Executive Summary
Scientific Review of the
Washington State
Forest & Fish Plan

Jointly Administered by the
American Fisheries Society
&
Society for Ecological Restoration, Northwest Chapter

Background: The Forests and Fish Report that is here reviewed was written to provide recommendations upon which revised forest practice laws could be established for private lands in Washington State. Stated goals of the Report are to keep the timber industry economically viable, recover salmonid fisheries, and achieve compliance with water quality standards and Endangered Species Act requirements.

The Report was accepted by the Washington state legislature in Spring 1999, and Draft Emergency Forest Practice rules were then prepared for review by the Forest Practices Board with the intention of codifying the recommendations of the Report.

While some provisions of the Forests and Fish Report represent improvements over existing regulations, most provisions decrease the maximum levels of environmental protection possible relative to previous forest practice rules in Washington. The minimum levels of protection afforded by the Report, although higher than those of the previous standard forest practice rules, do not approach the levels of protection considered necessary by science-based guidelines already prepared for use on private forest lands in the Pacific Northwest. Attainment of the Report’s performance targets will not assure attainment of the overall goals described by the Report: levels of turbidity will be permitted to be maintained at values considerably higher than those allowed by state water quality standards, and the cumulative effect of the adverse habitat changes allowed by the Report will be a decreased likelihood of survival for threatened salmonid species.

On improvements from existing conditions: Aspects of the Report that represent significant improvements over previous standard forest practice rules include:

- Provision of no-cut buffers along fish-bearing channels
- Requirements for road maintenance plans
- Provision of some controls on salvage in riparian areas
- Requirements that road crossings be passable by fish

On scientific evidence included in FFR: A document that is intended to be based on sound science would provide documentation from the scientific literature to support each of the document’s conclusions, but the FFR provides no citations and describes no rationale for its
prescriptions. Where science-based information is described in the accompanying definitions, some of the basic information presented is inaccurate. Such errors undermine the technical credibility of the document.

**On water quality, shade and temperature:** The Report contains insufficient restrictions on riparian logging in non-fish-bearing reaches to ensure water temperatures flowing into fish-bearing reaches are low enough to support species at risk or to assure compliance with Washington State water quality standards for stream temperature. The Report’s only mechanism for management of stream temperatures is provision of buffer strips along part of the stream system to provide shade. However, models show that stream temperatures are more influenced by air temperature than by shade, and a 50-foot buffer strip on 50% of perennial non-fish-bearing channels is insufficient to insulate those streams from increased air temperatures due to logging. Maintenance of shading alone will not assure attainment of water quality standards for stream temperature.

**On stream typing and protection levels:** Riparian zones are likely to be cut along some channels in which threatened or endangered fish are observed because observations of the presence of fish cannot be used to correct erroneous stream classifications. Streams will be classified as fish-bearing or non-fish-bearing using an as-yet-undeveloped model, and the level of protection provided depends on the stream classification.

**On slope stability and roads:** The Report’s requirements for road maintenance and road standards represent significant improvements over previous rules. In contrast, measures for managing unstable slopes weaken previous provisions. Measures to assess and manage slope stability at a watershed scale have been replaced with a requirement to use state-wide hazard maps and to evaluate slope stability at specific sites of concern. This approach makes it impossible to design watershed-specific prescriptions to avoid contributing to cumulative impacts.

**On riparian conditions:** Although the Report states that desired future condition targets for riparian stands are those for 140-year-old stands, the targets provided are actually for 80- to 90-year-old stands. This apparent error will lead to significantly higher rates of logging in the inner zones of buffer strips than appear to have been intended.

**On peak flows:** The Report’s performance targets allow peak-flow increases large enough to reduce egg-to-fry survival of salmon by about 10%.

**On woody debris and in-stream habitat prescriptions:** Woody debris in non-fish-bearing channels is critical to the maintenance of adequate habitat in downstream fish-bearing channels because wood contributes to channel stability and traps sediment, and because a proportion of the wood is transported downstream. The Report provides for no woody debris recruitment in seasonal channels and limited recruitment in perennial non-fish-bearing channels. Fish-bearing streams could be deprived of as much as half the natural woody debris input. This level of input is considerably lower than that generally considered necessary for sustaining viable populations of salmonids.
On sediment in streams: The Report’s provisions allow direct disturbance to seasonal streams and provide no buffer strips to protect them from upslope sediment inputs. Higher levels of protection are provided for perennial streams. However, the distinction between seasonal and perennial streams is irrelevant to sediment-related impacts because both stream types carry flow during periods when erosion and sediment transport are occurring. Rationales for reducing sediment input to perennial streams apply equally to ephemeral streams. Downstream sediment loads will be elevated due to inadequate protection of small channels.

On meeting water quality standards: The Report’s recommended prescriptions will allow more sediment input to streams than is allowed by state water quality standards. Sediment inputs of 50% over background are to be permitted from the existing road system; effective methods for managing slope stability hazards are not to be allowed; 4% to 6% of the streambanks in a watershed can be left in a disturbed state; and peak-flows are allowed to increase by as much as 20%, thus increasing sediment loads by more than 20% and contributing to increased erosion on the disturbed streambanks.

On chemicals in water: The Report allows direct application of toxic chemicals to non-fish-bearing channels if no water is present at the time of application. Because toxic residues can remain for months, downstream salmonids will be exposed to some level of these toxic chemicals when flow resumes.

On cumulative impacts: Because the Report’s provisions are not contingent on assessment of the current level of impact in watersheds—and, in fact, remove the ability to modify prescriptions for riparian buffers and slope stability on the basis of watershed-specific information—the Report’s prescriptions will contribute to cumulative impacts to water quality and critical habitat. Unless the level of care in already-impacted watersheds is higher than that in unimpaired watersheds, habitat conditions will continue to deteriorate in many of those watersheds, thus increasing the level of harm to already threatened species.

On the meaning of “significant impact”: The Report indicates that the “significance” of mass-wasting impacts is now to be defined relative to the impact that might have occurred under previous regulations rather than with respect to the level of harm experienced by the impacted party. This redefinition is fundamentally unjustifiable and would prevent compliance with water quality and endangered species requirements. It is clearly unthinkable that provisions known to be inadequate could be accepted as having “no significant impact” simply because they are slightly better than pre-existing inadequate provisions.