

DETERMINATION OF NONSIGNIFICANCE

Description of proposal:

The Forest Practices Board proposes to amend WAC 222-30-021(1)(b), which provides prescriptions and options to harvesting inner zone trees in forested “riparian management zones” as defined in WAC 222-16-010.

Pursuant to RCW 76.09.370, the Forest Practices Board incorporates a scientific-based adaptive management process to determine the effectiveness of forest practices rules in aiding Washington’s salmon recovery effort. Under this adaptive management process, a scientific study was completed in 2005, entitled *Validation of the Western Washington Riparian Desired Future Condition (DFC) Performance Targets in the Washington State Forest Practices Rules with Data From Mature, Unmanaged, Conifer-Dominated Riparian Stands*. The study results indicated that the current rule DFC targets for site classes II, III, IV and V are low for these site classes. It also found there is no statistically significant difference in basal area between site class groups.

In response to that study’s findings, the Board is considering three possible rule proposals to amend WAC 222-30-021(1)(b). All three proposals would increase the target basal area per acre requirement that a riparian forest stand is projected to reach at 140 years from the year of harvest to 325 square feet for all site classes (hereinafter, 325 bapa). Two of the proposals include other changes.

The three rule proposals are briefly described below by listing their provisions that *differ from the rule as it currently exists*:

Rule Proposal #1

Increases the target basal area per acre (bapa) stand requirement for all site classes to 325 bapa.

Rule Proposal #2

- Increases the target basal area per acre stand requirement for all site classes to 325 bapa.
- The Option 2 (leaving trees closest to the water) management option:
 1. Allows the basal area of the required 20 inner zone conifer leave trees per acre (≥ 12 inches diameter at breast height) to be credited towards meeting the stand requirement; and
 2. Allows additional inner zone management for site classes III and IV on streams greater than 10 feet in width when the combined basal area of the core and inner zone exceeds the target basal area of 325 square feet bapa. This additional inner zone management would not be allowed any closer than 80 feet from the stream (i.e., a 30-foot no-cut inner zone adjacent to the 50-foot no-cut core zone).

Rule Proposal #3

- Increases the target basal area per acre stand requirement for all site classes to 325 bapa.
- The Option 2 (leaving trees closest to the water) management option allows the basal area of the required 20 inner zone conifer leave trees per acre (≥ 12 inches dbh) to be credited towards meeting the stand requirement.

Proponent: Washington State Forest Practices Board

Location of proposal, including street address, if any: As a non-project proposal, the affected geographic area is non-federal, non-tribal forest lands within Washington State.

Lead agency: Forest Practices Board

The lead agency has determined that none of the three alternative rule proposals have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21c.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

This DNS is issued under 197-11-340(2); the lead agency will not act on this proposal for 14 days from December 5, 2008. Comments must be submitted by ~~December 18, 2008~~ *January 9, 2009.* (pa)

Responsible official: Doug Sutherland

Position/Title: Commissioner of Public Lands

Phone: (360) 902-1004

Address: Forest Practices Board
c/o Patricia Anderson, Rules Coordinator
Department of Natural Resources
1111 Washington Street SE
PO Box 47012
Olympia, WA 98504-7000
(360) 902-1400

Date: 12/4/8

Signature: 

ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), Chapter 43.21 RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

A. BACKGROUND

1. Name of proposed project, if applicable:
Forest Practices rule proposal: Achieving desired future conditions in forest practices riparian management zones governed by the Forest Practices Act, chapter 76.09 RCW. Please note: This is a nonproject action, so most site-specific questions in this checklist are not applicable. Question 11 below and section D. Supplemental Sheet for Nonproject Actions describe the various rule making proposals in more detail.
2. Name of applicant:
Forest Practices Board
3. Address and phone number of applicant and contact person:
**Forest Practices Board
c/o Patricia Anderson, Rules Coordinator
Department of Natural Resources
1111 Washington Street SE
PO Box 47012
Olympia, WA 98504-7012
(360) 902-1413**
4. Date checklist prepared:
November 2008
5. Agency requesting checklist:
Forest Practices Board
6. Proposed timing or schedule (including phasing, if applicable):
The Forest Practices Board may consider rule adoption at the February 11, 2009 quarterly meeting. If the Board adopts a rule in February, the effective date will be in March 2009.
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
The Forest Practices Board has asked staff to investigate the possibility of using a fixed width approach for riparian management.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

The proposed rule changes are based on Forest and Fish Policy recommendations to the Forest Practices Board resulting from the following reports completed through the Forest Practices Adaptive Management Program:

- **DFC Target Validation Project, Contract No. PSC 05-507: *Validation of the Western Washington Riparian Desired Future Condition Performance Targets in the Washington State Forest Practice Rules with Data from Mature, Unmanaged, Conifer-Dominated Riparian Stands.***
- **DFC Desktop Analysis Project, Contract No. PSC 07-701: *An Overview of the DFC Model and an Analysis of Westside Type F Riparian Prescriptions and Projected Stand Basal Area per Acre.***

The reports may be seen at

http://www.dnr.wa.gov/BusinessPermits/Topics/FPAdaptiveManagementProgram/Pages/fp_cmer_completed_projects.aspx

The 1999 Forests and Fish Report, Appendix B “Riparian Strategies”, contains the riparian prescriptions now incorporated in Title 222 WAC Forest Practices. Appendix L “Adaptive Management” describes the process under which those rules may be amended. The Forests and Fish Report is available at http://www.dnr.wa.gov/Publications/fp_rules_forestsandfish.pdf.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

This question does not apply because the rule making proposals at issue are nonproject actions.

10. List any government approvals or permits that will be needed for your proposal, if known.
None.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agency may modify this form to include additional specific information on project description.)

The Forest Practices Board proposes to amend WAC 222-30-021(1)(b), which provides prescriptions and options for harvesting inner zone trees in forested “riparian management zones” as defined in WAC 222-16-010.

Pursuant to RCW 76.09.370, the Forest Practices Board incorporates a scientific-based adaptive management process to determine the effectiveness of forest practices rules in aiding Washington’s salmon recovery effort. Under this adaptive management process, a scientific study was completed in 2005, entitled *Validation of the Western Washington Riparian Desired Future Condition (DFC) Performance Targets in the Washington State Forest Practices Rules with Data From Mature, Unmanaged, Conifer-Dominated Riparian Stands*. The study results indicated that the current rule DFC targets for soil

site classes II, III, IV and V are low for these site classes. This means that additional basal area (area in square feet of the cross section of a tree measured at 4½ feet above the ground) must be retained following a timber harvest than is presently required. The study also found there is no statistically significant difference in basal area between site class groups.

In response to that study's findings, the Board is considering three possible rule proposals to amend WAC 222-30-021(1)(b). This rule presently requires a post-harvest basal area of 190-275 square feet per acre, depending on the soil site class. All three proposals would increase the target basal area per acre requirement that a riparian forest stand is projected to reach at 140 years from the year of harvest to 325 square feet for all site classes (hereinafter, 325 bapa). Two of the proposals include other changes.

The three rule proposals are briefly described below by listing their provisions that *differ from the rule as it currently exists*:

Rule Proposal #1

Increases the target basal area per acre (bapa) stand requirement for all site classes to 325 bapa.

Rule Proposal #2

- **Increases the target basal area per acre stand requirement for all site classes to 325 bapa.**
- **The Option 2 (leaving trees closest to the water) management option:**
 1. **Allows the basal area of the required 20 inner zone conifer leave trees per acre (≥ 12 inches diameter at breast height) to be credited towards meeting the stand requirement [defined in WAC 222-30-021(1)(b)]; and**
 2. **Allows additional inner zone management for site classes III and IV on streams greater than 10 feet in width when the combined basal area of the core and inner zone exceeds the target basal area of 325 square feet bapa. This additional inner zone management would not be allowed any closer than 80 feet from the stream (i.e., a 30-foot no-cut inner zone adjacent to the 50-foot no-cut core zone).**

Rule Proposal #3

- **Increases the target basal area per acre stand requirement for all site classes to 325 bapa.**
- **The Option 2 (leaving trees closest to the water) management option allows the basal area of the required 20 inner zone conifer leave trees per acre (≥ 12 inches dbh) to be credited towards meeting the stand requirement [defined in WAC 222-30-021(1)(b)].**

12. **Location of proposal.** Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographical map, if reasonably available. While you should submit any plans required by the

agency, you are not required to duplicate maps or detailed plans submitted with any applications related to this checklist.

These are not site specific proposals. They are nonproject rule proposals to amend WAC 222-30-021(1)(b). The lands affected are riparian areas on forest lands subject to the Washington Forest Practices Act, specifically:

- **Western Washington riparian management zones for Type S and Type F Waters; and**
- **Eastern Washington riparian management zones for Type S and Type F Waters in the high elevation timber habitat type.**

(Note: Definitions for “riparian management zone” and “forest land” are provided in WAC 222-16-010, and “Type S Water” and “Type F Water” in WAC 222-16-031).

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountains, other ...

These proposals are applicable to riparian areas with varying topography.

- b. What is the steepest slope on the site (approximate percent slope)?

The proposals are applicable to riparian areas with varying topography.

- c. What general types of soils (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

The proposals are applicable to riparian areas with varying soil types.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Not applicable to these nonproject proposals. The forest practices rules (Title 222 WAC) have provisions that address the impacts of potentially unstable slopes from individual forest practices activities to public resources and public safety.

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Not applicable to these nonproject proposals.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

These proposals are applicable to riparian areas with varying degrees of soil stability. The forest practices rules (Title 222 WAC) have provisions that address the impacts of surface erosion from individual forest practices projects to public resources. These nonproject proposals do not change those rules. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on discharge to water from exposed soils.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Not applicable to these nonproject proposals.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
These proposals are applicable to riparian areas with varying degrees of soil stability. The forest practices rules (Title 222 WAC) have provisions that address the impacts of surface erosion from individual forest practices projects to public resources. These nonproject proposals do not change those rules. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on discharge to water from exposed soils.

2. Air

- a. What types of emissions to the air would result from this proposal (i.e. dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

These are not site specific proposals. They propose to amend the forest practices rules for harvesting in riparian management zones. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on emissions.

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Does not apply.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:

See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on emissions to air.

3. Water

- a. Surface:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

These are not site specific proposals.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

These proposals are not site specific proposals. They would amend the forest practices riparian management rules (WAC 222-30-021(1)(b)). These riparian management areas are within 200 feet of Type S and F waters, as defined in WAC 222-16-031. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion of proposed changes to allowable activities in riparian management zones.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of the fill material.
These are not site specific proposals.
 - 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.
These are not site specific proposals.
 - 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
These are not site specific proposals. They would apply to a wide range of riparian sites including some within 100-year floodplains. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion of proposed changes to allowable activities in riparian management zones.
 - 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
These are not site specific proposals. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on discharge to water.
- b. Ground:
- 1) Will groundwater be withdrawn, or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.
Not applicable to these nonproject proposals.
 - 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals . . .; agricultural; etc.). Describe the general size of the system, the number such systems, the number of houses to be served (if applicable), or the number animals or humans the system(s) are expected to serve.
Not applicable to these nonproject proposals.
- c. Water Runoff (including storm water):
- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities if known). Where will this water flow? Will this water flow into other waters? If so, describe.
Not applicable to these nonproject proposals.
 - 2) Could waste material enter ground or surface waters? If so, generally describe.
These are not site specific proposals. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on discharge to water.
- d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:
These are not site specific proposals. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on discharge to water.

4. Plants

a. Check or circle types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

These are not site-specific proposals.

b. What kind and amount of vegetation will be removed or altered?

These are not site specific proposals. The proposals amend the forest practices rules related to harvesting in forested riparian areas. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on proposed changes to allowable activities in riparian management zones.

c. List threatened or endangered species known to be on or near the site.

Not applicable to these nonproject proposals.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Not applicable to these nonproject proposals.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

- birds: hawk, heron, eagle, songbirds, other:
- mammals: deer, bear, elk, beaver, other:
- fish: bass, salmon, trout, herring, shellfish, other:

These are not site specific proposals. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on animals.

b. List any threatened or endangered species known to be on or near the site.

These are not site specific proposals. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on threatened or endangered animals.

c. Is the site part of a migration route? If so, explain.

These are not site specific proposals.

d. Proposed measures to preserve or enhance wildlife, if any:

The intent of these nonproject proposals is to preserve or increase water quality in fish habitat streams. In general, a goal of the forest practices rules (Title 222 WAC) is to meet aquatic resource objectives for salmon recovery. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS for discussion on animals.

6. Energy and Natural Resources

- a. What kinds of energy (electrical, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Not applicable.

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

Not applicable.

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Not applicable.

7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.

Not applicable.

- 1) Describe any emergency services that might be required.

Not applicable.

- 2) Propose measures to reduce or control environmental health hazards, if any:

Not applicable.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Not applicable.

- 2) What types and levels of noise would be created by or associated with the project on a short-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Not applicable.

- 3) Proposed measures to reduce or control noise impacts, if any:

Not applicable.

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties?

Not applicable to these nonproject proposals.

- b. Has the site been used for agriculture? If so, describe.

Not applicable to these nonproject proposals.

- c. Describe any structures on the site.

Not applicable to these nonproject proposals.

- d. Will any structures be demolished? if so, what?
Not applicable to these nonproject proposals.
- e. What is the current zoning classification of the site?
Not applicable to these nonproject proposals.
- f. What is the current comprehensive plan designation of the site?
Not applicable to these nonproject proposals.
- g. If applicable, what is the current shoreline master program designation of the site?
Not applicable to these nonproject proposals.
- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.
The forest practices rules (Title 222 WAC) include provisions that address activities that may affect environmentally sensitive areas, e.g., wetlands, fish and non-fish streams and water bodies, potentially unstable slopes and landforms, and cultural resources. These proposals impact forest practices in riparian management zones on forest lands along Type S and Type F Waters. See section D. SUPPLEMENTAL SHEET FOR NONPROJECT PROPOSALS.

(Note: Definitions for "riparian management zone" and "forest land" are provided in WAC 222-16-010, and "Type S Water" and "Type F Water" in WAC 222-16-031).

- i. Approximately how many people would reside or work in the completed project?
Not applicable to these nonproject proposals.
 - j. Approximately how many people would the completed project displace?
Not applicable to these nonproject proposals.
 - k. Proposed measures to avoid or reduce displacement impacts, if any:
Not applicable to these nonproject proposals.
 - l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
Not applicable to these nonproject proposals.
9. Housing
- a. Approximately how many units would be provided, if any? Indicate whether high, middle or low-income housing.
Not applicable.
 - b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
Not applicable.
 - c. Proposed measures to reduce or control housing impacts, if any:
Not applicable.

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?
Not applicable.
- b. What views in the immediate vicinity would be altered or obstructed?
Not applicable.
- c. Proposed measures to reduce or control aesthetic impacts, if any:
Not applicable.

11. Light and Glare

- a. What kind of light or glare will the proposal produce? What time of day would it mainly occur?
Not applicable.
- b. Could light or glare from the finished project be a safety hazard or interfere with views?
Not applicable.
- c. What existing off-site sources of light or glare may affect your proposal?
Not applicable.
- d. Proposed measures to reduce or control light and glare impacts, if any:
Not applicable.

12. Recreation

- a. What designated and informal recreation opportunities are in the immediate vicinity?
Not applicable to these nonproject proposals.
- b. Would the proposed project displace any existing recreational uses? If so, describe.
Not applicable to these nonproject proposals.
- c. Proposed measures to reduce or control impacts on recreation, including recreational opportunities to be provided by the project or applicant, if any:
Not applicable to these nonproject proposals.

13. Historic and Cultural Preservation

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.
These are not site specific proposals. They propose to amend the forest practices riparian management rules and would generally apply to a wide range of riparian areas. They would not affect the current laws and rules pertaining to historic and cultural preservation.

- b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site? If so, generally describe.
These are not site specific proposals.

- c. Proposed measures to reduce or control impacts, if any:
These proposals do not modify any laws or rules that protect cultural resources.

14. Transportation

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans if any.
Not applicable to these nonproject proposals.

- b. Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?
Not applicable to these nonproject proposals.

- c. How many parking spaces would the completed project have? How many would the project eliminate?
Not applicable to these nonproject proposals.

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).
Not applicable to these nonproject proposals.

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
Not applicable to these nonproject proposals.

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.
Not applicable to these nonproject proposals.

- g. Proposed measures to reduce or control transportation impacts, if any:
Not applicable to these nonproject proposals.

15. Public Services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.
Not applicable to these nonproject proposals.

- b. Proposed measures to reduce or control direct impacts on public services, if any.
Not applicable to these nonproject proposals.

16. Utilities

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.
Not applicable to these nonproject proposals.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Not applicable to these nonproject proposals.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Gretchen Robinson

Signature: Shuang Te Ling

Title: Natural Resource Specialist

Title: Policy Analyst

Date: 12-3-08

Date: 12/03/2008

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(Do not use this sheet for project action)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

Note: The following conclusions are in part based on an analysis of data from 100 randomly selected forest practices applications. See the attached *Summary of Data*.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise? Proposed measures to avoid or reduce such increases are:

All three rule proposals would increase the amount of basal area required to be retained in the riparian forest stand from 190-275 square feet per acre depending on soil site class, to 325 square feet per acre for all site classes. This does not increase, and in some cases decreases, the amount of timber harvest activity in the inner zone. Therefore, this change to current rule would not result in an increase to any of the above listed effects.

In Proposals 2 and 3 the basal area of the 20 inner zone conifer trees per acre (≥ 12 inches diameter at breast height) required to be retained after harvest is credited toward meeting the stand requirement [defined in WAC 222-30-021(1)(b)]. This credit does not allow for a reduction in the proposed 325 square foot basal area stand requirement. Therefore, this change to current rule would not result in an increase to any of the above listed effects.

However, under Option 2 of Rule Proposal 2 even aged harvests would be allowed on site class III and site class IV forest lands adjacent to large streams ($\geq 10'$) if the basal area in the core and inner zone on the application site exceeded the 325 square foot basal area target. The current rules only provide for Option 1 (thinning from below) in these areas.

- **Discharge to water: In general, even aged harvests have a greater potential to expose soils than thinning from below harvests because even aged harvest is more intensive. Also, chemical treatments are often used after even aged harvests to aid in successful reforestation. However, Rule Proposal 2 is not likely to cause an increase in discharges of sediment or forest chemicals to water because: 1) The rule proposals do not modify current forest practices rules or other laws and rules that regulate delivery of sediment and chemicals to water; 2) Even aged harvests are confined to the outermost portion of the inner zone, leaving at least a 30 foot no-cut area in the inner zone adjacent to the 50 foot no-cut core zone closest to the stream. The 30 feet of no-cut area would help buffer the movement of sediment or forest chemicals towards the water; and 3) The opportunity to manage under Option 2 in site classes III and IV along large streams would only affect a small proportion of**

forest lands subject to the forest practices rules (on approximately 14 percent of sampled forest practices applications; see the attached *Summary of Data*).

- **Emissions to air:** Even aged harvest under this proposal could increase emissions to air if it results in the need to burn more slash than a thinning from below harvest. Emissions from equipment are variable and any increase would depend on the type of equipment used and the length of time it is used. In any case, this provision would not modify current forest practices rules or other laws and rules that regulate emissions to air. Additionally, the opportunity to manage under Option 2 in site classes III and IV along large streams would only affect a small proportion of forest lands subject to the forest practices rules (on approximately 14 percent of sampled forest practices applications; see the attached *Summary of Data*).
2. How would the proposal be likely to affect plants, animals, fish or marine life?

Rule Proposal 1

Rule Proposal 1 would increase the basal area per acre stand requirement to 325 square feet per acre for all soil site classes. This would decrease the number of trees allowed for harvest under Option 1 (thinning from below) and decrease the even aged harvest widths under Option 2 (leaving trees closest to the water). This is intended to have a positive effect on riparian functions such as large woody debris recruitment, shade, nutrient availability, bank stability, sediment filtering, etc. To the extent that fewer sites would meet the higher 325 basal area per acre stand requirements, less harvest would occur, which would generally tend to have a positive effect on plants, animals, and fish.

Rule Proposal 2

Rule Proposal 2 would also increase the basal area per acre stand requirement to 325 square feet per acre for all soil site classes. This would have the same effects as Proposal 1.

Additionally, this proposal includes two provisions not in current rule:

1. In Option 2 (leaving trees closest to the water), the basal area of the 20 inner zone conifer trees per acre (≥ 12 inches diameter at breast height) required to be retained after harvest is credited toward meeting the stand requirement. Compared to current rule, this provision has the potential to narrow the even aged harvest widths for soil site classes I, II, and III along small streams and site classes I and II along large streams (on approximately 43 percent of sampled forest practices applications; see the attached *Summary of Data*). In some cases there would be no change in even aged harvest widths from the current rule (on approximately 31 percent of sampled forest practices applications; see the attached *Summary of Data*). In no case would an even aged harvest width increase for these site classes and stream sizes compared to current rule.

Therefore, this provision does not have the potential to adversely affect plants, animals, or fish compared to current rule.

2. In Option 2 (leaving trees closest to the water), even aged harvest is allowed on soil site classes III and IV forest lands along streams greater than 10 feet in width. While

the current rule provides the option to thin from below in these areas, this provision allows the additional option to conduct an even aged harvest in these areas.

Even aged harvests would have a greater potential to affect plants, animals, and fish, compared to thinning from below because: 1) Some of the largest trees that would have been retained under a thinning from below would be removed and understory vegetation would become less complex, resulting in immediate loss of available large woody debris and wildlife cover; and 2) more soils would be exposed and an additional need for forest chemical use could be created, resulting in an increased potential to affect water quality and fish habitat.

However, the no-cut portion of the inner zone would moderate adverse impacts to plants, animals and fish because:

- The no-cut portion of the inner zone is closest to the stream. This area generally provides proportionally more functional benefit to riparian habitat than trees farther than the stream.**
- Even aged harvests would not be allowed any closer than 80 feet from the stream (i.e., the 50-foot no-cut core zone plus at least a 30-foot no-cut inner zone buffer). These no-cut areas would serve as a buffer to movement of sediment or forest chemicals toward the water.**

Furthermore, the amount of lands affected by this additional opportunity would be relatively small because:

- The opportunity to manage under Option 2 in site classes III and IV along large streams would only affect a small proportion of forest lands subject to the forest practices rules (approximately 14 percent of sampled forest practices applications; see the attached *Summary of Data*).**
- The maximum harvest widths would only be 25 feet for site class III and 3 feet for site class IV (see the attached *Summary of Data*).**

Rule Proposal 3

Like rule proposals 1 and 2, Proposal 3 would increase the basal area per acre stand requirement to 325 square feet per acre for all soil site classes. This has the same effects as Proposal 1.

Additionally, this proposal includes one provision not in current rule:

In Option 2 (leaving trees closest to the water), the basal area of the 20 inner zone conifer trees per acre (≥ 12 inches diameter at breast height) required to be retained after harvest is credited toward meeting the stand requirement. Compared to current rule, this provision in some cases would narrow the even aged harvest width for soil site classes I, II, and III along small streams and site classes I and II along large streams (on approximately 43 percent of sampled forest practices applications; see the attached *Summary of Data*). [In some cases there would be no change in even aged harvest widths from the current rule (on approximately 31 percent of sampled forest practices applications; see the attached *Summary of Data*). Therefore, this provision does not have the potential to adversely affect plants, animals, or fish compared to current rule.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

All three rule proposals would increase the target basal area to 325 square feet for all soil site classes. To the extent that fewer riparian areas meet the higher 325 basal area per acre stand requirements, less harvest would occur in the riparian inner zones subject to the forest practices rules. This is expected to have a positive affect on fish habitat by retaining riparian functions such as large woody debris recruitment, shade, nutrient availability, bank stability, sediment filtering, etc. Less harvest in the inner zone would also retain vegetative structure and cover for animals associated with riparian habitat.

3. How would the proposal be likely to deplete energy or natural resources?

The proposals are intended to provide a higher level of riparian function in riparian areas. They have no effect on energy resources.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designed (or eligible or under study) for governmental protection: such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands? Proposed measures to protect such resources or to avoid or reduce impacts are:

The riparian management rules in the forest practices rules are intended to protect or restore habitat for the threatened or endangered listed salmonid species and bull trout addressed in the Forest Practices Habitat Conservation Plan (http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesHCP/Pages/fp_hcp.aspx). Under the Forest Practices Adaptive Management Program, the Board is proposing changes to these rules ensure protection or restoration of these species' freshwater habitats. Additionally, these proposals do not modify the Board's list of critical habitat for threatened and endangered species and the protections afforded to those species (WAC 222-16-080) under the forest practices rules.

The proposals do not modify existing laws or rules providing protection to historic or cultural sites. Proposal 2 would provide even aged harvest opportunity on forest lands that currently only have thinning opportunity. However, any additional inadvertent discovery associated with even aged harvests under Proposal 2, would also be addressed by the current laws and rules.

The proposals do not modify existing forest practices rules protecting wetland resources or other environmentally sensitive areas.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

These proposals are not likely to affect land and shoreline use because they will neither allow nor encourage land and shoreline uses incompatible with existing land use or shoreline master plans.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

Does not apply to these proposals.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

These proposals do not conflict with local, state or federal laws.

Summary of Data

The conclusions on the Forest Practices Board’s November 2008 Environmental Checklist are based on an analysis of data summarized in this paper.

The Department of Natural Resources (DNR) randomly selected 100 forest practices applications out of a total of 2,137 applications received between January 1, 2005 and December 31, 2006 that proposed harvest within the inner zone of riparian management zones in western Washington. (According to an online sample size calculator from Creative Research Systems, www.surveysystem.com/scale.htm, 92 applications would reach a confidence level of 95 percent at a confidence interval of 10 from a population of 2,137.)

DNR used information from these 100 applications to analyze the effects of each of the three rule proposals described in the Environmental Checklist. Relevant data was entered into the Desired Future Condition (DFC) model, which uses the Weyerhaeuser DFC core modeling program with a DNR interface, so comparisons could be made between the effects of allowable harvest under current rule and the effects of allowable harvest under each of the three rule proposals. The remainder of this paper is a summary of these comparisons.

The site classes, stream sizes, and major species of the 100 sample applications are as follows:

Site class, stream size, and major species of the 100 sample applications

Site class	Stream size	Major species	Number of FPAs
I	Large	Douglas fir	1
I Total			1
II	Large	Douglas fir	16
		Hemlock	13
	Small	Douglas fir	15
		Hemlock	10
II Total			54
III	Large	Douglas fir	1
		Hemlock	12
	Small	Douglas fir	10
		Hemlock	20
III Total			43
IV	Large	Douglas fir	1
IV Total			1
V	Large	Hemlock	1
V Total			1
Grand Total			100

Effects of Proposals 1, 2 and 3 on Allowable Harvest

Harvest is allowed in the inner zone portion of riparian management zones under certain conditions. Growth modeling is necessary to calculate whether harvest is allowed on a particular stand, and if so, how much basal area and which tree size classes are allowed to be harvested. The DFC growth model outputs this information for each of two options landowners may use when harvesting: Option 1 (thinning from below) and Option 2 (leaving trees closest to the stream).

The following summary is based on the representative sample of 100 forest practices applications (described above), and compares allowable harvests for the current rules and each rule proposal under Option 1, and then does the same for all rule scenarios under Option 2.

Option 1

In 53 of the sample applications, there was no difference in the number of harvestable inner zone trees between the current rule and any of the three proposals. This may be due to the minimum of 57 inner zone conifer leave tree requirement.

In 47 of the sample applications, fewer trees could be harvested in the inner zone under the proposals than under current rule.

- In these applications, the current rule allowed an average of 37 more trees per acre and an average of 39 more square feet of basal area per acre to be harvested than any of the three rule proposals.
- In 28 of these applications, fewer of the larger diameter trees on the site would be allowed to be harvested under all three rule proposals than under the current rule. The largest dbh (diameter at breast height) available for harvest decreased an average of 3.2 inches on these applications.
- In 14 of these applications, there was no change in the largest dbh class available for harvest between the current rule and all of the rule proposals, but the number of trees that could be harvested in that largest dbh class decreased in all of the rule proposals.

Option 2

In 74 of the sample applications, there would be an opportunity for even aged harvest in the inner zone under current rule and all three of the proposals. The even aged harvest widths would vary as follows:

- In 31 of the sample applications, there was no difference in the even aged harvest width between current rule and any of the three rule proposals.
- In 43 of the sample applications, the even aged harvest widths for the current rule were wider than those for all three rule proposals. (In 37 applications, even aged harvest widths under Proposal 1 were an average of 10.8 feet narrower than current rule harvest widths. In 4 applications, even aged harvest widths under all of the proposals were an average of

13 feet narrower than current rule harvest widths. In 2 applications, even aged harvest widths under Proposal 1 were 1 foot narrower than harvest widths under current rule and Proposals 2 and 3.)

In 14 of the sample applications, there would be an opportunity for even aged harvest in the inner zone under Proposal 2 but not under current rule or Proposals 1 or 3. The harvest widths would be 25 feet for site class III and 3 feet for site class IV. The average even aged harvest width in these applications would be 7.8 feet.

In 11 of the sample applications, there would be an opportunity for even aged harvest in the inner zone in current rule and in the three proposals, but no harvest could take place because there was no excess basal area to be harvested.

In 1 of the sample applications, there would be no opportunity for even aged harvest under current rule or any of the three rule proposals (it was on site class V forest lands).