

Introduction/Overview

The Oregon Plan for Salmon and Watersheds

The Oregon Plan for Salmon and Watersheds is conceived as a means to restore our native fish populations and their aquatic systems to productive and sustainable levels that will provide substantial environmental, cultural, and economic benefits.

The success of the Oregon Plan rests on the efforts and contributions of all Oregonians. Given the breadth of the undertaking, accomplishing its goals requires cooperation across the entire economic and geographic spectrum of the state. The Oregon Plan needs an engaged public concerned about the fate of the salmon and our watersheds. A cooperative undertaking, it melds the efforts of state, local, federal, tribal and private organizations, landowners and individuals.

Although it rests on a strong foundation of protective regulations, the Oregon Plan transcends regulation and encourages nonregulatory efforts to improve conditions for salmon and water quality. Some of the most important contributions to the Oregon Plan have been accomplished by private and quasi-governmental actions through watershed councils and voluntary restoration and enhancement activities.

The Oregon Plan spans the range of land uses and activities impacting salmon and water quality, including forest management, agriculture, fisheries, water management, hatchery management, industry and urban development. Governor Kitzhaber recognizes each of these interests and the roles of state agencies to achieve the goal of the Oregon Plan in his Executive Order No. EO 99-01 on the Oregon Plan for Salmon and Watersheds (Appendix 1). Many efforts have been launched to contribute to the Oregon Plan including watershed council plans and projects, Oregon's S.B. 1010 process dealing with the effects of agricultural practices on water quality, and forestland owner voluntary contributions. This report focuses entirely on commercial forest operations and forest practices.

The Ad Hoc Forest Practices Advisory Committee on Salmon and Watersheds

In the spirit of the Oregon Plan and in accordance with Governor Kitzhaber's Executive Order No. EO 99-01, the Board of Forestry created a diverse committee of Oregonians. The committee was charged with: (1) determining what, if any, changes to forest practices, both regulatory and voluntary, are necessary to meet water quality standards and to protect and restore salmonids; and (2) making specific recommendations to the Board of Forestry. The committee's Charter (see Appendix 1) sets forth its background and purpose, parameters and assumptions, charge from the board, membership, and roles and responsibilities.

The Ad Hoc Forest Practices Advisory Committee (FPAC) has thirteen members representing a diverse group of Oregonians who care deeply about our salmon and watersheds: small and large forest landowners, and representatives of environmental and sports-fishing organizations, logging and commercial fishing interests, local government, and labor unions. The committee met for a year and a half beginning in January 1999. The members include:

Ron Cease, Chair, Hatfield School of Government, Portland State University
Geoff Pampush, Oregon Trout
Dan Newton, Oregon Forest Industries Council

Paul Ketcham, Portland Audubon Society
Gary Springer, Oregon Small Woodlands Association
Bill Arsenaault, Oregon Small Woodlands Association
Paul Heikkila, Commercial Fishing/OSU Sea Grant Extension
Bill Street, Labor/Machinist Union
Liz Hamilton, Northwest Sportsfishing Industry Association
Blake Rowe, Oregon Forest Industries Council
Sue Cameron, Oregon Counties
Tom Hirons, Associated Oregon Loggers
Mary Scurlock, Pacific Rivers Council

Committee members examined the scientific literature and monitoring results and heard from scientists and policymakers. They received and reviewed a report on forest practices from the Independent Multidisciplinary Science Team (IMST), a distinguished team of scientists that was established by the legislature to analyze and recommend the scientific basis for the Oregon Plan. The committee deliberated on a series of issue papers, sought scientific review of the issue papers, and debated options to achieve objectives relating to fish passage, landslides, roads, landscapes, and riparian functions. The issue papers were organized in a manner to help the Board of Forestry consider scientific, operational, economic and policy issues. The papers set forth a large number of options that were developed and considered by the committee.

Committee members traveled to both the eastern and western sides of the state where they examined forest sites, streams, riparian areas and watersheds; considered fish, water quality and forest management needs; gained a deeper understanding of the scientific issues, operational constraints and tradeoffs; and discussed their points of view.

They met a total of 29 days, with the first public meeting on January 14, 1999 and their last meeting on June 9, 2000. The meetings were long, often difficult, and thought provoking. Members devoted a significant amount of time learning about the complex interactions between terrestrial and aquatic habitat and the effects on water quality. The full range of options considered is shown in the issue papers. Following lengthy deliberations, the committee achieved consensus or strong agreement on 24 recommendations that included not only regulatory changes, but also incentives and voluntary activities. On some recommendations, the views of individual committee members differed, and these differences are noted in the report.

The members of the committee believe their work is complete. The recommendations were supported by members of the committee in the spirit of making significant and positive contributions for salmon and watersheds. The committee members embarked on their task with the understanding that they were working to advance the Oregon Plan. The effort did not attempt to specifically address sufficiency for particular federal laws or regulations, such as the federal Endangered Species Act or Clean Water Act.

There are some follow-up actions that will need to be addressed by the Board of Forestry. These tasks are:

- ◆ Further exploration of incentives through the board charging the Committee for Family Forestlands to explore and build on the incentive options developed by the FPAC.

- ◆ Directing the department to work with interests in eastern Oregon to develop riparian measures for eastern Oregon forests.
- ◆ Ensuring the rule proposals are supported by the findings required under rulemaking authority ORS 527.714.

While there are often 13 different opinions among the committee members, it is fair to say that there are two dominant mindsets. These two mindsets reflect viewpoints regarding a range of issues and how facts are received and interpreted by the committee members. These two mindsets had differences in viewpoints about the desired future conditions, the acceptable levels of risk and the probability of adverse effects. There were also different views on the relative importance of unintended consequences - land use change, disincentives for management, and maintaining a viable forest-based economy. The facilitators, committee members, and staff worked diligently to create solutions that considered and balanced the range of viewpoints and that reflected a spirit of compromise.

Summary of Major Issues

In carrying out their charge, the committee chose first to review four major technical issues related to the protection and restoration of salmonids: fish passage, forest roads, landslides, and riparian function. With the September 1999 delivery of the IMST Report to the committee, a fifth issue, “Landscapes” was added for committee discussion.

Fish Passage

Movement of fish throughout a watershed is necessary for a number of life history needs. Upstream and downstream migration of juveniles during low summer flow is often needed so they can find suitable habitat (e.g., avoid warm water temperatures, find food, escape predators, avoid competition, etc.). During winter, juveniles may move upstream or into side tributaries and off-channel habitats to escape flood flows.

Upstream migration of juveniles has been observed related to the presence and availability of beaver ponds and other fish-rearing habitat. Upstream migration of adults is important for access to spawning grounds. Loss of fish passage at road crossings and other human-caused barriers has many potential effects, including loss of habitat access and changes in fish genetics or community assemblages. “Impediment construction” has been identified as a major factor leading to the decline of salmonids in western Oregon. Fish passage blockages are a problem for virtually every type of land use, with many of the most important barriers for salmonids being found on public roads and highways.

Forest Roads

All streams under natural conditions have sediment inputs at varying levels from terrestrial sources (background levels) depending upon soil, topography, vegetation, and rainfall. Sediment enters water through various processes that include soil surface erosion, channel erosion, and mass movements (e.g., landslides, debris flows), and these inputs can be either chronic or episodic.

Studies have indicated that high sediment levels can affect fish by increasing mortality, altering habitat, reducing growth rates, causing physiological stress, impairing homing instincts, and reducing feeding rates. Historically, forest roads (as opposed to timber harvesting) have been the

primary source of sediment from forest management activities in the western United States. High risk factors for forest roads include road surface erosion, road fill failure, and the proximity and hydrologic connection of road segments to streams. Roads can also directly alter stream channels and fish habitat, especially when roads are constructed parallel to streams and within the floodplain.

Landslides

Landslides are the dominant processes for erosion on steep forested slopes in western Oregon and throughout the Pacific Northwest (Swanson et al., 1987). A landslide is the movement of a mass of soil, rock or debris down slope. The typical landslide on steep forestlands begins as a relatively small and shallow feature (typical dimensions of 3 feet in depth, 30 feet in width, and 40 feet in length), and can initiate debris flows (a semi-fluid mass scouring or partially scouring soils on the slope along its path). Upon entering stream channels, debris flows often carry large amounts of wood and are referred to as debris torrents. Landslides can be both beneficial and detrimental to aquatic habitat. For example, they can deliver needed large wood and gravel that will benefit aquatic habitat, but they can also deposit sediment that will clog spawning beds.

Forest practices may alter both physical and biological (vegetative) slope properties that influence slope stability and the occurrence of shallow rapid landslides. Physical alterations can include slope steepening, slope-water effects, and changes in soil strength. Most physical alterations are the result of roads and skid roads.

Riparian Function

Large wood, shade (stream temperature), bank stability, litterfall, sediment filtration, and floodplain processes are all riparian functions in forests. While some or all of these functions may be provided for either directly or indirectly by the current forest practice rules and Oregon Plan voluntary measures, large wood, bank stability, and stream temperature are the primary functions that the rules and measures are designed to address.

Large wood (also referred to as large woody debris; coarse woody debris; large organic debris) is an important component of salmonid habitat. Large wood is a key factor in the development of channel form, including off-channel rearing backwaters, side channels, and pools and riffles, that are important for salmon. Large wood loading of streams has been correlated to winter survival of juvenile salmonids and can increase fish numbers within a given watershed. Reductions in large wood will often result in habitat simplification, which has been shown to reduce the diversity of fish species.

Stream temperature is an important component of fish habitat and has a direct effect on the growth and survival of salmonids. The effect on fish of changes in stream temperature varies between species and within the life cycle of a given species (DEQ, 1995). Critical life stages that occur during the warmest months in the summer are of particular concern. The various physiological and ecological processes of salmonids that are affected by temperature are well documented. Exposure to temperatures above optimum levels has the potential to adversely affect salmonid survival and recovery. The presence of cool-water refugia can help salmonids avoid areas with adverse stream temperatures and help sustain a population of sensitive species. When ambient stream temperatures are too warm, sensitive aquatic species can inhabit these

patches of cool water habitat. Deep pools, cool springs, subsurface flow, and the junction of cooler tributary streams are all examples of cool-water refugia.

Landscapes

The IMST Report includes recommendations of which most could be considered within Oregon's current policy and socio-economic frameworks. One of their two longer-term policy recommendations is that Oregon should develop a new policy framework to encompass the landscape (large watershed) level within the range of wild salmonids in Oregon.

The IMST report recommends a number of landscape elements that the committee considered (see Appendix 3 - IMST Report). The committee devoted one full meeting to hearing scientific and policy information on this topic and discussing the issue of "landscapes." During this meeting, the committee sought further advice from the IMST Chair about the landscape recommendations. Based substantially on input from the IMST Chair and the other participants at the meeting, the committee concluded that this was a longer-term issue outside the sphere of influence of the committee. Therefore, an issue paper was not developed, and the committee chose to recommend that the issue be moved forward to other policy-making bodies, including the Board of Forestry, for future action. The recommendations include a number of specific actions to help facilitate the development of landscape approaches.

Incentives

The committee discussed many methods to implement its recommendations. Among these methods were a number of incentive-based efforts. However, the committee recognized that many of the incentive-based methods need further development and that additional ideas are needed to help balance the regulatory recommendations that it has proposed. Therefore, the committee recommends that incentives be further explored through the Committee for Family Forestlands being charged by the Board of Forestry to explore and build on the incentive options developed by the committee.

Development of the Issue Papers

The committee developed an issue paper for each of the four major technical issues, outlining the current scientific findings, watershed-scale effects, a description and evaluation of current applicable voluntary and regulatory measures, and suggestions for possible additional voluntary and/or regulatory measures. Each paper was peer reviewed by a number of scientists from across the Pacific Northwest with expertise specific to the issues, and their comments were reviewed and utilized by the committee. The papers also included the analyses and recommendations of the Independent Multidisciplinary Science Team related to the four issues. The papers served as the basis for evaluating the sufficiency of current voluntary and regulatory measures in maintaining water quality and protecting and restoring salmonids.

Out of these papers came a list of possible options designed to address those issues identified within the papers as opportunities to improve on existing measures. The committee spent many meetings discussing the four major issues and then developing and evaluating the various options under each issue. These papers serve as a permanent record of the breadth of technical information used by the committee in determining what specific recommendations were to go forward to the Board of Forestry.

Executive Summary

Forest Practices Advisory Committee on Salmon and Watersheds Consensus and Strong Agreement Recommendations

The following is a summary of the recommendations that have received either “consensus” or “strong agreement” among committee members. “Consensus” support means all committee members, present or represented by proxy at the meeting where the recommendation was discussed, expressed support. “Strong Agreement” means no more than three of the thirteen committee members expressed nonsupport. “Majority” support referenced in the body of the report means at least seven committee expressed support, but four to six committee members expressed nonsupport.

Fish Passage

Recommendation A: The forest practice rules should be revised to ensure that if an upstream reach has the natural capacity to be a fish bearing stream, but is currently a nonfish bearing stream because of a stream crossing structure that cannot pass fish, the reach will be classified as a fish bearing stream. The extent of potential fish use upstream of the blockage will be determined using guidance to be developed based on field fish presence surveys and interim criteria. *(See Option #1 under Fish Passage for more information.)*

Recommendation B: Forest landowners should accelerate the identification, prioritization, and restoration of existing stream crossing structures (typically culverts) that currently do not pass fish on streams inhabited at any time of the year by anadromous or game fish species, or fish that are listed as threatened or endangered species under the federal or state endangered species acts.

A new source of funding is necessary to encourage stream crossing repair work. The new funds could be generated based on forestland ownership, on timber harvested, on acres harvested, on road miles, or through some other mechanism (a preference for a per acre assessment based on forestland ownership was expressed by the committee). Landowners could then apply for a credit against expenses incurred in voluntarily remediating legacy road and culvert problems. *(See Option #2 under Fish Passage for more information)* The funding mechanism would be phased out as landowners completed repair work.

Recommendation C: The forest practice rules should be revised to incorporate a physical habitat approach to designating fish use and nonfish use streams. The Oregon Department of Forestry (ODF) has developed interim classification guidelines to designate fish use based upon the physical characteristics of a stream. These guidelines were based upon fish presence survey data and could be used to classify streams that are “fish use.” The guidelines use either mapped or on-the-ground physical characteristics. The current stream classification rules would be amended to establish that fish use streams are any streams that meet the habitat criteria. The habitat criteria may need to be modified and improved based upon more recent and complete survey data. Key issues that will need to be addressed include the acceptable margin of error in applying a habitat model and opportunities for landowners to request field verification of habitat

criteria. Fish presence survey data, when available, will supercede the guidelines in designating fish or nonfish use. *(See Option #3 under Fish Passage for more information.)*

Recommendation D: A funding source should be created for family forest landowners or the state should otherwise assist family forest landowners in obtaining funds from existing sources to expand the current voluntary road assessment effort to family forestland owners. This financial assistance would also be used to help family forest landowners replace stream crossings that are not adequately passing fish. *(See Option #4 under Fish Passage for more information.)*

Forest Roads

Recommendation E: To address existing roads constructed using past practices or methods, such roads should be systematically evaluated and mitigated where appropriate for negative impacts or risks to:

1. Waters of the state;
2. Passage of juvenile/adult anadromous fish; and
3. Downstream passage of habitat elements.

“Other land-use” roads should use at least the same best management practices (BMPs) as required for forestlands.

The department should create specific road maintenance guidelines for high hazard locations by developing and making improved guidance available to operators and regulators. The department should be given general authority to require additional cross drainage installation as a maintenance requirement prior to an operation when current road condition and a proposed use will impair water quality. *(See Option #6 under Forest Roads for more information.)*

Recommendation F: Cross drainage structures on new roads should be installed so that the risk of sediment delivery to waters of the state from new roads is minimized.

While this is the current standard, the department should provide better guidance and training for achievement of the rules. Current rules provide authority for installation and maintenance of road cross drains. Training and improved guidance that would emphasize the need for adequate spacing and the proper installation of road cross drains would be developed and implemented for operators/landowners and regulators.

The forest practice rules should be revised to better clarify the objectives for cross drainage. For example, the rules might state that the objectives are to ensure that cross drains are installed in adequate numbers and in proper locations so that:

1. Road surfaces are protected from erosion and water retention;
2. Erosion of the roadside ditch is minimized;
3. Ditch water is not discharged onto unstable slopes; and
4. The amount of ditch water (and associated sediment) discharging directly into a stream is minimized. *(See Option #7 under Forest Roads for more information.)*

Recommendation G: The forest practice rules should be modified to more specifically address wet-weather hauling. This should include development of two criteria, probably in rule form, to:

1. Address road use in wet weather to ensure that durable surfacing or other effective methods are used on road segments that can deliver sediment to streams; and
2. Require operators to cease heavy truck traffic on roads when the road surface is breaking down (only for segments that are delivering sediment to streams). “Breaking down” would be defined by both depth of ruts and by depth of muddy, fine sediment on the road. *(See Option #8 under Forest Roads for more information.)*

Recommendation H: The department should develop clear decision-making criteria for evaluating proposed road locations in areas where there is a high risk of landslides, surface erosion, or of direct physical alteration to streams, riparian areas, lakes or wetlands. The criteria should identify preferred locations and construction practices that will result in roads being constructed in a manner that results in the lowest overall impact to water quality and fish habitat while allowing the landowners to achieve their management objectives (Method 5). The criteria should also direct the Department of Forestry to not approve road construction or reconstruction in the sensitive areas described above, if viable alternatives exist. *(See Option #10 under Forest Roads for more information.)*

Recommendation I: Means should be developed or provided for the movement of large wood and sediment downstream at those crossings which may otherwise restrict movement. The transport mechanisms for large wood and sediments may be either stream storm flows or channelized debris flows. *(See Forest Roads Option #12 for more information.)*

Recommendation J: Improved cooperative road system planning, maintenance and use is needed between federal and private forest landowners. *(See Option #16 under Forest Roads for more information.)*

Recommendation K: Future forest road best management practice compliance and effectiveness monitoring should be implemented within the context of the Forest Practices Program’s strategic monitoring plan and prioritized in context with available monitoring resources and other monitoring needs. *(See Option #18 under Forest Roads for more information.)*

Recommendation L: Additional training on forest road construction and maintenance should be provided for landowners and operators. *(See Option #19 under Forest Roads for more information.)*

Recommendation M: The forest practice rules should be changed to require prior approval for ground-based harvesting on steep slopes where there is a significant risk of sediment delivery to streams. *(See Option #57 under Forest Roads for more information.)*

Recommendation N: A road closure program should be developed that forest landowners, the Department of Forestry, and local law enforcement can use to limit public access onto sensitive road systems that have a high risk of delivering sediment to streams, or that directly impact aquatic habitat. *(See Option #59 under Forest Roads for more information.)*

Landslides

Recommendation O: All landslide-prone locations (now called “high-risk sites”) should be identified prior to timber harvest operations. During the notification process, the department should inform the operator of the likely presence of high-risk sites in the operation area, based on coarse screen maps. The operator would then be expected to more specifically locate sites within the operation area by field reconnaissance. There is also the expectation that “significant” areas of high-risk sites which are not mapped will also be identified by the operator. *(See Option #45 under Landslides for more information.)*

Recommendation P: The department should identify stream channels which are prone to debris flows and torrents. Identifying those channels which are capable of transporting large wood to Type F streams could make it possible to focus riparian prescriptions on those streams where greater (fish bearing) benefit to aquatic habitats are likely.

The department should inform the operator during the notification process of the likely presence of debris flow-prone channels, based on coarse screen maps. The operator would then be expected to more specifically locate debris flow-prone channels by field reconnaissance. ODF would provide specific criteria to be used in field identification. *(See Option #46 under Landslides for more information.)*

Recommendation Q: The locations most prone to landslides (now called “high-risk sites”) should be managed with techniques that minimize impacts to soil and water resources.

To achieve this objective, the best management practices used to protect high-risk sites that are currently in guidance should be incorporated into the forest practice rules (Method 1) and a better case history basis for evaluating the effectiveness of those practices should be developed (Method 6). These standard practices are designed to minimize ground alteration/disturbance on high-risk sites from logging practices. *(See Option #47 under Landslides for more information.)*

Recommendation R: It is important to leave trees or downed wood in locations where they provide wood to be moved by debris flows into fish bearing streams.

To achieve this objective, it is realistic or appropriate to use a menu of potential methods to leave trees or downed wood, depending upon likelihood of wood delivery and operational efficiency. It is not appropriate to rely on a single strategy to provide this potential source of large wood. The operator should be required to select an appropriate option in cooperation with ODF. *(See Option #61 under Landslides for more information.)*

Riparian Functions

Recommendation S: The active placement of large wood or other structures in streams deficient in wood or other structures is necessary for short-term aquatic habitat improvement, but it should be done in a manner that still assures the timely achievement and maintenance of characteristics of mature forest conditions in the riparian management area in the longer term.

A menu of methods should be developed to prioritize and guide placement of large wood. This menu should include as one method placing wood along streams during an adjacent entry for harvesting. *(See Option #20 under Riparian Functions for more information.)*

Recommendation T: Additional department resources should be allocated to monitoring the effectiveness of the water protection rules. At a minimum, current levels of monitoring must be maintained. Adequate resources should also be provided to enable the department to conduct effectiveness monitoring related to the large wood objectives of the Oregon Plan for Salmon and Watersheds and water quality standards, as well as continued best management practices compliance monitoring. Coordination with other agencies on monitoring projects is essential. *(See Option #30 under Riparian Functions for more information.)*

Recommendation U: The State of Oregon should develop a clearer and more comprehensive policy on riparian management that addresses all land uses. The committee did not discuss whether such a policy should require uniform protection on all land uses. However, the policy should, at a minimum, establish a baseline standard for resource protection and both clarify and explicitly describe Oregon's expectations for different land uses if some land uses will be required to meet a higher protection standard than others. *(See Option #41 under Riparian Functions for more information.)*

Recommendation V: The following list of changes are recommended to increase the protection and restoration of riparian functions. Further clarification and/or guidance on a number of these points will be needed to further develop these concepts.

1. Harvesting Cap 40%
In western Oregon, manage any harvesting within the Riparian Management Area (RMA) so that the retained conifer basal area exceeds the basal area standard target, or 60 percent of the pre-harvest basal area, whichever is greater.
2. No Touch Area ½ of RMA
The no-touch width will be equal to one-half the width of the entire RMA.
3. Largest Trees 10 Out of 20 Largest
Retain 10 of the 20 largest trees per 1,000 feet outside of the no-touch width that will best achieve aquatic riparian functions. Subject to FPF approval, the landowner would identify tree locations in a written plan demonstrating how this objective will be met. There would be discretion to also consider operational issues and the value of the trees, as long as best achieving aquatic riparian functions remains the primary objective.
4. Type N Streams (Nonfish Bearing) Forest Practice Forester Discretion
 - a. Small Type NT streams are: 1) Perennial Small Type N (temperature) streams that are tributary and contribute at least 30% of the flow to small and medium Type F streams and that have a drainage area larger than "X" acres (basin size to be set by georegion, 40 acres for the coast range). Initial classification will be based on basin size, but landowners may delist streams or stream segments verified as nonperennial. 2) Small Type N (torrent) streams with drainage basins

greater than 30 acres, in which more than 75% of the basin has been mapped as “high” or 50% “extreme” debris flow hazard (by the State Forester) and which have a high probability of wood delivery to Type F streams.

- b. Small NT stream protection: 1) Up to the first 500 feet of Type NT (temperature) stream above the confluence with a Type F stream will have a 50-foot search zone, each side. Within the search zone, retain 4 square feet of trees per each 100 feet of perennial flow (up to 500 feet) and all nonmerchantable conifer on each side of the stream. Trees left along these streams to satisfy the basal area requirement can be counted as in-unit leave trees. 2) “Torrent” type NT streams will be protected as follows - FPF, working with the landowner, has discretion to direct retention of in-unit trees to 50’ x 500’ search zone (each side).
5. In-growth 25% Adjustment for Small Streams
The standard target will be recalculated for small Type F streams using the same per-acre basal area as large streams, minus 25 percent for in-growth. The standard target will also be recalculated for medium Type F streams, using the same per-acre basal area as large streams.
6. Riparian Specialist
The Oregon Department of Forestry will designate a riparian specialist in each administrative area who will be available to inventory and prepare riparian prescriptions for landowners, at their request. These specialists will be new positions funded by funds other than the harvest tax.
7. Similar Prescriptions for All Large and Medium Streams
Large and medium Type N stream prescriptions will be the same as the equivalent size Type F.
8. Monitoring
The effectiveness of the small Type N stream prescription will be a monitoring priority.
9. Alternative Vegetation Retention Prescriptions
The existing alternative vegetation retention prescriptions (e.g., hardwood conversions) may be applied to all riparian management areas (RMAs).
10. Preventing Sediment Delivery
The purpose statement for harvesting rules will be modified to better describe the objective of preventing sediment delivery to channels. The current requirement not to locate skid trails within 35 feet of Type F or D streams will be extended to all streams. Skid trails will be defined as an excavated trail used to yard logs with more than one turn.
11. Measurement of Riparian Management Area/Channel Migration Zone
The riparian management area (RMA) will be measured from the current points of measurement except for areas designated by the State Forester as a channel migration zone (CMZ). A CMZ is an unconstrained reach of stream that, in the judgment of the forester, is likely to have channel movement that can go outside the RMA widths within

the period of a rotation (50-100 years). Within the CMZ, the no-touch area will be measured from the high-water mark of the channel (same as current rules). The outer edge of the CMZ will be based upon guidance to be developed by a technical committee. Retained trees in the CMZ shall be no less than the basal area standard target.

12. Type N and Small Type F Streams
Landowners would get credit for in-unit leave trees.
13. Conceptual Agreement About the Use of “Stratification”
In recognizing that riparian stands are not homogenous and that applying a single target for the RMA can prevent appropriate management in patches with conifer “over” stocking, agreement was reached on the concept of stratification. The details of how to do it in the field are to be developed. Stratification could allow an RMA to be divided into segments with a different management approach applied to each segment based on the specific conditions in the segment.
14. “Provide for Placement of Large Wood” is Supported as a Concept
(See “Subcommittee” Riparian Option under Riparian Functions for more information.)

Landscapes

Recommendation W: The Board of Forestry should ask the Governor to:

- Convene a collaborative process for landscape-scale approaches to protect and recover salmonids and provide and protect clean water across land uses and ownerships:
 1. Identifying and evaluating current policy frameworks and scientific findings related to landscape management;
 2. Developing common protocols for watershed assessment and monitoring;
 3. Review existing and proposed watershed assessment protocols and recommend a means to achieve an effective assessment;
 4. Identifying research needs, regulatory and nonregulatory policies, and technical methods to support landscape-scale approaches; and
 5. Improving cooperative approaches and partnerships among local, state and federal governments, and private landowners.
- Strengthen “Oregon Plan for Salmon and Watersheds” support for basin and watershed-scale assessment, collaboration, and restoration by:
 1. Linking funding support for Oregon Watershed Enhancement Board (OWEB) projects to basin and watershed priorities and those projects that are supportive of the goals of the Oregon Plan;
 2. Increasing long-term financial support for watershed councils and coordinators;

3. Boosting funding to state agencies to enhance technical support to watershed councils and restoration activities of watersheds;
 4. Setting priorities, where possible, according to the identification of limiting factors on fish runs;
 5. Assembling a local/state/federal team to solve watershed and landscape-level problems that involve multiple governmental agencies. The team would recommend positive changes to reduce/eliminate duplication, do away with actions that are counter to the Oregon Plan, and improve communications. Where appropriate, nongovernmental representatives should be included; and
 6. Ensuring the long-term viability of the Oregon Plan by implementing Executive Order EO99-01.
- Support increased funding for scientific research and the establishment of a natural resource research institute to address landscape/watershed scientific questions and Oregon Plan policy issues using a multidisciplinary approach; and
 - Strengthen policies to encourage maintenance of the forestland base and increase it through afforestation of suitable lands, since forests provide the best and most essential habitat components for salmonids.

Recommendation X: The Board of Forestry should:

- Include the policy objectives of the Oregon Plan for Salmon and Watersheds as part of its next revision of the Board's strategic plan, *The Forestry Program for Oregon*;
- Investigate, develop, and promote incentives--such as expanding the federal Conservation Reserve Enhancement Program (CREP), providing financial assistance, using forest stewardship plans, and easing anti-trust restrictions to encourage forest landowners to encompass broader landscape goals in their management plans; and
- Continue to investigate and analyze forest conditions across the landscape through:
 1. The Department of Forestry's Forest Assessment Project which has forged partnerships with Oregon State University and the Pacific Northwest Research Station; and
 2. Data and models developed in other projects such as the Umpqua Land Exchange and the Sierra Nevada Project.