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Western Oregon Plan Revisions
Project Team
P.O. Box 2965
Portland, Oregon 97208

Dear Project Team:

During the ten years or more that the Northwest Forest Plan has been in effect the Western Oregon region has enjoyed tremendous growth and prosperity. Environmental conditions likewise have shown marked improvement in many respects. According to information in the Ten-Year Monitoring Report, the quantity and quality of old growth coniferous forests has greatly increased. It seems likely that these increases have provided and will provide improved habitat conditions for species that depend on intact and connected old growth forests.

To revise the Northwest Forest Plan at this point in time, so as to increase timber harvest from the Bureau of Land Management Lands and decrease the amounts of suitable habitat available for old forest and riparian associated species, and thereby run the risk of reversing the gains that have been made in the last decade, does not seem advisable. Consequently, of the alternatives analyzed in the Environmental Impact Statement for the Western Oregon Plan Revisions, the best alternative from the standpoint of promoting economic well being and environmental integrity in the Western Oregon region is the No Action Alternative.

Public Outreach

The Bureau of Land Management is to be commended for its excellent outreach program in support of the Western Oregon Plan Revision project. Outreach efforts have included, besides information meetings, numerous communications to inform the public of the progress of the revision project; making available relevant scientific studies and other documents to aid in understanding the issues involved; and extending the deadline for comment submission to allow extra time for commenters to contend with the complex and multi-faceted Environmental Impact Statement.

Definitions and Basic Concepts

Timber Harvest Terminology

Terminology in the Western Oregon Plan Revisions EIS, especially terms related to the O&C Act, gives rise to some confusion. Important terms used in the O&C Act include Annual Productive Capacity, Sustained Yield, and Sustained Yield Capacity. These are defined in the EIS as follows:

- **Annual Productive Capacity**. "An O&C Act term denoting the volume of timber that is determined will grow in one year in a given area."
- **Sustained Yield**. "The volume of timber that a forest can produce continuously at a given intensity of management. The achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources without impairment of the productivity of the land.
- **Sustained Yield Capacity**. "The volume of timber that can be offered for sale each year from an area based upon the consistent volume of timber that a forest can produce continuously."
- **Sustained Yield Unit**. A BLM district.

Allowable Sale Capacity is a term used in forest planning that does not appear in the O&C Act. The EIS defines it as synonymous with Annual Productive Capacity.

- **Allowable Sale Quantity**. "(Synonymous with Annual Productive Capacity) The timber yield that a forest can produce continuously under the intensity of management outlined in the RMP from those lands which are allocated for permanent forest production."

Disregarding the difficulties associated with the concept of infinite timber production or production "in perpetuity," it is difficult to reconcile the usage of these terms in the EIS. Presumably the sustained yield capacity is less than the annual productive capacity since a forest obviously cannot produce continuously (i.e., every single year) the same amount that it is able to grow in any one year.

Under A-1, A-2 or A-3, the volume of timber to be offered for sale each year exceeds the Allowable Sale Quantity because it includes, in addition to the Allowable Sale Quantity (which is the volume produced by the Timber Management Areas), the volume from the Late Successional Management Areas and Riparian Management Areas. Thus, under these alternatives, the amount of timber to be offered for sale each year from a given district will exceed the sustained yield capacity of the district.

In numerous instances, the EIS cites sustainability provisions in explanation of projected environmental results. However, there are no general rules or guidelines for managing a forest so as to achieve a sustainable timber yield or for determining whether or not a given proposed action will meet the sustained yield criteria. The subject is mentioned in the Northwest Forest Plan EIS.

> "The Secretary [of the Interior] must necessarily make judgments . . . about the kind of management that will lead to permanent forest production that satisfies the principle of sustained yield." [NWFP, ROD, p. 49]

Old Growth Forest Terminology

In the Northwest Forest Plan, "old growth," "old forest," and "late successional forest" are terms denoting the final stage in forest development. The EIS consistently uses the term "structurally complex" to describe this seral stage.

As defined in Appendix B, a structurally complex forest consists of:

- "Existing old forest (200-399 years old in current inventory)
- Existing very old forest (greater than or equal to 400 years old in current inventory), and
- Developed structurally complex (less than 200 years old)."

[EIS, page B-944]

Also,

> ". . . stands that are not 200 years old or older, but meet threshold values . . . are identified as structurally complex forest."

Threshold features include:

> "Density of very large trees (greater than 40 inches in diameter) . . ."

plus other unspecified criteria.

The EIS states that

> ". . . Structurally complex stands approximate 'old growth' stands described in many analyses. . . ."

These terms are also said to be similar in meaning to

> 'medium/large conifer multi-story' stands described in the FEMAT Report, and 'large, multi-storied older forest' stands described in the LSOG Monitoring Report. In this analysis, late-successional forest' encompasses both mature and sructurally complex stands, similar to how the Northwest Forest Plan EIS used 'late-successional forest' to encompass mature and old growth forests . . ."

It appears that, in accordance with these definitions, a mature and structurally complex (M&SC) forest stand may contain few large, live, old trees or none. Identifying existing old forest stands dominated by large, old trees with developed old growth permits forests with very different characteristics to be grouped into the same general category of M&SC forests

The presence of large, old trees is commonly regarded as the hallmark of an old growth forest. In the FEMAT Report, large, live old trees are regarded as an essential component of old growth forests. In contrast, a stand containing largely developed structurally complex forest, as described in the Western Oregon EIS, may have few of no old growth components.

> "Where many large old trees remain in the overstory, these stands are usually referred to as "old growth" or "ancient forests." [FEMAT Report, page II-2]

An old growth forest is

> "A forest stand usually at least 180-220 years old with moderate to high canopy closure, a multilayered, multispecies canopy dominated by large overstory trees, high incidence of large trees [some with decadence], numerous large snags, and heavy accumulations of wood, including large logs on the ground." (FEMAT Report, page)

In the FEMAT Report, an old growth conifer stand is defined in terms of old growth characteristics:

> "Old growth characteristics begin to occur in unmanaged forest at 175 to 250 years of age. These characteristics include:
>
> (1) "A patchy multilayered canopy with trees of several age classes.
> (2) The presence of large, living trees
> (3) The presence of large standing dead trees (snags) and down woody debris.
> (4) The presence of species and functional processes that are representative of the potential natural community."

where

> "For forest communities, the potential natural community is an old growth conifer stand." [FEMAT Report, page IX-18]

There are significant differences between the concepts of old growth forest as defined in the FEMAT Report and structurally complex forest as in the Western Oregon EIS. The properties of Mature and Old Growth (M&OG) forest as described in the FEMAT Report and the Northwest Forest Plan thus will differ from those of Mature and Structurally Complex (M&SC) forest as in the EIS and the environmental consequences of management that enhances M&OG forests will differ from those that result from promoting M&SC forests.

Forest stands may be provided with attributes in the first and third categories in the FEMAT definition above by means of thinning and other silvicultural procedures. However, trees in the second category (large, old, living trees) are likely to be few or absent from the developed structurally complex forests. These cannot be grown within the 100-year planning horizon considered here. The fourth category (species and processes peculiar to old forest communities) are unique to forests that have not been greatly impacted by human activities and may have characteristics that can be acquired only through long occupation of a site. Old forest attributes also are apt to be damaged or destroyed by the operations that produce the developed structurally complex stands. Although these attributes are difficult to study or to quantify, they are very important components of old forests from the standpoint of environmental consequences.

In the FEMAT Report it is assumed that the abundance of large old trees is an essential component of suitable habitat for late seral stage associated species. This assumption was not questioned in the Northwest Forest Plan and has seldom been disputed elsewhere. The differences in definitions of fundamental concepts make it difficult to meaningfully compare the environmental consequences of Alternative 1, Alternative 2, or Alternative 3 in the EIS with those of the original Northwest Forest Plan (the No Action Alternative).

Environmental Consequences of the Proposed Plan Revisions

As it applies to forest planning, the National Environmental Policy Act is intended, among other things,

> "to provide decision makers with a detailed accounting of the likely environmental effects of a proposed action prior to its adoption; and to inform the public of, and allow it to comment on, such effects." [NWFP Record of Decision, p. 40]

It is very difficult to predict how the proposed action will affect the various ecosystem components of the Western Oregon BLM Lands or to understand what effects are likely to result from the different implementation alternatives.

The analysis of environmental consequences resulting from the revised plans is based on projections of the amounts of timber in the various seral stages. Four seral stages are considered (stand establishment, young, mature, and structurally complex). Planning efforts that culminated in the Northwest Forest Plan grew out of concern over the rapid disappearance of old growth or late seral stage habitat. Special significance thus attaches to the final seral stage (structurally complex stage).

The EIS projects that the amount of M&SC seral stage timber will increase under all four alternatives.

> ". . . the structurally complex forests would increase under all four alternatives." [EIS, page 494]

However, it appears that developed M&SC forest can include stands with few large, old trees or none. In that case, M&SC timber can increase while old growth habitat declines.

As shown on Table 151 [EIS, page 509], Alternative 2 harvests 100 percent of existing old forest in the harvest land base over the 100-year planning horizon and Alternatives 1 and 3 would harvest nearly all of it. This means that old growth will disappear from the Timber Management Areas under Alternative 2, as no new or replacement old growth will have appeared in 100 years. Stands of mature trees that might have grown into old growth in this time period will probably also have disappeared.

> "The high regeneration harvest rate combined with the slower development into structurally complex forest would increase the likelihood that a stand would be harvested before it would have time to develop into structurally complex forest. . . ." [EIS, page 511]

In fact, even the No Action Alternative would cut most (80 percent) of the existing old growth in the harvest land base in less than 100 years. The restriction of old growth timber to the nonharvest land base implies dire consequences for species whose habitat is limited to these areas of the BLM Lands (species that are endemic to such areas, that lack mobility, etc.).

Because all of the existing old growth in the harvest land base will have been cut by 2106 under Alternative 2 (and most of it under Alternative 1), a very important consideration from the standpoint of old growth ecosystem function and wildlife viability is the amount of existing old growth that will remain in the future within the Late Successional Management Areas under these alternatives. This is difficult to determine.

The EIS gives projections of expected amounts of thinning in the Late Successional Management Areas. The tables and figures on pages 579 to 582 summarize harvest acreage by age class. These acreages are shown for the first decade only. They should be extended to year 2106 to obtain long range projections.

The thinning acreages shown in these tables and figures embody an assumption that there is no cutting in the Late Successional Management Areas of trees aged more than 120 years. The EIS does not explain the basis for this restriction. The restriction with regard to stand age is not a consequence of any of the conditions spelled out in the descriptions of the alternatives.

In addition, Table 173 [page 567] (Nonharvest Land Base Volume Over Time) shows a steady decline in the analysis area over the 100-year planning horizon. Appendix Q also states (concerning harvest projections for the Late Successional Management Areas:

> "With the absence of regeneration harvest, timber production from commercial thinning would diminish over time as the stands mature and become ineligible for thinning."

Declines in these harvest volumes can be expected under the No Action Alternative which has standards and guidelines restricting the ages of trees to which thinning operations can be applied. However, no facts are presented and no conditions are stated in Alternatives 1 and 2 that would justify the predicted volume decline for these alternatives. The descriptions of Alternatives-1 and 2 contain no age limitations (in either the objectives or actions of these alternatives).

Thus, questions arise as to whether or not the projected timber harvest declines in the nonharvest land base actually will occur if Alternative 1 or 2 is implemented. Because the action alternatives have no standards or guidelines, and because the objectives of Alternatives 1 and 2 do not require the preservation of old growth habitat, there is no assurance that any size or age limitations would be applied in practice.

If there are to be limitations on size or seral stage (or other attributes) of the timber to be removed from the Late Successional Management Areas and Riparian Management Areas, these should be spelled out in the descriptions of the alternatives. Otherwise, stands for harvest will be selected by individual discretion, based solely on sustainability criteria in the O&C Act which do not limit the size or age of timber to be removed. This could result in the conversion of much of the Late Successional Management Areas to stand establishment or young forest which would not provide acceptable habitat for the old growth dependent species of the planning area.

Derivation of Projections by Means of Models

The age results shown in the tables are derived in the models by simulating actual timber harvest operations. The models do involve age considerations.

> ". . . Polygons are delineated based on vegetation attributes of cover condition, size class, density of trees, and age." [EIS, page Q-1506]

However, these vegetation classifications do not explain the explicit age limitations shown in the tables. The operation of the models also involves a sustainability criterion.

> "The OPTIONS model was used . . . to determine a sustainable harvest level . . . [It] produces a solution that satisfies both the objective of the alternative and a sustainable harvest level." [EIS, page 480]

Under the heading of management activities and rules for the OPTIONS modeling, Appendix Q states: [page Q-1556]

> "Silvicultural treatments such as planting, pre-commercial thinning, pruning, fertilization, commercial thinning, and selection harvest are explicitly defined; that is, their timing, intensity, duration and biological response are all defined in the model based on experience gained from the growth and yield modeling, professional judgment, and research. . . .Additionally, treatments are subject to stand (polygon) level and landscape level eligibility criteria . . . Harvesting activities are also subject to stand level and landscape level rules. . . ." [EIS, page Q-1557]

These are rules for making projections by means of the models. They are not rules for cutting trees in the late Successional and Riparian Management Areas. It cannot be assumed that the timber harvest projections derived in the models according to these rules will correspond to what happens in actual practice.

As an example of model simulation rules,

> "Modeling 'caps' were used to limit commercial thinning in Late-Successional Reserves to stands less than 80 years to simulate the plan requirement to only apply treatments that would promote the development of late successional forest." [EIS, page Q-1581]

This is an example of methods to achieve the objective of Alternative 1 to promote the development of M&SC forest. This objective can be pursued in various ways, and no particular procedure is prescribed by the alternative.

In accordance with the GIS based modeling rules for harvest volumes in the Late Successional Management Areas, for both Alternative 1 and Alternative 2:

> ". . . thinning was modeled in stands less than 80 years of age." [EIS, page Q-1565]

The EIS does not explain the (seemingly arbitrary) decision to model the harvest volumes for Alternatives 1 and 2 in accordance with the No Action thinning treatments.

In general, it is clear that the model projections rely heavily on assumptions embedded in the models as well as on the experience, expertise and judgment of the modeler. This conclusion is further confirmed by the following (referring to northern spotted owl habitat projections):

> "The actual sequences of treatment a WOPR unit receives is a dynamic modeling process, dependent upon stand and landscape level targets and rules; it cannot be forecast outside of the OPTIONS model."

Comparison of Alternatives

Alternative 1

The objective of Alternative 1 for the Timber Management Areas is to:

> "Manage forests to achieve a high level of continuous timber production that could be sustained through a balance of growth and harvest."

The EIS does not derive any sustainability results for timber harvest in the Timber Management Areas. It does not show how the process of balancing timber removal with growth works in actual operation (at least, not in terms that are easily grasped). It certainly does not show that suitable habitat would be maintained within the Timber Management Areas for old growth dependent species.

Because "no merchantable timber is exempt from harvest," Alternative 1 will effectively remove the remaining old growth trees from the Timber Management Areas and thus reduce the remaining old forest habitat in these areas to a very low level. Unless it is strictly limited to young forest, thinning in the Late Successional Management Areas will also reduce the quality of old forest associated species habitat within these areas.

The EIS discussion implies that the environmental consequences of Alternative 1 for the Late Successional Management Areas would be similar to those of the late successional reserves in the No Action Alternative because these will be the same in areal extent.

> "Under Alternative 1, the overall change in the abundance of the forest structural stages would be similar to the No Action Alternative, in part because the large acreage in the late-successional management areas would be coincident with the mapped late-successional reserves of the No Action Alternative," [EIS, page 499]

despite the fact that

> ". . . the total of the riparian management areas would be smaller than the riparian reserves of the No Action Alternative."

The EIS also notes that

> ". . . Under Alternative 1 the BLM administered lands would become strongly dichotomous, . . ."

reflecting the sharply differing character of the Late Successional Management Areas and the proximate Timber Management Areas. Thus, the BLM Lands will tend to become more fragmented and disconnected than they already are.

The Northwest Forest Plan emphasizes the importance of preserving connectivity of old growth stands in order to create a functioning and connected old growth ecosystem. Alternative 1 will tend to defeat this purpose and its environmental consequences are likely to be very different from those of the No Action Alternative.

The EIS also emphasizes the greatly increased acreage of structurally complex forest that is expected to result from managing the forests according to the Revised Plans.

> "The harvesting of 88,000 acres of existing old growth forest under Alternative 1 would be offset by the development of additional structurally complex forest, for a net increase of 370,000 acres by 2106." [EIS, page 506]

In fact, the harvest of existing old growth stands will not be offset by structurally complex forest under any alternative. Structurally complex forests as here defined are not environmentally equivalent to undisturbed old growth in terms of ecosystem function or wildlife habitat capability, and the developed structurally complex stands can never replace the original old growth forest.

Alternative 2

At the present time, it is impossible to predict the environmental consequences of Alternative 2. The acreage to be set aside as critical habitat for the northern spotted owl will be the deciding factor in projecting what these consequences will be. Thus, the most important questions concerning the effect of Alternative 2 on species or other ecosystem components in the range of the northern spotted owl cannot be answered until the critical habitat designations are finalized.

Sincerely,

Nellie D. Patterson