance of specified canopy closures (which will result in some retention of the target size classes),**
- **and the retention of layer 3 oaks.**

Sensitive Plant Species

COMMENT: Site plans and field surveys that indicate exact locations of sensitive plant species must be submitted to the Washington Natural Heritage Program (WN-HP) to determine the possible adverse impacts on the plant species.

RESPONSE: In the SMA, site plans are not required to be sent to the Washington Natural Heritage Program. The requirement states that "the site plan shall be reviewed by the Forest Service in consultation with appropriate state or federal agency..." Please refer to pp. I-124 of the Management Plan. Only two sensitive plant locations fall within the project area and both species inhabit open grassy areas which will not be impacted by this project except for potential pile and burn locations. Specific implementation requirements were included specifically for this reason (see page 23 in the EA).

COMMENT: At a minimum, a 200-foot buffer zone must be maintained around sensitive plants. New uses must be prohibited within the buffer zones unless the applicant demonstrates in a natural resources mitigation plan that no adverse effects would result. If a use is allowed within the buffer zone, then the applicant must demonstrate that the no practicable alternatives exist.

The EA explicitly states the Forest Service's intention to enter buffer zones for sensitive species. EA at 71. Because the Forest Service will enter buffer zones, it cannot demonstrate that "no adverse effects" would result from its thinning operations.

The Washington Natural Heritage Program has identified a site at Burdoin Mountain as an area that is especially sensitive to logging activities. Disturbances to the native plant communities could lead to a major invasion of weedy species. The Burdoin Mountain Natural Area may be impacted by the proposed thinning project because thinning activities are proposed directly adjacent to the area. The Forest Service should analyze the impacts to this important natural resource.

RESPONSE: This potential problem was addressed in the implementation requirements as described on page 22 in the EA. All noxious weed infestations will be avoided as much as possible to avoid potential spread. Infestations will be sprayed with herbicides such as Garlon and Round-Up.

COMMENT: The EA should discuss the potential site-specific impacts to the Burdoin Mountain area of using Round-up or Garlon to control noxious weeds.

RESPONSE: This project area is similar to the areas analyzed in the Noxious Weed EA for the NSA (including site conditions, habitats, etc). Given the similarities, we have referenced the effects in the Noxious Weed EA instead of repeating them here. In summary, both Garlon and Round-up are short lived herbicides with minor affects on soil organisms and other fish and fauna. The impacts from herbicide use will be kept minimal by not using them within 50 ft of water and using them only sparingly throughout the project area to help eradicate noxious weed infestations (including yellow star thistle and knapweed) and to help establish desirable native herbaceous communities as described in this EA. No herbicides shall be used within the buffer zones of sensitive flora. Application shall follow the implementation requirements outlined in the Noxious Weed EA. Following these precautions, the site specific impacts will be minimal (mainly some impacts to soil organisms, some impacts to native flora, and possibly some impacts to fauna) and, although there will be some short term impacts, the long term benefits shall greatly out-weigh the impacts.

Timber Harvest

COMMENT: The proposal states that the project is not a commercial timber harvest. However, the proposal anticipates that posts, poles, and firewood will be produced. Will the Forest Service use these in other projects, or will they be offered for sale?

RESPONSE: Timber harvest is not a purpose or a need for this project. There will be no timber sale contracting involved with this project. We plan to reserve some of the wood that must be removed from the forest for other habitat enhancement projects. The remainder of the excess material will be made available to the public through our special forest product or firewood programs. Whether it would be actually sold depends on whether the person applying for a permit is an individual using the product for personal use or a commercial operator.