

APPENDIX J – SUMMARY OF PUBLIC COMMENTS AND RESPONSES

INTRODUCTION

The Forest Service is directed to respond to substantive public comments on project proposals according to 40 CFR 1503.4. Substantive comments are defined as: “comments that are within the scope of the proposed action, are specific to the proposed action, have a direct relationship to the proposed action and include supporting reasons for the Responsible Official to consider” (36 CFR 215.2, rev. 6/2003). Examples of substantive comments are those which:

- Provide new information pertaining to the proposed action or an alternative.
- Identify a new issue or expand upon an existing issue.
- Identify a different way (alternative) to meet the underlying need.
- Provide an opinion regarding one or more alternative, including the basis or rationale for that opinion.
- Point out a specific flaw in the analysis.
- Identify a different source of credible research, which, if used in the analysis could result in different effects.

Responses to comments may include:

- Modification of alternatives, including the proposed action.
- Development and evaluation of alternative not previously given serious consideration by the agency.
- Supplementation, improvement, or modification of analyses.
- Factual corrections.
- Explanation of why the rationale, authorities, and sources were used in the Environmental Assessment (EA) and why the Forest Service position is maintained in the Decision Notice.

Fourteen organizations/individuals submitted letters during the draft environmental impact statement (DEIS) comment period of July 25, 2003 to September 9, 2003. We have attempted to accurately capture every substantive comment. The comments have been grouped according to their subject matter, and the source of the comment is shown following the comment. The Forest Service's response follows each comment or group of related comments.

DATE	ORGANIZATION	COMMENTOR
7/26/2003	American Forest Resource Council	Malcom R. Dick
7/29/2003		Christine Colasurdo
8/12/2003	SDS Lumber Company	Frank J. Backus
8/15/2003	State of Washington Department of Fish and Wildlife	William Weiler
8/26/2003		Susan Jane M. Brown
8/29/2003	USDI - Office of Environmental Policy and Compliance	Preston Sleeper
9/1/2003		Jim White
9/3/2003		John L. Frewing
9/3/2003	USDA - Forest Sciences Laboratory	Susan Hummel
9/4/2003	Northwest Ecosystem Alliance	Barbara Swanson
9/4/2003	Friends of the White Salmon River	Phyllis Clausen
9/8/2003	Gifford Pinchot Task Force	Brent Foster
9/8/2003		Rachel Haymon
11/4/2003	Environmental Protection Agency	Judith Lee

One comment letter from the Environmental Protection Agency was received after the close of the formal comment period. It is included in the cataloged responses.

One comment letter was received from The Mountaineers (Glenn Eades) after the close of the formal comment period. While not included in the responses catalogued here, the comment was taken into consideration in the formulation of the decision.

Ten letters were received after the close of the formal comment period that either repeated other timely comments or were considered to be general and non-substantive.

Organization of Comments and Responses

Public comments were summarized and organized in the following categories in this document:

CATEGORY	SUB-CATEGORY	PAGE
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COMMENTS / RESPONSES

Botany

Pale blue-eyed grass

Comment: Protect any populations of pale blue-eyed grass that are located during project implementation, including an immediate halt to any grazing that threatens these populations. (Brown)

Response: As noted on page 100 of the FEIS, there is only one known site for *Sisyrinchium sarmentosum* within the Gotchen planning area. This site was discovered in 1987, but District personnel have been unable to relocate the population since that time. *Sisyrinchium sarmentosum* is a Region 6 Sensitive Species, and Forest Service Manual (FSM) 2670 directs that, as a part of the National Environmental Policy Act process, programs and activities be reviewed, through a biological evaluation, to determine their potential effect on sensitive species (FSM 2670.31). The U.S. Forest Service is further directed to develop and implement management practices to ensure that species do not become threatened or endangered because of Forest Service actions (FSM 2670.22).

During the planning process for Gotchen, botanical surveys were conducted throughout the Gotchen planning area. No populations of *Sisyrinchium sarmentosum* were located. If any new populations had been discovered, or if any are discovered in the future, they will be managed according to the Forest Service Manual policy direction specified above. In summary, the District Botanist would make management recommendations designed to maintain species viability at the site (FSM 2670.22), and to prevent the need for listing of the species under the Endangered Species Act (FSM 2670.22). These management recommendations would involve the development of site-specific measures to control or limit threats to the species. Depending on the individual site, these recommendations might include establishing a buffer around the site to avoid direct impacts from project activities and control of noxious weeds at the site (these are examples). If grazing was determined to pose a threat to the site, mitigation would be addressed through changes to the grazing allotment annual operating plan, or through conducting an Environmental Assessment of the range allotment. The range allotment which encompasses the Gotchen planning area (the Mt. Adams Allotment) is scheduled for an Environmental Assessment (based on the need to renew the permit) in 2004-2005.

Desired Future Conditions

Comment: The Desired Future Condition (DFC) discussion (PP24-27) should be rewritten to reflect Gotchen's history. We suggest a straightforward discussion of the Gotchen LSR ecosystem and how the forest might be returned to a sustainable forest type. (Dick)

Response: The Desired Future Condition for the Gotchen LSR is based on our current management plans (Gifford Pinchot Land and Resource Management Plan – 1990 and the Northwest Forest Plan – 1994). We have brought additional information forward that question the long-term sustainability of the Gotchen LSR (Agee's report) in the FEIS (page 197).

Fire

Comment: What method was used to estimate emissions? (Hummel)

Response: Calculations for emissions produced are based on combustion phase averages (fire average) for mixed conifer species during the flaming and smoldering burning periods. Total emissions produced equal the fuel consumed times the emissions factor times the area burned. For this analysis, average consumption estimates in machine pile units is 26 tons per acre, and 10 tons per acre in hand piled units. Underburn in previously treated stands is estimated to be at 10 tons per acre.

Comment: DEIS does not specify which season is preferred for prescribed burning. We request that the agency burn primarily in the fall when there will be less adverse impacts to vegetation and wildlife. (Swanson)

Response: *Late fall and early winter are the preferred time periods for burning machine and hand piled slash. Underburns would be conducted in both the spring and fall time period. (FEIS, page 25; Mitigation Measure F1, FEIS, page 45). Because the burning window of opportunity is short in the fall, burning in the spring season is also considered. Specific burn plans are required mitigation measures prior to conducting any burn on National Forest lands. To mitigate the effects to the old growth ponderosa pine trees, raking or rapid mopup will be conducted around these trees if burning is done in the spring (Mitigation Measure T2, FEIS, page 49).*

Fire Behavior

Comment: Requests that the agency utilize models (FOFEM/BEHAVE) to determine the changes to fire behavior parameters such as flame lengths, flame heights, torching and independent crown fire behavior. (Swanson)

Response: *The BEHAVE fire program model has been used for many years in the Region and Gifford Pinchot National Forest. Fire behavior parameters including projected flame lengths, flame heights, rates of fire spread, intensity levels and spotting potential have been used to analyze the proposal. The FOFEM model was not used for this analysis. This model was developed in the interior west (rocky mountain region) and it does have some broad application that would apply to our area, however some regions report the model over-predicts mortality in ponderosa pine, large Douglas-fir and white fir. The woody fuel algorithm, smoke production and soil heating components of the model are theoretically based and were not developed for one particular area. The existing plant association and fuel loadings in the Gotchen Planning Area are unique in a sense that they contain both east side and west side Cascade mountain characteristics. The BEHAVE fire model, coupled with on the ground validation from local fire expertise analyzed the likely outcomes of the proposed actions. The projected outcomes are likely to be equal to or of higher confidence than that of many of the more recent models, which have limited ground validation in areas such as Gotchen.*

Comment: Are all discussions of current and future fire behavior and intensity based on BEHAVE predictions? Are the results & assumptions on file somewhere? (Hummel)

Response: *The primary fire behavior predictions are based on BEHAVE. The results and assumptions are on file in Fire Management in the Gifford Pinchot National Forest Headquarters in Vancouver. Other data utilized includes fuel exams from site visits as well as data, actual observations, and model projections from the recent Salt Creek fire of September 2000. (FEIS, page 56.)*

Comment: The present alternatives will not alter fire behavior under aggressive fire conditions. ... We suggest analysis of three scenarios; light, medium and severe fire activity. (Dick)

Response: *Under the "High" and "Extreme" fire weather condition the proposed actions may not stop the spread of or the intensity of a fire. The proposed actions would modify the vegetation and fuels thus increase the likelihood of fire containment with suppression forces. The overall fire prevention/suppression strategy has not changed on the Gifford Pinchot National Forest and all fires in the Gotchen Planning Area will continue to be suppressed. Wildfires occurring in the last twenty years have been small and suppressed at or under _ acre in size. . . . The probability of an intense fire exists however, at a low to moderate chance. (FEIS, pages 55, 57, and 148.)*

Comment: What is the basis for removing all snags down to the assumed 100% snag level from a fire perspective?

Response: *"A substantial density of snags will add to the down woody material debris totals over the next decade regardless of whether a fire occurs. While coarse woody debris is not a factor in surface fire potential models, intense fires may receive an important contribution from large fuels" (Hummel, S. and Agee J. K., "Western Spruce Budworm Defoliation Effects on Forest Structure and Potential*

Fire Behavior”, pg 166.) High volumes of large diameter fuel pose two concerns in wildfire situations, once ignited, the intensity and burning duration may be too great for individuals to suppress the fire without additional equipment such as dozers or engines, and once these fuels decay, the surface to volume ratio changes increasing the flammability of these fuels. (FEIS, page 56.)

Shaded Fuelbreaks

Comment: Disclose the importance of the Shaded Fuelbreak in unit EE. (Swanson)

***Response:** Unit EE is in Alternative C only, the created Fuelbreak ties into the Aiken Lava beds to the north and the aspen restoration project to the south. The proposal calls for a Fuelbreak, not a Shaded Fuelbreak. Past fuel treatment programs are often disjointed and scattered across the landscape, the scale of treatment likely affects their efficacy. The intent of proposed unit EE is to connect the treated area into other planned treatment areas in order to create a functioning Fuelbreak at a larger scale.*

Comment: Question the costs and benefits of the Shaded Fuelbreak along Forest Service Road (FR) 82 in Alternative C and at the very least believe it should be changed to a Fuelbreak.

***Response:** The cost of creating a Shaded Fuelbreak is higher than that of a Fuelbreak. Estimated cost per acre based on 2003 data is \$250-750. This estimate does not include long-term maintenance underburn costs. The benefit and value of the treatment is to create a functioning Fuelbreak at a larger scale. The proposed Shaded Fuelbreak along FR82 will break up the fuel concentrations along the east side of the planning area, tie into the proposed units of the matrix land allocation and the Yakama lands to the north. The treated areas may be utilized as control or containment lines in the event of a large fire moving on or off of National Forest lands.*

Fuel Load

Comment: Disclose the surface fuel loading levels before the project as well as the post-project target. (Swanson)

Comment: How many tons of fine fuels will be created as a result of project implementation? (Brown)

***Response to the preceding two comments:** Existing surface fuel loadings range from 12 tons per acre to over 40 tons per in the fuel model 8 and 10 areas of the Gotchen Planning Area. Post treatment goals are to establish a 15-ton per acre or less in the Shaded Fuelbreak areas with a major component of this in the greater than three inch size class. (FEIS, pages 150–152.) Estimated fuel loads created from the proposed activity range from 10 to over 60 tons per acre with the majority in the three-inch size class. Existing Fine fuel levels range 1 to over 6 tons per acre and expected to double from the proposed action alternative.*

Comment: Monitor surface fuel loadings after the fuel treatment to insure that the target is met and to outline a contingency plan should the target not be met. (Swanson)

Comment: Carefully monitor the burning of slash piles to insure the threshold for detrimental soil disturbance is not exceeded. (Brown)

***Response to the preceding two comments:** Monitoring of fuel loading following treatment is incorporated in Fire Mitigation Measure F2 in the FEIS on page 56. Monitoring Plan will be prepared for mitigation measures based on the Monitoring Questions posed in the ROD.*

Stand Replacing Fires

Comment: The DEIS states that fuel loading has increased to the point that direct attack may be unsuccessful in containing a large, stand replacing fire ... Hummel/Agee demonstrates that while potential surface fire flame lengths have increased since 1992, the fuel loadings will not support a large, stand replacing crown fire. (Swanson)

Response: *The likelihood of sustained stand replacement fire in the high mortality areas of the Gotchen Planning Area is low to moderate. The increase in surface fuels buildup in these areas will increase fire intensity levels and reduce the ability to contain them with fire suppression resources. Stand replacement, high intensity fires are a rare but anticipated event in the mid to high elevation areas of the Gotchen Planning Area. This is a correct statement today, as well as in the near future. (FEIS, pages 146.)*

Comment: Actions are not sufficient to prevent a catastrophic fire and the likely spread to private and state lands. (Backus)

Response: *The proposed actions may not be effective in preventing a catastrophic stand replacement type fire from moving off of forest and onto private, reservation, and state lands. It is recognized that fuel treatments do mitigate fire severity, and that the action alternatives do change and modify the potential spread and intensity levels of fires within the Gotchen Planning Area. It is also recognized however, in extreme weather conditions such as drought and high winds, fuel treatments may do little to mitigate fire spread or severity in fire-prone vegetation types. (FEIS, page 147 – 148.)*

Treatment

Comment: State in which units grapple pile and burn will be utilized as a method for surface fuels reduction. (Swanson)

Response: *Machine pile and hand piling and burning of created slash is included in all of the action alternatives as the initial treatment to reduce the hazardous fuels with the exception of Unit R, which is a understory burn in a 38 acre plantation. (FEIS, page 149.)*

Comment: State how many large slash piles will be created and burned in this project. (Swanson)

Response: *Estimates range from 15 to 20 (on average) and greater in areas of high mortality. Emphasis will be placed on utilization in order to minimize the amounts of created slash piles through firewood gathering, chipping along primary roads, or other uses.*

Comment: State if slash burning will be avoided in units S, T, U, and X. (Swanson)

Response: *Slash burning is prescribed in units S, T, U and X in Alternatives B and D. In Alternative C, unit T is dropped, unit U is incorporated into unit S, both of these units propose prescribed slash burning.*

Comment: Number of acres treated does not necessarily serve as a measure of fuels reduction treatment efficacy. (Swanson)

Response: *Maximizing the number of acres of surface fuels treated or acres of hazardous fuel removed by various means limits the potential and probability of fire ignition and fire spread. In general, the more acres treated or existing hazard removed increases the efficacy and probability of success. Land managers have been employing fuel treatments for decades in order to reduce wildfire hazard. To date, minimal scientific evidence to support or measure the efficacy of proposed treatment exists. Fuel treatments reduce fire severity and spread.*

Creating contiguous fire treated stands and Shaded Fuelbreaks around high value areas in a large-scale approach is of high value in protecting and maintaining desired features.

Much of the southern portion of the Gotchen Planning Area is at risk due to the absence of fire. By utilizing prescribed fire, the increase of numbers of acres burned will perpetuate fire dependent species and reduce the likelihood of intense fires.

Comment: Encourage the most effective treatment that is recognized to reduce hazardous fuels which includes mechanical treatment to remove fuels followed by prescribed fire. (Brown)

Comment: Reassess prescribed burns in areas where cattle have eliminated much of the herbaceous understory. (Weiler)

***Response to the preceding two comments:** Due to the high volume of fuels existing and expected to be created by the action alternatives, the fuels treatments will include initial removal by mechanical means, machine and hand piling and fall burning. Underburns and future maintenance burns will be conducted as needed during the spring and late fall season in order to maintain desired conditions. Prescribed fire will not be used in areas that have minimal slash concentrations or in areas cleared of flammable vegetation due to heavy browse from cattle. (FEIS, page 148.)*

General

Comment: One of the problems with the DEIS is the difficulty of discerning major differences between the alternatives (except the no action alternative). It is our understanding that NEPA requires a range of dissimilar alternatives. (Weiler)

***Response:** All of the action alternatives were designed to meet the objectives for the project and address the significant issues. Page 20 of the FEIS describes the approach that the IDT conducted in determining the areas that would be considered in developing the alternatives. Every acre proposed for habitat-disturbing treatment is subject to surveys for cultural resources, survey and manage species, and species protected under the Endangered Species Act. It was necessary to determine “up-front” which areas were thought to be the highest candidates for proposed treatment as defined by the project’s purpose and need. This approach limited the areas that would be considered in developing the alternatives. However, all three alternatives have a different treatment intensity level, which produce different effects and outcomes..*

Comments: The DEIS is unclear in stating the objectives and in clearly showing how the preferred alternative better meets the objectives. I found no place in the document that clearly brought out the dual objectives of maintaining late-successional habitat, while protecting that habitat from loss due to large-scale disturbance. (White)

***Response:** The DEIS does not have a preferred alternative. It does have a proposed action, Alternative B (Chapter 2 – DEIS). Pages 11 – 12 of the FEIS states the key challenge in managing the Gotchen landscape is to find the right balance between the Desired Conditions of the late-successional reserve and the overall health of a dynamic landscape. The IDT feels the purpose for action, as stated on page 4 of the FEIS, adequately states the objectives (goals) to be attained. However, the IDT has agreed to drop goal #6 from the FEIS “Harvest insect and disease-damaged trees before they lose their commercial value”.*

Comment: Your impact analysis should show that over time, the activities of a particular alternative will proceed according to a given sequence, ie you will not do item F until item E is funded and accomplished. (Frewing)

***Response:** The IDT attempted to show the “Relative Ranking of Implementation” in Appendix F (Treatment, Priorities, and Methods). Several tools and funding sources are available to the Forest Service to assist in the implementation of Alternative C. A Stewardship Contract will be utilized which will allow us to treat some of the uneconomical stands, within the Gotchen LSR, along with the economic stands within the Matrix. National Fire Plan funding has also been requested in Fiscal Year 2004 and Fiscal Year 2005 to treat the LSR stands.*

Comment: None of the alternatives address the current forest conditions and the biological inability to maintain late succession forest in the Gotchen planning area. (Dick)

Response: Refer to FEIS, page 4, pages 11 – 12, page 58, and pages 176 – 177.

Comment: The final EIS should reflect the inevitable natural ecological changes ahead and should discuss how the planning area can be managed to avoid catastrophic change. . . . (Dick)

Response: *The Vegetation analysis (FEIS, page 197) addresses this issue. In 50 years, all of the alternatives, assuming no additional treatments in the LSR, will be outside the range of natural variation. To help avoid this unnatural condition, the FEIS highlights the scientific need to re-enter the LSR portion of the Gotchen planning area in the future, on a regulated basis, and continue the effort to reduce the stand densities, reintroduce early seral species, and maintain these stands through underburning. (Vegetation Analysis Chapter 4 DEIS).*

Grazing

Comment: You have not included an alternative that emphasizes the return of the area to natural conditions, specifically, which excludes grazing by cattle. I feel that the impact of cattle on riparian resources is every bit as damaging as well-managed timbering. Please examine and state your evaluation of cattle removal as part of at least one alternative. (Frewing)

Comment: We believe that grazing permits should be phased out because of the damage that cattle do to vegetation and soil. (Clausen)

Comment: I hope that cattle range allotments on the Mt. Adams will not be renewed next year, to reduce human caused environmental impacts on Mt. Adams, (Haymon)

Comment: The Mt. Adams Cattle and Horse Allotment occupies most of the planning area. DEIS, 111. It is far from clear how grazing is compatible with LSR direction, especially given the ecological damage to soils, water quality, botanical diversity, and mature and old growth wildlife habitat that grazing causes. The NFP indicates that grazing can and should be moved out of LSRs when that activity is incompatible with LSR objectives. ROD, C-17. (Brown)

Comment: Although the Forest Service may maintain that it is outside the scope of the Gotchen EIS to discuss cessation or relocation of grazing, the National Environmental Policy Act counsels otherwise. 40 CFR 1502.14(c). Considering removing cattle from Gotchen is a reasonable action that should be considered in this EIS. (Brown)

Comment: In lieu of removing cattle from the Gotchen LSR, it is imperative that aquatic sources, riparian reserves, and mardon skipper and pale-blue-eyed grass habitat be fenced to exclude cattle from these sensitive areas. DEIS, 221. Whatever exclusion devices that the agency decided to utilize, there should be extensive monitoring of exclusions to ensure that these areas are adequately protected. (Brown)

Comment: Fence off Mardon Skipper habitat from cattle. (Foster)

Comment: Any plan to improve habitat conditions and ecosystem resiliency in the Gotchen area that does not carefully address grazing would lack credibility. (Foster)

Response to preceding eight comments: *Cattle grazing, within the Gotchen Planning Area, is currently allowed under the 1995 Mt. Adams Grazing Allotment EA. The ten-year grazing permit will expire in December of 2004. We will be conducting public scoping and preparing a new environmental assessment next year (2005) to ensure that this activity is in compliance with the standards and guidelines within the 1991 Gifford Pinchot National Forest Management Plan.*

The members of the IDT have expanded their effects analysis to address the grazing issue. It is anticipated that the risk reduction activities within the LSR (density management) and within the Matrix (increase early seral species) will “open” the forest canopies and produce increased forage for both wildlife and cattle. This activity will help distribute the cattle within the allotment and help take

the pressure off of the high use areas. The 25 foot “no treatment” activity along the riparian areas will also help deter cattle damage within the inter portions of the riparian areas. In addition, the IDT has agreed to include a new fence construction project to be located around the 12 acre Aspen restoration project in the Gotchen Meadow area. The purpose of this fence is to exclude the cattle and allow the natural aspen regeneration to occur after the small encroaching conifers are removed. This action will also have a direct benefit on the mardon skipper butterfly.

Comment: Consider temporary exclusion of cattle in thinned areas. (Foster)

***Response:** Soil conditions within areas prescribed for understory thinning will not be highly disturbed and will not be conducive to the establishment of invasive species following treatment. These areas will be thinned with a chainsaw and the heavy fuel concentrations will be grapple piled and the piles will be burned. The District plans on utilizing Congressionally appropriated funding to monitor and treat (hand pulling) new and existing invasive species. Identified weed populations will be documented and revisited after initial treatment as appropriate.*

Comment: Install cattle-exclusion fencing at the landscape level, as part of the risk reduction project. (Weiler)

***Response:** The Mt. Adams Cattle allotment covers approximately 32,988 acres and the Gotchen Planning Area is within the allotment. Currently, the permittee is authorized to graze 516 cow/calf pair from June 1 to September 30. It is economically infeasible to construct the quantity of fence necessary to exclude cattle from the entire planning area. To minimize impact to sensitive mardon skipper butterfly habitat and the aspen groves around Gotchen Guard Station, approximately 11 acres will be fenced to exclude cattle in the Gotchen Meadow area.*

Hazard Trees

Comment: Do not remove "hazard trees" around Gotchen Guard Station ... Consider topping them. (Weiler)

Comment: Oppose cutting hazard trees around the guard station to the stump, they could be cut at a higher height that provides for dead snags for bats and other cavity nesters while addressing the threat to the guard station. (Foster)

***Response to the preceding two comments:** Topping trees to remove a hazard, yet retain benefits to cavity-nesting species would adversely affect the historic setting of the Gotchen Guard Station. There would as much visual impact from topping as there would be from removing the tree entirely unless the tree were topped so high as to defeat the purpose of removing the hazard. Mitigation Measure C2 (FEIS, page 45) calls for minimizing the vegetative manipulation, including the removal of grand fir and aspen hazard trees, within 50' of the Gotchen Guard Station.*

Hydrology

Comment: Show the locations of the two streamflow-gaging stations on the WSR on a map figure (DEIS pg 136) (Sleeper)

***Response:** As stated by the commenter, a map would have helped this discussion. The actual location and size of the drainage areas was not critical to the discussion. The main point of this portion of the analysis was to point out that discharge in the White Salmon River is not significantly increased in the reach bracketing the mouth of Gotchen Creek, and in fact that measured discharge actually decreases in this reach (FEIS, pages 128 - 129). The discussion was included in the EIS as supporting evidence that Gotchen Creek does not have significant surface flow contributions to the White Salmon River—even during annual floods. With regards to the timing of the peaks at these two stations and the potential for a lag due to travel time, in this case, due to the proximity of the stations, peaks typically occur on the same day.*

Comment: Data shown in Figure 3-3 be shown on a basin-yield basis, i.e., cubic feet per second per square mile (DEIS pg 136) (Sleegeer)

Response: *The comment is accurate. Showing the data from Figure 3.3 as a water yield per unit of drainage area would further facilitate making the point that the Gotchen Creek drainage has different runoff characteristics than most others in the area. There are numerous additional ways this data could have been displayed, and the choice of a chart of discharge over the basin-yield was simply done by the choice of the author.*

Comment: Include a section discussing these portions of the hydrologic cycle and the potential impacts of the proposed action on ground water. (DEIS pg 137) (Sleegeer)

Response: *The commenter correctly points out that some of the precipitation falling on the Gotchen Creek subwatershed may be lost to evaporation and to groundwater. The author assumed that the losses to evaporation in the Gotchen Creek subwatershed would be similar to those in adjacent subwatersheds, so would not be a significant factor in describing the unique characteristics of the Gotchen Creek subwatershed runoff. The movement of incident precipitation into the groundwater is discussed on page 133 of the FEIS and on page 7 in the full Hydrology Report, which is located in the Gotchen Project Record and is available upon request from the Mt Adams Ranger District. The Hydrology Report was summarized and condensed for inclusion to the EIS.*

Essentially the Gotchen area is seen as being one of the major sources of spring water that is delivered to the White Salmon River in downstream reaches. As stated in the report, we suspect that most of the precipitation incident on the Gotchen Creek subwatershed in fact does go to groundwater, and later shows up in springs on the White Salmon River.

Comment: Reconcile (DEIS pg 138) miles air temperature/precipitation is measured at Trout Lake. Is it 2 or 3 miles from project area?

Response: *The discrepancy in location of the Mt Adams weather station relative to the Gotchen boundary will be corrected in the FEIS to show that the weather station is approximately 3 miles from the southern boundary of the Gotchen planning area.*

Comment: DEIS states that the amount and fate of water draining through subsurface pathways is unknown, if possible this information should be estimated. (DEIS pg 140) (Sleegeer)

Response: *Several mechanisms are involved in the loss of water from Gotchen Creek. As indicated on page 133 of the FEIS, the primary factors appear to be from direct diversions and from infiltration to the channel bottom—both of which have been observed by the author and District personnel who have worked in the area for many years. A water budget and measurements of infiltration as suggested by the commenter would certainly help identify and quantify the losses. However, due to the scale and intensity of the proposed activities, and the relatively small hydrologic changes expected, this further level of data collection and analysis did not seem warranted.*

Comment: Develop a water budget for the area and measure infiltration, or identify an alternative mechanism for ensuring that infiltration is a dominant process as reported. (DEIS pg 140) (Sleegeer)

Response: *Regarding the potential for flooding in response to decreased infiltration, we feel that infiltration in the uplands will actually be enhanced by this project through the scarification of numerous old skid trails and decommissioning of existing roads (FEIS, page 261). With respect to changes in evapotranspiration, it is true that this project could effectively reduce evapotranspiration by removing forest cover. However in light of the fact that this area historically had far fewer trees (the high density of trees being central to the problem with budworm, fuel buildup and forest health issues being treated with this project), we feel that a reduction in evapotranspiration would if anything be an improvement and move the system toward the pre-human disturbance condition of the watershed in terms of evapotranspiration.*

Comment: Describe how it was determined that this water would run off and not infiltrate (DEIS pg 254) (Sleeper)

Response: Refer to page 257 of the FEIS: “Those areas that lost canopy cover (as a result of stand replacing fire) would be expected to generate more water for runoff...” The analysis does not argue that there would be more surface runoff, but that there is more water available to runoff. As described throughout the document, there is very little surface flow in this area, and the increases in water available for runoff are not expected to be translated into actual increases in surface runoff due to the high infiltration rates in the upland and in the stream channels. (FEIS, pages 128, 132 – 133, 258 – 262).

Comment: The FEIS should discuss more clearly the quality of water in the Gotchen Planning area and how the FS will prevent degradation of unimpaired aquatic resources within the project area. (EPA)

Response: There is little water quality data for the Gotchen area. As stated in the EA, there is extremely little surface water in the planning area throughout most of the year, and no surface water connectivity with downstream waters. Water quality will be protected by the implementation of Riparian Reserves as described in the Northwest Forest Plan. Within these Reserves, site specific prescriptions have been developed to protect water quality and channel integrity. Mitigations included in the EIS require that no equipment be operated within the Reserves, and that no treatment at all occur within 25' of streams (FEIS, pages 276 – 279).

Comment: While the DEIS states all streams meet state water temperature standards within the project area, the document is not clear if other parameters, like fecal coliform or turbidity, meet or exceed state standards. In addition, where project area resources meets state water quality standards, the FEIS should disclose how the FS will protect these resources from degradation. (EPA)

Response: No data has been collected on turbidity or fecal coliform in the Gotchen area. One fecal coliform sample was collected from the White Salmon River downstream of the Gotchen planning area in the mid-1990's, and showed that fecal coliform levels at that location and at that time in the White Salmon River met state water quality standards. Water quality is discussed at length in the EIS with respect to the potential for sediment delivery to streams (FEIS, pages 279 – 283). Protection of aquatic resources and water quality is achieved through a system of Riparian Reserves and the inclusion of a 25' buffer along perennial streams. Decommissioning 6.3 miles of road under all action alternatives, except C¹ would have a beneficial effect on water quality over the long term (FEIS, pages 279 – 283).

Late-Successional and Old-Growth Forest (LSOG)

Comment: The DEIS acknowledges that mature forest in the matrix will be harvested under all action alternatives. DEIS, 33. The Forest Service is well aware of the controversy surrounding the harvest of mature and old growth forests, and is reminded that coupling mature logging with much needed restoration can lead to project implementation delays. Although it is a legitimate goal to plan timber harvest so that the commercial value of the timber is realized, it is recommended that the Forest Service consider not including mature forest as part of the Gotchen prescriptions. (Brown)

Response: No “old growth” forests will be harvested under the Gotchen FEIS. However, several of the matrix stands contain trees that are approximately 100 years old. Research, backed by sound science, has illustrated the fact that for early seral conifer species to become established and have adequate growth, the canopy must be reduced to allow sufficient light. All of the proposed matrix stands proposed for regeneration will have a residual canopy cover after harvest activities (Map Packet – Table 2 – Alternative C). These green, residual trees will be retained from the largest diameter existing trees currently within the stand and ideally early seral species with a limited number of grand fir trees. Most of the harvested trees will be grand fir, which historically was not a major component of these forests. They are today because of fire exclusion.

Comment: Alternative B and C propose to treat Unit M as a ponderosa pine understory thin. DEIS, 44; 48. The DEIS explains that 2/3 of the stand will be treated, and remove 6-20" dbh ponderosas from the unit. I recommend that the Forest Service refrain from removing the large diameter trees from the area, not only for their biological legacy value, but also for their value in slowing the spread of wildfire. Consider revising the prescription in Unit M to protect the larger diameter trees in the planning area while focusing on the removal of the smaller diameter fuels. (Brown)

***Response:** Agree! The silvicultural objective in this stand is to remove only the understory, which is mostly grand fir. Healthy western larch and ponderosa pine trees within the understory will be left or thinned if existing in dense pockets. No large diameter ponderosa pine trees will be harvested.*

Comment: Similarly, the DEIS notes that "no live trees greater than 21 inches would be cut in the LSR." DEIS, 187. Please consider retaining all trees larger than 21 inches in the entire planning area: large trees – whether alive or dead (snags) – are critically important to wildlife and ecosystem function, and there is a recognized lack of these features across the GPNF.

***Response:** The silvicultural prescriptions, within the matrix, will retain a post harvest canopy cover (map packet – Table 2). Green trees, from the largest diameter class, will be retained. In addition, all of the matrix stands have been entered in the past with a partial harvest, which removed most of the large diameter trees. The IDT believes that that the majority of the trees to be removed within the matrix will be below 21" dbh. However, the IDT wants to retain flexibility in removing most of the grand fir from these stands and is reluctant to limit the cut tree diameter.*

Dead trees (snags) will also be retained from the largest diameter class, if not considered to be a safety hazard to the public and/or loggers.

Late-Successional Reserve Harvest

Comment: The DEIS states that no trees larger than 21" dbh will be harvested within the Gotchen Late-Successional Reserve. However, the Northwest Forest Plan precludes harvest of late-successional ("mature") forest within LSR's that are more than 80 years old. Northwest Forest Plan Record Of Decision (NFP ROD), C-12, but see C-12 ("silviculture east of the Cascades"). Are the 21" dbh trees proposed for logging 80 years old or less? If not, the diameter cap for timber harvest must be reduced to coincide with age class, not diameter class. (Brown)

***Response:** Within the LSR maximum green tree diameter cut is 10" dbh. Target canopy cover retention of 50% will be accomplished from "thinning from below". This means removing the smaller diameter trees in the understory and retaining the larger, older diameter trees. However some trees, greater than 80 years old could be cut. The NFP ROD gives us the following direction (C-13). "While risk-reduction efforts should generally be focused on young stands, activities in older stands may be appropriate if: (1) the proposed management activities will clearly result in greater assurance of long-term maintenance of habitat, (2) the activities are clearly needed to reduce risks, and (3) the activities will not prevent the Late-Successional Reserves from playing an effective role in the objectives for which they were established." The IDT believes that we have met the above conditions.*

Logging

Comment: I strongly urge the Forest Service to forego logging and consider small burns to open the Gotchen forest. . . . (Colasurdo)

***Response:** Within the last ten years, the portions of the Gotchen area have experienced high levels of defoliation, from the western spruce budworm, in excess of 8,000 acres. The level of defoliation and tree mortality in portions of the Gotchen area currently exceed normal levels due to the abundance and distribution of an understory of grand fir. From a fire perspective, this results in a distribution of*

vegetation with increased surface and ladder fuel loading that are considered far above historic levels. . . . Fire intensity levels have increased and crown fires may now occur in this forest where they were once rare.

Without “pretreating” the area through vegetative manipulation (logging and reducing the density of the understory), we risk the creation of “too hot” of a underburn, where control and possible loss of habitat, especially in the LSR, could occur. The IDT has proposed underburning on several hundred acres, but only after the areas have been “prepared” for underburning.

The FEIS for Gotchen Risk Reduction and Restoration Project is not part of the Healthy Forests Initiation, which the Bush Administration and Congress are currently discussing.

Noxious Weeds

Comment: DEIS 110, Require all equipment be cleaned before entering the planning area and closely monitor to ensure these requirements are met. (Brown)

Response: Refer to Mitigation Measure B3, (FEIS, page 46). To prevent the introduction of noxious weeds into the project area, all heavy equipment, or other off- road equipment used in the project is to be cleaned to remove soil, seeds, vegetative matter or other debris that could contain seeds. Cleaning should be done before entering National Forest Lands, and when equipment moves from units or areas known to be infested into other areas, infested or otherwise. An inspection will be required to ensure that equipment is clean before work can begin. (Equipment cleaning clause Wo-C6.35).

Comment: Implement a weed control plan in the surrounding areas before the project is implemented . . . Map areas of infestation and areas free of pests to insure weed free areas are maintained. (Swanson)

Comment: Complete a current weed survey and treatment plan within the project area prior to any ground disturbing activity. (Foster)

Response to the preceding two comments: Treatments will be repeated up to 5 years after completion of the project as necessary to control or eradicate weeds in the area. A brief report documenting the species found, their abundance, treatments applied, and results of treatments is to be filed with the District Botanist.

In addition to the specified mitigation measures, the Gifford Pinchot National Forest is working to strengthen its Noxious Weed Program in a variety of ways. Starting in fiscal year 2003, data on weed infestations on the Gifford Pinchot National Forest are being entered into the Natural Resource Information System (NRIS) database. Use of this database is facilitating mapping and tracking of weed populations on the Forest. We anticipate that use of this database will make future weed control efforts more effective by making data on weed infestations more accessible, more easily updated, and more easily tracked over time. Within the Gotchen planning area this means that we will have a greater understanding of the spatial extent and pattern of existing weed infestations along access roads into treatment units, and in other areas within dispersal distance of these units. This information will aid us in developing effective methods for, and prioritizing treatment of, existing infestations. It will also provide us with an accessible way to track newly discovered infestations, which will allow for more timely and effective treatment.

Comment: Additional treatments during and after project implementation should also be planned for and specified in the FEIS. . . . Judicious use of rapidly degrading herbicides should be considered as a part of the proposed project. (Foster)

Response: Considerable progress in noxious weed control on the Gifford Pinchot National Forest has been made in the last three years through the Forest’s partnerships with Skamania and Lewis Counties, with which we have successfully co-sponsored weed control project proposals for Title II

RAC project dollars. This money has been used to control roadside populations of weeds during FY02 and FY03, and to sponsor public education activities.

During fiscal year 2004, the Gifford Pinchot National Forest will be participating in the development of a subregional weed EIS, in partnership with Region 6 of the U.S. Forest Service, Olympic National Forest and Mt. Hood National Forest. The purpose of this action is to provide for more timely and effective treatment of infestations at known sites by creating opportunities for us to use a wider variety of methods (including herbicides in appropriate situations), and will allow quicker and more effective response to newly discovered infestations.

Noxious weed invasion and spread is a landscape level problem that needs to be addressed at a landscape level to ensure successful control in the long term. We have designed specific mitigations to address local concerns within the Gotchen project area. By combining these efforts with pro-active inventories and control across the Forest landscape, which we are working towards accomplishing through the processes and partnerships mentioned above, we are optimizing our current opportunities for successful control of noxious weeds on the Forest.

The above measures constitute the weed control plan for the Gotchen Project. All measures that we propose are based on our current understanding of noxious weed infestations in the Gotchen planning area, which result from observations made during Sensitive Species surveys and Survey and Manage plant surveys. We recognize that because weed focused surveys were not conducted during the planning process for the Gotchen project, our information on infestations within the planning area is incomplete. However, we have incorporated mechanisms within the mitigation measures to allow for prompt treatment and monitoring of sites that may be identified during and after implementation of the project.

Comment: Treat roadsides adjacent to the project area and monitor infestations before, during and after the project is implemented. (Swanson)

Response: In all project units, along access roads, on landings or in areas adjacent to project areas with known weed infestations, mitigation to control and eradicate noxious weeds (Class A and B and selected C) will be accomplished by following the guidelines outlined below.

1. To control the introduction and spread of noxious weeds, landings and skid trails are to be ripped, seeded and fertilized as soon as judged reasonable (based on implementation constraints as well as proper seeding season) after project completion. Native seed derived from seed lots collected on the District or Forest should be used **when appropriate** (based on availability and location). The following native seed mixture, fertilizer, and application rates are recommended: blue wildrye (*Elymus glaucus*) 65%, slender hairgrass (*Deschampsia elongata*) 35% by weight. Apply mixture at ~100 lbs/acre. Fertilize using 20/20/0 fertilizer at 300 lbs/acre. Native seeds from other species may be available in the future and could be used if agreed to by the District Botanist. The District Botanist should be consulted for alternate seed mixture options in situations where use of native seed is not deemed practical based on availability or project location.
2. To control known populations of weeds within project areas, on adjoining and/or access roads, and other areas with potential for dispersal within the vicinity of project areas, weeds will be removed by hand pulling or by other methods determined to be appropriate.
3. Any new populations of weeds located during project development or implementation will be documented and treated, as specified in 2.
4. Areas with concentrated cattle use (including near water sources) within the Gotchen planning area will be surveyed and treated annually.
5. Identified weed populations will be revisited after initial treatment as deemed appropriate, to check for and control re-occurrence (see Mitigation Measure B3, FEIS, page 46).

Riparian

Comment: We recommend that no treatment occur within at least fifty feet of riparian areas. (Clausen)

Comment: I also hope that riparian areas will receive adequate protection from the impacts of the proposed treatments and recommend 100-foot setbacks of treated areas from any riparian zones. (Haymon)

Comment: The DEIS states that no harvest will occur within 25 feet of streams. DEIS, 42. However, the NFP requires stream buffers much larger than this. ROD, C-30 – C-31. Please clarify why such a small buffer is proposed and permitted in harvest units. (Brown)

***Response to the preceding three comments::** The FEIS contains several mitigation measures (H1, H2, and H6), which are designed to help protect the riparian areas and ensure that the Aquatic Conservation Strategy, as stated in the NW Forest Plan, is achieved. Mitigation measure H2 specifies that no trees will be cut within 25 feet of the stream channel (FEIS, page 48). The objectives of entering and treating the riparian areas are to reduce competition (light, water, and nutrient) between trees and to accelerate the growth of the desired remaining trees. The riparian treatment also promotes species diversity, reduces the grand fir component, and promotes variability in stand density and structural character. These treatments would not retard or prevent attainment of Aquatic Conservation Strategy objectives and in fact help maintain and restore the aquatic function the Gotchen area.*

Roads

Comment: We request the Agency disclose how road closures/decommissioning will be prioritized and funded. (Northwest Ecosystem Alliance)

***Response:** Road closures/decommissioning priority will be to close/decommission those roads that are currently causing resource damage. Of the 24.8 miles scheduled for closure/decommission, only the 8225-150 is currently causing some resource damage, thus this road segment will be our top priority. Congressionally appropriated watershed funding or RAC funding will be requested to fund this project.*

The remainder of the roads will be closed/decommissioned from the same funding sources, except those roads that will be utilized to remove commercial timber. For these roads, KV funding, from the timber sale receipts, will be requested.

Comment: We request the Agency disclose the post-project road density in the event the proposed road closures/decommissioning does not occur. (Northwest Ecosystem Alliance)

***Response:** Page 261 FEIS (Table 4-40) shows the current and projected road densities by subwatershed. If the proposed road closures/decommissioning does not occur, the road density would remain the same as the current.*

Comment: The FEIS should discuss if current road density is affecting interior forest conditions; and if proposed road closure and decommissioning levels within the Action Alternatives are enough to reduce edge habitats, which undermine habitat connectivity and interior forests. (EPA)

***Response:** Although it is acknowledged that some road corridors can create an edge effect (DEIS p. 77), roads were not included in the fragmentation analysis because forest fragmentation was not identified as a significant issue.*

Comment: Consider a more comprehensive road closure and obliteration program in the Gotchen LSR. Modify Alternative C to include a substantially greater quantity of road closures. From a fire perspective this is warranted by the fact the most likely source of fire in the Gotchen LSR is a human-caused fire that would be associated with use of an existing road. (GPTF)

Response: The IDT originally considered additional roads to be included on the recommended road decommissioning list. However, fire suppression personnel were concerned that these roads are critical in accessing portions of the Gotchen area for effective fire suppression purposes. These roads would be closed with a gate.

Most of the fire starts, from 1970 to 2001 within the Gotchen LSR, were from lightning, not human caused fires. (FEIS, page 54).

Roadless

Gotchen Roadless Area

Comment: Alternative C is the only alternative that proposes treating within the Gotchen Creek Roadless Area. The DEIS fails to disclose the importance of the Shaded Fuelbreak in Unit EE and the 30 acres proposed for treatment in the unroaded area south of the Gotchen creek Roadless Area. We request that the agency drop the roadless units. There is no evidence to support that these treatments are necessary for effectively reducing fire risk. (Swanson)

Comment: Although Alternative C will treat some of the inventoried Gotchen Creek Roadless Area, and Alternatives B and D will treat a smaller unroaded area, the Forest Service states that no road construction will occur and that the roadless characteristics will not be adversely affected. DEIS, 117; 230. While no road construction will occur in this unroaded area, it is recommended that the Forest Service focus its treatments elsewhere than unroaded and roadless areas. (Brown)

Response to the preceding two comments: The DEIS incorrectly addressed Stand EE as within the Gotchen Roadless Area. The southern boundary of the Roadless Area is Forest Road 8225-150. Stand EE is south of this road and outside the designated Roadless Area. We have also corrected Table 4-23 (FEIS, page 231) to show 0 acres within the Gotchen Creek Roadless Area for Alternative C.

Stand EE is important for effectively reducing the fire risk because it ties in the North-South fuelbreak/fuels reduction units into the Aiken Lava Bed (a natural fuelbreak).

Comment: The DEIS states two different acreages for unit EE – 22 and 15 (DEIS at 230 and 231). Please disclose the correct acreage in future NEPA documentation. (Swanson)

Response: The correct acreage for stand EE is 22 net acres.

Unroaded Area (South of Gotchen Creek Roadless Area)

Comment: We request that the agency drop the roadless units. There is no evidence to support that these treatments are necessary for effectively reducing fire risk. (Swanson)

Comment: Similar to harvesting mature and old growth forests, there is considerable controversy surrounding roadless area of all sizes and the presence of such areas in a project may delay implementation. While it is possible that this area may benefit from treatment, it makes more sense for the agency to focus on areas of common agreement; and in this case, overstocked roaded stands fit that description. (Brown)

Response to the preceding two comments: Alternatives B and D include Unit U, which infringes upon the unroaded area between Road 82 and the Gotchen Creek Roadless area. Unit S in Alternative C would treat the same area. These units are needed to complete the proposed fuelbreak network. The silvicultural treatment attempts to emulate natural fire disturbance. Given the limits on cutting and its close proximity to the road, these treatments would not diminish the wilderness capability of this unroaded area (DFEIS, page 230). No new roads would be constructed in this area in association with this project.

Root Disease

Comment: Areas vary in which tree species is most susceptible to Armillaria. In some places, pathologists found Armillaria attacking ponderosa pine, while in other areas it caused more damage to the Douglas-fir. I suggest consulting a pathologist regarding Armillaria in the stands you want to plant. (White)

Response: Agree. The FEIS has a mitigation measure T-8 (FEIS, page 49) that was developed by a pathologist for Armillaria within Gotchen.

Silviculture

Canopy Closure

Comment: The DEIS states that the target for canopy closure is 50%. However, the recent study by Hummel and Agee (2003) demonstrates that because of budworm defoliation that canopy closure has already been reduced to a mean of 43% (2000 measurements). Will many of the areas go untreated, and conversely, will the agency make efforts to replant to increase the canopy coverage back to 50% in stands that are deficient of the 50% canopy cover objective? (Swanson)

Response: Only the fuelbreak (FB), unevenaged management unit (UAM), and the sanitation thinning unit (ST) prescriptions would reduce the canopy cover to approximately 50% (Map Packet Table 2). Many of the stands referred to in the recent study by Hummel and Agee are on Smith Butte and within a 0.7 mile Spotted Owl circle. The IDT tried not to remove or modify any NRF habitat within the Spotted Owl circles (core habitat) and none of the alternatives reduced the NRF habitat below the minimum threshold of 500 acres within these circles. As a result there are stands that are below the 50% canopy cover that will not be treated. No tree planting was proposed within these stands due to existing competing grasses, brush, and a shade factor which was not conducive to the survival and growth of early seral species.

Comment: The DEIS fails to provide a rationale for the proposed objective of 50%. Please explain how the agency determined that 50% was the appropriate canopy coverage target for this project.

Response: A 50% canopy cover is the lowest level considered to still be foraging habitat for the northern spotted owl. The IDT thus chose this level for the fuelbreak (FB) within the LSR. Within the matrix, the post harvest canopy cover was estimated at 50% for the unevenaged management unit (UAM) and the sanitation thinning unit (ST)

Comment: The retained canopy cover within the Matrix treatments is far too high to successfully establish healthy stands of PP/WL. Suggest (1) Clarify the reason for retaining such high canopy cover (2) mention the potential impact on development of the planted trees by the overstory, and (3) if the prescription stays as is, discuss what would be done to the overstory in the future to assist development of the planted young trees. (White)

Response: Stands B and D are MFR (Medium Forest Retention) units where an approximate 30% green canopy cover in aggregates and dispersed trees will be left. Large (approx. 1 acre) uncut aggregates would be left totaling 10.5% of the unit area. Individual leave trees at a density of 20 – 25 trees per acre would be left across the cut portion of the unit (Appendix E). The reason for retaining a “medium” canopy within these stands was visual concerns along Forest Road 82 (FEIS, page 112). Currently Forest Road 82 has 12% in forest openings and the Forest Plan Visual Quality Objectives permits a maximum of 14% (FEIS, page 233). The overstory, within stands B and D, should be reduced with the outyear regulated timber program, within 10 years, to promote the health and vigor of these seedlings, since the percent of created forest openings, along Forest Road 82, is projected to recover and be at appropriately 4% in ten years. Appendix G (Cumulative Activities Table) notes that

the regulated timber harvest in the matrix will harvest (LFR) 263 acres each decade. The vegetation analysis in the FEIS takes note of this.

Stand C is also a MFR (Medium Forest Retention) unit where an approximate 40% green canopy cover in aggregates and dispersed treed will be left. Again, Large (approx. 1 acre) uncut aggregates would be left totaling 10.5% of the unit area. Individual leave trees at a density of 20 – 35 trees per acre would be left across the cut portion of the unit (Appendix E). The prescription also would produce “gaps” (2 acres or less/each to assist in the reforestation success of early seral species (Appendix E). The reason for retaining a “medium” canopy within this stand was also visual concerns along Forest Road 82. Like stands B and D, the overstory within stand C should also be reduced within 10 years under the regulated timber program.

Stand F is a HFR (Heavy Forest Retention) unit where an approximate 40% green canopy cover in aggregates and dispersed treed will be left. Again, Large (approx. 1 acre) uncut aggregates would be left totaling 10.5% of the unit area. The individual leave trees would be the same amount as in Stand C. The reason for retaining a “heavy” canopy within this stand was that the LSR boundary is immediately adjacent to this stand. The overstory, within this stand, should also be reduced within 10 years with the outyear regulated timber program. The vegetation analysis notes this in the FEIS and in addition, a reduced amount of ponderosa pine and an increased amount of Douglas fir percentage are noted in the FEIS.

Yes, there will be impacts to the planted trees in regards to growth. The vegetation analysis has been modified in the FEIS, to show growth loss from the retained overstory canopy cover.

Diameter Limit

Comment: Include a 10” dbh limit within the PPUT treatment (Stand M) and consider limbing the trees greater than 10” dbh to reduce the risk of crown fires as an alternative. (Foster)

***Response:** Stand M is a classic example of the fire exclusion scenario. It is composed of large, old growth ponderosa pine overstory (60% canopy cover) with an encroaching understory of grand fir. The existing understory is current providing fuel ladders to the large pine canopies and causing inter-tree competition for water and nutrients. The IDT believes that your recommendation would not meet the purpose and need to protect these large pine trees. Even pruning the remaining understory greater than 10” dbh, the pines would still be competing with the remaining understory of grand fir.*

Comment: Legacy Tree Culturing – We are similarly concerned about the proposal to cut trees to 20” dbh in alternatives B and D and believe the 10” dbh limit in Alternative C is appropriate. Again, we believe the 18’ to 20’ foot spacing should be changed to a variable spacing pattern across the treatment area. (Foster)

***Response:** Only alternative B will cut green trees up to 20” dbh in the Legacy Tree Culturing. The IDT agrees with the variable spacing recommendation.*

Comment: Gotchen is on the verge of immolation; tree diameter limits are a problem, not a solution. In the absence of a more substantive approach, we support as a starting point, Alternatives B or C absent leave tree diameter limits. (Dick)

***Response:** A 10” green tree diameter cut limit was established, by the IDT, in the LSR as the maximum diameter that could be removed without degrading habitat for the Spotted Owl below unacceptable levels. Again, by doing so, we attempted to find the “right” balance between the desired conditions of the late-successional reserve and the overall health of a dynamic landscape.*

Comment: Is any maximum dbh limit proposed for FRR treatment areas in any of the alternatives? (Foster)

***Response:** Yes, Refer to summary tables in the Map Packet: Alternative B = Map Packet – Table 1, Alternative C = Map Packet -Table 2, and Alternative D = Map Packet – Table 3.*

Economics

Comment: I encourage the Forest Service to explore contracting mechanisms that will not only result in project implementation, but also much needed jobs to local community members. Stewardship contracting authority has recently been expanded, and while presenting new opportunities, use of these authorities must be conservative and well-planned. Therefore, I urge the Forest Service to stay away from the more controversial contracting authority (goods for services) and instead focus on best value, designation by description (if appropriate), and local preference contracting for this project. (Brown)

Comment: If proposed actions will not break even, the Forest should consider using the new stewardship contracting authority to accomplish the work. (Dick)

Response to the preceding two comments: Agree!

Comment: Make slash available for commercial firewood harvest as opposed to pile burning. (Foster).

Response: The IDT felt that the thinning of trees, 10" dbh and less would not produce an economic commercial venture. The excess large snags that will be felled and are surplus to resource needs are, again, mostly grand fir and are useless for firewood. In addition, most of the 10" dbh wood will be grand fir, not a desirable firewood product. However, the District will offer firewood permits to the public for the collection of firewood in these units where firewood is accessible from the roads.

Prescription

Comment: We strongly question the intensive management approach in the Matrix area. The prescription calls for clear-cutting in the form of "light retention cuts" and "sanitation thins". These prescriptions are not conducive to reducing fire risk and have a great potential to exacerbate fire risk. The EA states that intensive logging practices and fire suppression have created the situation in the Gotchen planning area, and it seems counter productive to continue to manage the area with the same damaging approach. We do not support the light retention or medium retention cuts, nor the sanitation cuts. Furthermore, the agency has not demonstrated how these prescriptions "complements and augments the hazardous fuel reduction proposals in the LSR" (EA at pg 33). The prescription seems based strictly on economics and not on ecosystem restoration or fire risk reduction. (Swanson)

Comment: The Task Force is seriously concerned about the logging being proposed for the matrix. Given that Light Forest Retention (LFR) prescriptions would likely grow into the very type of high density grand fir stands that the Service recognizes a presenting high fire risks, this type of logging seems directly contrary to the project goals of "risk reduction". We suggest revising Alternative C to drop the proposed matrix logging and/or modifying the proposed logging methods to thinning prescriptions as opposed to regeneration cuts. (Foster)

Response to the preceding two comments: Under Alternative C, a total of 519 acres are scheduled to be treated in the Matrix. As stated on page 21 of the FEIS, the harvest prescriptions vary among the proposed Matrix units based on stand age, species composition, and past treatments. The 80 acres proposed for Light Forest Retention and the 231 acres proposed for Moderate Forest Retention contain predominately grand fir trees, with lesser amounts of Douglas-fir and a few ponderosa pine trees. Jim Agee's working paper on the Gotchen LSR (Agee 2001) illustrates a much different forest structure and species composition at the turn of the century (1900). Historic forest conditions in the Matrix consisted predominately of large diameter ponderosa pine (25-40 trees per acre) with little or no grand fir component due to a frequent fire return interval. The desired future condition for these stands is to increase the early seral species component (ponderosa pine, Douglas-fir, and western larch). Past logging activities (partial harvests) have removed the bigger trees (ponderosa pine and Douglas-fir) from these stands. However, it has been the fire exclusion activity from fire suppression efforts that have mainly influenced the composition and structure of these stands. Silviculturally, we are very limited on our options to manage these stands. Thinning these stands is not a valid

silvicultural option nor is it backed by sound science. In order to successfully increase and return these stands to historic conditions with early seral species, a regeneration cut, followed by reforesting the sites, are needed to meet the desired future condition. Thinning these stands would not return them to historic composition of early seral species and therefore would not meet the desired future condition.

The 91 acres of proposed sanitation treatment will target only recently killed and declining grand fir and Douglas-fir trees. The post treatment canopy closure will be approximately 50 percent after logging activities. No reforestation activities will be needed since this stand contains a larger species component of early seral species than the stands proposed for regeneration. Reducing the understory, affected by the Western spruce budworm, and treating the fuels by piling and burning will result in a direct reduction of on-site hazardous fuels and help complement the LSR hazardous fuels treatment areas.

The IDT has also developed a separate issue: "Efficacy of stand manipulation activities to improve long-term forest health" to address the forest health issue in the Gotchen Planning Area. The silvicultural treatment activities associated with the alternatives may affect the long-term health of the timber stands, as well as the current levels of root diseases and insect populations, within the Gotchen Planning Area. The silvicultural prescriptions, within the Matrix, address the forest health issue, ecosystem restoration, and meet the purpose and need for this project.

Comment: We recommend that the FEIS provide a silvicultural definition of ladder fuels, especially within the Late-Successional Reserves (LSRs). (EPA)

Response: *See ladder fuels definition in the Glossary, page 319 FEIS.*

Comment: We recommend developing an active monitoring program which could result in potential silvicultural prescription adjustments. This monitoring strategy should be developed as part of the project-development process and included in the EIS. Also, since USFWS's effect determination is not clearly stated in the DEIS, we recommend that the FEIS should clearly disclose USFWS's conclusions of proposed actions within the project area. (EPA)

Response: *In the Biological Opinion for the Gotchen project the U.S. Fish and Wildlife Service has concluded that the preferred alternative (Alternative C) is not likely to jeopardize the continued existence the northern spotted owl, or result in destruction or adverse modification of designated northern spotted owl critical habitat.*

Comment: I hope that no lodgepole will be planted, as this tree doesn't belong here and could proliferate like a weed, creating problems in the future like the grand fir pose to us now. (Haymon)

Response: *Lodgepole pine is a native conifer to this area and is quite proliferate in the northeast portion (Stand X) of the planning area. It is an early seral species that often regenerates after a stand replacing fire. However, it is a relatively short-lived conifer with a biological rotation age of approximately 100 years. The IDT agrees that reforestation plans in the Gotchen Planning Area should emphasize ponderosa pine, Douglas-fir, western larch, and western white pine.*

Comment: Actions are not sufficient to insure the continuation of the old growth ponderosa pine in the LSR. (Backus)

Response: *Alternative C best protects old growth ponderosa pines. Approximately 474 acres (Map packet – Table 2), within the LSR, will receive a Legacy Tree Culturing treatment where the understory (10" dbh and less) is removed within 50 feet of all old growth pine trees. This action not only removes the existing fuels ladder, it reduces the inter-tree competition for water and nutrients. The other proposed treatments, within the LSR and Matrix, indirectly will protect these trees by reducing hazardous fuels across the Gotchen landscape that more closely resemble the stand conditions that were a result of historic frequent fire cycles.*

Comment: Actions are not sufficient to deal with the current or future Insects/Disease epidemics, including the current Spruce Budworm epidemic. Major stocking control needs to be done on the entire study area, except the wilderness. (Backus)

Response: *The IDT agrees that the long-term risk reduction for the western spruce budworm will only be achieved through “continued” silvicultural manipulation of forests stands to conditions less favorable for the budworm. We believe that the three treatment alternatives, especially alternative C, are a good “first step” in achieving this goal. All of the treatment alternatives attempt to find the “right” balance between the desired conditions of the late-successional reserve and the overall health of a dynamic landscape. The FEIS highlights the scientific need to re-enter the LSR portion of the Gotchen Planning Area in the future, on a regulated basis, and continue the effort to reduce the stand densities, reintroduce early seral species, and maintain these stands through underburning. (Vegetation Analysis – Chapter 4 FEIS).*

Budworm population trends for both larvae and moth are generally downward throughout the Gotchen LSR and Matrix areas from 2000 to 2001, although larval populations in some localities, e.g. Ground owl core, increased in 2001 (Willhite). Aerial detection flights in 2002 and 2003 showed light defoliation levels. This was confirmed by ground observations. It appears highly likely that the current outbreak will come to an end as budworm populations levels continue to decline over the next few years throughout the Gotchen Planning Area, following the generally steady downward trajectory of budworm population densities across the Gotchen LSR and Matrix since 1999 (Willhite). Following the outbreak collapse, Forest Service Entomologists predict budworm populations will remain at very low levels for one to several decades. However, it is highly likely that another budworm outbreak will occur during the next 50 years (Willhite).

Comment: The EIS does not address insect infestations outside the planning area. Recent field review of the infestation shows substantial incursion into areas west of the Gotchen LSR. AFRC saw 2003 damage in sections 16 and 17, T7N, R10E, some two miles west of the planning area on the 8031' Road, in Matrix lands allocated to commodity production under the NFP. (Dick)

Response: *Correct. Other tools (Categorical Exclusion (FSH 1909.15, 31.2, Category 13)) are now available to address and analyze the salvage of dead and dying trees if the area is limited to 250 acres and less than _ mile of temporary road construction is needed.*

Comment: We are opposed to plans to remove important snag habitat within areas targeted in all the action alternatives for FRR treatment. What is the basis for removing all snags down to the assumed 100% snag level from a fire perspective? (Foster)

Response: *The FRR stands sustained moderate to high tree mortality in the overstory trees. Thus, currently there are many snags within the units. Most of these snags have lost their dead needles and currently do not pose a serious fire risk. However, eventually these snags, mostly grand fir, will topple and begin to jackstraw of the forest floor. This will result in unacceptable fuel concentrations (over 50 tons per acre). A wildfire under a high to severe fire weather condition would most likely produce an intense, high mortality-type fire. (FEIS, page 147).*

A wildlife mitigation measure (W7 – FEIS, page 50) was developed to mitigate the effects of removing snag habitat. The retention of ten snags per acre will be from the largest diameter class available and exceeds Forest Plan standards

Comment: While Alternative C calls for 18' to 20' spacing, we are concerned that this opening size is larger than necessary and could actually allow the re-establishment of dense young grand fir in created openings between leave trees. (Foster)

Response: *Remember that the 18' to 20' spacing just applies to the green trees that are 10" dbh and less. There are also additional green trees in the 11" dbh and greater size classes, within these stands. The IDT chose to open these stands as much as possible and allow sufficient light for early seral natural regeneration, while at the same time not to remove important wildlife habitat. As long as there*

is a grand fir seed source in the overstory trees, future natural regeneration of this species will occur and future treatments (that mimic historic fire cycles) to reduce this component in the future will be needed.

Comment: We also believe that it is especially important that a project described as a “restoration project” plan for variable density thinning that more closely reflects natural variation, creates more diverse habitat, and will serve as a good laboratory for additional information about ideal thinning densities. (Foster)

***Response:** Agree! The cutting prescription will be custom made to each stand based on species amount, composition and structure. Variable density can be achieved by cutting/spacing just the grand fir and leaving all the early seral species. Also, with the 11” dbh and larger size classes, there should be no problems in implementing a variable spacing prescription within these stands.*

Comment: We again ask for an alternative that does not propose timber harvest within the LSR. The Forest Service should consider an option where prescribed burns and/or thinning from below are the primary risk reduction treatments in the LSR rather than allowing for the harvest of mature trees. (Weiler)

***Response:** Alternative C and D contain only one stand where the harvest of mature trees would be implemented. Stand X is an 80-year-old decadent lodgepole pine stand, where the thinning prescription will help prolong the biological rotation age of the stand. Alternatives C and D both have a 10” dbh green tree cutting limit, in most of the treatment stands, within the LSR. This cutting prescription will result in a thinning from below within these stands. Without “pretreating” the area through vegetative manipulation (reducing the density of the understory), we risk the creation of “too hot” of a underburn, where control and possible loss of habitat could occur. The IDT has proposed underburning on several hundred acres, but only after the areas have been “prepared” for underburning.*

Comment: Experiment with varied timber harvest prescriptions in the matrix area to determine if the proposed thinning objectives are achievable and how they will impact spotted owl habitat, snags, and fir behavior, while only harvesting small diameter trees (less than 10” dbh) within the LSR. (Weiler)

***Response:** The IDT has analyzed the harvest prescriptions of the proposed understory thinning within the LSR and has determined the effects on spotted owl habitat, snags, and fire behavior (Chapter 4 DEIS). The majority of the LSR treatments within the LSR, within alternative C and D, are limited to cutting green trees 10” dbh and less (Map Packet-Table 2 and Map Packet-Table 3).*

Comment: We request that the Forest Service retain dwarf mistletoe clumps in the late successional Matrix stands designated as A through G. (Weiler)

***Response:** Since the silvicultural prescriptions, for the Matrix ground, specify retaining 10.5% of the unit in leave blocks (Appendix E), retaining dwarf mistletoe clumps, if present within the stand, could be included within these areas.*

Soils

Comment: We are highly concerned about soil impacts from mechanical treatments. The DEIS states that compaction potential is relatively high in over 70% of the project area, and that severe compaction can last for longer than two decades in volcanic ash soils. Grapple piling and other ground based machinery has been known to compact soils. In addition to soil compaction, burning slash piles may cause significant impacts from high intensity burns. The DEIS does not state in which units grapple pile and burn will be utilized as a method for surface fuels reduction. Please clarify in future NEPA documentation. Please also clarify how many large slash piles will be created and burned in this project. (Swanson)

Comment: The DEIS states that soils on units S, T, U, and X are sensitive to slash burning, however the DEIS does not state whether slash burning will be avoided in these area. Please avoid slash burning in these units. (Swanson)

Response to the preceding two comments: *The proposed management activities would cause physical soil disturbances that cannot be avoided. Based on interpretations made from the Gifford Pinchot National Forest Soils Resource Inventory, soils in the Gotchen have a relatively high potential for compaction, and the proposed activities could result in compaction to these soils. However, the extent of soil disturbance due to ground-based equipment should not be interpreted as the extent of future detrimental conditions. It is the opinion of a professional soil scientist that damage to soils will be held to a minimum for the following reasons:*

Increases in detrimental soil compaction would be minimized through unit design that utilizes the transportation system and existing skid trails and landings. Activities are specifically designed to not exceed detrimental soil conditions on more than 20 percent of an activity area. Improvements in soil physical properties can be realized where mitigation measures (Mitigation Measures S4, S5, S6, and S8, FEIS, page 44) are applied to existing detrimental soil conditions.

While a loss in soil productivity is possible in some units because of the possibility of new skid trails or burning of slash piles, losses are expected to be minor and would not have a significant effect on long-term soil productivity in these activity areas. The same mitigation measures listed above apply to new skid trails and landings and burned areas.

Detrimentially burned soil from slash burning is estimated to be less than 0.2 percent of the activity areas. Mitigation measures for the extent of these areas are sufficient to reduce a significant impact to soils.

Appendix F, Treatment, Priorities, and Methods outlines which units will receive mechanical treatment and grapple piling. For example, all the treatment units in Alternative C except R and Z are reserved for grapple piling/burning.

Vegetation Analysis

Comments: I suggest replacing the term “silvicultural objective” with something like “maintaining early or mid-seral conditions”. (White)

Response: *The Silviculturist analyzed how each alternative treated stand densities and how each alternative fostered early seral species. These two factors were termed the “silvicultural objective”. They have a major influence on the overall stand conditions within the planning area (FEIS, page 186).*

Comments: There is poor understanding of the Ecological concepts involved. Since there is virtually no climax Douglas-fir in the planning area, I find the map showing the Douglas-fir PAG quite confusing. (White)

Response: *Agree. The FEIS cleared up the confusion with the concepts. We will also delete the PAG’s map that we tried to create from Dr. Agee’s paper. The assumptions that we used were incorrect and it gives a false impression of the PAG’s, especially the Douglas-fir PAG. However, the conclusions are the same, no matter which vegetation ecology database is used. We agree with you in stating that the forest stands within the dry, fire-prone Gotchen planning area are at their upper edge of their range of natural variation regardless of the zone.*

White Salmon River

Comment: We are concerned and ask that for both The White Salmon and Cascade Creek, the proposed actions be located further than 1 mile from those waterways. (Clausen)

Response: *None of the three treatment alternatives are within the canyon rim or the river’s _mile scenic boundary. There are no impacts to the free flowing character or the rivers’s scenic beauty from any alternative (FEIS, page 240).*

Wildlife

Comment: Will designated goshawk nest buffers be entered? (Weiler)

Response: *Known goshawk nest sites and nest territories located in the Gotchen Planning Area are not affected by any of the proposed actions. If any new goshawk sites are located during implementation, then these sites would be protected with a 31-acre no harvest buffer and a seasonal operating restriction to minimize disturbance (FEIS, page 180).*

Comment: Though lava bed/talus communities are mentioned there is no reference to the presence of Larch Mountain salamanders. (Weiler)

Response: *A substantial portion of the Gotchen Planning Area, including all proposed treatment areas have been surveyed for Larch Mountain salamander and other Survey & Manage mollusk and amphibian species. Larch Mountain salamanders have not been located in the Gotchen Planning Area (FEIS, pages 77 & 184).*

Comment: DEIS p. 25, paragraph 7: Do marbled murrelets occur in Gotchen? (Hummel)

Response: *The Gotchen Planning Area is outside the range of the marbled murrelet. The statement referring to murrelets on page 13 of the FEIS is regarding desired conditions for LSRs on the Gifford Pinchot in general, and is not referring to the Gotchen LSR specifically.*

Comment: DEIS p.70, paragraph 1: is the dbh limit a definition for late seral? (Hummel)

Response: *This diameter class (≥ 19.7 " dbh) is referring to a general size class identified in the snag and down wood discussion in Wildlife Habitat Relationships in Oregon and Washington (Johnson and O'Neil 2001), and is not a technical definition for late-successional habitat applied elsewhere in the DEIS. Unfortunately a table and a portion of the text accompanying this section was omitted from the printed version of the DEIS. Refer to page 60 of the FEIS.*

Comment: We recommend that the FEIS discuss how the Action Alternatives would prevent forest fragmentation or reduce stands of interior forest habitats in the project area. (EPA)

Response: *Although forest fragmentation was not identified as a significant issue, a discussion of fragmentation effects to spotted owl habitat is provided in the DEIS (p. 178-179). Under each action alternative, the anticipated changes to interior forest habitat is relatively minor (DEIS p. 179).*

Comment: The FEIS should also disclose which harvest size would best support beneficial habitat for spotted owls and forest function. (EPA)

Response: *A discussion of implementing harvest tree diameter limits as a way to minimize impacts to spotted owl habitat is provided in the description of Alternative C and D (DEIS p. 47, 50). A discussion of how different silvicultural treatments effect spotted owl habitat is provided in Chapter 4 of the DEIS (p. 174).*

Comment: DEIS 188, para 3: Would oak increase under any alternative? If oak increases would squirrels likely increase? (Hummel)

Response: *Oregon white oak is such a minor component of the Gotchen forest that it was not reflected in the vegetation modeling. However, due to the limited distribution of oak in the Gotchen Planning Area, the species is not likely to increase under any of the alternatives. What is present may be maintained by reducing competition with conifers. The area forested with white oak would need to be much more extensive than it is today before the area could support a population of western gray squirrels (FEIS, page 178).*

Mardon Skipper

Several comments (Weiler, Foster, Swanson) recommended the following measures be incorporated into the Gotchen project to protect mardon skippers:

- Prohibit all equipment within mardon skipper habitat.
- Prohibit slash piling within mardon skipper habitat.
- Minimize foot traffic within mardon skipper habitat.
- Protect mardon skipper habitat from prescribed fire.
- Fell timber away from mardon skipper habitat.
- Minimize soil (ground) disturbance in mardon skipper habitat.

Response: *These recommendations are consistent with the mitigation measures identified for the Gotchen project (FEIS, page 51, W12, W13, W14).*

Comment: Restrict livestock grazing in mardon skipper habitat. (Swanson)

Response: *Livestock grazing is recognized as a significant impact to mardon skipper habitat in the Gotchen Planning Area (FEIS, pages 79, 185). A cattle enclosure is proposed to facilitate the aspen and meadow habitat restoration proposed in Unit Z, and to minimize grazing impacts to mardon skippers at this site. The future use of the Mt. Adams cattle grazing allotment will be considered in a separate environmental analysis due to be completed in 2005.*

Comment: Conduct prescribed burns only in the autumn season w/in mardon skipper habitat. Learn more about fescue distribution and burn only small portions of mardon skipper habitat during any single year. (Weiler)

Response: *No burning is proposed directly within mardon skipper habitat as part of this project. Mardon skipper habitat within Unit R that has been identified for prescribed burning would be protected from burning by creating fuelbreaks (handline) around the habitat areas in this unit (FEIS, page 51, W13).*

Comment: DEIS does not address the need to reestablish mardon skipper butterfly habitat in the area covered by the DEIS. (Backus)

Response: *The Gotchen project does recognize the need to protect and maintain special habitat features within the Gotchen LSR, including mardon skipper habitat (FEIS, page 4).*

Comment: Clearly reflect the fact that population surveys reflect the importance of the Gotchen area in the long-term survival of this species. (Foster)

Response: *The significance of the Gotchen Planning Area for mardon skippers is described in the FEIS (pages 184 - 185). About half of the known mardon skipper sites in the Washington Cascades are located in the Gotchen Planning Area, representing approximately 30% of the known population.*

Comment: Concerned how implementation of the SFB around the Gotchen Guard Station would affect mardon skippers. Mitigation measures should be required that literally fence off the guard station from humans, even foot traffic, during project implementation. (Foster)

Response: *The mitigation measures identified in the FEIS (page 51) are designed to minimize the impacts of project implementation to mardon skippers. However, due to the sessile nature of mardon skipper larva and pupae, it is likely that some individuals could be trampled during implementation (page 185). These impacts are nearly impossible to avoid and still realize the restoration of the meadow and aspen at the Gotchen Guard Station. A cattle enclosure is proposed to facilitate the aspen and meadow habitat restoration proposed at this site, and to minimize impacts to mardon skippers.*

Comment: The FEIS should more adequately disclose how the Forest Service can improve restoration of open grassland habitats and associated complexes throughout the project area for the mardon skipper, a candidate species under ESA. (EPA)

***Response:** The restoration of grassland habitats for mardon skippers was not identified as a significant part of the overall purpose and need for the Gotchen project. However, the Gotchen project does recognize the need to protect and maintain special habitat features within the Gotchen LSR, including mardon skipper habitat where consistent with other project objectives (DEIS, p.17)*

Comment: In recognition of environmental needs of this candidate species (Mardon Skipper), we recommend that the FEIS discuss how the Forest Service, in the project area, would improve:

- habitat connectivity between available or suitable habitats for the skipper,
- existing grazing management,
- invasive species management, and
- existing water storage practices.

***Response:** The restoration of grassland habitats for mardon skippers was not identified as a significant part of the overall purpose and need for the Gotchen project. However, the Gotchen project does recognize the need to protect and maintain special habitat features within the Gotchen LSR, including mardon skipper habitat where consistent with other project objectives (DEIS, p.17). A detailed analysis of the existing Mt. Adams cattle grazing allotment was considered to be outside the scope of this EIS. The grazing allotment will be analyzed in a separate Environmental Assessment in 2004. A discussion of how proposed treatments would affect mardon skippers and their habitat is provided in Chapter 4 of the DEIS (p.185-186).*

Comment: The FEIS should disclose any mitigation measures for this candidate species (Mardon Skipper). The DEIS inaccurately states that mitigation measures are listed in Chapter 2 under Wildlife Mitigation (page 186). This portion of the document is omitted in the DEIS and should be included in the FEIS. (EPA)

***Response:** Wildlife mitigation measures W12, W13, and W14 (DEIS p. 61) were included to minimize the impacts of project implementation to mardon skippers.*

Northern Spotted Owl

Comment: Revise prescriptions in units CC, DD, J, and Z to better protect spotted owl habitat or drop the units. (Swanson)

***Response:** The units identified in this comment occur within 0.7-mile of two historic spotted owl activity centers (Ground & Big Tree). Portions of these units do provide spotted owl habitat (FEIS, page 164). The silvicultural prescriptions for these units involve understory thinning, which would thin trees up to 10" dbh (FEIS, page 36 – 37). Overstory canopy cover is expected to be maintained at 50% or greater. Snags and downwood would be retained, and 15% of the area within the units (CC, DD) would be left undisturbed in retention areas (FEIS, page 50). Although these treatments would degrade spotted owl habitat in the short-term, these areas are expected to continue to provide foraging habitat for spotted owls following treatment (FEIS, pages 159, 169). Assuming that treated areas would be avoided by spotted owls during project implementation, the total amount of untreated NRF habitat remaining in the 0.7-mile spotted owl circles is still above minimum thresholds. Therefore, any spotted owls associated with these sites would have access to enough undisturbed habitat during project implementation to persist at these sites, except at the Ground site (FEIS, page 171). The Ground site is currently below the minimum threshold of 500 acres of NRF within a 0.7-mile radius (478 acres). The low NRF level in this circle is partially due to the proximity of the circle to the Aiken Lava Bed. Because the Aiken Lava Bed is a natural fuelbreak, each of the action alternatives proposes treatments that link fuels reduction units to the Aiken Lava Bed. Therefore, Alternative C proposes treatments that would result in a slight reduction (1 acre) of the existing NRF habitat in this 0.7-mile circle, resulting in incidental take of any spotted owls associated with this site (FEIS, page 171). Both the Ground site and the Big Tree site have not been occupied by spotted owls during the past three years (FEIS, page 69). However, these sites may become re-occupied by spotted owls in the future, so these areas have*

been managed conservatively to maintain spotted habitat in these areas and meet the objectives identified in the Purpose and Need (FEIS, page 4).

Comment: We recommend:...No reduction of designated nesting, roosting, and foraging habitat... (Weiler)

Response: *The Record of Decision (ROD) for the Northwest Forest Plan recognized that LSRs located on the east-slope of the Cascades are subject to large-scale disturbances, and that management actions to reduce the risk of large-scale disturbances were expected to occur in LSRs. "While risk-reduction efforts should generally be focused on young stands, activities in older stands may be appropriate if: (1) the proposed management activities will clearly result in greater assurance of long-term maintenance of habitat, (2) the activities are clearly needed to reduce risks, and (3) the activities will not prevent the LSRs from playing an effective role in the objectives for which they were established." (ROD, page C-13).*

On the Wenatchee National Forest where forest conditions are similar to the Gotchen Planning Area, wildfires were the single largest cause of spotted owl habitat loss from 1994 – 2001. A large wildfire event in 1994 resulted in high-severity fire effects to over 9,500 acres of NRF habitat and resulted in the direct loss of 17-spotted owl activity centers, including 11 activity centers in LSRs (FEIS, page 176).

Alternative C treats a total of 1,051 acres of NRF habitat, or about 7.2 percent of the total NRF habitat within the Gotchen Planning Area. Of these, 159 acres of NRF habitat are altered to non-suitable habitat, resulting in a reduction of about 0.8% of the NRF within the entire Gotchen Planning Area from 73.1 percent to 72.3 percent. Understory density reduction and fuels treatments would result in a short-term degradation of NRF habitat on about 892 acres (FEIS page 166). However, these treatments would maintain a multi-story forest structure and overstory canopy cover necessary for suitable owl habitat. Although these actions would result in a reduction of spotted owl habitat in the short-term, Alternative C has the potential to be beneficial by reducing fire hazard and improving forest resiliency in treated stands. When these effects are weighed against the potential losses that could occur as a result of a large, high-severity fire event, the short-term effects to spotted owls are minor by comparison (FEIS, page 177).

Comment: We recommend the following: ...No treatments in spotted owl habitat within 0.7 mile of any Gotchen spotted owl site center... (Weiler)

Response: *One of the challenges of developing the Gotchen project was identifying a risk-reduction strategy that would meet the identified Purpose and Need and minimize impacts to spotted owls. Generally, treatments that would result in the removal of spotted owl nesting, roosting, and foraging (NRF) habitat were intentionally located to avoid the 0.7-mile spotted owl circles as much as possible. Most silvicultural treatments are expected to maintain foraging habitat for spotted owls. The total amount of NRF acres treated usually greatly exceeds the acres that are downgraded to dispersal or non-suitable habitat. For example Alternative C treats 192 acres of NRF habitat within the "Big Tree" 0.7-mile owl circle, but only 7 acres are downgraded to dispersal or unsuitable (FEIS, page 172). The Big Tree site has not been occupied by spotted owls for the past three years (FEIS, page 66).*

Assuming that treated areas would be avoided by spotted owls during project implementation, the total amount of undisturbed NRF habitat remaining in the circles is still above minimum viability thresholds. Therefore, any spotted owls associated with these sites would have access to enough undisturbed habitat during project implementation to maintain their territories. No spotted owls are expected to be displaced from their territories as a result of the proposed actions.

The one exception is the Ground site. The Ground site currently has about 478 acres of suitable habitat within a 0.7-mile radius of the activity center, which is below the minimum habitat threshold of 500 acres. This is due in part to the close proximity of the owl site to the Aiken Lava Bed. Because the Aiken Lava Bed is a natural fuelbreak, each of the action alternatives proposes treatments that link fuels reduction units to the Aiken Lava Bed. Therefore, both Alternative B and C proposed treatments that would result in slight reductions to the existing NRF habitat in this 0.7-mile circle (e.g. 1 acre of

NRF removed under Alternative C, FEIS, page 172). The Ground site was originally documented in 1987, and was known to be occupied by spotted owls up through 2000. Spotted owls have not been detected at this site during the past three years. All other known and historic spotted owl sites in the area are currently above minimum habitat thresholds.

Comment: Mitigate any converted LSR habitat by placing high quality Matrix acreage into LSR designation. (Weiler)

Comment: Increase the size of the Gotchen LSR to compensate for lost habitat values within the LSR.

Response to the preceding two comments: As stated above, the Northwest Forest Plan anticipated that there would be some habitat loss in LSRs associated with risk reduction actions. The standards and guidelines of the Northwest Forest Plan do not require a change in Land Allocations as a result of habitat loss in LSRs. Designation of federal land use allocations is beyond the scope of this action. (Foster)

Comment: We recommend the following..."No timber harvest in stands M and BB. (Weiler)

Response: Stands M and BB are located within the 0.7-mile of the Big Tree spotted owl site. The Big Tree site has not been occupied by spotted owls for the past three years (FEIS, page 66). Under Alternative C, only about 30 acres within the 354 acres identified as BB would be treated by precommercially thinning dense sapling patches in small openings created by prior logging entries. This type of treatment is not expected to alter the function of the spotted owl habitat in this stand. Stand M is one of the few stands in the LSR that still has an overstory component comprised primarily of old ponderosa pine. The proposed treatment in this stand is designed to remove competing understory grand fir to maintain the resiliency of the old ponderosa pine. Although this treatment would result in a reduction in overstory canopy closure, it is expected that the stand would still be functional as spotted owl foraging habitat after treatment.

Comment: We recommend the following: Revise the prescriptions to better project spotted owl habitat in ...shaded fuel breaks or drop those units altogether. (Weiler)

Response: The fuelbreak treatments proposed in Alternative C that affect spotted owl habitat (Units EE, FF) are necessary to link the Aiken Lava Bed with other fuels reductions treatments in the LSR. These fuelbreaks are designed to maintain at least 50 percent canopy cover, and are expected to be functional as spotted owl foraging habitat after treatment. The other fuelbreak (Unit S) in Alternative C does not affect spotted owl NRF habitat (FEIS page 163).

Comment: What did the 2003 [spotted owl] survey data reveal? (Weiler)

Response: Spotted owl surveys were completed at the historic owl activity centers in the Gotchen Planning Area as part of an ongoing monitoring study being conducted by the National Council for Air and Stream Improvement (NCASI). The 2003 surveys revealed that the same two sites that were occupied by spotted owls in 2002 were still occupied in 2003, however only a single owl was documented at one of the sites. There was no successful reproduction at these sites in 2003.

Comment: The FEIS should provide a discussion of US Fish and Wildlife Service's (USFWS) Biological Opinion (BO) for the northern spotted owls within the planning area and how each Alternative works within the framework of the (BO) to maintain and restore the listed species and its habitat. (EPA)

Response: In the Biological Opinion for the Gotchen project the U.S. Fish and Wildlife Service has concluded that the preferred alternative (Alternative C) is not likely to jeopardize the continued existence the northern spotted owl. This conclusion is based upon the rationale that the project is not anticipated to compromise the conservation and recovery strategy established by the Northwest Forest Plan (NWFP) that is based upon the following biological principles: 1) the presence of large blocks of habitat to support clusters or local population centers of northern spotted owls, 2) habitat conditions and spacing between local populations of owls to facilitate survival and movement, 3) habitat and local populations of owls maintained across a variety of ecological conditions within the owl's range

to reduce risk of local or widespread extirpation.

Although the project would result in the loss of spotted owl habitat within an LSR, some habitat loss associated with risk reduction activities was anticipated in the NWFP in eastside LSRs. The conservation strategy established by the NWFP is maintained by this action by reducing the risk of a large-scale disturbance in an LSR that has both hazardous fuels and significant tree mortality caused by insects and disease.

The proposed habitat removal (159 acres under Alternative C) represents a minor decrease in spotted owl habitat within the action area, the Gifford Pinchot National Forest, Washington and range-wide. This level of habitat loss is consistent with that expected to occur within the first decade of NWFP implementation. Consequently, the U.S. Fish and Wildlife Service has determined that the adverse effects to northern spotted owls that would result from the Gotchen project would not contribute to an appreciable reduction in the likelihood of survival and recovery of the northern spotted owl.

Comment: We recommend that the FEIS disclose current knowledge of owl population dynamics based on the latest information from the Pacific Northwest Research Station. (EPA)

Response: A detailed discussion of spotted owl population dynamics is outside the scope of this EIS. However, a discussion of spotted owl population dynamics is provided in the U.S. Fish and Wildlife Service's Biological Opinion for the Gotchen project.

Comment: How many barred owls are located in the area currently? (Swanson)

Response: The total number of barred owls present in the Gotchen Planning Area is unknown. Barred owls were first detected in the Gotchen Planning Area in 1996 (FEIS, page 70). Since 1996, single (possibly transient) barred owls have been detected in the vicinity of each of the historic activity centers at least once. Two breeding pairs of barred owls are now documented in the area, and both pairs are residing at former spotted owl nest sites. Barred owls now occupy the "Crof" nest site within the Gotchen LSR, and another pair occupies the King Mountain site, located adjacent to the planning area. A single barred owl has been detected during the past three years in the vicinity of the Buck spotted owl site, but it is not known if this barred owl has established a nesting territory in the area.

Comment: Address the likelihood that the treated stands may create favorable habitat conditions for barred owl. (Swanson)

Comment: Increased impacts of barred owls are likely favored by road-caused fragmentation. (Foster)

Response to the preceding two comments: A discussion of barred owl presence in the Gotchen Planning area Area is provided in the FEIS (page 69 – 70), and a discussion of the effects of the proposed action regarding barred owls is provided under the discussion of fragmentation effects (FEIS, page 174). Barred owls not only use old-growth forests, but they also use fragmented, second growth stands in areas throughout Washington and Oregon outside of the range of the spotted owl. Therefore, in areas where timber harvest has modified northern spotted owl habitat, barred owls may have a competitive advantage over northern spotted owls, which prefer structurally complex older forests for nesting and roosting. The degree to which the habitat modifications in the Gotchen project will influence the distribution of barred owls is difficult to quantify. Areas where spotted owl NRF habitat is downgraded to dispersal or non-suitable habitat for spotted owls would most likely still be functional as NRF habitat for barred owls. Like spotted owls, barred owls prefer to nest in old-growth stands, but they are able to adapt to a much wider range of habitat conditions than spotted owls.

Comment: How will spotted owls be affected by an increase in barred owl individuals in the planning area? (Swanson)

Response: The barred owl's continued expansion into the range of the spotted owl may pose a serious threat to the spotted owl on the Gifford Pinchot National Forest. Perhaps the greatest risk is due to the territorial and aggressive nature of barred owls towards spotted owls. Pearson and Livezey (In Press) suggested that barred owls appear to be displacing spotted owl pairs, barred owls are occupying

vacated spotted owl territories, and barred owls may be preventing dispersing juvenile spotted owls from finding unoccupied habitats in which to establish new territories.

In the Gotchen Planning Area, no spotted owls are expected to be displaced from their territories as a result of the proposed actions because the amount of untreated NRF habitat in the occupied spotted owl 0.7-mile and 1.82-mile radius circles is well above minimum thresholds. However, the number of barred owls that may be present and competing with spotted owls for the habitat in these territories is unknown. Given the recent increasing trends in barred owl populations in the Washington Cascades, it seems likely that the historic spotted owl activity centers in the Gotchen Planning Area that have been abandoned by spotted owls are most likely to be occupied by barred owls in the future, but that is not a foregone conclusion. Habitat levels in the historic territories would be maintained well above minimum thresholds except at the one site, which is slightly below the minimum threshold within 0.7 miles (FEIS, page 174). If at some point in the future these sites were to be re-occupied by spotted owls, there would be sufficient habitat remaining in these old territories to support spotted owls, or barred owls, if that is the case.

Comment: Disclose which specific units/ treatments will cause adverse impacts to spotted owls and spotted owl habitat. (Foster)

Response: The effects to spotted owl habitat are displayed by unit in the FEIS (page 164). All actions that result in the removal or downgrading of spotted owl habitat are considered to be an adverse affect.

Comment: The DEIS fails to take a landscape level look at the relative importance of the planning area to spotted owls and spotted owl habitat outside of the planning area. (Swanson)

Response: A discussion of the importance of the Gotchen area in the context of designated spotted owl critical habitat is provided in the FEIS (pages 72, 175).

Comment: The DEIS does not address the eventual loss of northern spotted owl habitat in the area covered by the DEIS. (Backus)

Response: An analysis of potential changes to spotted owl habitat in 10 years and 50 years for each alternative is provided in the FEIS (pages 157 - 169). Additional discussion of the potential changes to spotted owl habitat due to future management actions is provided in the FEIS (page 177).

Comment: DEIS p. 35: What is the impact on owl habitat of fuelbreaks vs. shaded fuelbreaks? (Brown)

Response: The primary difference between these two prescriptions is the level of over-story canopy cover that remains after treatment. Shaded fuelbreaks thin the overstory to a 40% canopy cover, and fuelbreaks thin the overstory to a 50% canopy cover (FEIS, page 23). Generally forest that has less than 50% canopy cover is marginal for spotted owls as foraging habitat. When canopy cover approaches 40%, the habitat is considered be degraded to such an extent that it functions only as dispersal habitat for spotted owls (FEIS, page 169).

Comment: DEIS p. 55, Mitigation S1: Clarify how "ground based machinery will be operated during the dry season" relates to the spotted owl nesting season. (Hummel)

Response: A seasonal restriction to protect nesting spotted owls in un-surveyed NRF habitat has been identified for Units E and G. Habitat disturbing activities are restricted during the March 1 – August 31 spotted owl breeding and fledging season. Dry season operations in these units would be restricted to the fall (i.e. after August 31) (FEIS, page 50).

Comment: DEIS 180, para 3: Does the CHU WA-42 support 12 pairs? Has it ever? (Hummel)

Response: There are 12 historical spotted owl sites within CHU WA-42, including 11 documented pair locations, and 1 single location. Six of these locations are in the Gotchen LSR. Occupancy at

these sites has declined in recent years, and the current number of spotted owls within the CHU is unknown.

Comment: DEIS p.75, paragraph 4: What about published studies of spotted owl habitat (e.g. Lehmkuhl, Buchanan)? (Hummel)

Response: *The habitat definitions utilized here are based on the habitat definitions published by the Washington State Forest Practices Board (WDNR 2001). These definitions are not inconsistent with the findings reported in the research literature for spotted owls in the eastern Washington Cascades.*

Snags and Down Wood

Comment: The Forest Service should maintain more than the minimum amount of snags. (Weiler)

Comment: Page 61, retain only 6 snags/acre in matrix units is below USFS standards. (Weiler)

Response to the preceding two comments: *The objective in the Gotchen project is to provide for the 100% population potential for cavity excavators in the LSR and 40-100% in Matrix (FEIS, page 181). This would be accomplished under all action alternatives by retaining all live trees >21" dbh in the LSR (FEIS, page 50). Snags would be retained from the largest available at densities of 7 snags/per acre in fuelbreaks, and 10 snags/acre in all other LSR treatments (FEIS, pages 50). Treatments in Matrix would retain 6 snags/per acre and would retain 15 to 50 percent of the mature live trees on site. Retained snags will be the largest available, with a preference for Douglas-fir and ponderosa pine snags. Large down logs would be retained at approximately 2% cover, which is consistent with average levels for eastside mixed-conifer forest (FEIS, page 181). The snag retention guidelines identified for Gotchen are consistent with levels described in the GPNF Late-Successional Reserve Assessment (LSRA p. 5-23).*

Research of various woodpecker species indicates a wide range of snag densities required to meet individual species needs. To determine the snag needs for the Gotchen project, a literature review of life-history data for the seven most common woodpecker species in the Gotchen Planning Area was used to determine snag needs (FEIS, page 181). This analysis estimates that retaining 754 existing snags per 100 acres, or 7.5 snags/acre, would provide a 100% population level for cavity excavators. This figure is based on the cumulative total to meet each species needs. For example the pileated woodpecker requires a minimum 0.6 large snags/acre, and the Williamson's sapsucker requires 1.5 large snags/acre. If these were the only two species present in the Gotchen Planning Area, then the snag retention need would be 2.1 snags per acre. Combining the snags needs of the seven Gotchen woodpecker species yielded a cumulative total of 7.5 snags/acre.

The minimum standard for snag retention in Matrix is to provide the 40% population potential for snag dependent species (ROD, p. C-42). The objective for Gotchen Matrix lands, is to manage populations at a 40% level for all woodpeckers except the black-backed and white-headed, which are managed at 100%. Using the figure above, this calculates to 489 snags per 100 acres, or 4.9 snags/acres. Snag retention guidelines in the Gotchen project that maintain 6 snags per acre in Matrix are well above the minimum levels required.

A recent synthesis of snag and down-wood research suggests that managing snags at densities of 6.7 – 12.5/per acre and down wood at 2-4 percent cover per acre would maintain wood-dependent wildlife at low to moderate levels (www.fs.fed.us/wildecology/decavid/). Managing for higher densities of snags and down wood cover may provide for a greater number of species, but can also contribute to fuel loading and increased fire risk. The DecAID guidelines recognize the natural patchiness of snags and down wood, and suggest that landscapes (i.e. watersheds) be managed to provide snag and down wood resources for wildlife. Even in old-growth forest snags and down wood are patchy, and not every acre of forest will have snags sufficient to support the 100% population level for all species. Project design criteria for the Gotchen project that retain large live trees, hollow trees, snags, and down logs will provide some habitat for snag-dependent species in all proposed treatment areas. Elsewhere in the planning area over 90% of the mature forest important for snag-dependant wildlife species would remain undisturbed.

Comment: Retain all snags that are not a safety hazard and utilize snag modeling to determine the range of snag placement and numbers that result from implementing stand prescriptions and safety guidelines. (Weiler)

Response: *The snag retention guidelines identified for the Gotchen project are consistent with suggested management guidelines for eastside mixed conifer forest in the DecAID model (www.fs.fed.us/wildecology/decaid/) and in the research literature for primary cavity excavators (FEIS, pages 181). Generally, snags are not a limiting factor in the Gotchen landscape Planning Area due to high levels of grand fir mortality associated with spruce budworm defoliation. However, large diameter old growth snags are uncommon. Mitigation measures listed in the FEIS (page 50) call for the retention of all ponderosa pine/Douglas-fir snags ≥ 20 " dbh in the LSR unless removal is required for safety purposes. Removal of some snags in the LSR fuels reduction and reforestation treatments (Units H, I, J, K, L) was deemed necessary to reduce fuel loading and facilitate reforestation with ponderosa pine and Douglas-fir in these areas (FEIS, page 23).*

Comment Emphasize retention of larger snags (>20 " dbh). (Weiler)

Response: *This recommendation is consistent with the mitigation measures identified for the Gotchen project (FEIS, page 50).*

Comment: Create/retain snags in those treated areas containing "few or no snags." (Weiler)

Response: *Project design criteria for the Gotchen project that retain large live trees, hollow trees, snags, and down logs will provide some habitat for snag-dependent species in all proposed treatment areas (FEIS, pages 50). The areas in the Gotchen Planning Area that have few or no snags are generally areas that were clear-cut since 1960 (FEIS, page 61). Generally, snags are not a limiting factor in the Gotchen landscape due to high levels of grand fir mortality. Vegetation modeling indicates that many of the untreated areas on the landscape will continue to decline and create new snags (FEIS, page 188). Creation of additional snags in treatment units is not considered necessary at this time due to abundance of snags in untreated portions of the landscape.*

Comment: Leave some slash piles for wildlife habitat. (Swanson)

Comment: Retain some slash piles on site to serve as marten habitat. (Weiler)

Comment: Leave some slash to allow for health levels of down woody debris and marten habitat. (Foster)

Response to the preceding three comments: *One slash pile no larger than 10' x 10' per acre will be retained in all treated units as mitigation for project impacts to marten. Additionally, retention areas specified in the wildlife mitigation (FEIS, page 50) call for the retention of up to 15% of the treatment areas to retain undisturbed patches of down wood and shrubs for wildlife.*