EASTSIDE FOREST

EASTSIDE FOREST ECOSYSTEMS ISSUE PAPER

EXECUTIVE SUMMARY

This report addresses concerns about the state of federally administered forest lands in eastern Oregon and Washington and provides an approach to deal with these concerns. Major issues involve ecosystems that are out of balance, the associated uncertainty of sustainable resource flows, and the social and economic well-being of people dependent upon these resources.

An ecosystem management approach that conserves ecological potential and the capacity to provide sustainable flows of resources is recommended. This approach integrates social and economic needs of society with the ecological potential of the land. Ecosystem management should begin now by applying current knowledge of social and ecosystem processes. An adaptive management approach will allow continual integration of new knowledge into planning and decision processes.

Immediate short-term actions should be directed at preventing catastrophic loss of biological diversity and long-term productivity, and laying the foundation for ecosystem management:

- Evaluate alternative levels of investment in ecosystem management for their ecological and socioeconomic costs and benefits.
- Conduct restoration/prevention activities in priority watersheds where there are opportunities to prevent catastrophic loss or restore vegetation patterns and processes, fish habitats, and threatened, endangered and sensitive species.
- Delay proposed actions that can effect old forests, unroaded, and riparian components of ecosystems until such activities are screened for compliance with long-term ecosystem management objectives.
- Manage vegetation to accomplish ecosystem and landscape objectives.
- Change measures of accountability from outputs to outcomes.
- Give agencies flexibility to use current funding to do landscape/watershed analyses and ecosystem restoration.
- Revise agency planning frameworks to facilitate needs of landscape and ecosystem management.
- Revise decision making processes to provide for full public participation.

INTRODUCTION

This report is in response to an administrative request to provide an issue paper on the state of federal forests lands in eastern Oregon and Washington. The assignment requested information on:

- Current eastside forest ecosystem conditions and the causes of problems associated with current conditions.
- Desired future conditions of forest ecosystems.
- Short and long-term approaches to achieving desired condition(s).
- Prescribing management practices to achieve desired future forest condition(s).
- Identifying barriers to achieving the desired future condition(s).
- Making recommendations on the required management process and outcomes.

In this paper the current conditions of eastside forests and their causes are briefly described. The desired condition is defined in terms of sustainable ecosystems and a long-term ecosystem management approach to achieve sustainable ecosystems is provided. Immediate steps to initiate ecosystem management are described, as are specific ecosystem management practices. Barriers to implementing the ecosystem management process and achieving sustainable ecosystems are linked to specific recommendations for their resolution.

CURRENT CONDITIONS AND CAUSES

The primary problems associated with eastside forest and related ecosystems are summarized as:

- Some ecosystems are out of balance in processes, species and structures.
- Sustainable flows of resources are in question.
- Economic and social impacts are likely.

Symptoms of these basic problems are evident in anomalous habitats and disturbance regimes in forest, range and aquatic ecosystems, in unstable economies and communities, and in increased uncertainty of future resource flows. Detailed information on current environmental conditions and their causes is provided in Volume III of the Eastside Forest Ecosystem Health Assessment and recent publications highlighting forest health for the eastside.

Livestock grazing was the major impact to stream and riparian ecosystems during European settlement, and overgrazing remains a problem in some areas today. Riparian and aquatic ecosystems have also been impacted by timber harvest, irrigation, and roading after the 1940s. In intensively managed lands, stressed riparian and aquatic systems are indicated by:

- Loss or change in riparian zone vegetation.
- Reduction in frequency and diversity of pools.
- Reduction in large woody debris within stream channels.
- Declines in water quality and increases in stream temperatures.
- Increases in fine sediments in the streambeds reducing effective spawning habitat.

Stresses to terrestrial ecosystems are also evident. Portions of eastside forests are currently stressed, have high insect and disease hazards, and have increased fuel loadings and continuity of fuels for increased fire hazard. The combined effects of management practices such as fire exclusion, selective timber harvest, small cutting units, pest suppression, and custodial management, are evident in:

- Increased forest fragmentation and landscape diversity in intensively managed watersheds, but declining fragmentation and diversity in wilderness and roadless areas.
- Decreased landscape area of young and old forest stands, and increased area of middle-age stands.
- Increased insect and disease hazard in some watersheds.
- Dramatic increases in tree densities, fuel loads, fuel continuities, and fire hazards in some watersheds.
- Highly altered disturbance regimes (fire, insects, diseases) on sites adapted to frequent, low and/moderate severity fires.
- Expanded range of juniper and sagebrush in many watersheds.
- Rapid expansion of noxious weeds into forested and non-forested ecosystems.

The social and economic systems of the eastside are dynamically linked to management practices and ecological conditions. Stresses to these systems are evidenced by:

- Communities stressed with high unemployment and uncertainty concerning future income and employment opportunities.

- Industries concerned about their future and the immediate availability of raw materials for production.

- Species-specific management practices that are reducing options for more holistic ecosystem management and providing a full complement of resource benefits.

ECOSYSTEM MANAGEMENT: A LONG-TERM SOLUTION TO EASTSIDE RESOURCE PROBLEMS

Ecosystem management is recommended as a process to conserve biological diversity, long-term site productivity and the capacity for a sustained flow of natural resources (Overbay, 1992). "Ecosystem management is a process that considers the total environment. It is the skillful use of ecological, economic, social and managerial principles in managing ecosystem to produce, restore or sustain ecosystems integrity and diverse conditions, uses, products, values and services over the long term" (USDI, BLM).

A description of the scientific principles underlying ecosystem management is provided in volume II of the Eastside Forest Ecosystem Health Assessment Report (An Implementation Framework for Ecosystem Management).

Uncertainties in societal expectations and ecological potentials requires flexible land management designs. Flexibility in management is provided by managing ecosystems below maximum levels of resource outputs such that they are buffered against surprise events. Conserving biological diversity and long-term site productivity increases flexibility in response to disturbances. The desired future condition is sustainable ecosystems that meet societal expectations within the ecological capacities of the ecosystems and conserve future ecological and socioeconomic options.

Components of ecosystem management include:

- Integrating and expressing social values, expectations, and ecological potentials in spatial and temporal landscape patterns.

- Evaluation of the ecological sustainability of society's expectations.

- Provide for a continuing dialogue with people such that management decisions reflect the values and expectations of interested people.

Eastside forest ecosystems differ significantly from westside ecosystems in disturbance regimes and landscape vegetation patterns and processes. Eastside ecosystems are characterized by

heterogeneous landscapes sculpted by complex geology, topography and landform types and disturbance events. Fire, insect, and disease disturbances create and maintain a shifting vegetation mosaic. Ecosystem management must be adapted to the ecosystems to which it is applied:

- Eastside ecosystems are constantly changing, with or without human influences.
- Change is important to ecosystem sustainability; disturbances create and maintain a necessary variety of vegetation patterns on landscapes.
- Disturbances historically created and maintained landscape patterns and processes in eastern Washington and Oregon; disturbance effects should be conserved to promote sustainable landscape patterns and rescale fire, insect, and disease hazards.
- There is a logical linkage between disturbance that maintains landscape patterns and processes and the sustainable flow of renewable resources.
- Management practices that mimic an historical range of disturbance effects have the potential to provide for sustainable ecosystems and resource flows when applied at the scales, intensities and frequencies that maintain desired landscape structure and composition.
- Ecosystem management provides the opportunity to prescribe landscape characteristics that have positive cumulative effects.

Implementing Ecosystem Management

Ecosystems do not correspond to political or administrative boundaries. The degree of success in implementing ecosystem management is directly related to the level of coordination and cooperation among land owners and managers, and the cumulative effects of land management decisions. Partnerships can increase the positive cumulative effects and help ensure ecosystem sustainability.

Aquatic systems share common boundaries with both forest and range ecosystems. The cumulative effects of actions within terrestrial ecosystems, especially riparian areas, can have a significant effect on aquatic ecosystems. In ecosystem management disturbance effects that create and maintain riparian and stream habitat heterogeneity are maintained.

BARRIERS TO IMPLEMENTING ECOSYSTEM MANAGEMENT

Implementation of ecosystem management and achievement of sustainable ecosystems is inhibited by the following environmental, social, economic, and organizational constraints:

- Current air quality standards limit the opportunity to reintroduce fire into eastside ecosystems. A balance must be reached between attainment of air quality standards and the need for fire in maintaining a biologically diverse mosaic of plant communities.

- Increasing number and extent of setasides for individual resource uses provides for conservation but could ultimately limit ecosystem management on eastside public lands.

- Resource inventory and monitoring data are inadequate and not standardized among agencies.

- Multiple and intermingled Federal, state, and private land ownerships make ecosystem management less effective unless all affected parties participate in the planning and decision making process.

- Administrative units often do not follow appropriate ecological boundaries.

- Current funding and associated targets follow functional lines (USFS and BLM) which limits agency abilities for achieving ecosystem management.

- Funding and personnel resources are not adequate to complete required watershed data collection, analysis, and restoration.

RECOMMENDATIONS

1. Emphasize ecosystem management in the stewardship of all public lands.

Incorporate landscape ecology and conservation biology principles in the description of ecosystem sustainability.

2. Evaluate alternative levels of investment in ecosystem management and budget accordingly.

Ecosystem management can and should begin now.

Initiate integrated inventories and ecological classification and mapping of public lands and streams in eastern Oregon and Washington to provide a solid foundation for implementing ecosystem management.

Federal and state agencies should develop common data standards and mapping systems for ecosystem description.

3. Provide flexibility to agencies concerning the use of current funding to accommodate landscape/watershed analysis and ecosystem restoration needs.

The inventory, classification, and analysis of ecosystems needs to be an integrated ecosystem budget item.

4. Develop management prescriptions (standards and guidelines) for ecological landscape units. Such prescriptions should consider the historical ranges of variability in landscape patterns and processes when describing long-term sustainability objectives.

5. Change the measure of accountability from outputs to outcomes.

For example, acres of land managed to a desired vegetation condition is a more appropriate measure of ecosystem management success than current accountability for board-foot volume offered for sale.

The current system of accountability sends conflicting messages to our publics and partners; reduces flexibility in addressing issues; and often leads to regressive management practices.

6. Establish joint Federal, state, and private landscape management demonstration projects in eastern Oregon and eastern Washington.

Apply the social, economic, and ecological principles of ecosystem management with full public participation.

Such demonstration projects can reduce or eliminate the gridlock between opposing interest groups by providing ownership in the decisionmaking process.

7. Assess and realign (as appropriate) administrative boundaries to correspond with appropriate social and ecological landscapes.

Realignment should be done to reduce the complexity of ecological and social issues and narrow the corresponding decision space.

8. Conduct restoration/conservation activities in priority watersheds where there are opportunities to prevent catastrophic loss or restore balance to vegetation stages, fish habitat, and threatened, endangered, and sensitive species.

This will require watershed analysis, determination of historic ranges of variability, descriptions of desired landscape conditions, and Federal, state, and private cooperation.

Restoration of landscape patterns and processes may be achieved through various activities such as prescribed fire, fish habitat improvement, riparian vegetation management, reforestation, road closure/obliteration, juniper and sagebrush management, noxious week prevention/eradication, and tree density control.

Because restoration/conservation activities are labor intensive and may be contracted for through the private sector, employment opportunities can be enhanced throughout Eastern Oregon and Washington.

9. Delay proposed actions that can affect aquatic and terrestrial ecosystems, specifically old forest, unroaded, and riparian components of ecosystems, until such activities are screened for compliance with ecological principles.

The appropriateness of activities in accomplishing ecosystem objectives and results that provide ecosystem conditions or processes within the historical range of variability can be used as screening criteria.

Recently completed ecosystem assessments indicate that old forest components are below historical ranges in many of the watersheds in eastern Oregon and Washington and require conservation measures.

Decisions concerning vegetation management treatment of unroaded areas should consider the relation of unroaded areas to their surrounding landscapes, and the relative condition of existing ecosystem components to historical ranges of variability.

10. Manage vegetation to accomplish ecosystem management objectives.

Use silvicultural tools (including prescribed burning) to reduce heavy fuel loadings, reduce ladder fuels, and reduce stocking densities.

Initiate plans to prevent the occurence and spread of noxious weeds.

Use prescribed fire and grazing to manage woody and shrubby vegetation to achieve biodiversity objectives.

11. Revise agency planning frameworks to better accommodate ecosystem management.

Planning needs to take place at multiple scales (e.g., National, regional, and local) and should utilize appropriate ecological boundaries in analysis area delineation (e.g., biome types, river basins, and watersheds).

Planning cannot rely solely on scientific forestry or mathematical models. The description of desired landscape conditions requires social/political input as well as an understanding of the lands ecological potentials.

People expect (and need) to be more involved in the planning process.

12. Revise decisionmaking processes to provide for full public participation.

People are part of the ecosystem.

Local economic strategies depend upon the sustainable flow of resources and services from Federal lands.

Ecological, technical, social, and economic considerations can be fully integrated by public participation throughout the decision process.

13. Create a BLM/Forest Service land interchange program to increase management efficiency and public service.

EASTSIDE FORESTS TEAM MEMBERS:

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MEMORANDUM OF CALL Previous editions usable

TO: Mike

☑ YOU WERE CALLED BY– ☐ YOU WERE VISITED BY–

Evelyn Badger

OF (Organization) (Senator Hatfield's office)

☑ PLEASE PHONE ▶ ☐ FTS ☐ AUTOVON

503-672-0757

☐ WILL CALL AGAIN ☐ IS WAITING TO SEE YOU

☐ RETURNED YOUR CALL ☐ WISHES AN APPOINTMENT

MESSAGE

Brian -- Evelyn is calling to check on our progress on the Eastside Portland forest issue. Could you call her & let her know what you've found out? mike

RECEIVED BY | DATE | TIME

63-110 NSN 7540-00-634-4018 **STANDARD FORM 63** (Rev. 8-81)

MEMORANDUM OF CALL Previous editions usable

TO: DB

☑ YOU WERE CALLED BY– ☐ YOU WERE VISITED BY–

Terry D'Addio

OF (Organization) USDA

☐ PLEASE PHONE ▶ ☐ FTS ☐ AUTOVON

720-7173

☐ WILL CALL AGAIN ☐ IS WAITING TO SEE YOU

☑ RETURNED YOUR CALL ☐ WISHES AN APPOINTMENT

MESSAGE

Mark Gaede

RECEIVED BY | DATE 9-10 | TIME 1000

63-110 NSN 7540-00-634-4018 **STANDARD FORM 63** (Rev. 8-81) Prescribed by GSA

United States Department of Agriculture | Forest Service | RO

Reply to: 2430/2600 (P&EA) | Date: August 18, 1993

Subject: Interim Approach for Sale Preparation, Eastside Forests

To: Forest Supervisors, Eastside Forests

There are a number of indications that interim changes in timber sale planning and layout are needed in order to be consistent with National Forest Management Act viability requirements for old growth-associated species. The Eastside Forest Ecosystem Health Assessment (Everett et al.) and Forest Plan monitoring results show cause for concern about the abundance and distribution of old-growth stands. The Eastside Forest Ecosystem Health Assessment shows that the amount of old growth in some watersheds is significantly below historic levels. Forest Plan monitoring reports are also providing information indicating a discrepancy between Forest Plan estimates of old growth and current conditions.

While the abundance, distribution, and interrelationships of all structural vegetation stages are important to sustainability, conservation of plant and animal species, and ecosystem processes, old-growth abundance is currently of primary concern. Projects need to be designed according to the principles of landscape ecology and conservation biology.

Therefore:

All the remaining Fiscal Year 1993 timber sales that have the potential to impact old-growth stands will be deferred until screened and, if necessary, redesigned according to the interim approach provided herein. The Project Decision Tree (Enclosure I) describes the process.

Fiscal Year 1994 timber sales shall be planned and designed according to this interim approach. FY 1994 sales would, therefore, conform to Enclosures II through IV, including all five of the Common Sense Questions in Enclosure III.

Some types of sales will not be subject to a screening process. They include:

Personal use firewood sales.
Post and pole sales.
Sales made to protect health and safety (roadside or campground hazard trees).

Five
~~Three~~ other types of sales should be screened with respect to the riparian direction (Screen 1) and the wildlife screen (Screen 3). Those sales are:

Precommerical thinning sales.

Sales of material sold as fibre.

United States Department of Agriculture | Forest Service | RO

Reply to: 2430 **Date:** August 5, 1993

Subject: Interim Approach for Timber Sale Preparation in Streamside Riparian Emphasis Areas

To: Forest Supervisors, Colville, Deschutes, Fremont, Malheur, Ochoco, Okanogan, Umatilla, Wallowa-Whitman, Wenatchee, and Winema NF's

While existing Forest Plans provide standards for riparian areas and fish habitat, new information is now available which may require changes in timber sale planning and layout in order to be consistent with NFMA viability requirements. This information is a composite of Forest inventory and monitoring, a comprehensive evaluation of Regional aquatic habitat conditions conducted as part of the development for the Multi-Regional PacFish strategy, the Eastside Forest Ecosystem Health Assessment, and the Blue Mountains Ecosystem Assessment.

To protect riparian areas and to avoid the possibility of redoing work or having to make modifications to future timber sale contracts, I have decided to defer new timber sale planning in Streamside Riparian Emphasis Areas as defined in Enclosure 1 and to screen substantially completed timber sale plans according to the procedures contained in Enclosure 2. We have the flexibility to accommodate this interim approach until the new information can be fully assessed.

This interim approach is effective immediately for proposed timber sales within Streamside Riparian Emphasis Areas on eastside Forests, except those areas included in Option 9 of the President's Plan.

NEW STARTS (Little or no preparation/NEPA work completed)

Timber sales (green and salvage) will not be planned or located within Streamside Riparian Emphasis Areas (REA's) as described in Enclosed 1.

TIMBER SALES WITH PREPARATION WORK SUBSTANTIALLY COMPLETED OR IN PROGRESS

Timber sales (green and salvage) in this category shall be screened according to the Screening Procedure shown in Enclosure 2. Timber sales or portions thereof that are "likely to adversely impact" are to either be modified or deferred.

/s/John E. Lowe

JOHN E. LOWE
Regional Forester

Enclosures

STREAMSIDE RIPARIAN EMPHASIS AREAS:

a. Perennial and intermittent fish-bearing streams; consists of the stream and the area on either side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300 feet slope distance (600 feet including both sides of the stream channel), whichever is greatest.

b. Perennial nonfish-bearing streams; consists of the stream and the area on either side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100-year floodplain, or to the out edges of riparian vegetation, or to a distance equal to the height of one site-potential tree, or 150 feet slope distance (300 feet, including both sides of the stream channel), whichever is greatest.

c. Intermittent non-fish bearing streams; consists of the stream channel from the edges of the stream channel to the top of the inner gorge, or to the outer edges of the riparian vegetation, or to the extent of landslides or landslide-prone area, or to a distance of 100 feet slope distance (200 feet, including both sides of the channel), whichever is greatest.

**See FSM 2526 9/80 R-6 Supp 42 for definitions of Perennial and Intermittent stream

The following guidelines are offered to assist the biologists and ID teams and provide consistency among the administrative units in making the determinations:

Not Likely To Adversely Impact

1. The project uses management practices designed for the protection of water quality parameters (water temperature and other measurable habitat parameters) that meet or exceed BMP's as specified by the states for compliance with the Clean Water Act.

2. The project complies with Forest Plan Standards and Guidelines for fish and water quality, to the extent they meet the needs of the fish species and are measurable.

3. This determination can be strengthened, for Forests included in the CRB Anadromous Fish Policy, if the project allows the numeric values for desired future conditions to be met, or it will allow demonstrated progress toward meeting the numeric values affected by the project.

NOTE: Adequacy of funding and staffing to administer and monitor projects must be considered as a factor when making determinations of not likely to adversely impact.

Likely To Adversely Impact

1. Any Project that contributes to not meeting State water quality standards, such as increasing water temperature, and/or other measurable standards that affect fish survival.

2. Projects that have negative effects on water quality, aquatic habitat, bedload sediments, stream bank stability or cover, stream habitat complexity, or riparian conditions where Forest Plans do not provide quantifiable standards and guidelines for such attributes.

3. Any Project that has effects that contribute to an inability to meet Forest Plan Standards and Guidelines for fish or aquatic habitat.

4. Projects that hamper the ability to meet, or make progress toward meeting, numeric values for desired future conditions on CRB Anadromous Fish Forests.

NOTE: THIS PROCESS DOES NOT SUPERSEDE ESTABLISHED ANALYSIS AND CONSULTATION REQUIREMENTS FOR FEDERALLY LISTED SPECIES.

Assumptions

To complete this process on a rapid time line, the following simplifying assumptions are made concerning proposed vegetation management projects:

(1) Projects meet NEPA requirements.

(2) Projects are developed consistent with applicable environmental laws and constraints.

(3) Cumulative effects of proposed actions other than those affecting landscape vegetation pattern, such as road construction and reconstruction, are not addressed in this screening process.

(4) Screening for project adherence with the requirements of applicable short-term, fine-filter conservation strategies for TES species, and unique habitats such as riparian or fish habitats, is outside the scope of this effort. A subsequent screening process will address this step and questions of current species viabilities within project areas.

(5) Old forest abundance is a primary sensitive issue, however, the abundance, distribution, and interrelationships of all structural vegetation stages are important to conservation of plant and animal species and ecosystem processes.

(6) The agency is concerned that all projects are consistent with the goals of ecosystem management, and are designed according to the principles of landscape ecology and conservation biology.

Vegetation Management Project Screening Process

With the assistance of District and Forest personnel knowledgeable about the vegetation and ecology of the project area (area ecologist, area pathologist and entomologist, soils scientist, fire management specialist, silviculturist), proposed stands are considered and characterized in a larger watershed context.

(1) The watershed that the stand occurs in is delineated. For this screening, watersheds should average about 25,000 acres (15,000 - 35,000) to ensure that vegetation pattern relations are adequately assessed. Watersheds should be larger than the average contiguous area extent of the dominant disturbance regime (e.g., fire); ideally at least two to three times that area.

(2) Major biophysical environments within the watershed are classified (Table 1). For this exercise, biophysical environments are described by plant association groups in generalized landscape settings. Plant associations are grouped based on similarity of disturbance regime characteristics. For example, landscape settings with low severity fire regimes (PIPO and PSME-PIPO plant associations) are distinguished from those with high severity regimes (cool/wet ABGR, ABLA, PIEN plant associations).

(3) Major biophysical environments are delineated within watersheds. Map biophysical environments according to a terrain model of their distribution (Table 1). For example: for each plant association group, develop a legend

Common Sense Screening Questions

Once projects areas and their associated watersheds have been characterized for major ecosystem pattern and process relations, project proposals are evaluated to determine whether the principal actions of the preferred alternative, when implemented, are consistent with watershed scale objectives. The following questions are addressed in assessing the degree to which projects meet larger scale watershed vegetation management objectives:

(1) Is the abundance of any structural stage currently outside the range of historical variability? Example: Is the abundance of old or late structural stage patches within a particular biophysical environment currently limited within the watershed, and does this project improve that abundance? If the answer is no, this project has a problem in its design. Also, if the abundance of certain structural stages in any biophysical environment is increased well-above historical ranges of variability and projects are not designed to remedy that disparity, they should be recommended for withholding and redesign. Such watersheds often differ dramatically from historical conditions with respect to landscape diversity, fire hazard, and insect and disease hazard.

(2) Is landscape connectivity a concern within the watershed of the project area? Example: If the current arrangement of late structural stage stands of a Douglas-fir/grand fir plant association group is fragmented (according to the local fire and management history), and prior management has made islands of this previously connected landscape element, then projects should effectively work toward reconnecting the historical pattern. If a project area has this concern and a project does not adequately promote a remedy to this issue of connectivity, then the project should be recommended for withholding and redesign.

(3) Are silvicultural systems and cutting methods consistent with the principal features of historical disturbance regimes? Example: When the proposed action of a project includes treatment of pine stands of the ponderosa pine climax series; are the cutting and prescribed burning methods consistent with the effects of frequent, low intensity fires that characterize this biophysical environmental setting? Dry pine zone forests were historically regenerated by frequent individual tree torching and small patch-killing fire effects that resulted in multi-cohort stands. Uneven-age management systems and individual tree and group selection methods are consistent with these disturbance effects. Frequent fires also destroyed most thin-barked pine in the under story and multi-tiered stands were exceptional. If project cutting methods are inconsistent with historical disturbance effects, then a project should be recommended for withholding and redesign. The intensity, frequency, and extent of historical disturbances should be considered in answering this question.

(4) Is the choice of cutting methods and stands entered consistent with enhancing or maintaining watershed vegetation patterns according to historical ranges of variability? Example: A large area of a watershed was historically maintained in a late structural stage condition by frequent low-intensity fire, and those same stands are currently multi-layered with mature and older ponderosa pine over stories, and dense shade-tolerant under stories. Does the project recommend removal of the pine over story and thinning the

Table 1. Example Biophysical Environment Characteristics Matrix

Biophysical Environments	Dominant Disturbance Factors	Disturbance Regimes	Average Disturbance Patch	Typical Landform Setting	Typical Elevation Range	Aspects
hot, dry PIPO, PSME-PIPO plant assocs.	1) Fire 2) I&Ds	Low[1]	< 1 ac	Ridgetops Steep Sideslopes	2500-4000 feet	S,SW
warm, dry PSME, ABGR, plant assocs.	1) Fire 2) I&Ds	Low	< 5 ac	Sideslopes	3000-4400 feet	S,SW
cool, mesic PSME, ABGR, ABLA2, PIEN plant assocs.		Moderate	80-120 ac		3000-5000 feet	
cool, wet ABGR, ABLA2,TSME plant assocs.		High	200-1000 ac			
cold ABLA2 PICO, TSME plant assocs.		High				
wet TSHE, ABAM, THPL plant assocs.						
grassland						
shrubland						
meadow						
nonforest riparian						

[1] Agee 1990; The historical role of fire in Pacific Northwest forests. In: Natural and Prescribed Fire in Pacific Northwest Forests. Oregon State University Press.
Low severity regime: 1-25 yr. return interval, 0-20% tree killing
Moderate severity regime: 26-100 yr. return interval, 26-70% tree killing
High severity regime: >100 yr. return interval, >70% tree killing.

Table 3. Structural stages and their relationship to the stand dynamics phases of Oliver and Larson (1990).

Early	The early structural stage corresponds with early seral stages of stands. Stands have been regenerated predominantly to seral species by a stand replacement disturbance, and new stands develop and function for the most part, as a single cohort. The early structural stage combines Oliver's first two phases, Stand Initiation and Stem Exclusion, into a single stage (see figure below). Stands in this first stage are even-aged and range from seedling/sapling to small saw timber size, but lack an understory.
Middle	The middle structural stage corresponds with Oliver's Understory Re-lnitiation phase and the beginning of the Old Growth phase. Understory seedlings and saplings (shade tolerant or intolerant) are beginning to appear in minor abundance, but only suppressed and overtopped crown classes are evident. Understory trees are small and thin-barked, and quite susceptible to low-intensity fire. The seral overstory matures, and comprises the dominant cover. Growth rate and vigor of the seral overstory has slowed but not yet begun to decline; understory growth rate begins to accelerate by the end of this stage. Stands in this stage are often two-layered, and understory species are often shade-tolerant. Overstory size classes are typically saw timber and larger, and understories are typically seedling/sapling to small pole.
Late	The late structural stage corresponds with late-seral stages wherein understory trees begin to occupy codominant and eventually dominant positions in the canopy, and understory species can be found in all canopy layers. Overstory tree vigor begins to decline in this stage, as does tolerance or resistance to native pathogens and insects. Most standing dead and down woody material is small to medium-sized, but some mature and overmature overstory trees have recently died and are developing as snags. The late structural stage corresponds with the first half of Oliver's Old Growth phase. The understory has now become the dominant cover and the overstory is beginning to decline and collapse.
Old	The old structural stage corresponds with the latter half of Oliver's Old Growth phase. Overstory seral species are now quite decadent, with considerable stem decay and top breakage. Many seral overstory trees have died and there is ample large woody debris on the ground. The second forest tier has replaced the first, and the stand would be interpreted now as having a scattered overmature seral overstory. The former understory would now be interpreted as the dominant cover.

(5) New projects being planned will be consistent with the goals of ecosystem management and are designed according to the principles of landscape ecology and conservation biology.

(6) For wildlife screening purposes, project activities will be analyzed on a watershed basis of at least 15,000 to 35,000 acress in size; (subwatershed analysis is not adequate for screening).

After following procedures for SCREEN #1 (Riparian) and SCREEN #2 (Historical Range of Variability-HRV), the following different scenarios still exist that need to be processed through SCREEN #3 (Wildlife). Use the Project Screening Decision Tree as a reference.

NOTE: For those sales exempt from SCREEN #2, follow guidelines given in SCREEN 3a, below.

SCENARIO 3a. SCREEN #1 (Riparian) is met, AND
SCREEN #2 (HRV) - Watershed Condition for the old and late structural stage in a particular biophysical environment falls BELOW HRVs:

1) Do not allow harvest activities to occur within old and late structural stage stands, and enhance old and late structural conditions in "younger" stands as much as possible.

Activities are allowed outside of old and late structural stage stands ONLY IF THEY ARE DESIGNED TO MAINTAIN AND ENHANCE EXISTING OLD AND LATE STRUCTURAL COMPONENTS. Silvicultural systems and cutting methods should be consistent with the principal features of historical disturbance regimes, (as was described in the documentation in Enclosure 3).

(a) Maintain all reminant old and late seral green trees that currently exist within stands proposed for harvest activities.

(b) Manipulate vegetative structure that does not meet old and late structural conditions in a manner that moves it towards these structural conditions as soon as possible.

(c) Treatment methods will mimic historical disturbance regimes as much as possible.

manner that would further increase isolation, the project must be deferred or re-designed to enhance connectivity parameters.

d) To reduce fragmentation, or at least not increase it from current levels, stands in earlier seral conditons that are located within larger blocks of old and late seral conditional should not be considered for regeneration at this time. Non-regeneration activities in these areas should only proceed if they meet the direction in 1 b) above.

3) Adhere to the following specific wildlife prescriptions:

In order to maintain options for species conservation in the future, the following standards are provided until a further wildlife analysis is completed. These standards are set at minimum levels of consideration. Follow Forest Plan standards and guidelines when they exceed the following prescriptive levels:

a) Snags and Down Logs: Most (if not all) old and late seral associated species rely on moderate to high levels of snags and down logs for nesting, roosting, denning and feeding. Past management practices have greatly reduced the number of large snags and down logs in managed stands, that are a common, and important component of old and late seral, un-managed stands.

(1) All sale activities (including regeneration, select cutting, thinning, or salvage) will maintain snags and green replacement/roost trees of $\geq$ 15 inches dbh at 100% potential population levels of primary cavity excavators. (This should be determined using the best available data on species requirements as applied through current snag models or other documented procedures).

(2) Snags $\geq$ 20 inches dbh are preferred and should be left whenever possible, with snags down to the 15 inch category being left when larger snags are not available.

(3) Live, old and late structural condition reminant trees should be left and considered part of the green tree "replacement" tree and roost tree requirement.

(4) Down logs $\geq$ 12 inches dbh should be left at an average of 20 pieces per acre in mixed conifer stands. In Ponderosa pine stands leave all large woody material. Leaving all large down logs is preferred to removing them.Consequently removal should only occur to meet specifically documented safety and silvicultural requirements.

b) Goshawks: Goshawks are an indicator species on some Forests and not on others. To insure goshawks are considered in the short-term until further analysis is completed, the following standards are provided as a minimum. Forest Plan standards and guidelines that exceed the levels described below should be used instead.

a) within earlier seral stage stands (not old and late structural stands)
b) within earlier seral stage stands that occur as isolated pieces within blocks of old and late structural stands
c) within small isolated old and late structural stands (≤ 40 acres, more than 1/4 mile from larger blocks of old and later structural stands, and/or at least 1/2 of edge is bordered by stands with average dbh of < 9 inches dbh)
d) within old and late structural stands ≤ 100 acres in size
e) at the edges (within 300 ft) of larger blocks of old and late structural stands.

2) Maintain connectivity as directed in Scenario 3a, above.

3) Fragmentation reduction guidance: In this scenario, while it is possible to harvest within old and late structural stage stands, fragmentation of these stands should be held to an absolute minimum to maintain options for wildlife species conservation.

a) Regeneration harvest methods should not be utilized for harvest activities that are planned in blocks of old and late structural stands ≥ 100 acres that occur within the "interior" of the block (beyond 300 ft from the edge).

4) Adhere to wildlife prescriptions given in Scenario 3a with the following exception for goshawk post fledging areas:

Goshawks: Follow the same direction provided in scenario 3a, except use the following direction for post fledging area management:

A 400 acre "Post Fledging Area" (PFA) will be established around every active nest site. While harvesting activities can occur within this area, up to 60% of the area should be retained in an old and late structural stag. (i.e., if 35% of the area is in old and late structural stage stands, then it all needs to be retained; if 75% of the area is in old and late structural stage stands, then some can be harvested, as long as this late and old stand structure does not drop below 60% of the area).

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REGION SIX EASTSIDE FORESTS

National Forests on the eastside of Region Six are currently in the process of implementing ecosystem management screens. Such screens are in violation of the National Forest Management Act and the National Environmental Policy Act due to the lack of opportunity for public input. It is particularly concerning that many projects, which comply with these acts, are being delayed and may be altered.

The delay that is occurring is significant for two reasons.
1) The timber industry can see the end of it's supply.
2) A vast amount of dead trees are further deteriorating during the delay.
The timber industry is greatly frustrated with this lack of action.

Many of the Forests which will use ecosystem screens, have over 6 million acres where severe tree mortality has recently occurred. Yet, even with all of this material needing to be salvaged, the Forests have sold very little timber (see table below). There is no reason extensive salvage efforts are not planned and implemented.

In many instances, even when timber sales are planned, some forest stands are left in an unhealthy state and the dead material is burned. A more beneficial option would be to treat the health problems and remove the dead material through harvesting. This option would properly utilize the potential supply.

The proper action for the Forest Service to take, would be to immediately implement the projects which are in, or through, the planning process. In addition, the screening process should not be implemented until it goes though the proper public input process. This action would comply with the law, while facilitating the prompt utilization of dead material.

NORTHEAST OREGON NATIONAL FORESTS
Timber Sale Program Quantity Compared To Sell In MMBF

FOREST	TSPQ	FY91	FY92	FY93 (6/30/93)	PRES.BUDGET FY94	BUDGET FY94 (tentative)
Malheur	211	202	101	70	126	160
Ochoco	122	117	26	33	70	115
Umatilla	159	69	61	45	80	100
Wallowa-Whitman	205	50	79	9	67	110
Total	697	438	267	117	343	485