MEMORANDUM

TO: Forest Practices Board

FROM: Sherri Felix, Policy Analyst
Policy and Services Section, Forest Practices Division

DATE: April 21, 2011

SUBJECT: Watershed Analysis Rule Making – Action Requested

On May 10, I will request the Board's adoption of the watershed analysis rule proposal.

This rule is intended to ensure watershed analysis prescriptions continue to address the potential for adverse effects on resources from forest practices activities to the greatest extent possible over time. To this end, the language fills gaps in the current watershed analysis review process by including new standards designed to keep prescriptions current and protective enough to warrant exemption from Class IV-special classification.

In February 2010, the Board directed staff to initiate rule making by filing the CR-102 *Proposed Rule Making* notice with the Office of the Code Reviser. This notice advertized three hearings around the state, and included draft proposed rule language and the small business economic impact statement. Staff was also directed to conduct SEPA review, and you were sent the SEPA analysis and Determination of Non-significance.

The Board received six comments from the hearings and SEPA review. The City of Bellingham, Rayonier Timberlands, West Fork Timber Company, Longview Timberlands LLC, Washington Forest Protection Association, and Hancock Forest Management all commented in favor of the rule proposal. Written comments are included in this packet.

Additionally, staff has reviewed the two approved long-term forest practices applications in watersheds with an approved watershed analysis to determine their effect on the resources this proposed rule is intended to protect (WAC 222-20-016 (4)). These applications are unlikely to affect these resources because:

- both applications implement alternate plans for riparian areas and riparian prescriptions were superseded by the Forests and Fish rules, and
- the applicable road maintenance should have been completed in 1995 and in 2000. Any further potential for surface erosion would be addressed by the landowner's RMAP and the forest practices rules.

To assist you in making your decision, the additional documents are enclosed:

- Proposed rule language including a few staff- recommended changes from previous drafts.
- Final Economic Analysis combining the cost-benefit analysis and small business economic impact statement.
- Draft Concise Explanatory Statement (CES).
- Written comments from SEPA review and rule making hearings.

I look forward to discussing this rule making with you on May 10. In the meantime, please do not hesitate to contact me at 360-902-1446 or sherri.felix@dnr.wa.gov.

SF/
Attachments

Forest Practices Board
Watershed Analysis Rule Making
May 2011

WAC 222-10-030 *SEPA policies for potentially unstable slopes and landforms. In addition to SEPA policies established elsewhere in this chapter, the following policies apply to forest practices described in WAC 222-16-050 (1)(d) relating to construction or harvest on potentially unstable slopes or landforms.

(1) In order to determine whether such forest practices are likely to have a probable significant adverse impact, and therefore require an environmental impact statement, the applicant must submit the following additional information, prepared by a qualified expert as defined in subsection (5) of this section. The qualified expert must describe the potentially unstable landforms in and around the application site and analyze:

(a) The likelihood that the proposed forest practices will cause movement on the potentially unstable slopes or landforms, or contribute to further movement of a potentially unstable slope or landform;

(b) The likelihood of delivery of sediment or debris to any public resources, or in a manner that would threaten public safety; and

(c) Any possible mitigation for the identified hazards and risks.

(2) The department's threshold determination will include an evaluation of whether the proposed forest practices:

(a) Are likely to increase the probability of a mass movement on or near the site;

(b) Would deliver sediment or debris to a public resource or would deliver sediment or debris in a manner that would threaten public safety; and

(c) Such movement and delivery are likely to cause significant adverse impacts.

If the department determines that (a), (b) and (c) of this subsection are likely to occur, then the forest practice is likely to have a probable significant adverse impact.

(3) The department will evaluate the proposal, using appropriate expertise and in consultation with other affected agencies and Indian tribes.

(4) Specific mitigation measures or conditions must be designed to avoid accelerating rates and magnitudes of mass wasting that could deliver sediment or debris to a public resource or could deliver sediment or debris in a manner that would threaten public safety.

(5) Qualified expert for the purposes of this section and for reanalysis of watershed analysis mass wasting prescriptions under WAC 222-22-030 means a person licensed under chapter 18.220 RCW as either an engineering geologist or as a hydrogeologist (if the site warrants hydrologist expertise), with at least ~~3~~ three years of field experience in the evaluation of relevant problems in forested lands.

WAC 222-10-035 *Watershed analysis SEPA policies. When the department considers a watershed analysis for approval ~~as in~~under WAC 222-22-080 or 222-22-090, the department will perform a review under SEPA as a nonproject proposal. When making the SEPA threshold determination ~~for a watershed analysis~~, the department shall only make a determination of significance if, when compared to rules or prescriptions in place at the time of the analysis or the ~~5-year review~~reanalysis, the prescriptions will cause a probable significant adverse impact on elements of the environment other than those addressed in the watershed analysis process.

WAC 222-16-010 *General definitions.

. . .

"Area of resource sensitivity" means areas identified in accordance with WAC 222-22-050 (2)(d)~~ or~~, 222-22-060(2), or 222-22-090.

. . .

"Watershed administrative unit (WAU)" means an area shown on the map specified in WAC 222-22-020(1).

"Watershed analysis" means, for a given WAU, the resource assessment completed under WAC 222-22-050 or 222-22-060 together with the prescriptions selected under WAC 222-22-~~070~~ 080 and shall include resource assessments completed under WAC 222-22-050 where there are no areas of resource sensitivity and the ongoing reviews and reanalyses completed under WAC 222-22-090.

WAC 222-16-050 *Classes of forest practices. There are ~~4~~ four classes of forest practices created by the act. All forest practices (including those in Classes I and II) must be conducted in accordance with the forest practices rules.

(1) **"Class IV - special."** Except as provided in WAC 222-16-051, application to conduct forest practices involving the following circumstances requires an environmental checklist in compliance with the State Environmental Policy Act (SEPA), and SEPA guidelines, as they have been determined to have potential for a substantial impact on the environment. It may be determined that additional information or a detailed environmental statement is required before these forest practices may be conducted.

*(a) Aerial application of pesticides in a manner identified as having the potential for a substantial impact on the environment under WAC 222-16-070 or ground application of a pesticide within a Type A or B wetland.

(b) Specific forest practices listed in WAC 222-16-080 on lands designated as critical habitat (state) of threatened or endangered species.

(c) Harvesting, road construction, aerial application of pesticides and site preparation on all lands within the boundaries of any national park, state park, or any park of a local governmental entity, except harvest of less than five MBF within any developed park recreation area and park managed salvage of merchantable forest products.

*(d) Timber harvest, or construction of roads, landings, gravel pits, rock quarries, or spoil disposal areas, on potentially unstable slopes or landforms described in (i) below that has the potential to deliver sediment or debris to a public resource or that has the potential to threaten public safety, and which has been field verified by the department (see WAC 222-10-030 SEPA policies for potential unstable slopes and landforms).

(i) For the purpose of this rule, potentially unstable slopes or landforms are one of the following: (See board manual section 16 for more descriptive definitions.)

(A) Inner gorges, convergent headwalls, or bedrock hollows with slopes steeper than thirty-five degrees (seventy percent);

(B) Toes of deep-seated landslides, with slopes steeper than thirty-three degrees (sixty-five percent);

(C) Ground water recharge areas for glacial deep-seated landslides;

(D) Outer edges of meander bends along valley walls or high terraces of an unconfined meandering stream; or

(E) Any areas containing features indicating the presence of potential slope instability which cumulatively indicate the presence of unstable slopes.

(ii) The department will base its classification of the application or notification on professional knowledge of the area, information such as soils, geologic or hazard zonation maps and reports, review of approved watershed analysis mass wasting prescriptions according to WAC 222-22-090 (6) or other

information provided by the applicant.

(iii) An application would not be classified as Class IV-Special for potentially unstable slopes or landforms under this subsection if:

(A) The proposed forest practice is located within a WAU that is subject to an approved watershed analysis;

(B) The forest practices are to be conducted in accordance with ~~an~~ approved prescriptions from the watershed analysis ~~(or as modified through the five-year review process)~~; and

(C) The applicable prescriptions ~~is~~ are specific to the site or situation, as opposed to a prescription that calls for additional analysis. The need for an expert to determine whether the site contains specific landforms will not be considered "additional analysis," as long as specific prescriptions are established for such landforms.

*(e) Timber harvest, in a watershed administrative unit not subject to an approved watershed analysis under chapter 222-22 WAC, construction of roads, landings, rock quarries, gravel pits, borrow pits, and spoil disposal areas on snow avalanche slopes within those areas designated by the department, in consultation with department of transportation and local government, as high avalanche hazard where there is the potential to deliver sediment or debris to a public resource, or the potential to threaten public safety.

(f) Timber harvest or construction of roads, landings, rock quarries, gravel pits, borrow pits, and spoil disposal areas on the following except in (f)(iv) of this subsection:

(i) Archaeological sites or historic archaeological resources as defined in RCW 27.53.030; or

(ii) Historic sites eligible for listing on the National Register of Historic Places or the Washington Heritage Register as determined by the Washington state department of archaeology and historic preservation; or

(iii) Sites containing evidence of Native American cairns, graves, or glyptic records as provided for in chapters 27.44 and 27.53 RCW. The department of archaeology and historic preservation shall consult with affected Indian tribes in identifying such sites.

(iv) A forest practice would not be classified as Class IV-special under this subsection if:

(A) Cultural resources management strategies from an approved watershed analysis conducted under chapter 222-22 WAC are part of the proposed forest practices, and the landowner states this in the application; or

(B) A management plan agreed to by the landowner, the affected Indian tribe, and the department of archaeology and historic preservation is part of the proposed application, and the landowner states this in the application.

*(g) Forest practices subject to an approved watershed analysis conducted under chapter 222-22 WAC in an area of resource sensitivity identified in that analysis which deviates from the prescriptions (which may include an alternate plan) ~~in the watershed analysis~~.

*(h) Filling or draining of more than 0.5 acre of a wetland.

(2) **"Class IV - general."** Applications involving the following circumstances are "Class IV - general" forest practices unless they are listed in "Class IV - special."

(a) Forest practices (other than those in Class I) on lands platted after January 1, 1960, as provided in chapter 58.17 RCW;

(b) Forest practices (other than those in Class I) on lands that have been or are being converted to another use;

(c) Forest practices which would otherwise be Class III, but which are taking place on lands which are not to be reforested because of likelihood of future conversion to urban development (see WAC 222-16-060 and 222-34-050); or

(d) Forest practices involving timber harvesting or road construction on lands that are contained within urban growth areas, designated pursuant to chapter 36.70A RCW, except where the forest

landowner provides one of the following:

(i) A written statement of intent signed by the forest landowner not to convert to a use other than commercial forest products operations for ten years accompanied by either a written forest management plan acceptable to the department or documentation that the land is enrolled under the provisions of chapter 84.33 RCW; or

(ii) A conversion option harvest plan approved by the local governmental entity and submitted to the department as part of the application.

Upon receipt of an application, the department will determine the lead agency for purposes of compliance with the SEPA pursuant to WAC 197-11-924 and 197-11-938(4) and RCW 43.21C.037(2). Such applications are subject to a thirty-day period for approval unless the lead agency determines a detailed statement under RCW 43.21C.030 (2)(c) is required. Upon receipt, if the department determines the application is for a proposal that will require a license from a county/city acting under the powers enumerated in RCW 76.09.240, the department shall notify the applicable county/city under WAC 197-11-924 that the department has determined according to WAC 197-11-938(4) that the county/city is the lead agency for purposes of compliance with the SEPA.

(3) **"Class I."** Those operations that have been determined to have no direct potential for damaging a public resource are Class I forest practices. When the conditions listed in "Class IV - special" are not present, these operations may be commenced without notification or application.

(a) Culture and harvest of Christmas trees and seedlings.

*(b) Road maintenance except: Replacement of bridges and culverts across Type S, F or flowing Type Np Waters; or movement of material that has a direct potential for entering Type S, F or flowing Type Np Waters or Type A or B Wetlands.

*(c) Construction of landings less than one acre in size, if not within a shoreline area of a Type S Water, the riparian management zone of a Type F Water, the bankfull width of a Type Np Water, a wetland management zone, a wetland, or the CRGNSA special management area.

*(d) Construction of less than six hundred feet of road on a sideslope of forty percent or less if the limits of construction are not within the shoreline area of a Type S Water, the riparian management zone of a Type F Water, the bankfull width of a Type Np Water, a wetland management zone, a wetland, or the CRGNSA special management area.

*(e) Installation or removal of a portable water crossing structure where such installation does not take place within the shoreline area of a Type S Water and does not involve disturbance of the beds or banks of any waters.

*(f) Initial installation and replacement of relief culverts and other drainage control facilities not requiring a hydraulic permit.

(g) Rocking an existing road.

(h) Loading and hauling timber from landings or decks.

(i) Precommercial thinning and pruning, if not within the CRGNSA special management area.

(j) Tree planting and seeding.

(k) Cutting and/or removal of less than five thousand board feet of timber (including live, dead and down material) for personal use (i.e., firewood, fence posts, etc.) in any twelve-month period, if not within the CRGNSA special management area.

(l) Emergency fire control and suppression.

(m) Slash burning pursuant to a burning permit (RCW 76.04.205).

*(n) Other slash control and site preparation not involving either off-road use of tractors on slopes exceeding forty percent or off-road use of tractors within the shorelines of a Type S Water, the riparian management zone of any Type F Water, or the bankfull width of a Type Np Water, a wetland management zone, a wetland, or the CRGNSA special management area.

*(o) Ground application of chemicals, if not within the CRGNSA special management area. (See

WAC 222-38-020 and 222-38-030.)

*(p) Aerial application of chemicals (except insecticides), outside of the CRGNSA special management area when applied to not more than forty contiguous acres if the application is part of a combined or cooperative project with another landowner and where the application does not take place within one hundred feet of lands used for farming, or within two hundred feet of a residence, unless such farmland or residence is owned by the forest landowner. Provisions of chapter 222-38 WAC shall apply.

(q) Forestry research studies and evaluation tests by an established research organization.

*(r) Any of the following if none of the operation or limits of construction takes place within the shoreline area of a Type S Water or the riparian management zone of a Type F Water, the bankfull width of a Type Np Water or flowing Type Ns Water, or within the CRGNSA special management area and the operation does not involve off-road use of tractor or wheeled skidding systems on a sideslope of greater than forty percent:

(i) Any forest practices within the boundaries of existing golf courses.

(ii) Any forest practices within the boundaries of existing cemeteries which are approved by the cemetery board.

(iii) Any forest practices involving a single landowner where contiguous ownership is less than two acres in size.

(s) Removal of beaver structures from culverts on forest roads. A hydraulics project approval from the Washington department of fish and wildlife may be required.

(4) **"Class II."** Certain forest practices have been determined to have a less than ordinary potential to damage a public resource and may be conducted as Class II forest practices: Provided, That no forest practice enumerated below may be conducted as a Class II forest practice if the operation requires a hydraulic project approval (RCW 77.55.100) or is within a "shorelines of the state," or involves owner of perpetual timber rights subject to RCW 76.09.067 (other than renewals). Such forest practices require an application. No forest practice enumerated below may be conducted as a "Class II" forest practice if it takes place on lands platted after January 1, 1960, as provided in chapter 58.17 RCW, or on lands that have been or are being converted to another use. No forest practice enumerated below involving timber harvest or road construction may be conducted as a "Class II" if it takes place within urban growth areas designated pursuant to chapter 37.70A RCW. Such forest practices require a Class IV application. Class II forest practices are the following:

(a) Renewal of a prior Class II notification where no change in the nature and extent of the forest practices is required under rules effective at the time of renewal.

(b) Renewal of a previously approved Class III or IV forest practices application where:

(i) No modification of the uncompleted operation is proposed;

(ii) No notices to comply, stop work orders or other enforcement actions are outstanding with respect to the prior application; ~~and~~

(iii) No change in the nature and extent of the forest practice is required under rules effective at the time of renewal~~.~~; and

(iv) ~~Renewal of a previously approved multiyear permit for forest practices within a WAU with an approved watershed analysis requires completion of a necessary five-year review of the watershed analysis.~~The application is not a multiyear permit that is located within an area subject to reanalysis of a watershed analysis under WAC 222-22-090 (6).

*(c) Any of the following if none of the operation or limits of construction takes place within the riparian management zone of a Type F Water, within the bankfull width of a Type Np Water, within a wetland management zone, within a wetland, or within the CRGNSA special management area:

(i) Construction of advance fire trails.

(ii) Opening a new pit of, or extending an existing pit by, less than one acre.

*(d) Salvage of logging residue if none of the operation or limits of construction takes place within

the riparian management zone of a Type F Water, within the bankfull width of a Type Np Water, within a wetland management zone or within a wetland; and if none of the operations involve off-road use of tractor or wheeled skidding systems on a sideslope of greater than forty percent.

*(e) Any of the following if none of the operation or limits of construction takes place within the riparian management zone of a Type F Water, within the bankfull width of a Type Np Water, within a wetland management zone, within a wetland, or within the CRGNSA special management area, and if none of the operations involve off-road use of tractor or wheeled skidding systems on a sideslope of greater than forty percent, and if none of the operations are located on lands with a likelihood of future conversion (see WAC 222-16-060):

(i) West of the Cascade summit, partial cutting of forty percent or less of the live timber volume.

(ii) East of the Cascade summit, partial cutting of five thousand board feet per acre or less.

(iii) Salvage of dead, down, or dying timber if less than forty percent of the total timber volume is removed in any twelve-month period.

(iv) Any harvest on less than forty acres.

(v) Construction of six hundred or more feet of road, provided that the department shall be notified at least two business days before commencement of the construction.

(5) **"Class III."** Forest practices not listed under Classes IV, I or II above are "Class III" forest practices. Among Class III forest practices are the following:

(a) Those requiring hydraulic project approval (RCW 77.55.100).

*(b) Those within the shorelines of the state other than those in a Class I forest practice.

*(c) Aerial application of insecticides, except where classified as a Class IV forest practice.

*(d) Aerial application of chemicals (except insecticides), except where classified as Class I or IV forest practices.

*(e) Harvest or salvage of timber except where classed as Class I, II or IV forest practices.

*(f) All road construction except as listed in Classes I, II and IV forest practices.

(g) Opening of new pits or extensions of existing pits over ~~1~~ one acre.

*(h) Road maintenance involving:

(i) Replacement of bridges or culverts across Type S, F or flowing Type Np Waters; or

(ii) Movement of material that has a direct potential for entering Type S, F or flowing Type Np Waters or Type A or B Wetlands.

(i) Operations involving owner of perpetual timber rights subject to RCW 76.09.067.

(j) Site preparation or slash abatement not listed in Classes I or IV forest practices.

(k) Harvesting, road construction, site preparation or aerial application of pesticides on lands which contain cultural, historic or archaeological resources which, at the time the application or notification is filed, have been identified to the department as being of interest to an affected Indian tribe.

(l) Harvesting exceeding nineteen acres in a designated difficult regeneration area.

(m) Utilization of an alternate plan. See WAC 222-12-040.

*(n) Any filling of wetlands, except where classified as Class IV forest practices.

*(o) Multiyear permits.

*(p) Small forest landowner long-term applications that are not classified Class IV-special or Class IV-general, or renewals of previously approved Class III or IV long-term applications.

WAC 222-20-080 Application and notification expiration. (1) The approval given by the department to an application to conduct a forest practice shall be effective for a term of two years from the date of approval, with the following exceptions:

(a) Multiyear permits are effective for three to five years. ~~A multiyear permit for lands included in a watershed analysis pursuant to chapter 222-22 WAC is not renewable if a five-year watershed analysis review is found necessary by the department and has not been completed.~~

(b) Small forest landowner long-term applications are effective for terms of three to fifteen years.

(2) A notification is effective for a term of two years beginning five days from the date it is officially received.

WAC 222-22-020 Watershed administrative units. *(1) For purposes of this chapter, the state is divided into areas known as watershed administrative units (WAUs). The department shall, in cooperation with the departments of ecology~~,~~ and fish and wildlife, affected Indian tribes, local ~~government~~ governmental entities, forest ~~land owner~~landowners, and the public, define WAUs throughout the state. The department shall identify WAUs on a map.

*(2) WAUs should generally be between ~~10,000~~ten thousand to ~~50,000~~fifty thousand acres in size and should be discrete hydrologic units. The board recognizes, however, that identified watershed processes and potential effects on resource characteristics differ, and require different spatial scales of analysis, and the department's determination of the WAUs should recognize these differences. The board further recognizes that mixed land uses will affect the ability of a watershed analysis to predict probabilities and identify causation as required under this chapter, and the department's conduct and approval of a watershed analysis under this chapter shall take this effect into account.

*(3) The department is directed to conduct periodic reviews of the WAUs adopted under this chapter to determine whether revisions are needed to more efficiently assess potential cumulative effects. The department shall consult with the departments of ecology~~,~~ and fish and wildlife, affected Indian tribes, forest ~~land owner~~landowners, local ~~government~~ governmental entities, and the public. From time to time and as appropriate, the department shall make recommendations to the board regarding revision of watershed administrative units.

WAC 222-22-030 Qualification of watershed resource analysts, specialists, ~~and~~ field managers, and qualified experts. *(1) The department shall set the minimum qualifications for analysts participating in level 1 assessments conducted under WAC 222-22-050, for specialists participating in level 2 assessments conducted under WAC 222-22-060, ~~and~~ for field managers participating in recommendation of prescriptions under WAC 222-22-070, and for analyst, specialists, and field managers participating in reanalysis under WAC 222-22-090. The minimum qualifications shall be specific for the disciplines needed to participate in level 1 and level 2 assessments and in the recommendations of prescriptions, and shall include, at a minimum, formal education in the relevant discipline and field experience. Minimum qualifications for analysts participating in level 2 assessments should typically include a graduate degree in the relevant discipline. A reanalysis of mass wasting prescriptions under WAC 222-22-090 requires a qualified expert as defined in WAC 222-10-030.

*(2) The department shall coordinate with relevant state and federal agencies, affected Indian tribes, forest ~~land owner~~landowners, local ~~government~~ governmental entities, and the public to seek and utilize available qualified expertise to participate in watershed analysis or reanalysis.

*(3) Qualified analysts, specialists, ~~and~~ field managers, and qualified experts shall, while and only for the purpose of conducting a watershed analysis or monitoring in a WAU, be duly authorized representatives of the department for the purposes of RCW 76.09.150.

*(4) An individual may qualify in more than one science or management skill. Qualification under subsection (1) of this section shall be effective for ~~5~~ five years. When a qualification expires, a person requesting requalification shall meet the criteria in effect at the time of requalification.

*(5) The department shall provide and coordinate training for, maintain a register of, and monitor the performance of qualified analysts, specialists, ~~and~~ field managers, and qualified experts by region. The department shall disqualify analysts, specialists, ~~and~~ field managers, and qualified experts who fail to meet the levels of performance required by the qualification standards

WAC 222-22-040 Watershed prioritization. (1) The department shall ~~determine, by region, the order in which it will analyze~~prioritize WAUs for the purposes of this section and for reviews under WAC 222-22-090 in cooperation~~. The department shall cooperate~~ with the departments of ecology~~,~~ and fish and wildlife, affected Indian tribes, forest ~~land owners~~ landowners, and the public ~~in setting priorities~~. ~~In setting priorities or reprioritizing WAUs, the department~~ The prioritization shall consider the availability of landowner participation and assistance and the availability and assistance that may be provided by affected Indian tribes and local ~~government~~ governmental entities.

*(2) ~~Except as set forth in subsection (3) of this section, the~~The department ~~shall~~ may undertake a watershed analysis on ~~each~~ any WAU~~, in the order established under subsection (1) of this section~~. When conducting a watershed analysis, the department shall include available qualified expertise from state agencies, affected Indian tribes, forest landowners, local governmental entities, and the public.

*(3) The owner or owners of ten percent or more of the nonfederal forest land acreage in a WAU may notify the department in writing that the owner or owners intend to conduct a level 1 assessment, level 2 assessment, or both, and the prescription recommendation and management strategy ~~process~~ processes on the WAU under this chapter, or conduct a reanalysis under WAC 222-22-090, at their own expense. The notice shall identify the teams proposed to conduct the watershed analysis or reanalysis, which shall be comprised of individuals qualified by the department pursuant to WAC 222-22-030. The department shall promptly notify any owner or owners sending notice under this subsection if any member of the designated teams is not so qualified. Within ~~30~~ thirty days of delivering a notice to the department under this subsection, the forest ~~land owner~~landowner or owners shall begin the level 1 assessment under WAC 222-22-050 or, at its option, the level 2 assessment under WAC 222-22-060, or the reanalysis under WAC 222-22-090. An approved forest ~~land owner~~landowner team shall, while and only for the purposes of conducting a watershed analysis or reanalysis in a WAU, be a duly authorized representative of the department for the purposes of RCW 76.09.150. The board encourages forest ~~land owner~~landowners conducting assessments under this chapter to include available, qualified expertise from state and federal agencies, affected Indian tribes, forest ~~land owner~~landowners, local ~~government~~ governmental entities, and the public.

*(4) Before beginning ~~an~~ a watershed analysis in a WAU, the department or the forest ~~land owner~~landowner conducting the analysis shall provide reasonable notice, including notice by regular United States mail where names and addresses have been provided to the department, to all forest ~~land owner~~landowners in the WAU, and to affected Indian tribes. The department or the forest ~~land owner~~landowner conducting the analysis shall also provide reasonable notice to the public and to state, federal, and local ~~government~~ governmental entities, by, among other things, posting the notice conspicuously in the department's office ~~of the departmental~~ in the region containing the WAU. The notice shall be in a form designated by the department and give notice that ~~an~~ a watershed analysis or reanalysis is being conducted, by whose team, the time period of the analysis or reanalysis, and the dates and locations in which the draft analysis or reanalysis will be available for review and comment.

WAC 222-22-045 Cultural resources. (1) Any watershed analysis initiated after July 1, 2005, is not complete unless the analysis includes a completed cultural resource module. Cultural resources module completeness is detailed in Appendix II of the module and includes affected tribe(s) participation, appropriate team qualification, required maps and forms, assessment of tribal and nontribal cultural resources, peer review of assessment, management strategies based on causal mechanism reports from synthesis, and agreement on the management strategies by affected tribes, landowners and land managers on the field managers team and, where applicable, the department of archaeology and historic preservation.

(2) When conducting a reanalysis of a watershed analysis ~~revisions~~ pursuant to WAC 222-22-090~~(4)~~, the cultural resources module is not required if the watershed analysis was approved by

the department prior to the date in subsection (1) of this section. However, the board encourages use of the cultural resources module upon such review.

(3) The department does not review or approve cultural resources management strategies because their implementation is voluntary. The department of archaeology and historic preservation must be consulted and agree on all management strategies involving sites registered on the department of archaeology and historic preservation's archaeological and historic sites data base and all resources that require mandatory protection under chapters 27.44 and 27.53 RCW.

(4) The cultural resources module may be conducted as a stand-alone method separate from a watershed analysis to identify, protect, and manage cultural resources. When used as a stand-alone methodology:

(a) Selected components of the methodology may be used as the participants deem necessary or the module may be used in its entirety.

(b) The methodology may be used at a variety of geographic scales and may be initiated by tribes, land managers or landowners. Landowner or land manager initiation is not limited by the minimum ownership threshold requirements in this chapter. Nothing in this rule grants any person or organization initiating the cultural resources module as a stand-alone method any right of entry onto private property.

(c) Watershed analysis notice requirements to the department do not apply.

(d) Participants are encouraged to engage people that meet the minimum qualifications to conduct the module as set by this chapter.

(e) In order for a stand-alone module to be incorporated into a watershed analysis, the module must have been conducted in accordance with the requirements of this chapter.

WAC 222-22-050 Level 1 watershed resource assessment. *(1) To begin a watershed resource ~~analysis~~ assessment on a WAU, the department ~~shall assemble a level 1 assessment team consisting of analysts qualified~~acting under WAC 222-22-~~030(1).~~040(2) or ~~A~~ a forest ~~land owner~~landowner or owners acting under WAC 222-22-040(3) may assemble a level 1 resource assessment team consisting of analysts qualified under WAC 222-22-030(1) or, at its option, may begin the watershed analysis as a level 2 resource assessment under WAC 222-22-060. Each level 1 team shall include persons qualified in the disciplines indicated as necessary in the methodology, and should generally include a person or persons qualified in the following:

(a) Forestry;

(b) Forest hydrology;

(c) Forest soil science or geology;

(d) Fisheries science;

(e) Geomorphology;

(f) Cultural anthropology; and

(g) Archaeology.

Any owner, and any cooperating group of owners, of ten percent or more of the nonfederal forest land acreage in the WAU and any affected Indian tribe shall be entitled to include one qualified individual to participate on the team at its own expense. The cultural resources module must include the participation of the affected Indian tribe(s). See board manual section 11, J. Cultural Resources Module, Introduction, 1) *Using this methodology in formal watershed analysis*.

*(2) The level 1 team shall perform an inventory of the WAU utilizing the methodology, indices of resource condition, and checklists set forth in the manual in accordance with the following:

(a) The team shall survey the WAU for fish, water, and capital improvements of the state or its political subdivisions, and conduct an assessment for cultural resources.

(b) The team shall display the location of these resources on a map of the WAU, except mapping of tribal cultural resources sites must be approved by the affected tribe. The location of archaeological sites

shall be on a separate map that will be exempt from public disclosure per RCW 42.56.300.

(c) For public resources (fish, water, and capital improvements of the state or its political subdivisions):

(i) The team shall determine the current condition of the resource characteristics of these resources, shall classify their condition as "good," "fair," or "poor," and shall display this information on the map of the WAU. The criteria used to determine current resource conditions shall include indices of resource condition, in addition to such other criteria as may be included in the manual. The indices will include two levels, which will distinguish between good, fair, and poor conditions.

(ii) The team shall assess the likelihood that identified watershed processes in a given physical location will be adversely changed by one forest practice or by cumulative effects and that, as a result, a material amount of water, wood, sediment, or energy (e.g., affecting temperature) will be delivered to fish, water, or capital improvements of the state or its political subdivisions. (This process is referred to in this chapter as "adverse change and deliverability.") (For example, the team will address the likelihood that road construction will result in mass wasting and a slide that will in turn reach a stream.) The team shall rate this likelihood of adverse change and deliverability as "high," "medium," "low," or "indeterminate." Those likelihoods rated high, medium, or indeterminate shall be displayed on the map of the WAU.

(iii) For each instance of high, medium, or indeterminate likelihood of adverse change and deliverability identified under (c)(ii) of this subsection, the team shall assess the vulnerability of potentially affected resource characteristics. Criteria for resource vulnerability shall include indices of resource condition as described in (c)(i) of this subsection and quantitative means to assess the likelihood of material adverse effects to resource characteristics caused by forest practices. (For example, the team will assess the potential damage that increased sediment caused by a slide reaching a stream will cause to salmon spawning habitat that is already in fair or poor condition.) The team shall rate this vulnerability "high," "medium," "low," or "indeterminate" and shall display those vulnerabilities on the map of the WAU. If there are no other criteria in the manual to assess vulnerability at the time of the assessment, current resource condition shall be used, with good condition equivalent to low vulnerability, fair condition equivalent to medium vulnerability, and poor condition equivalent to high vulnerability.

(iv) The team shall identify as areas of resource sensitivity, as provided in table 1 of this section, the locations in which a management response is required under WAC 222-22-070(3) because, as a result of one forest practice or of cumulative effects, there is a combination of a high, medium, or indeterminate likelihood of adverse change and deliverability under (c)(ii) of this subsection and a low, medium, high, or indeterminate vulnerability of resource characteristics under (c)(iii) of this subsection:

Table 1

Areas of Resource Sensitivity and Management Response

Likelihood of Adverse Change and Deliverability

	Low	**Medium**	**High**
Low	Standard rules	Standard rules	Response: Prevent or avoid

Vulnerability	**Medium**	Standard rules	Response: Minimize	Response: Prevent or avoid
	High	Standard rules	Response: Prevent or avoid	Response: Prevent or avoid

The team shall display the areas of resource sensitivity on the map of the WAU.

(v) The decision criteria used to determine low, medium, and high likelihood of adverse change and deliverability shall be as set forth in the manual. A low designation generally means there is minimal likelihood that there will be adverse change and deliverability. A medium designation generally means there is a significant likelihood that there will be adverse change and deliverability. A high designation generally means that adverse change and deliverability is more likely than not with a reasonable degree of confidence. Any areas identified as indeterminate in the level 1 assessment shall be classified for the purposes of the level 1 assessment as medium until a level 2 assessment is done on the WAU under WAC 222-22-060, during which the uncertainties shall be resolved.

(d) For cultural resources, the team shall follow the methodology outlined in the cultural resources module to determine the risk call for cultural resources based upon resource vulnerability and resource importance.

(e) The team shall prepare a causal mechanism report regarding the relationships of each process identified in (c) and (d) of this subsection. The report shall demonstrate that the team's determinations were made in accordance with the manual. If, in the course of conducting a level 1 assessment, the team identifies areas in which voluntary corrective action will significantly reduce the likelihood of material, adverse effects to the condition of a resource characteristic, the team shall include this information in the report, and the department shall convey this information to the applicable ~~land owner~~landowner.

*(3) Within ~~21~~ twenty one days of mailing notice under WAC 222-22-040(4), the level 1 team shall submit to the department its draft level 1 assessment, which shall consist of the map of the WAU marked as set forth in this section and the causal mechanism report proposed under subsection (2)(e) of this section. If the level 1 team is unable to agree as to one or more resource sensitivities or potential resource sensitivities, or the causal mechanism report, alternative designations and an explanation ~~therefor~~ shall be included in the draft assessment. Where the draft level 1 assessment delivered to the department contains alternative designations, the department shall within ~~21~~ twenty one days of the receipt of the draft level 1 assessment make its best determination and approve that option which it concludes most accurately reflects the proper application of the methodologies, indices of resource condition, and checklists set forth in the manual.

*(4) If the level 1 assessment contains any areas in which the likelihood of adverse change and deliverability or resource vulnerability are identified as indeterminate under this section or if the level 1 methodology recommends it, the department shall assemble a level 2 assessment team under WAC 222-22-060 to resolve the uncertainties in the assessment, unless a forest ~~land owner~~landowner acting under WAC 222-22-040(3) has conducted a level 2 assessment on the WAU.

*(5) Pending the completion of the level 2 assessment, if any, on the WAU, the department shall select interim prescriptions using the process and standards described in WAC 222-22-070 (1), (2), and (3) and 222-22-080(3) and shall apply them to applications and notifications as provided in WAC 222-22-090 (1) and (2). Before submitting recommended interim prescriptions to the department, the field managers'

team under WAC 222-22-070(1) shall review the recommended prescriptions with available representatives of the jurisdictional management authorities of the fish, water, capital improvements of the state or its political subdivisions, and cultural resources in the WAU, including, but not limited to, the departments of fish and wildlife, ecology, and affected Indian tribes.

WAC 222-22-060 Level 2 watershed resource assessment. *(1) The department~~,~~ acting under WAC 222-22-040(2) or forest ~~land owner~~landowner acting under WAC 222-22-040(3)~~,~~ may assemble a level 2 resource assessment team either~~, in the case of a forest land owner,~~ to begin a watershed analysis at a level 2 resource assessment or to review the level 1 resource assessment on a WAU. The level 2 team shall consist of specialists qualified under WAC 222-22-030(1). Each level 2 team shall include persons qualified in the disciplines indicated as necessary in the methodology, and should generally include a person or persons qualified in the following:

(a) Forestry;
(b) Forest hydrology;
(c) Forest soil science or geology;
(d) Fisheries science;
(e) Geomorphology;
(f) Cultural anthropology; and
(g) Archaeology.

Any owner, and any cooperating group of owners, of ten percent or more of the nonfederal forest land acreage in the WAU and any affected Indian tribe shall be entitled to designate one qualified member of the team at its own expense. The cultural resources module must include the participation of the affected Indian tribe(s). See board manual section 11, J. Cultural Resources Module, Introduction, 1) *Using this methodology in formal watershed analysis.*

*(2) The level 2 team shall perform an assessment of the WAU utilizing the methodology, indices of resource condition, and checklist set forth in the manual in accordance with the following:

(a) If a level 1 assessment has not been conducted under WAC 222-22-050, the assessment team shall complete the tasks required under WAC 222-22-050(2), except that the level 2 team shall not rate any likelihood of adverse change and deliverability or resource vulnerability as indeterminate.

(b) If the level 2 team has been assembled to review a level 1 assessment, the level 2 team shall, notwithstanding its optional review of all or part of the level 1 assessment, review each likelihood of adverse change and deliverability and resource vulnerability rated as indeterminate and shall revise each indeterminate rating to low, medium, or high and shall revise the map of the WAU accordingly.

*(3) Within ~~60~~ sixty days of mailing notice under WAC 222-22-040(4) where a watershed analysis begins with a level 2 assessment or within 60 days of beginning a level 2 assessment after completion of a level 1 assessment, the level 2 team shall submit to the department its draft level 2 assessment, which shall consist of the map of the WAU and the causal mechanism report.

*(4) The level 2 team shall endeavor to produce a consensus report. If the level 2 team is unable to agree as to one or more areas of resource sensitivity or the casual mechanism report, alternative designations and an explanation ~~therefor~~ shall be included in the draft assessment. Where the draft level 2 assessment delivered to the department contains alternative designations or reports, the department shall within ~~30~~thirty days of the receipt of the draft level 2 assessment make its best determination and approve that option which it concludes most accurately reflects the proper application of the methodologies, indices of resource condition, and checklists set forth in the manual.

WAC 222-22-070 Prescriptions and management strategies. *(1) For each WAU for which a watershed analysis is undertaken, the department~~,~~ acting under WAC 222-22-040(2) or forest ~~land owner~~landowner acting under WAC 222-22-040(3)~~,~~ shall assemble a team of field managers qualified under WAC 222-22-030(1). The team shall include persons qualified in the disciplines indicated as necessary in watershed analysis methods, and shall generally include a person or persons qualified in the following:

(a) Forest resource management;

(b) Forest harvest and road systems engineering;

(c) Forest hydrology;

(d) Fisheries science or management;

(e) Cultural anthropology and/or archaeology, depending on the cultural resources identified in the assessment.

Any owner, and any cooperating group of owners, of ten percent or more of the nonfederal forest land acreage in the WAU and any affected Indian tribe shall be entitled to include one qualified individual to participate on the team at its own expense. The cultural resources module must include the participation of the affected Indian tribe(s). See board manual section 11, J. Cultural Resources Module, Introduction, 1) *Using this methodology in formal watershed analysis*.

*(2) Each forest ~~land owner~~landowner in a WAU shall have the right to submit prescriptions to the department or the forest ~~land owner~~landowner conducting the watershed analysis ~~prescriptions~~ for areas of resource sensitivity on ~~its~~ their land. If these prescriptions are received within the time period described in subsection (4) of this section, they shall be considered for inclusion in the watershed analysis.

*(3) For each identified area of resource sensitivity, the field managers team shall, in consultation with the level 1 and level 2 teams, if any, select and recommend prescriptions to the department ~~prescriptions~~. These prescriptions shall be reasonably designed to minimize, or to prevent or avoid, as set forth in table 1 in WAC 222-22-050 (2)(c)(iv), the likelihood of adverse change and deliverability that has the potential to cause a material, adverse effect to resource characteristics in accordance with the following:

(a) The prescriptions shall be designed to provide forest ~~land owner~~landowners and operators with as much flexibility as is reasonably possible while addressing the area of resource sensitivity. The prescriptions should, where appropriate, include, but not be limited to, plans for road abandonment, orphaned roads, and road maintenance and plans for applying prescriptions to recognized land features identified in the WAU as areas of resource sensitivity but not fully mapped;

(b) Restoration opportunities may be included as voluntary prescriptions where appropriate;

(c) Each set of prescriptions shall provide for an option for an alternate plan under WAC 222-12-040, which the applicant shows meets or exceeds the protection provided by the other prescriptions approved for a given area of resource sensitivity;

(d) The rules of forest practices and cumulative effects under this chapter shall not require mitigation for activities or events not regulated under chapter 76.09 RCW. Any hazardous condition subject to forest practices identified in a watershed analysis requiring corrective action shall be referred to the department for consideration under RCW 76.09.300 et seq.; and

(e) ~~The~~ Effective July 1, 2001, the forests and fish riparian ~~permanent~~ rules~~, when effective,~~ supersede all existing watershed analysis riparian prescriptions with the exception of riparian management zones for exempt 20-acre parcels, when watershed analysis prescriptions were in effect before January 1, 1999. (See WAC 222-30-021, 222-30-022, and 222-30-023.) No new riparian prescriptions will be written after completion of the riparian ~~management zone~~function assessment report during a watershed analysis.

*(4) For each identified cultural resource area of resource sensitivity, the field managers team shall develop cultural resources management strategies in consultation with the assessment team and affected tribe(s).

(a) If a management strategy involves a site registered on the department of archaeology and historic preservation's archaeological and historic sites data base, data recovery at an archaeological site, or any resource that requires mandatory protection under chapters 27.44 and 27.53 RCW, the field managers team shall submit the management strategy to the department of archaeology and historic preservation for agreement.

(b) The management strategies should be reasonably designed to protect or allow the recovery of resources by measures that minimize or prevent or avoid risks identified in the assessment.

(c) Management strategies resulting from conducting a cultural resources module are voluntary, not mandatory prescriptions, whether the module is conducted as part of a watershed analysis or as a stand-alone method separate from watershed analysis. However, the mandatory protections of resources under chapters 27.44 and 27.53 RCW still apply.

(5) The field managers team shall submit the recommended prescriptions, monitoring recommendations and cultural resources management strategies to the department within ~~30~~ thirty days of the submission to the department of the level 2 assessment under WAC 222-22-060 or within ~~21~~ twenty one days of the submission to the department of the level 1 assessment under WAC 222-22-050.

WAC 222-22-075 Monitoring. *In connection with any watershed analysis that is not a ~~revision (~~reanalysis under WAC 222-22-090~~(4))~~, the monitoring module will be required to be completed but implementation of monitoring recommendations would be voluntary unless otherwise required by existing laws and rules, or required by an HCP implementation agreement. Implementation of the monitoring recommendations will be encouraged when needed as part of the statewide effectiveness monitoring program.

WAC 222-22-080 *Approval of watershed analysis. (1) Upon receipt of the recommended prescriptions and management strategies resulting from a level 1 assessment under WAC 222-22-050, a level 2 assessment under WAC 222-22-060, or a ~~level 1 assessment under WAC 222-22-050 where a level 2 assessment will not be conducted~~ reanalysis under WAC 222-22-090, the department shall select prescriptions. The department shall circulate the draft watershed analysis to the departments of ecology~~,~~ and fish and wildlife, affected Indian tribes, local ~~government~~ governmental entities, forest ~~land owner~~landowners in the WAU, and the public for review and comment. The prescriptions recommended by the field managers' team shall be given substantial weight. Within thirty days of receipt of the recommended prescriptions and management strategies, the department shall review comments, revise the watershed analysis as appropriate, and approve or disapprove the watershed analysis for the WAU.

*(2) The department should notify any governmental agency or Indian tribe having jurisdiction over activities which are not regulated under chapter 76.09 RCW but which are identified in the draft analysis as having a potential for an adverse impact on identified fish, water, capital improvements of the state or its political subdivisions, ~~and~~ or cultural resources.

*(3) The department shall approve the draft watershed analysis unless it finds:

(a) For any level 1 assessment or level 2 assessment, that:

(i) The team failed in a material respect to apply the methodology, indices of resource condition, or checklists set forth in the manual; or

(ii) A team meeting the criteria promulgated by the department and using the defined methodologies, indices of resource conditions, and checklists set forth in the manual could not reasonably

have come to the conclusions identified in the draft level 1 or level 2 assessment; and

(b) ~~For the~~The prescriptions, ~~that they~~ will not accomplish the purposes and policies of this chapter and ~~of the Forest Practices Act,~~ chapter 76.09 RCW.

(c) In making its findings under this subsection, the department shall take into account its ability to revise assessments under WAC 222-22-090~~(3)~~.

*(4) If the department ~~does not approve~~disapproves the draft watershed analysis, it shall set forth in writing a detailed explanation of the reasons for its disapproval.

(5) ~~All~~ To become final under (1) of this section, all watershed analyses must be reviewed under SEPA on a nonproject basis. SEPA review may take place concurrently with the public review in subsection (1) of this section. ~~(~~See WAC 222-10-035.~~)~~

(6) As of July 1, 2011:

(a) existing interim or draft prescriptions will expire, and

(b) a new draft watershed analysis or reanalysis will expire if the requirements in (1) and (5) of this section are not met.

These expirations sunset the draft watershed analysis for the WAU and do not require SEPA review. The department shall notify the landowners in the WAU that the watershed analysis has expired.

(~~6~~7) The department will not review or approve cultural resource management strategies because their implementation is voluntary.

WAC 222-22-090 Use, ~~and~~ review, and reanalysis of a watershed analysis. *(1) Where a watershed analysis has been completed and approved for a WAU under this chapter:

(a) Any landowner within the WAU may apply for a multiyear permit to conduct forest practices according to the watershed analysis prescriptions. This permit is not renewable if a ~~five-year review~~reanalysis is found necessary by the department under subsection (6) of this section and either the reanalysis has not been completed and approved or the department has rescinded the prescriptions.

(b) Nonmultiyear forest practices applications and notifications submitted to the department shall indicate whether an area of resource sensitivity will be affected and, if so, which prescription the operator, timber owner, or forest ~~land owner~~landowners shall use in conducting the forest practice in the area of resource sensitivity;

(c) The department shall assist operators, timber owners, and forest ~~land owner~~landowners in obtaining governmental permits required for the prescription. ~~(see~~ See WAC 222-50-020 and 222-50-030~~)~~;

(d) The department shall confirm that the prescription selected under (a) and(b) of this subsection was one of the prescriptions approved for the area of resource sensitivity under WAC 222-22-080 and shall require the use of the prescription; and

(e) The department shall not further condition forest practices applications and notifications in an area of resource sensitivity in a WAU where the applicant will use a prescription contained in the watershed analysis nor shall the department further condition forest practices applications and notifications outside an area of resource sensitivity in a WAU, except:

(i) ~~-~~for reasons other than the watershed processes and fish, water, and capital improvements of the state or its political subdivisions analyzed in the watershed analysis in the WAU~~,~~; or ~~and except~~

(ii) to correct mapping errors, misidentification of soils, landforms, vegetation, or stream features, or other similar factual errors.

*(2) Pending completion and approval of a watershed analysis for a WAU, the department shall process forest practices notifications and applications in accordance with the other chapters of this title~~, except that applications and notifications received for forest practices on a WAU after the date notice is~~

~~mailed under WAC 222-22-040(4) commencing a watershed analysis on the WAU shall be conditioned to require compliance with interim, draft, and final prescriptions, as available~~.

Processing and approval of applications and notifications shall not be delayed by reason of review, approval, or appeal of a watershed analysis.

*(3) The board encourages cooperative and voluntary monitoring. Evaluation of resource conditions may be conducted by qualified specialists, analysts, ~~and~~ field managers, and qualified experts as determined under WAC 222-22-030. Subsequent watershed analysis and monitoring recommendations in response to areas where recovery is not occurring shall be conducted in accordance with this chapter.

*(4) ~~Where the condition of resource characteristics in a WAU are fair or poor~~To keep watershed analyses current, the department shall determine if and when a reanalysis of a watershed analysis is necessary to evaluate the effectiveness of the prescriptions applied under this chapter to the WAU in providing for the protection and recovery of the resource~~ characteristic. If the department finds that the prescriptions are not providing for such protection and recovery over a period of 3 years, the department shall repeat the watershed analysis in the WAU~~. The department shall determine which watershed analysis modules and prescriptions need to be included in the reanalysis. Review and reanalysis shall be conducted in accordance with this chapter and board manual section 11, standard methodology for conducting watershed analysis, except that:

(a) the reanalysis may be conducted on areas smaller than the entire WAU in the case of subsection (6) (a) of this section, and

(b) the reanalysis shall be conducted only on the areas affected in the case of subsection (6) (b) or (6) (c) of this section.

(5) Entities with an interest in maintaining prescriptions the department has identified for reanalysis are responsible for committing sufficient resources to complete a reanalysis in addition to the available resources provided by the department to administer the reanalysis process.

(6) ~~Aside from the foregoing, once~~Once a watershed analysis is completed and approved on a WAU, ~~it~~ the department shall ~~be revised in whole or in part~~conduct a review to determine if a reanalysis is necessary, upon the earliest of the following to occur:

(a) Five years after the date the watershed analysis is final, ~~if necessary~~and every five years thereafter; or

(b) The occurrence of a natural disaster having a material adverse effect on the resource characteristics of the WAU; or

(c) Deterioration in the condition of a resource characteristic in the WAU measured over a ~~12~~ twelve month period or no improvement in a resource characteristic in fair or poor condition in the WAU measured over a ~~12~~ twelve month period unless the department determines, in cooperation with the departments of ecology~~,~~ and fish and wildlife, affected Indian tribes, forest ~~land owner~~landowners, and the public, that a longer period is reasonably necessary to allow the prescriptions selected to produce improvement~~; or~~.

~~(d) The request of an owner of forest land in the WAU, which wishes to conduct a watershed analysis at its own expense.~~

~~Revision of an approved watershed analysis shall be conducted in accordance with the processes, methods, and standards set forth in this chapter, except that the revised watershed analysis shall be conducted only on the areas affected in the case of revisions under (b) or (c) of this subsection, and may be conducted on areas smaller than the entire WAU in the case of revisions under (a) and (d) of this subsection. The areas on which the watershed analysis revision is to be conducted shall be determined by the department and clearly delineated on a map before beginning the assessment revision. Forest~~

~~practices shall be conditioned under the current watershed analysis pending the completion of any revisions.~~

(7) Once the department has determined that a reanalysis is necessary under subsection (6) of this section:

(a) The department shall notify the forest landowners in the WAU, the departments of ecology and fish and wildlife, affected Indian tribes, relevant federal agencies and local governmental entities, and the public.

(b) Prior to the start of the reanalysis, the department shall determine and clearly delineate on a map the areas on which the reanalysis is to be conducted.

(c) The department shall classify per WAC 222-16-050 proposed forest practices within the mapped reanalysis area that would have been subject to those prescriptions identified for reanalysis.

(d) The department shall determine if the forest landowners in the WAU want to participate in the reanalysis and commit sufficient resources to complete the reanalysis process in accordance with subsection (5) of this section:

(i) If no forest landowners in the WAU wish to participate and commit resources, then the department may rescind the prescriptions it identified for the reanalysis after conducting SEPA review. If the department rescinds prescriptions, it shall notify the landowners in the WAU.

(ii) If a landowner wishes to participate and commit resources, then the department in consultation with the departments of ecology and fish and wildlife, affected Indian tribes, forest landowners, and the public shall establish a timeline for the reanalysis. If the timeline for completion is not being met, the department may adjust the timeline or, after conducting SEPA review, rescind the prescriptions it identified for the reanalysis. If the department rescinds prescriptions, it shall notify the landowners in the WAU.

(e) Upon receiving recommendations from the reanalysis, the department shall select prescriptions and approve or disapprove the reanalysis in accordance with WAC 222-22-080.

(f) Reanalyses must be reviewed under SEPA on a nonproject basis. See WAC 222-10-035.

(8) Regardless of subsection (7) of this section , the owner or owners of ten percent or more of the nonfederal forest land in the WAU may conduct a reanalysis at any time at their own expense and the reanalysis may be conducted on areas smaller than the entire WAU.

ECONOMIC ANALYSIS
Forest Practices Board
Rule Making Affecting Watershed Analysis

By Craig Calhoon, Economist, and Gretchen Robinson, Natural Resource Specialist

May 2011

OBJECTIVES

The Forest Practices Board is considering changes to the Forest Practices rule, Title 222 WAC, as it relates to watershed analysis.

The proposed rule change implements RCW 76.09.040 which states, "Where necessary to accomplish the purposes and policies stated in RCW 76.09.010 … the board shall adopt forest practices rules … that … establish minimum standards for forest practices . . . (and) . . . allow for the development of watershed analyses." Among the purposes and policies stated in chapter 76.09 RCW is "… that it is in the public interest for public and private commercial forest lands to be managed consistent with sound policies of natural resource protection …"

The intent of the proposed rule change is to ensure that timber harvest and road construction[1] within watershed administrative units (WAUs) with approved watershed analyses are conducted with all the public resource protections (i.e., water, fish, wildlife, and capital improvements) afforded in chapter 76.09 RCW and Title 222 WAC, and to ensure that forest practice activities do not increase the risk, frequency, and severity of landslides. The proposal is the result of the Board's reconsideration of the continued use of watershed analysis mass wasting prescriptions as a Class IV-special exemption.

CONTEXT—WATERSHED ANALYSIS

Watershed Analysis Rule

The Forest Practices Board (Board) adopted the watershed analysis rules, chapter 222-22 WAC, in 1992. The required steps and technical requirements for watershed analysis resource assessments and developing prescriptions and management strategies are found in WACs 222-22-050 through -070 and Board Manual section 11, "Standard Methodology for Conducting Watershed Analysis". WAC 222-22-080 and -090 describe the approval process and the use and review of watershed analysis, respectively.

Watershed analysis uses "modules" to examine mass wasting (landslides), surface erosion, hydrologic change, riparian function, stream channel, fish habitat, water quality, water supply, public works, and cultural resources. The individual module assessments are used to identify the cause-and-effect relationships between potential hazards and vulnerable resources to locate areas

[1] The term "timber harvest and road construction" is used throughout this document as a shortened reference to the forest practices listed in WAC 222-16-050(1)(d): ". . . timber harvest or construction of roads, landings, gravel pits, rock quarries, or spoil disposal areas."

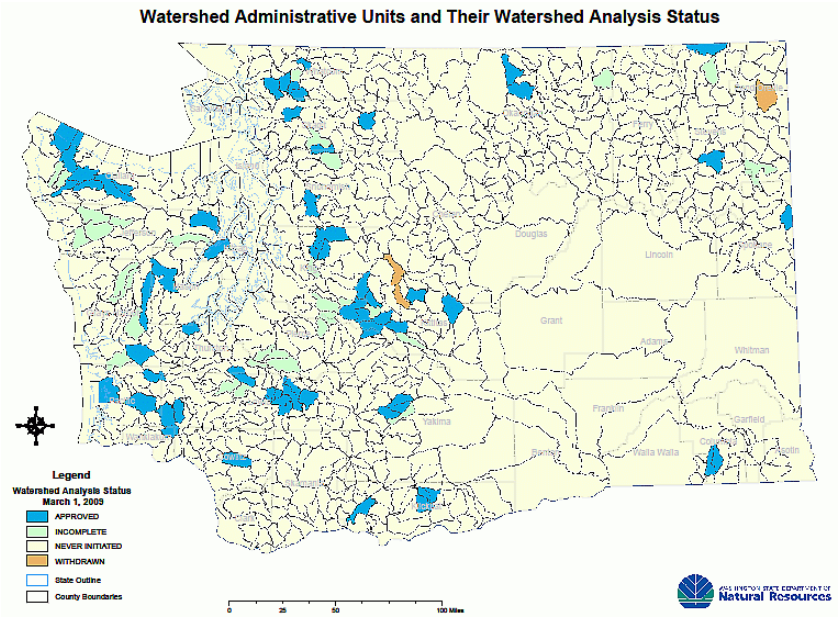
of resource sensitivity. Prescriptions are written for each of the areas of resource sensitivity to address the types of forest practices that have a potential to impact vulnerable resources. Landowners' forest practices applications that implement the prescriptions are SEPA-exempt for the issue covered by the prescription.

Existing Watershed Analyses

Watershed analysis (WSA) is performed on Watershed Administrative Units (WAUs), which are physical drainage basin areas defined by hydrology and geomorphology. WAUs range in size from about 10,000 to 50,000 acres. Of the 825 WAUs delineated in Washington, 754 are forested.

There are 52 approved watershed analyses, encompassing 68 WAUs, scattered throughout the state (shown in blue on **Figure 1**), which is nine percent of the 754 forested WAUs in Washington. Most of the WSAs were approved from 1993 to 2000, with four approved after 2000. An additional 22 watershed analyses, encompassing 32 WAUs, were initiated but not completed (shown in green on **Figure 1**).

FIGURE 1



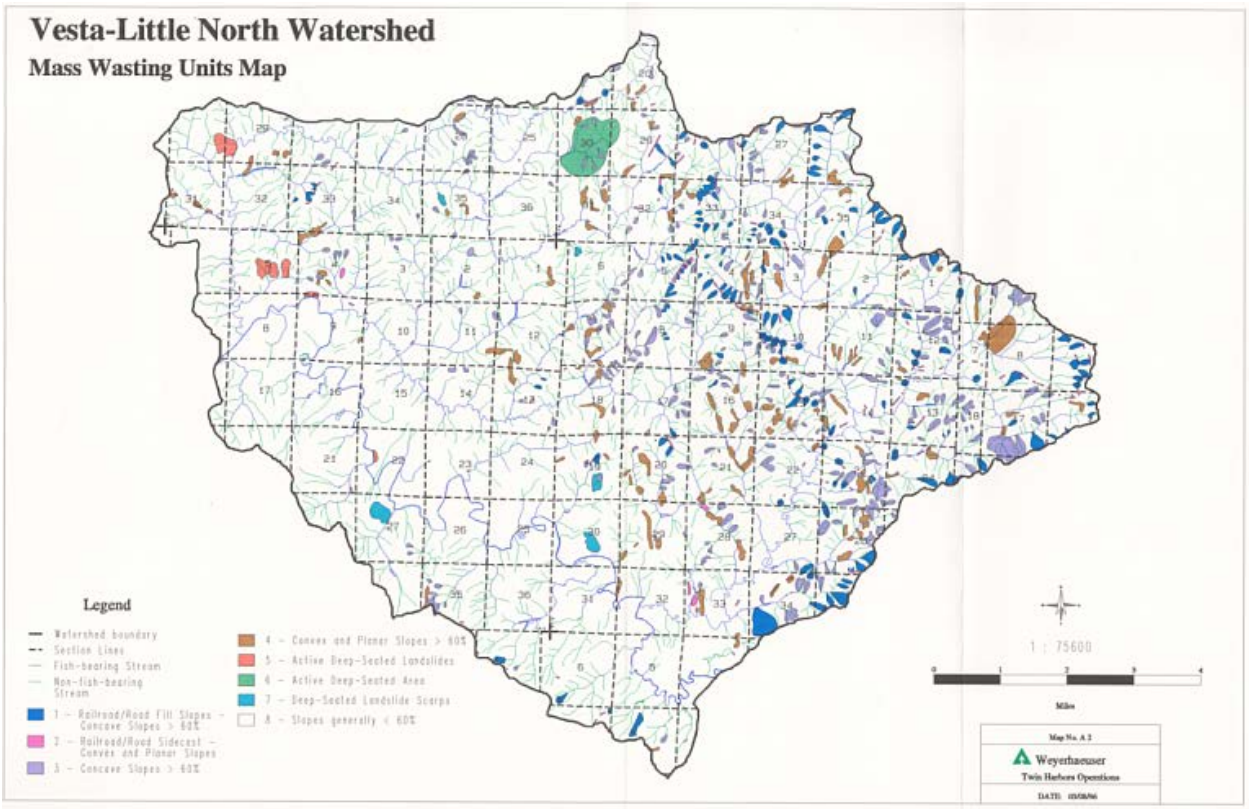
Watershed analyses can be sponsored by any landowner or group of landowners that owns at least ten percent of the land in the WAU. Original sponsors of the 52 approved watershed analyses were DNR Regulatory (Forest Practices), DNR State Lands, and ten private timber companies.

CONTEXT—MASS WASTING IN FOREST PRACTICES RULES

Mass Wasting Prescriptions in Watershed Analysis

Mass Wasting Map Units (MWMUs) are referred to in this document in the sections addressing cost analysis and small business impact analysis. MWMUs are groupings of unstable slopes and landforms identified during the watershed analysis process. They are based on the frequency of landslides and their relation to landforms, topography, slope gradient, geologic units and structures, slope hydrology, and natural vegetation types. **Figure 2** is an example of a map showing MWMUs in a watershed from an approved watershed analysis.

FIGURE 2
Example of Map Showing Mass Wasting Mapping Units in Approved Watershed Analysis



Prescriptions may be developed both for timber harvest and road construction within each MWMU in the WSA. The prescriptions may be "specific" or "non-specific". Forest practices applications that are conducted in accordance with an approved prescription that is "specific to the site or situation" will not be classified Class IV-special for the issue covered by the prescription. *WAC 222-16-050(1)(*d)(iii). From a cursory review of summary information about the

mass wasting prescriptions in the approved watershed analyses, it is estimated that about one-half are "specific".

Mass Wasting in "Standard" Forest Practices Rules

Outside of the WAUs with approved WSAs, the "standard" forest practices rules pertaining to timber harvest and road construction on potentially unstable slopes and landforms apply.[2] *WAC 222-16-050 (1)(d).* The rules were established in the 1999 Forests and Fish law and were based on the experience gained through the development of mass wasting prescriptions and MWMUs in the various approved WSAs, which revealed common physical characteristics associated with slope failure on forest lands.

Under the standard rules, forest practices applications to conduct timber harvest or road construction activities on these landforms may be classified as Class IV-special if DNR determines there is a potential for delivery of sediment or debris to a public resource, or the potential to threaten public safety. The applications that are classified as Class IV-special are subject to SEPA analysis. The SEPA analysis must include a report prepared by a qualified expert to describe the likelihood of delivery of sediment or debris to any public resource or in a manner that would threaten public safety and describe any possible mitigation for identified hazards and risks. *WAC 222-10-030.*

Board Response to Recent Mass Wasting Events

After recent intense storm events that caused extensive landslides in some areas of the state, the Board became concerned about whether the rules related to mass wasting watershed analysis prescriptions are adequate for the protection of public resources.

The Board identified two issues needing to be addressed related to watershed analysis:

1. WAC 222-22-090 places the onus on DNR to perform watershed analysis reviews. Entities with interest in maintaining watershed analysis mass wasting prescriptions should be responsible for committing sufficient resources to the review process and keeping watershed analysis prescriptions current . . .
2. WAC 222-22-090 does not explicitly provide DNR authority to withdraw prescriptions if reviews are not completed, or supplement prescriptions if necessary, prior to and during a review.[3]

The Board requested that the Adaptive Management Program (AMP) address these issues and make recommendations to:

- Reinforce the concept that watershed analyses need to be kept up-to-date;

[2] The term "standard rules" is used throughout this document as a shortened reference for the forest practices rules applicable to timber harvest or construction of roads, landings, gravel pits, rock quarries, or spoil disposal areas that are proposed on potentially unstable slopes or landforms described in WAC 222-16-050(1)(d).

[3] Memorandum, Peter Goldmark, Forest Practices Board Chair, to Jim Hotvedt, Adaptive Management Program Administrator, dated April 23, 2010.

- Specify that entities with interest in maintaining mass wasting prescriptions in watershed analysis should be responsible for committing sufficient resources to the review process and keeping watershed analysis prescriptions current, in addition to the available resources provided by the DNR to administer the review process;
- Determine how to address watershed analysis reviews where resources are insufficient to conduct the review;
- Give DNR the authority to supplement mass wasting prescriptions, if necessary, prior to and during the review process with the regulatory process that is utilized in watersheds not subject to watershed analysis; and
- Give DNR the authority to withdraw mass wasting prescriptions within WAUs in which the required reviews have not been completed within a specific timeline after initiation.[4]

PROPOSED RULE

The proposed rule language modifies the review process to ensure that reviews and updates occur and are paid for by those who elect to continue to use this process to protect resources. The AMP recommended rule changes to the Board at its November 2010 meeting. The changes are concentrated in WAC 222-22-090, "Use and Review of Watershed Analysis". Those pertinent to this economic analysis are as follows:

- The department is required to review the prescriptions from approved watershed analyses every five years, determine whether a reanalysis is necessary, and determine which modules and prescriptions are required to be included in the reanalysis. *WAC 222-22-090 (4) and (6).* The term "reanalysis" is introduced; it is the process that takes place to evaluate the effectiveness of WSA prescriptions.
- If the department determines reanalysis is necessary, the landowner(s) interested in maintaining those prescriptions are responsible for committing sufficient resources to complete the reanalysis for the WAU, including hiring the professionals required to conduct the assessments. *WAC 222-22-090 (5).*
- Reanalysis of mass wasting prescriptions requires a "qualified expert" as defined in current rule. *WAC 222-10-030 (5).*
- If no landowners choose to participate in the reanalysis, or if the timeline set for completion of the reanalysis is not met, the department may rescind the prescriptions. *WAC 222-22-090 (7)(d)(ii).*

IMPACT OF PROPOSED RULE CHANGE ON EXISTING WATERSHED ANALYSES

The main impact of the rule proposal is on private forest landowners in the 52 approved watershed analyses and is caused by the requirement that DNR conduct reviews of all approved watershed analyses to determine whether reanalysis is necessary. If DNR determines reanalysis is necessary, the eligible sponsors will need to decide whether they want to incur the costs of

[4] Ibid.

conducting a reanalysis to retain the mass wasting prescriptions or opt out of the WSA mass wasting prescriptions. The impact on other landowners in the WAU will depend on the sponsors' decisions. This is described and analyzed in more detail in the cost-benefit analysis.

It is important to note that the proposed rules were written to be broad enough to cover the need for reanalysis of all of the watershed analysis prescriptions (not just mass wasting). However, the impetus for the proposed rule change is to make sure that the mass wasting prescriptions are up-to-date and it is the Board's intent that DNR's focus at this time should only be on determining the need for reanalysis on mass wasting modules, not any of the others. Also, DNR foresees a need to require reanalysis for only the mass wasting prescriptions in the near-term. This analysis, therefore, will consider the impact on landowners who currently use WSA mass wasting prescriptions and whose situation in that regard may change if the rule is adopted.

It is already known that 19 of the 52 watershed analyses will not be undergoing reanalysis. DNR is the sponsor of those 19 and has determined it will not sponsor reanalyses of mass wasting prescriptions. See **Figure 3**.

FIGURE 3

Summary of Reanalysis Intent on Approved Watershed Analyses

	Maintain Mass Wasting Prescriptions			Relinquish Mass Wasting Prescriptions	To Be Determined	TOTAL
	Meets Reanalysis Requirement	Reanalysis Not Likely Required	Expected to Conduct Reanalysis	Expected to Opt Out of WSA-- No Reanalysis		
DNR Regulatory (Forest Practices)				14		14
DNR State Lands				5		5
Timber Company w/HCP Requirement	7					7
Other Timber Companies		3		5	18	26
TOTAL	7	3	0	24	18	52

The sponsor of seven of the 52 watershed analyses is a timber company whose habitat conservation plan (HCP) with the federal services[5] requires that it perform five year reviews of the prescriptions in these seven watershed analyses. This company has been reviewing the prescriptions and has a schedule in place for five-year reviews. This sponsor is meeting the requirement for reanalysis by its ongoing efforts to meet its HCP obligations. The rule proposal, therefore, will have no direct impact on these seven watershed analyses.

The timber company sponsors of the remaining 26 watershed analyses may or may not decide to undertake reanalysis. However, DNR has projected that it will likely not require reanalysis for

[5] "Federal services" means the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA), which review and approve habitat conservation plans (HCPs) under the federal Endangered Species Act.

mass wasting prescriptions on three of these WSAs based on their relatively lower number of annual landslides per square mile as interpreted from historical aerial photo records.

We can project further that five of the 23 remaining watershed analyses are very unlikely to undergo reanalysis. DNR Forest Practices staff informally polled WSA sponsors about whether they would conduct reanalysis if DNR determined it was necessary. The sponsors of these five watershed analyses said they would not. The sponsors of the remaining 18 watershed analyses did not respond, presumably because they are waiting to see the final rule before making a decision. None of the timber companies said that they were interested in conducting reanalysis in order to maintain the WSA mass wasting prescriptions.

In summary, of the 52 approved watershed analyses, it is assumed that the sponsors of 24 will not conduct a reanalysis (19 DNR and five no interest), the sponsor of seven would be considered to be already meeting the requirement for reanalysis by its ongoing HCP obligations, DNR will not require reanalysis on three, and the sponsors of the remaining 18 have not indicated their intent.

COST-BENEFIT ANALYSIS

According to the Administrative Procedure Act (RCW 34.05.328), before adopting rules, agencies must complete a cost-benefit analysis to:

- Determine that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented; and
- Determine, after considering alternative versions of the rule, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives of the statute that the rule implements.

Benefits

The expected benefit of the rule proposal is the added assurance that WSA mass wasting prescriptions are as protective of public resources as the standard rules. The proposal is intended to ensure the approved WSAs are kept up-to-date so that any resource risk associated with mass wasting prescriptions are avoided or minimized to the greatest extent possible. This is what the standard rules are intended to do, and it is what all mass wasting prescriptions should do. The expected result is that any timber harvest or road construction activity will not increase the risk of mass wasting events beyond natural rates of occurrence, regardless of whether the activity is regulated through standard rules or through mass wasting prescriptions.

In addition, the rule proposal fulfills the Forest Practices Board mandate to adopt rules that are protective of public resources while preserving the viability of the state's forest products industry. The rule proposal adds greater assurance of public resource protection, but it does not disallow the use of all WSA mass wasting prescriptions – it only requires that prescriptions are as protective as standard rules.

Costs to Watershed Analysis Sponsors

As previously explained, the sponsors of 18 approved WSAs will need to decide whether to conduct and pay for reanalysis of the mass wasting prescriptions. DNR estimates the cost of reanalysis will range from $21,000 to $64,000 ($42,500 on average) per WSA, depending on the quality and specificity of the existing mass wasting prescriptions, the size of the watershed, and the amount of time required to complete the reanalysis. These costs would be spread out over the time it would take to complete the reanalysis.

Some sponsors may determine that the benefits of maintaining the Class IV-special exemption outweigh the cost of reanalysis. Each sponsor will need to make an informed decision, weighing the specific costs and benefits to that firm and in that WSA. If sponsors decide to conduct reanalysis on all 18 of these WSAs, the upper limit of total cost is estimated to be $765,000 (18 x $42,500).

However, it may be more likely that few, if any, sponsors will undertake and incur the costs of WSA reanalysis. In an informal survey of WSA sponsors, none of the forest landowners who responded said they intended to pursue sponsorship of a reanalysis.

It is possible that a sponsor could elect to undertake reanalysis and then abandon the effort and elect to opt out. In this case, the sponsor would incur some additional costs without achieving the benefits, financial and otherwise, of having approved WSA prescriptions.

It is presumed that the total cost for reanalysis after subsequent five-year reviews will be significantly lower because the need for reanalysis is likely to be less.

Costs to Watershed Analysis Landowners

The other type of impact would be to all landowners, including the sponsor, who own lands with potentially unstable slopes or landforms in approved WSAs where the sponsor elects to opt out of reanalysis, or in cases where landowners submit FPAs in MWMU areas undergoing reanalysis.[6]

As explained in a previous section, the sponsors of 24-42 approved WSAs have indicated they intend to opt out of the mass wasting prescriptions (see **Figure 3**). It is expected that the actual number is likely to be close to 42, if not 42. WSA sponsors have already indicated their intent to opt out of reanalysis in 24 WSAs (the 19 sponsored by DNR and the five where timber companies have indicated they will opt out). The other 18 WSAs are those where larger forest landowners have not indicated their intent, but are more likely to opt out than not.

[6] According to proposed WAC 222-22-090(7)(c), when reviewing forest practices applications within a mapped reanalysis area, DNR will classify proposed forest practices undergoing reanalysis, if necessary, pursuant to WAC 222-16-050.

If the sponsor elects to opt out of the mass wasting prescriptions in a given watershed analysis, those prescriptions will no longer be available to all the landowners within the WAU.[7] Any FPAs proposed on lands with potentially unstable slopes or landforms in that WAU would then be subject to the standard rules. Any proposals for timber harvest or road construction that are determined by DNR to have the potential to deliver sediment or debris to a public resource would be classified Class IV-special and the landowner would need to conduct a SEPA analysis and pay for a qualified expert's geotechnical report. DNR estimates these costs would be $2000-5000, or $3500 on average, to obtain the report and $750-800, or $775 on average, to complete a SEPA checklist. In other words, the landowner would be negatively impacted by an average of $4275 ($3500 + $775) for each FPA undertaken where previously they would have utilized WSA mass wasting prescriptions. There is also the possibility of additional costs in the form of foregone income due to the lost ability to harvest timber on potentially unstable slopes or landforms which might be harvested under the WSA mass wasting prescription but not under the standard forest practices rules. It is not known whether the WSA prescriptions would allow more harvest on unstable slopes. This would require a detailed analysis on every mass wasting prescription in every approved WSA.

Alternatively, landowners could elect to not pursue timber harvest or road construction on areas of concern and avoid these requirements and costs if they determine that the costs outweigh the benefits.

It is not possible to predict the total cost impact across all the WSAs and through time because there is no information available on how many timber harvest or road construction activities on lands with potentially unstable slopes or landforms have been approved under mass wasting prescriptions. Since 1995, there have been an average of about 40 FPAs per year per approved WSA, but it is not known how many activities were proposed in MWMUs. Each landowner ultimately has individual choice and a decision to make on the location and layout of each potential activity in relation to potentially unstable slopes or landforms.

For discussion purposes only, assume that one out of every 200 FPAs within approved WSAs is located on lands with potentially unstable slopes or landforms with "specific" mass wasting prescriptions. The total increased costs to all WSA landowners due to rescinded prescriptions would average about $855 per year (current dollars) in each approved WSA. This is based on one-half of one percent (one out of every 200 FPAs) of the average number of 40 FPAs per year, multiplied by the $4275 average new costs per FPA (for a qualified expert's geotechnical report and for completing the SEPA checklist). For the 24-42 WSAs in question, the total annual cost would then be in the range of $20,500-36,000 for all affected landowners. Again, this is for illustration purposes only since there is no information available to determine whether the assumption is valid. If only one out of 2000 FPAs in these WSAs were on potentially unstable slopes or landforms with "specific" prescriptions, the total annual cost would be in the range of

[7] All WAUs included in the 52 approved watershed analyses will still be under WSA, but some of the WSAs will have their mass wasting prescriptions rescinded. The other prescriptions in those WSAs will remain valid and in effect.

$2050-3600; if it was 1 out of 20 FPAs, the total annual cost would be in the range of $205,000-360,000.[8]

Based on available information, it appears that most of the "specific" mass wasting prescriptions in approved WSAs may not be significantly different than standard forest practice rules. But the reason for requiring reanalysis is to determine whether the mass wasting prescriptions are adequately protecting public resources or need to be amended.

The overall magnitude of this potential impact is further mitigated because it only exists in nine percent of the state's forested WAUs.

Comparison of Benefits and Costs

As previously explained, the sponsors of 18 of the 52 approved WSAs will need to decide whether to conduct and pay for reanalysis of the mass wasting prescriptions. If all 18 make the decision to undertake a reanalysis, the upper limit of the total cost is estimated to be $765,000, at an average cost of $42,500 per reanalysis.

If the WSA sponsor elects to opt out of the mass wasting prescriptions, this will impact all owners of lands with potentially unstable slopes or landforms within the 24-42 WSAs which are potentially affected. If approved mass wasting prescriptions are no longer available and an FPA is proposed under standard rules on a potentially unstable slope or landform, the landowner would incur new costs estimated to be $4275 on average. The total cost for affected landowners is very difficult to predict, but could possibly be in the range of $20,000 to $36,000 annually.

To the degree that mass wasting prescriptions are not as protective of public resources, requiring that they undergo reanalysis or be rescinded will reduce the risk of mass wasting events beyond natural rates of occurrence.

For this analysis, it is reasonable to conclude that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs, and the specific directives of the statutes being implemented (see "Objectives").

Alternatives to Rule Making and Consequences of Not Adopting the Rule

An alternative to the proposed rule would be a rule that rescinds all mass wasting prescriptions in approved WSAs in their entirety and does not afford an opportunity for reanalysis. This is not

[8] In the Small Business Analysis subsection to follow, it was found that one-half of the acreage in a sample of 15 WSAs with available data was in tax parcels where mass wasting mapping units (MWMUs) are located, indicating the presence of potentially unstable slopes and landforms on that tax parcel. However, it does not follow that 1 of every 2 FPAs within approved WSAs would be located on potentially unstable slopes and landforms (and therefore be classified as a Class IV-special). This is because the MWMUs do not cover the tax parcels in their entirety, and because many of the tax parcels are very large (a full section of land, or 640 acres more or less). Also, since only about one-half of the WSA mass wasting prescriptions are "specific", there is no new cost impact for landowners for FPAs located on MWMUs without "specific" prescriptions. This is the basis for the 1 out of 20, 200, and 2000 scenarios, but they are speculative given there is no reliable information available.

what the Board chose to do. The Board considered the HCP commitments of the timber company sponsor of seven WSAs, as described in an earlier section. The Board also considered the investments of time and money that sponsors made when originally conducting watershed analyses, and acknowledged that some prescriptions are working well. The Board did not intend to preclude sponsors from undertaking reanalysis in order to maintain the exemption from a Class IV-special classification on FPAs that include proposals to conduct forest practices on potentially unstable slopes or landforms.

The consequences of not adopting the rules are that the onus of WSA review would continue to be on DNR, and the rules would not be explicit about DNR's authority to require reviews if appropriate. Presumably, not adopting the rules could result in some prescriptions being less effective at protecting public resources than protection under standard rules.

Least Burdensome Alternative

The Administrative Procedure Act states that agencies shall determine after considering alternative versions of the rule, that the rule being adopted is the least burdensome alternative for those required to comply with it that will achieve the general goals and specific objectives of the statute that the rule implements.

The proposed rule change is less burdensome than the alternative of rescinding all mass wasting prescriptions in approved WSAs and not affording an option and opportunity for reanalysis. First, DNR is likely to determine that not all WSAs will require reanalysis. Second, WSA sponsors retain the choice as to whether to conduct and pay for reanalysis, and will weigh the benefits and costs for themselves. Also, according to DNR staff, DNR will conduct a prioritization so that multiple WSAs will not be required for reanalysis at the same time.

SMALL BUSINESS IMPACTS

A small business economic impact statement is required by the Regulatory Fairness Act (chapter 19.85 RCW) to consider the impacts on small businesses of administrative rules adopted by state agencies. The statute defines small businesses as those with 50 or fewer employees. To determine whether the proposed rule will have a disproportionate cost impact on small businesses, the impact statement compares the cost of compliance for small business with the cost of compliance for the ten percent of businesses that are the largest businesses required to comply with the proposed rule.

Small Business Analysis

Two data sets generated by DNR's GIS were used to analyze impacts to "small businesses". An analysis using both allows us to conclude that small businesses would not be disproportionately impacted by the rule proposal.

The first data set provided tax parcel and landowner information for 37 of the 52 approved WSAs where such data was available (eight of the 37 had only partial data coverage). A total of

904,000 acres of forest land is contained in the 37 WSAs (represented in whole or in part). The tax parcels are classified into ten land use designations, the most common being "Resource Production and Extraction", which contains 92 percent of the total acreage and is the land use most likely to be subject to timber harvest and road construction activities, and regulation under the Forest Practices Act.

In the data available representing land ownership in all the approved WSAs, there are 766,000 acres in the Resource Production and Extraction category which are owned by 1339 different entities (landowners). Of these 1339 landowners, 15 had over 50 employees and the remaining 1324 are "small businesses" as that term is defined in chapter 19.85 RCW. Seventy percent (70%) of this land, 539,000 acres, is owned by "large businesses" which have an average holding of 36,000 acres. The "small businesses" are further divided into 1302 individuals and 21 land organizations (which include conservation organizations and real estate investment firms). The land organizations own 120,000 acres total, or 16 percent, averaging 5700 acres each, while the individuals own 106,000 acres total, or 14 percent, averaging 81 acres each.

Not all forest lands within the approved WAUs will be impacted by this rule; only lands that are associated with potentially unstable slopes and landforms will be impacted. Such data was available in a second DNR GIS data set that listed each tax parcel that intersects with a mapped MWMU within each of the approved WSAs. This data set had information for 18 WSAs which had both tax parcel data and MWMU data in GIS (except three of the 18 had only partial coverage). The data for three WSAs where DNR is unlikely to require reanalysis was removed from the data set, leaving 15 WSAs in our sample. These 15 WSAs accounted for 444,000 acres of the total WSA acreage in the Resource Production and Extraction category in the first data set. There are 11 "large businesses" owning 387,000 acres, or over 87 percent of the total acres in these WSAs, and an average of 35,000 acres each. There are ten land organizations that own 30,000 acres, or 7 percent, averaging 3000 acres each. There are 350 individual landowners that own the remaining 26,000 acres, or six percent, averaging 75 acres each.

In the second data set composed of a sample of 15 WSAs, there are tax parcels totaling 222,500 acres that intersect with MWMUs, indicating that those lands include areas with potentially unstable slopes or landforms. Of the total parcel acreage, the portion in areas with potentially unstable slopes or landforms is substantially less. Eight large companies own 206,200 acres or 92.7 percent of the acres associated with unstable slopes, an average of 61,000 acres each. Three land organizations own 8000 acres, or 3.6 percent, which is an average of 2600 acres each. Forty individuals own 8300 acres, or 3.7 percent and averaging 208 acres each. See **Figure 4** for a detailed breakdown of ownership by category in the 15 WSAs in the sample data. The sample shows that "large businesses" own 94 percent or more of the acreage in tax parcels intersecting with MWMUs in 13 of the 15 WSAs, and 87 and 83 percent in the other two. "Small businesses" (individuals and land organizations) owned one percent or less of the acreage in tax parcels intersecting with MWMUs in 11 of the 15 WSAs.

FIGURE 4

Summary of Ownership of Lands With Potentially Unstable Slopes and Landforms in Selected WSAs

WSA	A	B	C (pt.)	D (pt.)	E	F	G	H	I	J	K	L (pt.)	M	N	O
Acres in Tax Parcels with MWMUs in WSA	1,297	4,611	5,488	13,226	16,413	7,890	12,094	7,556	8,636	26,251	13,330	12,103	26,379	41,930	25,320
Parcels with MWMUs in WSA	3	1	2	2	3	7	3	1	2	5	1	1	2	10	20
# of Tax Parcels with MWMUs in WSA	11	29	89	113	119	73	167	30	40	290	189	82	190	718	242
PERCENTAGE OF UNSTABLE SLOPE AREA BY OWNERSHIP															
Sponsor Timber Company Owner	94%	100%	76%	89%	94%	86%	85%	100%	100%	99%	100%	100%	100%	57%	74%
Other Timber Company Owner(s)			(1) 24%	(1) 11%	(1) 5%	(1) 1%	(2) 15%							(2) 40%	(1) 9%
Conservation and Holding Cos. (#)					(1) 0.5%	(2) 11%								(1) 3%	
Individual(s) (#)	(2) 6%					(3) 2%			(1) 0.1%	(4) 1%			(1) 0.3%	(6) 1%	(18) 17%

Another indicator of the impact on the large and small landowners is the number of intersections (as opposed to acres) of tax parcels and MWMUs. Large businesses had 2217, or 94 percent, of the 2370 tax parcels intersecting with MWMUs in the second data set. Small businesses had 153 parcels (37 for land organizations and 116 for individuals) intersecting with MWMUs, or 6 percent of the total in the sample.

Based on the sample data available[9], "small businesses" own only 7.3 percent of the acreage in tax parcels and only 6 percent of the number of tax parcels associated with unstable slopes or landforms in approved WSAs. This compares with 13 percent of the total acreage in the Resource Production and Extraction category in the second data set with 15 WSAs, and 30 percent of the total acreage in that land use category in the first data set with 37 WSAs.

Based on the sample data available, "large businesses" own a disproportionate share of the tax parcels associated with unstable slopes--92.7 percent by acreage of tax parcels and 94 percent by number of tax parcels. Therefore, we conclude it is highly likely that "small businesses" will not be disproportionally impacted by the proposed rule.

Reducing Costs for Small Businesses

RCWs 19.85.030 and .040 address an agency's responsibility in rule making to consider how costs may be reduced for small businesses, based on the extent of disproportionate impact on the small businesses. As stated above, there is no disproportionate impact on small businesses.

Estimated Number of Jobs Created or Lost

[9]The data used in this analysis was not based on a sampling technique, but rather was determined by the available data across the 52 approved WSAs. The WSAs (in their entirety or in part) do not appear to be geographically unrepresentative of the 52 WSAs.

RCW 19.85.040 (2)(d) requires that the economic analysis include "(a)n estimate of the number of jobs that will be created or lost as the result of compliance with the proposed rule."

In so far as WSA sponsors elect to opt out of the mass wasting prescriptions and not conduct and pay for reanalysis, there may be more work for "qualified experts" (engineering geologists and hydrogeologists) conducting geotechnical reports on potentially unstable slopes and landforms in the forested environment. If one out of 100 FPAs in the 24-42 WSAs where the WSA sponsor elects to opt out of the mass wasting prescriptions will now require a qualified expert's geotechnical report, then there would be a demand for an average of 4.8 to 8.4 new reports per year, at a total cost of $20,500-36,000 per year. This work would support less than a half time job for a geotechnical expert if that one person got all the new work. It is more likely that the additional work would be dispersed among several of the existing experts and would therefore not create any new jobs. Therefore, it is estimated that no jobs will be created or lost as a result of the new rule.

SUMMARY

The rule proposal affects 52 approved watershed analyses encompassing 68 Watershed Administrative Units (WAUs), or nine percent of the 754 forested WAUs in Washington.

Larger forest landowners who have sponsored 18 approved WSAs will need to decide whether to conduct and pay for reanalysis of the mass wasting prescriptions. The upper limit of total cost is estimated to be $765,000 if all 18 sponsors undertake reanalysis at an average cost of $42,500 per WSA. Some WSA sponsors in some WSAs may decide that the ongoing benefits of maintaining the exemption from a Class IV-special FPA and SEPA will outweigh the cost of reanalysis.

Owners of all lands with potentially unstable slopes or landforms in 24-42 approved WSAs will potentially incur costs if the sponsor elects to opt out of reanalysis. If an FPA under standard rules is proposed on a "rule identified" potentially unstable slope or landform it would be Class IV-special and the landowner would need to pay for a qualified expert's geotechnical report and complete a SEPA checklist, together estimated to cost $4275 on average. It is not possible to accurately characterize the potential total cost impact across all the approved WSAs.

The expected benefit of the rule proposal is the added assurance that WSA mass wasting prescriptions are as protective of public resources as the standard rules. The expected result is that any timber harvest or road construction activity will not increase the risk of mass wasting events beyond natural rates of occurrence, regardless of whether the activity is regulated through standard rules or through mass wasting prescriptions.

This analysis indicates it is reasonable to conclude that the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and specific directives of RCW 76.09.040.

An alternative to the proposed rules would be to rescind all mass wasting prescriptions in approved WSAs and not afford an opportunity for reanalysis. This would preclude the choice by WSA sponsors to undertake reanalysis in order to maintain the exemption from a Class IV-special classification on FPAs on potentially unstable slopes or landforms and the costs incurred in the development of WSAs would be lost.

The other alternative would be to not change the current rules. This would not fulfill the Board's goal to ensure that WSA prescriptions are kept up-to-date and that resource risks associated with mass wasting prescriptions are avoided or minimized to the greatest extent possible on an ongoing basis.

In consideration of these alternatives to the proposed rule and the estimated costs for landowners, the proposed rule is the least burdensome for landowners that will still protect public resources and achieve the Board's goals.

It is highly likely that "small businesses" (50 or more employees in the state) will not be disproportionately impacted by the proposed rule. Based on available sample data, large businesses (more than 50 employees) own a disproportionate share of forest lands associated with Mass Wasting Mapping Units (MWMUs)--92.7 percent by acreage of tax parcels and 94 percent by number of tax parcels that intersect with MWMUs.

It is estimated that no jobs will be created or lost as a result of the new rule.

STATE OF WASHINGTON
FOREST PRACTICES BOARD

PO Box 47012
Olympia, WA 98504-7012

As required by
the Administrative Procedure Act
Chapter 34.05 RCW

DRAFT

CONCISE EXPLANTORY STATEMENT
AND
RESPONSIVENESS SUMMARY
FOR THE ADOPTION OF
CHAPTER 222-22 WAC Watershed Analysis and the following:
WAC 222-10-030 SEPA Policies for Potentially Unstable Slopes and Landforms,
WAC 222-10-035 Watershed Analysis SEPA Policies,
WAC 222-16-010 General Definitions,
WAC 222-16-050 Classes of Forest Practices, and
WAC 222-20-080 Application and Notification Expiration

Prepared by: Sherri Felix
May 2011

Introduction

In 2007 and 2009 significant storms in western Washington produced intense precipitation events coinciding with a large number of landslides in particular areas. Some of these landslides occurred on slopes within watersheds with approved watershed analysis mass wasting prescriptions. These storm events prompted concern by the Forest Practices Board (board) about the use and review of watershed analysis prescriptions.

The board's rule proposal is based on recommended rule language from the Forest Practices Adaptive Management Program (AMP). The AMP's recommendation was in response to a request from the board to review the watershed analysis prescription review process. The board's request to AMP was based on consensus recommendations from the board's Watershed Analysis Subcommittee. These documents can be found at http://www.dnr.wa.gov/Publications/bc_fp_materials_20101109.pdf in file number 8.

The proposal is intended to ensure watershed analysis prescriptions continue, to the greatest extent possible over time, to address the potential for adverse effects from forest practices activities on the resources protected under the Forest Practices Act and rules. So the focus of the rule proposal is to address gaps in the current watershed analysis review process by implementing new standards to keep watershed analysis prescriptions current over time. To accomplish this, the proposed rule changes would initiate the following:

- Department of Natural Resources (department) review of approved watershed analysis prescriptions every five years. The purpose of the review is to determine which if any prescriptions need to be reanalyzed.
- Department notification to landowners in the watershed that a reanalysis of the identified prescriptions is necessary.

- Landowner opportunity to reanalyze the prescriptions identified by the department.
- Department authority to classify and condition under standard rules those forest practices applications within the geographic area where a reanalysis is occurring.
- Department authority to rescind the prescriptions that are not reanalyzed. The rescinded prescriptions are then replaced by the standard rules.
- Expiration of existing interim and draft prescriptions upon the effective date of the rule.

Differences Between Proposed and Final Rule

Other than minor edits for clarity, the final rule differs from the proposed rule in the following circumstances. The changes are specific to WAC 222-22-080 (5) and (6) and WAC 222-22-090 (2).

1. SEPA review of a watershed analysis or reanalysis is completed within the 30 day timeframe for approving or disapproving the watershed analysis.
2. Existing interim and draft watershed analysis prescriptions expire upon the effective date of the rule and a new draft watershed analysis or reanalysis expires if SEPA is not completed.
3. Applications and notifications are not conditioned with interim or draft prescriptions.

Comments

The board received comments on its watershed analysis rule proposal from Rayonier Timberlands, West Fork Timber Company, Longview Timberlands LLC, Washington Forest Protection Association, and Hancock Forest Management. All comments were in favor of the rule.

Commenters noted the rules take into account existing habitat conservation agreements that require watershed analysis reviews, provide a long-term regulatory process for reviewing and incorporating changes to prescriptions, and ensure continued protection of resources. Also noted was the collaborative approach utilized in the rule making process.

Public Involvement Opportunities and Rule Making Schedule

March 31, 2009	Special Board meeting
October 12, 2009	Board's Watershed Analysis Subcommittee meeting
October 19, 2009	Watershed Analysis Subcommittee meeting
November 20, 2009	Watershed Analysis Subcommittee meeting
January 8, 2010	Watershed Analysis Subcommittee meeting
January 20, 2010	Watershed Analysis Subcommittee meeting
March 26, 2010	Special Board meeting
May 6, 2010	Stakeholder development of proposed language begins and continues throughout rule making schedule
August 26, 2010	Rule making schedule starts: Preproposal Statement of Inquiry (CR-101) published in the Washington State Register (WSR 10-18-044)
Nov 10-Dec 13, 2010	Thirty day review of draft language by counties and Department of Fish and Wildlife (per RCW 76.09.040(2)) and affected Indian tribes

February 11, 2011	Proposed Rule Making (CR 102) published in the Washington State Register (WSR 11-05-062)
March 16, 2010	SEPA checklist and determination distributed
March 24, 2011	Public hearing in Ellensburg
March 30, 2011	Public hearing in Olympia
March 31, 2011	Public hearing in Sedro Woolley
April 1, 2011	Due date for public comments

Adoption

The expected adoption date of the rule is May 10, 2011. The rule would then become effective thirty days after filing with the Office of the Code Reviser.

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March 28, 2011

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e-mail: forest.practicesboard@dnr.wa.gov

Patricia Anderson,

The City of Bellingham supports the Forest Practices Board proposal to amend the rules that will keep watershed analysis prescriptions current with watershed conditions, science and research. Forest lands both public and private account for almost two thirds of the land use in the Lake Whatcom watershed which is the City's water supply reservoir. The Department of Natural Resources' Lake Whatcom Landscape Management Plan provides forest practice prescriptions to protect lake water quality but only for forest activities on public lands. The City welcomes a process for reanalysis of forest practices on private lands in the watershed.

Clare Fogelsong

Clare Fogelsong, Environmental Resources Manager
City of Bellingham
778 7965

Hancock Forest Management®

A Division of Hancock Timber Resource Group, A Manulife Asset Management Company

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March 30, 2011

Patricia Anderson, FPB Rules Coordinator
Department of Natural Resources
Forest Practices Division
PO Box 47012
Olympia, WA 98504-7012

Forest Practice Board Chairman,

Honorable Peter Goldmark,

Representing Hancock Forest Management and the Hancock Timber Resource Group, I want to submit comments to the WA Forest Practices Board regarding the changes to forest practice rules on biomass, watershed analyses and riparian open space.

We appreciate the pragmatic and collaborative approach your staff and the Department of Natural Resources has undertaken to make these changes. Regarding the riparian open space program changes, it is encouraging that the collective stakeholder group has acknowledged that there is considerable value in timberland habitats that support terrestrial wildlife species. Regarding the incorporation of biomass into the definition of forest practices displays your support of a long-lived continuing industry and use of sound reasoning support the timber industry as a whole. Incorporating biomass harvest into the forest management regime presents us with unique opportunities to easily address three challenging needs regarding restoring forest health, fire resiliency and wildlife habitat, finding renewable energy alternatives, and revitalizing rural economies. Regarding watershed analyses, we believe the approach selected will provide a long-term process framework that provides certainty that a set of regulatory procedures are maintained for reviewing and incorporating changes to established prescriptions.

Thank you again for your continued support of the timber industry.

Sincerely,

Tim McBride

Longview Timberlands LLC
P.O. Box 667
10 International Way
Longview, WA 98632
Phone (360) 442-4350
Fax (360) 575-5932

March 30, 2011

Patricia Anderson
Forest Practice Rules Coordinator
Washington Department of Natural Resources
PO Box 47012
Olympia, WA 98504-7012

Submitted via electronic mail

Re: Public Comment on revisions to WAC 222 as it relates to forest biomass harvest, watershed analysis reviews, and the addition of threatened or endangered species habitat in the Riparian Open Space Program.

Dear Ms. Anderson:

Longview Timberlands, LLC would like to provide the following comments on the three areas of proposed rule changes of WAC 222 being considered by the Forest Practice Board:

Forest Biomass Harvest

Longview Timberlands supports the proposed rule changes that clarify biomass harvest as a forest practice. Longview Timberlands has always recognized that these operations should be covered under the State's Forest Practice Rules and any biomass operations have been conducted accordingly. Given the significant amount of controversy surrounding many aspects of the biomass issue, it is critical the Forest Practice Board and the Department of Natural Resources be able to clearly communicate that these activities as they are conducted in the woods are regulated in the same fashion as other activities, and that all of the ancillary regulations, such as road maintenance, apply to these activities.

Watershed Analysis Reviews

Longview Timberlands supports the proposed rule change addressing watershed analysis reviews. While the rule proposal before the Forest Practice Board was not arrived at easily, it represents a solid compromise that ensures that public resources will continue to be protected while preserving existing options within the current rules for use of the watershed specific prescriptions.

As the Board Manual for the review process becomes finalized, Longview Timberlands will evaluate the prescriptions for the watersheds that we own lands in and determine if we will engage in re-analysis as a sponsor or co-sponsor, should the Department of Natural Resources request a re-analysis.

It is important to recognize, in particular during these difficult economic times, that one of the changes in this rule proposal transfers the cost of implementing the review process from the Department of Natural Resources to the landowners sponsoring the reviews.

Riparian Open Space Program

Longview Timberlands supports the proposed rule change adding forest lands containing critical habitat for threatened or endangered species as designated by the Forest Practice Board to be eligible for the Riparian, now Rivers and Habitat, Opens Space Program. This rule will not only create the possibility of State funding to secure the ecosystem values in these lands, but it also opens up funding from other programs previously not feasible for landowners due to federal valuation policies. This combined effect of adding potential revenue and at the same time removing a barrier to existing revenues is exactly the kind of incentive programs forest landowners are looking for.

Sincerely,

Adrian Miller
Manager of Policy and Sustainability