

**Regular Board Meeting – February 10, 2016**  
 Natural Resources Building, Room 172, Olympia

**Please note:** All times are estimates to assist in scheduling and may be changed subject to the business of the day and at the Chair’s discretion. The meeting will be recorded.

**DRAFT AGENDA**

9:00 a.m. - 9:05 a.m.	<b>Welcome and Introductions</b> Safety Briefing – Patricia Anderson, Department of Natural Resources (DNR)
9:05 a.m. - 9:10 a.m.	<b>Approval of Minutes</b> <i>Action: Approve November 10, 2015, meeting minutes.</i>
9:10 a.m. – 9:25 a.m.	<b>Report from Chair</b>
9:25 a.m. – 9:40 a.m.	<b>Public Comment</b> – <i>This time is for public comment on general Board topics. Comments on any Board action item that will occur later in the meeting will be allowed prior to each action taken.</i>
9:40 a.m. – 10:00 a.m.	<b>Board Manual Section 16 Unstable Slopes Update</b> – Marc Ratcliff, DNR
10:00 a.m. - 10:10 a.m.	<b>Public Comment on Proposal Initiation</b>
10:10 a.m. – 10:30 a.m.	<b>Proposal Initiation for Unstable Slopes</b> - Marc Engel, DNR <i>Action: Consider proposal initiation for the Adaptive Management process.</i>
10:30 a.m. – 10:45 a.m.	<b>Break</b>
10:45 a.m. – 11:00 a.m.	<b>Adaptive Management Program Budget</b> – Hans Berge, DNR
11:00 a.m. – 11:10 a.m.	<b>Public Comment on Master Project Schedule</b>
11:10 a.m. – 11:30 a.m.	<b>2015-2017 Biennial Master Project Schedule Check-in</b> - Hans Berge, DNR <i>Action: Consider authorizing CMER to spend General Fund-State money on priority projects.</i>
11:30 a.m. – 12:00 p.m.	<b>TFW Policy Committee’s Type F Update</b> - Adrian Miller, Co-Chair and Hans Berge, DNR
12:00 p.m. – 1:00 p.m.	<b>Lunch</b>
1:00 p.m. – 1:15 p.m.	<b>Public Comment</b> – <i>This time is for public comment on general Board topics for individuals not available to comment in the morning comment period. Comments on any Board action item that will occur later in the meeting will be allowed prior to each action taken.</i>
1:15 p.m. – 2:00 p.m.	<b>Compliance Monitoring 2014 Interim Report</b> – Garren Andrews and Donelle Mahan, DNR
2:00 p.m. – 2:40 p.m.	<b>Selection Process for Committee Co-Chairs</b> <ul style="list-style-type: none"> <li>• <b>TFW Policy Committee</b> - Adrian Miller, Chair</li> <li>• <b>CMER</b> – Todd Baldwin and Doug Hooks, Co-chairs</li> <li>• <b>TFW Cultural Resources Roundtable</b> – Jeffrey Thomas and Karen Terwillegger, Co-chairs</li> </ul>

Future FPB Meetings

**Next Meeting:**

**Check the FPB Web site for latest information:** <http://www.dnr.wa.gov/>

**E-Mail Address:** forest.practicesboard@dnr.wa.gov

Contact: Patricia Anderson at 360.902.1413

2:40 p.m. – 2:55 p.m.	<b>Northern Spotted Owl Status Review Update</b> – Joe Buchanan, Washington Department of Fish and Wildlife (WDFW)
2:55 p.m. – 3:10 p.m.	<b>Staff Reports</b> A. <b>Adaptive Management</b> - Hans Berge, DNR B. <b>Board Manual Development</b> - Marc Ratcliff, DNR C. <b>Compliance Monitoring</b> – Garren Andrews, DNR D. <b>Small Forest Landowner Advisory Committee and Small Forest Landowner Office</b> -Tami Miketa, DNR E. <b>TFW Cultural Resources Roundtable</b> – Jeffrey Thomas and Karen Terwillegger, Co-chairs F. <b>Upland Wildlife Update</b> - Terry Jackson, WDFW
3:10 p.m. – 3:25 p.m.	<b>Break</b>
3:25 p.m. – 3:35 p.m.	<b>Legislative Update</b> – Joe Shramek, DNR
3:35 p.m. – 3:45 p.m.	<b>Public Comment on CMER Membership</b>
3:45 p.m. – 3:55 p.m.	<b>CMER Membership</b> – Hans Berge, DNR <i>Action: Consider approval of nominee.</i>
3:55 p.m. – 4:05 p.m.	<b>Overview of Board’s Operations and Procedures Rules Making</b> – Marc Engel, DNR
4:05 p.m. – 4:15 p.m.	<b>Public Comment on the Board’s Operations and Procedures Rule Making</b>
4:15 p.m. – 4:30 p.m.	<b>Board’s Operations and Procedures Rule Making</b> - Marc Engel, DNR <i>Action: Consider rule making.</i>
	<b>Executive Session</b> <b>To discuss anticipated litigation, pending litigation, or any other matter suitable for Executive Session under RCW 42.30.110</b>

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**FOREST PRACTICES BOARD**  
**Regular Board Meeting**  
November 10, 2015  
Natural Resources Building, Room 172  
Olympia, Washington

**Members Present**

Stephen Bernath, Chair, Department of Natural Resources  
Bill Little, Timber Products Union Representative  
Bob Guenther, General Public Member/Small Forest Landowner  
Brent Davies, General Public Member  
Court Stanley, General Public Member  
Dave Herrera, General Public Member (participated 9 a.m. – 3 p.m.)  
Heather Ballash, Designee for Director, Department of Commerce (participated by telephone)  
Joe Stohr, Designee for Director, Department of Fish and Wildlife  
Patrick Capper, Designee for Director, Department of Agriculture  
Tom Laurie, Designee for Director, Department of Ecology  
Paula Swedeen, General Public Member

**Members Absent**

Carmen Smith, General Public Member/Independent Logging Contractor  
Dave Somers, Snohomish County Commissioner

**Staff**

Marc Engel, Forest Practices Acting Division Manager  
Jim Heuring, Forest Practices Acting Assistant Division Manager  
Patricia Anderson, Rules Coordinator  
Phil Ferester, Senior Counsel

**WELCOME AND INTRODUCTIONS**

Stephen Bernath called the Forest Practices Board (FPB or Board) meeting to order at 9:05 a.m. Introductions of Board and staff were made.

**EXECUTIVE SESSION**

The Board convened executive session from 9:10 a.m. – 10:00 a.m.

**APPROVAL OF MINUTES**

**MOTION:** Tom Laurie moved the Forest Practices Board approve the August 11 and October 27, 2015 meeting minutes.

**SECONDED:** Bob Guenther

Board Discussion:

Brent Davies noted that the August meeting minutes did not reflect her request to Adrian Miller for a Type N update in which he had agreed to do so.

**ACTION:** Motion passed unanimously.

## **REPORT FROM CHAIR**

Stephen Bernath provided an update on the following:

- 2015 Wildfire Season
- 2016 Budget Proposals
- Forest Practices Division staffing changes
- U.S. Fish and Wildlife Service's concerns on water typing

## **PUBLIC COMMENT**

Marc Gautier, Upper Columbia United Tribes, said he appreciated the field tour but thought it was lacking the participation of the other members from ID teams. He suggested the Board hear from the other members used on ID teams to help further the Board's discussion. He also commented on the Type F/N break, off-channel habitat field site, the use of electrofishing, and timing of protocols surveys.

Ken Miller, Washington Farm Forestry Association (WFFA), shared his perspective as a small landowner on the water typing field tour. He said it is a complex process for small landowners and by retaining oversized fish buffers even further upstream would negatively impact small landowners on an economic viability standpoint.

Chris Mendoza, Conservation Caucus, spoke on the August Board motion regarding Board Manual Section 16, specifically the document he submitted highlighting use of emphases language not incorporated in the Board Manual. He acknowledged some language was retained; however, he still disagrees with staff recommendations on the use of emphases language throughout the Board Manual based on being too prescriptive or rule like. He indicated other Board Manual sections include "should" rather than "may", and encouraged the Board to review those sections.

Holly Koon asked the Board to not approve Board Manual Section 16 as written. She presented LiDAR images of the North Zender timber sale illustrating the units in the middle of a deep-seated landslide. She also indicated that the Forest Practices Application (FPA) did not account for any impacts from potential landslides. She urged the Board to use up-to-date science and choose human safety as the priority outcome when amending Board Manual Section 16.

Wyatt Golding, Washington Forest Law Center (WFLC), spoke on the North Zender timber sale as the representative of the landowners, specifically about the FPA approval and the importance of what LiDAR can reveal. He also expressed the reasonable fear that people have living in that area. He asked the Board to think about living below the slope and the level of regulatory precaution they would want if that was their family.

Peter Goldman, WFLC, urged the Board to direct the Adaptive Management Program and DNR to address reforming the inadequate rules, guidelines, screening, and enforcement policies governing forest practices conducted on potentially steep and unstable slopes. He said the forest practice regulatory system, which is supposed to be based on science and sound public policy is failing public safety.

Elaine Oneil, WFFA, provided an update on their continued work in developing an Eastside riparian template proposal. She said they hope to present it to the Board at their February 2016 meeting.

Mary Scurlock, Conservation Caucus, said they appreciated the Board taking time to discuss stream typing and related issues on October 27<sup>th</sup>. She suggested as these issues develop, the Board should have a presentation that depicts a wider range of example sites. She also shared their concern that Board Manual Section 13 needs clarification regarding survey timing to recognize situations where the current general timing of March 1 to July 15 may not be appropriate and clarifications about conditions under which electrofishing should be generally considered inappropriate. She also shared their perspective on existing difficulties in implementing off-channel habitat.

Karen Terwilleger, Washington Forest Protection Association (WFPA), provided observations related to the water typing field tour on October 27. She said landowners rely on protocol surveys because the defaults are extremely inaccurate and overly protective. She said changes to rules must be based on science and not interpretation of the Forests and Fish Report or the Habitat Conservation Plan.

Kevin Godbout, Weyerhaeuser, asked the Board to be mindful of the legislative intent as described in RCW 76.09.010 when deliberating on the individual topics on the agenda today, specifically Board Manual Section 16, fish use determination, and the Northern spotted owl.

### **OCTOBER 27 FIELD TOUR RECAP**

Stephen Bernath said the purpose of the field tour was to provide the Board with a basic understanding of how the current water typing rule and guidance is implemented today. He said over the next year the Board should have ongoing discussions on different aspects of water typing to be better prepared for decision making in November 2016.

Patrick Capper stated that he appreciated being able to gain “boots on the ground” experience and see what he has been reading in the Board Manual section. He thanked the Board Chair and staff for the opportunity.

Paula Swedeen echoed Capper’s appreciation and said that it makes a big difference to see what it is like in the field. She mentioned some frustration from some members of the public that were not allowed to speak. She suggested that the next field tour allow for comments from public members.

Bob Guenther said he appreciated the opportunity to be out in the field. He said it was an enlightening experience in showing the efforts being made to keep a vibrant timber industry going and realizing the importance of using the manual and working within the constraints of the environmental community. He suggested having a similar tour showing what challenges small forest landowners have.

Brent Davies said she appreciated seeing the challenges and the issues in order to better understand the differences, and how best to work through them. She also suggested a future tour on the eastside.

Dave Herrera said he enjoyed the field tour and it reminded him of when he was a habitat tech doing similar type work. He said the experience will help make those decision easier as the Board moves forward in the next year. He also appreciated hearing the discussion amongst DNR staff on how they conduct their jobs in looking at applications and maps that might help callout areas the application might not have previously identified.

Court Stanley echoed Herrera's statements and agreed with Guenther's suggestion for a small forest landowner field tour.

#### **PUBLIC COMMENT ON BOARD MANUAL SECTION 16 UNSTABLE SLOPES**

Ken Miller, WFFA, said with the complexities of the unstable slope issues, they are eager to join DNR to help with any legislative efforts that would help DNR's small landowner office regain staffing to provide technical assistance to small landowners.

Kara Whitaker, Conservation Caucus, requested the Board postpone approval of Board Manual Section 16 and direct DNR to establish caucus appointed qualified expert geologists to further revise the manual to address the inadequacies referenced today.

Paul Kennard, Conservation Caucus, urged the Board to add the shallow rapid coarse screen to Board Manual Section 16. He said it is an easy to use science-based tool and designed to be used by practicing foresters with little or no geology background.

Chris Mendoza, Conservation Caucus, said they do not support approval of Board Manual Section 16 because of inconsistent use of "emphasis" language throughout different Board Manual sections, and asked that the revisions made to the expert panel's language directly addressing content be restored to what the panel had originally envisioned.

Peter Goldman, WFLC, urged the Board to not approve Board Manual Section 16, but instead postpone consideration until the Board's February meeting. During that time, DNR should only permit a panel of neutral geologists to participate in rewriting the Board Manual. He also said the manual is not good enough for training purposes and fails to follow the science and protect the public as best as possible.

Wyatt Golding, WFLC, stated that the Board Manual needs to contain clear instructions and screening tools to be effective. He believes the Board Manual can contain advice including using words such as "should" and "must". He also said avoiding liability when there are mistakes is not a valid legal or policy reason to water down guidance.

Lisa Remlinger, Washington Environmental Council, said she wanted to acknowledge and thank staff for their time spent working through the Board Manual. She asked the Board to postpone approval of the Board Manual and continue working through the issues.

Max Duncan urged the Board to not approve Board Manual Section 16. He asked the Board to remand it back to the group to address the complexity of movement and triggering mechanisms that do not allow for simple predictive models.

Heather Swanson asked the Board to not approve the Board Manual as proposed and approve a manual that is based on science with a cautionary approach rather than a revenue-seeking approach to logging on steep or unstable slopes.

Holly Koon expressed her opinion on what she considers a false dichotomy that is raised during discussions of risk management which is to pit a cautionary approach against economic vitality or viability. She said they are one and the same.

Mark Doumit, WFFPA, said they support the approval of Board Manual Section 16. He said an updated version is needed to provide training and outreach to field personnel.

Karen Terwilleger, WFFPA, urged the Board to approve the Board Manual to allow training and field implementation to begin.

**PUBLIC COMMENT** (afternoon)

Vic Musselman, WFFA, spoke in support of WFFA's proposed Westside template. He said that the proposed template poses less risk to all parties than an alternate plan.

Chris Mendoza, Conservation Caucus, shared his concerns on the change in reporting requirements for compliance monitoring which results in a roll-up of information. He indicated that this technique results in an overall compliance rating versus identification of rules that may be problematic. He said he has shared his concerns with Donelle Mahan and Garren Andrews.

Kara Whitaker, Conservation Caucus, spoke about the Northern Spotted Owl Implementation Team (NSOIT) and how slow the process is going. She urged the Board to take action that will help kick start the NSOIT and to support funding for future modeling efforts.

**BOARD MANUAL SECTION 16 UNSTABLE SLOPES**

Marc Ratchiff, DNR, requested the Board's approval of Board Manual Section 16, *Guidelines for Unstable Slopes and Landforms*. He said that the manual now includes guidance for estimating runoff and delivery from potentially unstable landforms and addresses comments raised at the August 2015 meeting by the conservation and landowners caucuses.

He also said that Section 16 provides information to help general practitioners identify when further investigations are needed by a qualified expert. Given this high standard, DNR leaves it up to the qualified expert to determine the likelihood of an adverse environmental impact related to a proposed forest practice.

Marc Engel, DNR, reviewed the rules regarding potential unstable slopes and landforms to better understand the purpose of the proposed Board Manual section. He outlined the necessary analysis required by a qualified expert for certain Forest Practices Applications that have the potential to deliver sediment or debris to a public resource (water) or has the potential to threaten public safety.

He also outlined the Board Manual development process which serves as an advisory technical supplement to the rules.

He said the Board needs to carefully consider all requests brought to the Board to determine which path is appropriate - rule versus Board Manual. He said if a request requires mandatory language requiring specific actions, then the Board should request staff to initiate the rule making process, which in this case would be the preparation of a proposal initiation from the Board to the Adaptive Management Program Administrator.

Engel said the approach in amending Board Manual Section 16 was to assure development of guidance for evaluating potentially unstable slopes and landforms as identified in the Board's rules, not apply a precautionary principle to landslide hazard assessment.

He indicated that several proposed additions were presented and discussed, but not included in the draft. Each of these additions were intended to add clarity to guidance already included in the manual. He said the primary discussions involved the qualified experts and agreement could not be reached over the value of these requested additions because of their focused direction resulted in required work and decisions. Specifically, DNR determined not to include the landslide assessment decision pathway because of its prescriptive approach and the inability of the stakeholder group to amend it as guidance and did not include the shallow rapid coarse screen based on the Tolt Watershed Analysis Mass Wasting Prescription. He said due to insufficient time to discuss and complete, the complex, or composite rotational deep-seated landslides screening material and the coarse screen for deep-seated landslide runout were not incorporated into Section 16.

He concluded by recommending that the proposed Board Manual Section 16 be approved.

Bill little asked if the differences could be worked out. Engel responded it would depend on the time frame needed to reconvene a stakeholder group.

Stephen Bernath asked what the intent is for the Department's review of forest practices on or near unstable slopes. Engel responded to ensure that the analysis is completed and that it addresses the potential for influence on those identified unstable features and to determine if failure occurs, there is no delivery to a public resource or threaten public safety.

Bernath asked if the conservation caucus' concerns outlined in the letter dated November 9, 2015 are Board Manual issues. Engel responded to the seven items listed on page 3 in which several of the concerns would need to go through the adaptive management process in the form of a proposal initiation. A couple of concerns could be reviewed with additional stakeholder meetings.

**MOTION:** Court Stanley moved the Forest Practices Board approve Board Manual Section 16, Guidelines for Evaluating Potential Unstable Slopes. He further moved the Board allow staff to make minor editorial changes if necessary prior to distribution.

**SECONDED:** Bob Guenther

Board Discussion:

Paula Swedeen proposed delaying approval until February 2016 and to add some parameters on what is expected for the draft. She also suggested to begin the rule making process for rule identified landforms.

Brent Davies echoed Swedeen's comments and recommended approval at the February 2016 meeting.

Dave Herrera said he does not want to use the Board Manual process to develop a rule. He would like staff to determine what they believe to be rule, and start the rule making process.

Court Stanley said the draft document is good and supports the motion. He said before amending further he would like to wait a year to test the process to see how it is working and provide a revised version in November 2016.



Tom Laurie said he supports the motion and would like work to continue on the manual as well as consider the adaptive management process for recommendations on additional guidance and/or rule making.

Bill Little said he supports the motion.

Bob Guenther also supports approving the draft today and agrees with Stanley to test it for a year.

Patrick Capper said he defers to staff's recommendation to move forward.

Heather Ballash said she agrees with Laurie and does not want to lose the momentum and would like work to continue on the manual.

Joe Stohr said he supports continuing the discussions to seek consensus on rule versus guidance.

Bernath asked if there are any limitations for staff on continuing to work on the Board Manual and provide training. Engel responded that the best approach would be to approve the draft today for training purposes and identify potential additions to the Board Manual.

Laurie proposed approving the draft today, identify a short term work plan on some specific items to incorporate into the manual and refer items to the adaptive management program.

Board discussion continued on whether to amend the motion.

Court Stanley supported by Bob Guenther amended his motion to include:

He further moved that items (conservation caucus comment letter dated November 9, 2015) near resolution will be addressed by a Board Manual committee by the February 2016 board meeting. The committee will be convened by DNR staff to only include qualified experts.

He further moved that items that are not near resolution and may need either more science or rule making will be brought back to the Board at the February 2016 Board meeting as a proposal initiation with a recommendation to the Adaptive Management Program Administrator.

Stanley finally moved that the DNR report back to the Board for review at the November 2016 meeting.

Board Discussion:

Paula Swedeen suggested that discussion occur between staff and all the caucuses to determine which items need to go through the adaptive management program.

Joe Stohr said he may not support the motion because he is concerned that there will not be pressure on the system to get the easier fixes done.

Marc Engel said that a meeting could be held soon between DNR, conservation caucus and the landowner caucus to discuss all of the issues and determine which can be pursued within this short amount of time.

**ACTION:** Motion passed unanimously.

#### **PUBLIC COMMENT ON MASTER PROJECT SCHEDULE**

None.

#### **2015-2017 BIENNIAL MASTER PROJECT SCHEDULE CHECK-IN**

Hans Berge, DNR, requested the Board's approval to reallocate unspent funds to six prioritized projects. He said the Adaptive Management Program received \$5.9 million general fund state dollars for the biennium and there are strict limits on spending these funds. He said there is no flexibility to carry funds over even if there is a positive variance. He reviewed the six projects:

1. CMER access to scientific literature databases. Cost: \$34,275.
2. Wetland mapping tool. Cost: \$80,000.
3. Eastside modeling evaluation project. Cost: \$65,000
4. Personal service agreements for up to \$10,000 for a technical editor.
5. Personal services agreement for up to \$10,000 for a statistician.
6. Equipment purchases for the Eastern Washington Type N Riparian Effectiveness Prescription and Roads BMP Effectiveness studies.

**MOTION:** Tom Laurie the Forest Practices Board approve the reallocation of unspent funds to the six prioritized projects identified in Hans Berge's memo dated November 9, 2015.

**SECONDED:** Heather Ballash

**ACTION:** Motion passed unanimously.

Due to time constraints the following were moved to the February 2016 meeting.

- Compliance Monitoring 2014 Interim Report
- TFW Policy Committee's Type F Matrix Update
- Non-Point Source Plan Update
- Selection Process for Committee Co-Chairs
  - TFW Policy Committee - Adrian Miller, Chair
  - CMER – Todd Baldwin and Doug Hooks, Co-chairs
  - TFW Cultural Resources Roundtable – Jeffrey Thomas and Karen Terwilleger, Co-chairs
- Northern Spotted Owl Status Review Update – Kevin Kalasz, Washington Department of Fish and Wildlife (WDFW)
- Staff Reports
  - A. Adaptive Management - Hans Berge, DNR
  - B. Board Manual Development - Marc Ratcliff, DNR
  - C. Compliance Monitoring – Garren Andrews, DNR
  - D. Small Forest Landowner Advisory Committee and Small Forest Landowner Office -Tami Miketa, DNR
  - E. TFW Cultural Resources Roundtable - Jeffrey Thomas and Karen Terwilleger, Co-chairs
  - F. Upland Wildlife Update - Terry Jackson, WDFW

## **PUBLIC COMMENT ON PETITION FOR RULE MAKING**

None.

## **WESTERN GRAY SQUIRREL PETITION FOR RULE MAKING**

Marc Engel, DNR, reviewed the petition for rule making process with the Board.

Terry Jackson, WDFW provided an update on the periodic status review of the Western gray squirrel.

Engel said that DNR and WDFW staff recommend the Board deny the petition and revisit next steps at their May 2016 meeting, at which time WDFW's status review will be completed.

**MOTION:** Joe Stohr moved that the Forest Practices Board deny the rule petition pertaining to the Western Gray Squirrel at this time. He further moved the Board revisit the status and possible next steps for protection of the Western Gray Squirrel at their May 2016 meeting when WDFW's periodic status review will be final and the Western Gray Squirrel Annual Report to the Board will be presented.

**SECONDED:** Bill Little

**ACTION:** Motion passed unanimously.

## **PUBLIC COMMENT ON BOARD'S 2016 WORK PLAN**

Ken Miller, WFFA, invited the Board to have a field visit on his property to better visualize issues around the alternate harvest prescriptions for small forest landowners. He asked the Board to add it to their 2016 Work Plan.

Peter Goldman, WFLC, asked the Board to develop a measured response to protecting the Northern spotted owl. He also suggested a future discussion on whether the rules governing public safety should go through the adaptive management program.

## **2016 WORK PLANNING**

Marc Engel, DNR, reviewed the draft 2016 Work Plan with the Board.

As a result of today's actions, the following was added to the Work Plan:

- Board Manual Section 16
- Proposal Initiation to review Unstable Slopes rules and guidance due February

**MOTION:** Brent Davies moved the Forest Practices Board approve the 2016 Proposed Work Plan as amended today.

**SECONDED:** Bill Little

**ACTION:** Motion passed unanimously. (Herrera not available for vote.)

Meeting adjourned at 3:50 p.m.



## MEMORANDUM

January 28, 2016

TO: Forest Practices Board

FROM: Marc Ratcliff *MR*  
Forest Practices Policy Section Manager

SUBJECT: Board Manual Section 16, *Guidelines for Evaluating Potentially Unstable Slopes and Landforms* – Status of review of additional items requested for inclusion

At the November 2015 Board meeting, the Board directed DNR staff to re-convene a qualified expert board manual stakeholder group to address requested items the Conservations Caucus believes are missing from Board Manual Section 16. In addition, the Board asked DNR staff to prepare a Proposal Initiation for Board approval identifying those requested items needing further review by the Adaptive Management Program.

DNR was able to convene three meetings of the board manual qualified expert stakeholder group to review and discuss two of the six requested documents for consideration for inclusion in the board manual guidance. The qualified expert group was able to review the requested guidance in the *Complex or Composite Rotational Deep-Seated Landslides* and *Methods for Deep-seated Landslide Runout Assessment* documents and they were successful in identifying and recommending for inclusion some of this material into Section 16. DNR will continue to convene the qualified expert stakeholder group to review and discuss the additional requested documents for potential inclusion in the manual section, with an anticipated approval of this material at the May Board meeting. Staff is not recommending amendments to Section 16 at this time.

A meeting with interested TFW Policy Committee stakeholders was held on January 12 to address additional concerns and remaining materials not incorporated into the manual prior to the Board's approval in November. The result of this meeting helped specify which items DNR will include in a Proposal Initiation for Board approval for review through the Adaptive Management Program.

I will be available to provide further information and answer any questions. Please feel free to contact me at 360.902.1414 or [marc.ratcliff@dnr.wa.gov](mailto:marc.ratcliff@dnr.wa.gov).

MR



**Timber, Fish, & Wildlife Policy Committee**  
**Policy Co-Chair:**  
Adrian Miller, Olympic Resource Management

January 20, 2014

TO: Forest Practices Board

FROM: Adrian Miller, Co-Chair

SUBJECT: TFW Policy Committee Quarterly Update since August 2015 and Year-End Report

The Timber, Fish, & Wildlife Policy Committee (Policy) continues to manage a full workload driven by internal process deadlines and priorities directed by the Forest Practices Board. The major topics are summarized below.

### **Existing Priorities**

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#### **Water Typing**

##### Type F

Policy is narrowing our focus around 5 tranches of topics associated with Type F: electrofishing, off channel habitat, default physicals criteria, habitat, and restorability. While the progress on these specific topic areas is highly variable, they are all necessary components to be discussed if we are to reach consensus on a set of actions for the Board to consider by the November 2016 meeting for a permanent water typing rule.

Policy successfully convened the Electrofishing Workshop in January 2015 and two field trips dedicated to off-channel habitat, one on the westside (March 2015) and one on the eastside (April 2015). Policy also delegated much of the electrofishing technical work to a technical group, which first convened on October 5 and has met again on several dates, though their work is not yet complete. TFW Policy reviewed and approved the technical group's purpose statement acknowledging that it did not address all issues associated with this topic. To date, the subgroup has developed a list of questions from Policy to address that they view are within the scope of the approved purpose statement.

Policy also reviewed and approved the AMPA's recommendations for the Off-Channel Habitat Proposal Initiation submitted by the DNR caucus. This includes both Science and Policy adaptive management tracks. While each task has separate timeframes, we anticipate a six month time horizon for completing the agreed to tasks, and then an additional few months for a "hybrid" track that incorporates science and policy. Based

TFW Policy's direction for this work and the established Board Manual time frames, the soonest TFW Policy would be able to provide recommendations related to off channel habitat will be at the May 2016 Board meeting and the latest would be the August 2016 Board Meeting.

Policy caucuses agree that the existing direction from the Board does not comprehensively address all caucuses' issues surrounding water typing. At the same time, there is general agreement that the focus on the discrete issues of "off-channel habitat" and "the use of electrofishing in conducting protocol surveys" has been helpful in moving the larger issue forward.

Policy is discussing how to evaluate the physicals component of the existing rule within the context of meeting the Board's stated goal of a new permanent water typing rule.

Policy is also discussing how to address the suite of questions and issues not captured within the scope of the electrofishing group and is currently exploring ways to bridge the concepts of habitat and restorability that are part of the existing rules to a conceptual approach that hinges on field based methods for determining the F/N break. These are fledgling discussions and while this is the current framework of the discussion, it should not be read to infer that there is consensus on this approach and thus these two topic areas have yet to be identified within the matrix.

Due to the amount of work required to adequately address all aspects of getting to a new permanent water typing rule, Policy anticipates spending much of 2016 focused on Type F discussions, as outlined in the attached matrix.

#### Type N

Policy has been inactive on Type N due to the Board's direction to focus on Type F. The remaining issue surrounds the development of "wet season defaults" for identifying the Upper-Most Point of Perennial Flow (UMPPF).

#### **CMER Work**

##### Work from TWIGs and/or SAGs

- Received and approved the study objectives, problem statement, and critical research questions for the Unstable Slopes TWIG.
- Received draft study objectives, problem statement, and critical research questions for the Eastside Type N Riparian Effectiveness Project TWIG, and provided redirection to the TWIG.
- Received draft study objectives, problem statement, and critical research questions for the Forested Wetlands Effectiveness Program TWIG, and provided redirection to the TWIG. Upon receipt of a revised memo outlining the objectives, problem statement, and critical research questions, Policy approved with considerations for the TWIG in developing the BAS Alternatives Analysis.
- Approved the Riparian Scientific Advisory Group (RSAG) to develop a feasibility study for vegetation remote sensing tools.

##### CMER studies

- Received and took action on the *Effects of Forest Roads and Tree Removal In or Near Wetlands of the Pacific Northwest: A Literature Synthesis*.

- Received and supported the *Wetlands Research and Monitoring Strategy: Forest Practices and Wetlands*.

### CMER Budget

Policy receives regular budget and progress updates from the AMPA and CMER Project Managers. In April 2015, Policy reviewed and approved the 2015-17 biennial budget. Many Policy caucuses participated in the multi-stakeholder legislative effort that ended in a successful budget allocation for the current fiscal year. In the fall, Policy discussed that the budget was not being spent at the anticipated rate, and is working to identify ways to use the funding in a timely manner. TFW Policy will provide any recommended changes to the 2015-2017 biennial budget at the May Forest Practices Board meeting.

### **New Work**

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#### **Small Forest Landowners' Alternate Template**

In spring 2015, the Board received a proposal initiation from the Small Forest Landowners (SFLOs) caucus to develop an alternate template for westside harvest. The AMPA presented Policy with recommendations for both policy and technical tasks, and a Policy subgroup formed to address the policy tasks. The subgroup Co-Chairs have met a few times to organize themselves and the task at hand, and convened two subgroup meetings in fall 2015. Due to this being an additional workload priority, the Board directed Policy to work on this issue only if time is available after having been prioritized for Type F discussions. It is our understanding that the SFLOs intend to also ask for an eastside alternate template, which will likely incorporate lessons learned from the westside template.

### **Upcoming Work in 2016**

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- Type F (including electrofishing, off-channel habitat, criteria for physicals, and others),
- Type N Experimental Buffer Treatment Study,
- SFLOs Westside Alternate Template,
- UMPPF Board Manual completion, and
- Additional CMER studies coming to Policy (timelines and specific studies unknown at this point).

The Policy Committee workload is heavy, yet must also remain sensitive to the changes in various timelines and to new issues as they come up. The capacity for Policy to accept any new work as assigned by the Forest Practices Board or taken on for other reasons could require delaying existing priorities and/or scheduling additional meetings.

Encl: Type F Matrix

cc: Forest Practices Board Liaisons  
TFW Policy

Board Motion Language	Board Motion Language or TFW Policy Identified Task	Status/Plan/Assignee	Target Date	Intermediate Task/Assignee	Target Date	Outcome/Product/Decision maker	Process Informed	Target Date	Final Policy Recommendations	Target Date	
1. Policy is directed to complete recommendations for options on a permanent water typing rule, beginning with two tasks to be completed and reported to the Board at the May, 2014 meeting:	1.a. Development of "best practices" recommendations regarding protocol survey electrofishing, including an evaluation of relevant literature, minimizing potential site-specific impacts to Incidental Take Permit covered species, and options for reducing the overall extent of the surveys' use.	Protocol E-fishing lit synthesis	Aug-15	Cochairs and AMPA present technical group product to Policy to include identification of any gaps in science and any areas of suggested focus in order to identify or address BMPs, methods to minimize survey's use and site specific impacts to ITP species.	Apr-16	Policy take action to propose rule change (may include a proposal initiation that results in new research, a look past research findings, or a policy analysis); guidance change (may include a change in guidance on protocol surveys or how e-fishing is used) or create new training.	Potential: Policy and/or science track (Proposal Initiation response from AMPA); Board Manual changes; training development				
		Evaluation of Lit Synthesis									
		Protocol Survey E-Fishing BMPs	Dec-15	Policy reviews a draft technical group workplan which will include a list of the documents that the technical group will review/consider and also those suggested by Policy that they consider irrelevant. Policy will approve the technical group's workplan with any edits necessary.							
		Minimize potential site specific impacts to ITP species									
		Options for reducing overall extent of survey's use									
	Understanding the use of protocol surveys/Electro Fishing	Conduct a TFW Policy electrofishing workshop to understand the current use of protocol surveys and how electrofishing is being used.	Feb-15								
		WDFW, USFWS, NOAA present the current scientific collection permit process and how E-fishing is permitted.	Jul-15	AMPA work with WDFW, USFWS, NOAA identify potential data sharing opportunities and process to get data from scientific collection permit reports to help develop, confirm, inform model, map and protocol development/assessment	Oct-15						
	1.a.i Not Part of Board Motion - Review of Physicals Criteria		TFW Policy to develop	Feb-16			Policy determine if physical criteria needs to change; determine if rule or Board Manual need to change;				
	1.b. An evaluation of the current rule process to identify off-channel habitat (OCH) under the interim water typing rule, including recommended clarifications in field implementation guidance, or rule language. The evaluation must be based, in part, on field review of approved FPAs and WTMFs.	Evaluate current rule process to id OCH	Policy field tours on westside and eastside to see OCH protection in practice and intial review of rule language by eastside tribes and SFLOs;	Apr-15			TFW Policy approved on October 1, 2015 a modified version of the AMPA's recommendations which includes: 1) Policy subcommittee on existing language, 2) OCH Technical group, 3) OCH WTMF Evaluation subgroup		1) July 2016, 2) April 2016, 3) April 2016		
		Recommend clarifications in field implementation, guidance and/or rule	Policy review the existing guiding language in Act, Rule, and FFR establishing bankfull width and depth to calculate the edge of the stream and OCH, and the start of the riparian management zone								
Field review of approved FPAs and WTMFs.		Perform field reviews of approved FPAs and water type mod. forms; visits to determine if this description adequately covers off channel habitat as currently described in rule.	Apr-15	DNR has developed a proposal review packet with discussion and input from Policy, to move OCH discussions into a formal procedure with timelines.	Oct-15						
		Review the existing science based definitions of OCH connected at bankfull elevation as intended in the forest practices rules and the FFR									
Review OCH description developed during Policy field site visits to determine if it adequately covers OCH as described in rule		Apr-15									
Desktop Review of approved WTMF		DNR and Co Chairs to Develp Specific proposal	Feb-16								
2. AMPA to scope and initiate a pilot project to re-run the existing hydrologic model using LiDAR data, including at least two watersheds (west and east). Objectives include:	2.a. Develop quantitative information about the "footprint" of the interim rule;	Work with GIS experts to develop a scope of work to compare a 10 m DEM and a 2 m DEM that is LiDAR based to evaluate potential improvements of a water typing model.	Execute a contract that compares the original water type model (10 m DEM) to a 2 m LiDAR based DEM in two basins (east and west).	Nov-15		Create Draft GIS hydrography map (based on an updated model) using best available data.	As determined: Develop, revise, and/or update a water-typing model in accordance with the HCP and on which to base the rule of identifying Type F waters.				
	2.b. Compare model-based water type designations to on-the-ground FPAs and WTMFs;		Execute a contract that compares the original model (10 m DEM) and LiDAR based 2 m DEM (see above) with biological survey results from WTMFs.	Nov-15		Identify the technical issues related to the use of the model and map. Twig/Technical group review of model/map issues.					
	2.c. Investigate additional model utility, such as detection of OCH, ability to predict physicals and assess footprint effects from using different physicals;		Test a LiDAR 2 m DEM in the two basins (east and west) to determine if OCH can be predicted. Follow up initial pilot work with field evaluation of physical habitat. Compare field data with remotely sensed data to determine if physical criteria can be predicted.	Dec-15							
	2.d. Provide information that can inform the Board's basic administrative choices among "map-as-rule" vs. "guidance map with field adjustments".		Following the pilot LiDAR evaluation and electrofishing BMP work, a group of practitioners and scientists will need to make recommendations to TFW Policy for review of options for the Board.	May-16		Determine if further changes are needed to the Water Typing System.					Water Type Modification Process

For each element moving through the adaptive management process, TFW Policy will have to decide first if we want to take action in response to the information provided by the adaptive management process. Presuming that TFW Policy agrees to take action in response to that information; this could include recommending rule changes, board manual guidance, agency process changes (with concurrence from the agency), additional scientific review, or any combination thereof. TFW Policy may also identify additional issues related to this topic outside of the scope of the original Board motion and will be developing a workplan for those issues consistent with the adaptive management program.





MEMORANDUM

TO: Forest Practices Board

FROM: Garren Andrews, Compliance Monitoring Program Manager

SUBJECT: Current status of the Compliance Monitoring Program

Todd Olson accepted the Compliance Monitoring Field Coordinator position. Todd's start date with the Compliance Monitoring Program was October 5<sup>th</sup>.

The Compliance Monitoring program has completed 2015 field reviews.

The 2014 *Interim* Compliance Monitoring report has been completed. The report has been posted on the Department of Natural Resources Forest Practices website.

If you have any questions please contact me at (360) 902-1366 or [garren.andrews@dnr.wa.gov](mailto:garren.andrews@dnr.wa.gov)

GN





# 2014 Interim Forest Practices Compliance Monitoring Report

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October 2015



WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**  
Peter Goldmark - Commissioner of Public Lands

# 2014 Interim Forest Practices Compliance Monitoring Report

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October 2015

Garren Andrews  
*Forest Practices Division*  
*Washington State Department of Natural Resources*

Alice Shelly  
*R2 Resource Consultants, Inc.*

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# 1. Acknowledgments

This annual report is dedicated to Walt Obermeyer. Walt worked for the Washington State Department of Natural Resources for 29 years and in the Compliance Monitoring Program from 2009 to 2015. Walt will be missed.

The contributions of the following were critical to the completion of this report: The tribal staff and regional staffs of the Washington State Departments of Ecology, Fish and Wildlife, and Natural Resources who performed field reviews in good weather and bad, with special thanks to those who reviewed and entered data, including Monica McMackin, Matthew Provencher, Jean Parodi, and John Heimburg. Also thanks to the Forest Practices Division leadership who patiently reviewed various drafts.

## 2. Executive Summary

The Compliance Monitoring Program (CMP) is a key component of the Washington State Department of Natural Resources' (DNR's) Forest Practices Program (FP Program). Compliance monitoring is linked to DNR's responsibility to ensure that operators and landowners are complying with forest practices rules (FP rules) when conducting forest practices activities. Through monitoring, the CMP provides feedback to the FP Program regarding the degree to which specific FP rules are being implemented correctly and highlights where there is a need for focus, training, or clarity.

The CMP reports on real-world compliance on the ground. The FP rules direct DNR to provide "statistically sound, biennial compliance audits and monitoring reports to the [Forest Practices] Board for consideration and support of rule and guidance analysis" ([WAC 222-08-160\[4\]](#)). In addition to the biennial report produced by the CMP, in 2011 the commissioner of public lands requested an annual report in the intervening years.

This interim CMP report covers data samples collected during the 2014 field season (first year of the biennial cycle). Sample sizes in an annual report are too small to provide robust statistical estimates because observation and data collection are based on a 2-year model, with approximately half the samples observed in the first year and half the samples observed in the second year. Two years are needed to obtain enough samples to attain the desired level of statistical precision. Consequently, with only half of the sample data represented, the findings, conclusions, and recommendations in an annual or interim report are limited. The data from the 2014 and 2015 field seasons will be combined to produce the desired precision for statistical estimates. The resulting comprehensive findings, conclusions, and recommendations will be reported in the 2014–2015 biennial report scheduled for 2016. Annual reports provide the interim status of CMP sampling, allowing the CMP to convey results from Emphasis Samples completed in the first year of the biennial cycle a year earlier than does a biennial report.

The CMP evaluates compliance with prioritized FP rules considered to have the greatest impact on public resources, defined as water, fish, wildlife, and capital improvements of the state. The rule groupings evaluated by compliance monitoring pertain to riparian and wetland areas and to road construction and maintenance.

### Sample Design and Methodology

For the purposes of monitoring and statistical analysis, individual FP rules are grouped into categories of similar rules called "prescriptions." Separate samples are chosen for each prescription type monitored. Estimated populations for individual prescriptions are associated with forest practices applications (FPAs) that include forest practices activities, such as timber harvest or road construction. Sample selections for each prescription type are drawn from the FPAs that contain the prescriptions being monitored that year (numbers in parentheses indicate the estimated population of FPAs with the prescription in the 2014 sample): Roads (591), Type A&B Wetlands (53), Forested Wetlands (104), No Inner Zone Harvest (NIZH) (264), Desired Future Condition Option 1 (DFC1) (18), Desired Future Condition Option 2 (DFC2) (49), Non-



Fish-Bearing Perennial Stream (Np) (322), and Non-Fish-Bearing Seasonal Stream (Ns) (356). For this 2014 interim report, 81 prescriptions were sampled.

FP rules monitored annually are referred to as the Standard Sample. In addition, certain rule groups are monitored periodically and are known as an Emphasis Sample. The Standard Sample monitors the following rules:

- Riparian protection ([WAC 222-30-021](#) and [022](#))
- Wetland protection ([WAC 222-30-020\[6\]](#) and [\[7\]](#) and [WAC 222-24-015](#))
- Road construction, maintenance, and abandonment ([WAC 222-24](#))
- Haul routes for sediment delivery ([WAC 222-24](#))

In addition, the physical criteria of waters (e.g., stream width, stream gradient, etc.) are observed to estimate the number of occurrences in which water types recorded on FPAs are different than what is observed on the ground ([WAC 222-16-031](#)).

### **Changes in Study Design**

The CMP made significant modifications in the 2014 study design to increase precision in statistical estimates for each prescription type observed. Previously, compliance rates were estimated by dividing 100% compliant samples by the total number of samples for each prescription type. The updated study design divides the number of compliant rules by the number of total sampled rules within each prescription type, resulting in an average compliance rate. This change increases statistical precision in results and provides more information to help determine causes of noncompliance associated with rule interpretation and implementation. The modified design adds flexibility for future sampling to add or remove different prescription types from the sample as needed, while still providing the desired confidence intervals for each prescription type. The No Inner Zone Harvest and No Outer Zone Harvest prescriptions have been combined.

### **Notable Aspects of CMP Samples**

- FPAs are randomly selected.
- Conclusions on average compliance are based on a 2-year window, with approximately half the samples observed in the first year and half the samples observed in the second year. Two years are needed to obtain enough samples to attain the desired level of statistical precision. This report represents only 1 year of data collection.
- The CMP establishes sample sizes based on an estimated 95% confidence interval width of +/- 6% on compliance estimates.
- CMP results are reported for all the landowners combined.
- The Compliant percentages reported for all sampled prescriptions, except the Haul Route prescription, reflect average compliance for the prescription. Compliance with individual rules within the prescription are summed to calculate the percentage of prescription compliance rates.
- The Haul Route prescription type follows a different sample design. The Compliant percentages reported for the Haul Routes prescription are overall rates of compliance

with FP rules for haul routes (instead of the percentage of the sample compliant). See Section 4 for more information.

- A rule application assessed as compliant is rated either Compliant or Exceeds Rule Requirements, the latter when a landowner implements higher protection standards than required by FP rules.
- When a prescription is assessed as a deviation, it is rated either Low, Moderate, High, or Indeterminate to provide the degree of deviation from rule or FPA requirements.
- Compliance is determined both for compliance of the forest practices activity implementation with FP rules, called “rule compliance,” and for compliance of the forest practices activity implementation with what was stated on the FPA, called “FPA compliance.”

## **Findings**

Findings from the 2014 sampling season are reported in Sections 3 and 4 of this report. It is important to remember that compliance monitoring findings only represent 1 year of the required 2 years of data needed for precise estimates. Statistically based conclusions cannot be made for samples that have 1 year of data.

### *Water Typing*

Additional relevant data and results for water typing are located in Section 3. Supplemental Water Information Forms (SWIFs) were completed for 12 samples due to water typing discrepancies. Four waters were underclassified, 5 waters were overclassified, and 3 waters were indeterminate.

### *Riparian Management Zones*

Additional relevant data and results for RMZs are located in Section 3. The DFC1 rate of compliance for the 2014 sample period was 94.6%. The DFC2 rate of compliance was 97.7%. The NIZH rate of compliance was 92%. The Np activity rate of compliance was 98%. The Ns activity rate of compliance was 96%.

### *Wetland Management Zones*

Additional relevant data and results for WMZs are located in Section 3. The Type A&B Wetlands rate of compliance for the 2014 sample period was 98%. The Forested Wetlands rate of compliance was 94%.

### *Roads*

Additional relevant data and results for the Roads prescription are located in Section 4. The Roads rate of compliance for the 2014 sample period was 95.7%.

### *Haul Routes*

The rate of compliance for the Haul Routes prescription in the 2014 sample period was 91%.

### **Changes Made Based on CMP Feedback**

A primary goal of the CMP is to provide feedback from compliance monitoring for the purposes of improving compliance with FP rules. The following are some recent changes made to address issues identified as a result of compliance monitoring: Leave tree, DFC, and RMZ length rule and Forest Practices Board Manual clarifications are currently under review and will be completed by 2016. Rule and Board Manual clarifications have been incorporated into the Forest Practices Board work plan.

## 3. Introduction



Photo by: Doug Couvelier

Compliance monitoring is a component of the Washington State Forest Practices Program. Section 1 gives a brief history leading to the development of the Compliance Monitoring Program and explains key factors and concepts regarding compliance monitoring and the forest practices rules that are monitored.

### 3.1 History and Context

The 1974 Forest Practices Act (FP Act) declared that “forest land resources are among the most valuable of all resources in the state” ([Revised Code of Washington \[RCW\], Title 76.09](#)). This law and its corresponding forest practices rules (FP rules) ([Washington Administrative Code \[WAC\], Title 222](#)) regulate forestry activities on state and private lands in Washington State and are designed to both protect public resources on forestland and ensure that Washington continues to support a viable forest products industry. ([WAC 222-16-010 \[Public Resources\]](#)) Public resources are defined as water, fish, wildlife, and capital improvements of the state or its political subdivisions. The FP Act created the Forest Practices Board (the Board), an independent state agency with 13 members. The Board, working with the public, stakeholder groups, and DNR, adopts FP rules and approves technical guidance ([Forest Practices Board Manual](#)) that assists

landowners in implementing FP rules. The FP rules are administered by DNR (with input and consultation from other entities where directed in the rule).

A flexible Forest Practices Program (FP Program) was developed to implement the FP Act and rules, because knowledge and understanding of natural systems evolves and natural systems change over time. A flexible FP Program is essential for meeting the intent of the FP Act in an arena where change is expected and ongoing. Components that provide systematic feedback and facilitate change when needed have been intentionally designed and incorporated into the FP Program. These components include the Compliance Monitoring Program (CMP), the Adaptive Management Program (AMP), and the Forest Practices Training Program (FPTP). Other FP Program components that provide critical functions for implementing the FP Act and rules and that provide information to improve the FP Program include [forest practices application](#) (FPA) review and FPA compliance and enforcement. When these components provide feedback suggesting that change is needed to better meet the goals of the FP Act and rules, the Board can adopt new FP rules or guidance. Additionally, the FP Program may adjust its operational practices, within the bounds of the FP Act and rules, to create some of the desired changes. Since promulgation of the FP Act in 1974, the FP Program's flexible design has facilitated many changes to the FP rules and Board Manual as well as to the FP Program.

One such change was the incorporation of the Compliance Monitoring Program into the FP Program. The CMP was not part of the original FP Program established in 1974. The CMP was first formally proposed as an essential element in the [1999 Forests and Fish Report](#), a multistakeholder agreement that delineated acceptable measures to protect water quality and habitat for federally listed aquatic species and other riparian dependent species on private and state forestlands in Washington. The legislature enacted the Forests and Fish Report protection measures into law in 1999. As a result, compliance monitoring for forest practices became a legal requirement. The CMP was promulgated as part of the FP rules in 2001 when the Board adopted FP rules that reflected the protection measures in the Forests and Fish law.

Regarding compliance monitoring, [WAC 222-08-160\(4\)](#) states: "The department shall conduct compliance monitoring that addresses the following key question: 'Are forest practices being conducted in compliance with the rules?' The department shall provide statistically sound, biennial compliance audits and monitoring reports to the board for consideration and support of rule and guidance analysis. Compliance monitoring shall determine whether forest practices rules are being implemented on the ground. An infrastructure to support compliance will include adequate compliance monitoring, enforcement, training, education and budget."

When funding for the CMP was allocated by the legislature in 2006, DNR, along with other stakeholders, developed a compliance monitoring [program design](#) and implemented an initial sampling effort in the spring of that year. The CMP has completed annual compliance monitoring sampling every year since 2006. Additionally, the program has produced biennial reports starting with the [2006–2007 CMP Biennium Report](#) showing results of field reviews, as directed by [WAC 222-08-160\(4\)](#), for consideration and support of rule and guidance analysis. All completed reports can be found on the CMP website: <http://www.dnr.wa.gov/programs-and-services/forest-practices/rule-implementation>.

The CMP is a key component of a feedback loop that intends to improve compliance with the FP rules that protect public resources and maintain a viable forestry industry in Washington State. When sampling results provide sufficient information regarding a need for change, CMP reports include suggestions for potential changes that could help the FP Program better achieve the goals of the FP Act and rules. See Section 9 for a list of recent changes that resulted from CMP feedback.

## **3.2 Compliance Monitoring Program**

### **Program Staffing**

The Compliance Monitoring Program is directed by the DNR Forest Practices assistant division manager for operations. The program staff includes a program manager and a field coordinator, along with funded participation of one full-time staff person each from the Department of Ecology and Department of Fish and Wildlife. Additional assistance is provided by tribal biologists and other forest practices staff.

### **Reports**

Field sampling of completed FPAs occurs annually and findings are presented in a biennial report as required by [WAC 222-08-160\(4\)](#). In 2011, the commissioner of public lands requested that the FP Program also begin producing annual reports in the years that a biennial report is not required. This present report is an annual, or interim, CMP report and covers data samples collected during the 2014 field season (first year of the 2014–2015 biennium cycle). Sample sizes in an annual report are too small to provide the designed statistical precision, because the second half of the complete population sample is obtained in the second year of the biennium cycle. Consequently, with only half of the sample data represented, the findings, conclusions, and recommendations are limited in an annual report. The data from the 2014–2015 field seasons will be combined to produce the desired precision for statistical estimates and resulting comprehensive findings, conclusions, and recommendations reported in the 2014–2015 biennial report scheduled for 2016. Annual reports provide the current status of CMP sampling, allowing the CMP to report results from Emphasis Samples completed in the first year of the biennial cycle a year earlier than does a biennial report.

### **Forest Practices Activities and Prescriptions**

Forest practices activities are operations such as timber harvest and forest road construction that are subject to FP rules. Prescriptions are groupings of similar rules that apply to a forest practices activity. FP rules are divided and grouped by like topic/application for monitoring purposes. For example, forest practices activity types such as road construction and timber harvest are evaluated based on options available for implementing a particular activity, such as the many options available for harvest in the riparian management zone (DFC1, DFC2, etc.); and forest practices activity types are evaluated based on the function/feature being protected, such as water quality. In CMP reports, these rule groupings are called “prescription types.” The CMP obtains data from samples and reports compliance monitoring findings by prescription type.

These prescription types allow for statistical estimation of compliance with specific rule groups rather than an overall forest practices compliance rate. This enhances the ability to determine where additional training, education, or FP compliance efforts might be needed to increase landowner compliance with FP rules. The CMP, with stakeholder input, determines which FP rule prescription types will be sampled each year and then estimates the number of samples required for statistical precision. This number of samples is then visited by the compliance monitoring field team for each of the FP rule prescription types.

## **Compliance**

Each FPA is observed for compliance with 2 elements: first, how well the conditions on the ground — after completion of forest management activities — meet FP rules; and second, how well the conditions on the ground — after completion of forest management activities — meet what the applicant stated on the FPA. The first is called “rule compliance” and the second is called “FPA compliance.” The compliance monitoring field team has found that deviation on a particular FPA can occur in one of the following 3 ways:

- 1) The conditions on the ground are in compliance with FP rules but not with the FPA. For example, a landowner/applicant states on the FPA that he or she will leave an RMZ along the entire 1000-foot length of the Np stream in the harvest area, but upon completion of harvest the landowner leaves a buffer along 700 feet of the stream length. The 700-foot RMZ buffer is still in compliance with FP rules because the FP rules do not require the entire length of an Np stream to be buffered. However, the 700-foot buffer is not in compliance with what the landowner stated would be done on the FPA.
- 2) The conditions on the ground are in compliance with the FPA but deviate from the FP rules. For example, a landowner/applicant incorrectly measures the width of the stream in the FPA area and states on the FPA that the stream falls into a smaller (incorrect) width category that requires less protection. Subsequently, if the landowner implements the forest practices activity using the incorrect protection measures, the forest practice has deviated from FP rules but is in compliance with what the landowner stated on the FPA.
- 3) The conditions on the ground deviate from both the FP rules and the FPA.

The primary intent of the CMP is to determine on-the-ground compliance with FP rules, or “rule compliance.” However, understanding deviation from the FPA, or “FPA compliance,” can help DNR determine whether improvements should be made in application forms, application instructions, or other methods of landowner outreach and education. Information regarding both types of deviation helps to inform the efforts of the FP Program, improving compliance with FP rules.

## Compliance Monitoring Scope Limitations

Compliance monitoring is limited by mandate, budget, and staffing, which results in a focused program with a well-defined yet limited scope. Compliance monitoring does not involve the following:

- Focus on individual landowners and compliance specific to those landowners, but rather focuses on 2 overall groups: small and large forest landowners.
- Focus on individual regions and compliance specific to that region, but rather focuses on statewide FP rules and FPAs.
- Track FP rule violations. When field reviewers encounter rule violations, the appropriate DNR regional staff is notified for further action.
- Modify water types. Field reviewers do, however, record observed differences between water type documentation on FPAs and on-the-ground physical features. See Section 3.1.

## 3.3 Forest Practices Rules

Overall, FP rules provide protection for many riparian and upland species and their forest habitat, as well as protection for water quality. Currently, compliance monitoring focuses on rules that protect aquatic and riparian species habitat. FP rules that help protect aquatic and riparian species habitat include rules regarding the following:

- Riparian protection
- Wetland protection
- Water typing
- Road construction, maintenance, and abandonment near water
- Harvest or road construction on unstable slopes

Budget and staffing preclude the ability to monitor with statistical precision all FP rules that might affect aquatic and riparian species habitat, as well as upland habitat. The CMP prioritizes rule sampling based on a forest practices activity's potential to impact [public resources](#).

The following are the CMP's prioritized rules chosen for sampling during the 2014 field season.

### Standard Sample

Certain specific FP rule groups are sampled every year and are considered to be part of the CMP Standard Sample. These include the following:

- Riparian rules — Western Washington and Eastern Washington RMZ rules ([WAC 222-30-021](#) and [022](#))
- Road construction and maintenance rules ([WAC 222-24](#))
- Wetland rules ([WAC 222-30-020\[6\]](#) and [\[7\]](#); and [WAC 222-24-015](#))
- Haul routes ([WAC 222-24](#)) for sediment delivery



## **Emphasis Sample**

Other FP rule groups are sampled, as necessary, and are considered to be Emphasis Samples. These other FP rule groups govern activities utilized less often than the rules sampled in the Standard Sample. The smaller population size usually leads to the CMP sampling a higher proportion of the total emphasis population than is sampled in Standard Samples.

*Note:* Due in part to the CMP study redesign and staffing changes, there is no Emphasis Sample for the 2014 reporting period.

## 4. Compliance Monitoring Design and Methodology



Compliance monitoring design was developed to be a consistent and repeatable field-based method to determine if forest practices are conducted in compliance with forest practices rules (FP rules). Compliance monitoring design details are found in the document [\*Washington State Department of Natural Resources Forest Practices Compliance Monitoring Program Design and Compliance Monitoring Protocols\*](#). Section 2 explains key design and methodology concepts used in the forest practices Compliance Monitoring Program.

### 4.1 Population and Sample Selection

The population designated for sampling consists of prescriptions identified on forest practices applications that have completed forest practices activities and expire April 1, 2014, through March 31, 2015. Each application states all of the forest practices activities that the landowner intends to implement. This information allows the compliance monitoring field team to locate forest practices applications (FPAs) that list the particular FP rule prescriptions being sampled in a given year. Sample selections for each prescription type are drawn from the FPAs that contain the prescriptions being monitored that year.

## **Landowner Population Groups**

Compliance Monitoring Program (CMP) reports provide riparian and road compliance findings separately for small forest landowners and large forest landowners, in addition to findings for all landowners combined. To date, sample sizes for small forest landowners have been too small to achieve sufficient statistical precision for conclusions regarding small forest landowners as a separate landowner group.

## **Sample Selection**

Populations are grouped by prescriptions (DFC1, DFC2, NIZH, etc.) that have been identified by completed individual FPAs to more accurately analyze the collected field data. Therefore, populations are determined by the frequency of prescriptions that occur as part of completed FPAs.

There are thousands of active (not yet expired) FPAs every year, because the majority of FPAs have 3 years in which to be completed. Each FPA has an expiration date. For the current report, to ensure that all active FPAs had an opportunity to be selected, the populations to be sampled are those FPAs that expire between April 1 of the preceding year and March 31 of the sampling year. For the 2014 sample, this included 2,797 FPAs (including forest practices notifications; see Glossary). Using the April 1 to March 31 window improves the likelihood that the forest practices operations are complete prior to the primary compliance monitoring sampling months, February through November, and that the compliance monitoring field team attempts to visit the site before the FPA expires.

To provide a random selection of FPAs from the sampling population, the FPAs that expire between April 1 and March 31 are assigned a random number as a decimal fraction between 0 and 1 and then are ordered from the smallest to the largest number. The selection methodology involves reviewing the FPAs in this random order. Each FPA is reviewed to determine the sample FP rule prescription types being sampled. This selection process continues through the ordered list of FPAs until the target population/sample size is reached for each prescription type.

All FPAs in the population are ordered by the assigned generated random number and categorized by region. Division staff review FPAs in the random order assigned for monitored activities that are completed. Region staff determine if the activities identified in the FPA have been completed. FPAs that do not contain monitored activities and FPAs that are not complete are discarded from the population. Sample sizes are applied in proportion to statewide population size for each prescription type.

For each riparian prescription, the population to be sampled consists of FPAs containing that prescription. In some cases, a single FPA contains multiple implementations of the same riparian prescription type. If this is the case, 1 prescription implementation is randomly selected for assessment. Table 1 lists the Standard Sample prescriptions monitored in 2014.

For roads prescriptions, compliance with a single rule on a single FPA is the percentage of applications of that road rule that were compliant. Thus, for road rules only, compliance with a

single rule can be a number between 0 and 1. For example, if a single rule is applied 6 times on one FPA and is compliant 5 out of 6 times, the compliance is 0.833 instead of 0 or 1 for that road rule on that FPA. The remaining analysis is the same as for riparian prescriptions.

**Table 1. 2014 Standard Sample Prescriptions Monitored**

	Statewide	Western WA Only
<b>Roads</b>	Road Construction and Abandonment	
	Haul Routes	
<b>Harvest</b>	RMZ — Type Ns Prescriptions	
	RMZ — Type Np Prescriptions	
	Wetlands (Type A&B and Forested)	RMZ — Type S or F Inner Zone Harvest DFC1
	RMZ — Type S or F No Inner Zone Harvest	RMZ — Type S or F Inner Zone Harvest DFC2

### Sample Size and Confidence Values

#### *Standard Sample*

In the biennial compliance monitoring design used by the CMP, the Standard Sample uses a significance level of 95%. The CMP set a desired half-width of the 95% confidence interval (CI) at 6%. These choices reflect the CMP’s intent to obtain the highest level of confidence that could be obtained with current resources. A 95% CI at +/- 6% means that if the sample was repeated 20 times, one would expect the population mean (the “true” compliance rate) to lie within the confidence interval 19 out of 20 times. The CMP sets the sample size to provide an approximate +/- 6% CI for the average compliance rate of each prescription type sampled for the biennium. This sample size is an estimate based on assuming that the variance in compliance rates and average number of applicable rules within each prescription is similar to historical observations. The population of FPAs in any given year is finite. Therefore, the size of the population impacts the variance of compliance rates and, by extension, the width of CIs and the estimated sample sizes. Thus, infrequent prescriptions may need fewer samples to attain the desired precision levels. Estimated population sizes for each prescription are used in the sample size estimation to estimate a “finite population correction factor.” This means that a smaller sample is required than would be for an infinite population. See Appendix A for more information.

For this annual report, variance and cluster size (number of rules per prescription) were estimated based on the sample values from 4 years of data (2010–2013) prior to the 2014 sampling. Based on these data and the estimated FPA population size for the biennium, sample sizes were set for the biennium, and 40% of this sample size was applied to 2014. Only 40% of the biennial sample was completed in 2014 due to staffing limitations. The sample sizes were set based on an estimate of the sample sizes required to attain a width of +/- 6% for a 95% CI for

the combined 2014–2015 sample. The CI for this estimation was formed by assuming an approximate normal distribution for the average compliance ratio, so the half-width of a 95% CI is the estimated standard error multiplied by an appropriate t-statistic (approximately 2).

The CMP updated variance estimates prior to 2015 sampling using 2014 results, due to the population values varying widely among biennia. This 2-year approach assumes that there is no change in compliance between the 2 years, so that no bias is introduced by having unbalanced population sampling between the 2 years.

Sample sizes in an annual report, such as this one, are too small to provide precise statistical estimates. Observation and data collection is based on a 2-year sample population, with approximately half the samples observed in the first year and half the samples observed in the second year. Two years are needed to obtain enough samples to attain the desired level of statistical precision.

To reach the desired sample size, population sizes for each prescription type are estimated based on the proportion of the entire population viewed (Table 2). Total population sizes for prescription types are estimated, because it would take many currently unavailable hours for staff to review each of the 2,797 FPAs to find the exact population count for each prescription type. See Appendix A for more information regarding statistical methodologies.

**Table 2. 2014 Standard Sample Count by Prescription Type**

<b>Geographic Region</b>	<b>Prescription Type</b>	<b>Sample Count</b>	<b>Estimated Population Size of FPAs with the Prescription</b>
<b>Statewide</b>	Road Construction and Abandonment	6	591
	Haul Routes	20	n/a*
	RMZ — Type Ns Prescriptions	14	356
	RMZ — Type Np Prescriptions	14	322
	Type A Wetlands	15	53
	Type B Wetlands	10	105
	Forested Wetlands	8	104
<b>Western WA</b>	RMZ — Type S or F No Inner Zone Harvest	10	264
	RMZ — Type S or F Inner Zone Harvest DFC1	8	18
	RMZ — Type S or F Inner Zone Harvest DFC2	6	49

\*The Haul Routes prescription does not have an estimated population.

In some cases the actual sample size did not match the planned sample size for the year. The 2 primary reasons for this discrepancy are 1) occasional loss of samples because sites were disqualified for a particular prescription after field inspection; and 2) correction to population size estimates, which reduced the number of samples necessary for adequate 2-year statistical precision. The compliance monitoring biennial sample design allows the program to compensate for any inadequacies in 2014 sample sizes by increasing samples to be observed in the upcoming 2015 field season. It is anticipated that sample sizes for the 2014 and 2015 field seasons together will provide the desired statistical precision for the 2014–2015 biennial report.

## 4.2 Field Review and Data Collection

The compliance monitoring field team uses 2 primary data collection methods of field observations and field measurements. These 2 methods determine whether the landowner/applicant met the requirements of FP rules while implementing forest practices activities. Field observations are visual assessments that help provide answers to the questions asked on CMP [Field Forms](#). Specific measurements are taken to determine attributes such as tree/stump counts, RMZ length, RMZ width, and bankfull width. Examples of types of field observations and field measurements follow.

### Riparian Harvest

- Observations:
  - Presence of alluvial fans, headwall seeps, and springs
  - Location of uppermost point of perennial flow
  - Presence of unstable slopes
- Measurements:
  - Bankfull width (BFW) — Measured for Type S, F, and N waters, except where the stream obviously exceeds or is below a threshold width (i.e., under or over 10 feet in Western Washington; under or over 15 feet in Eastern Washington). The channel width is measured (using a tape measure) at even intervals along the stream reach within the boundaries of the FPA. The goal is to obtain a minimum of 10 measurements, but if the stream reach is 300 feet or less, a measurement interval of 25 feet is used.
  - Stream length — Measured using a hip chain. The length is used to determine the intervals for BFW measurements and RMZ width measurements.
  - RMZ and WMZ widths — RMZ widths (and the 3 zones within the RMZ) and WMZ widths are measured using a laser hypsometer to ensure accurate horizontal distances. Lasers with reflectors (held in place) are used to ensure measurement precision. RMZ widths are marked with flagging for visual reference.

### Road Construction and Abandonment and Haul Route Assessment

The assessment of road construction and abandonment is based on answering a series of questions found on the CMP [Roads Field Form](#). The questions address observed site conditions based on the required management practices in FP rules ([WAC 222-24-010](#), [020](#), [030](#), and [040](#)).

The assessment of haul routes is based on observation of fulfillment of road rule requirements and on professional judgment from CMP participants, used to rate sediment delivery levels resulting from each haul route.

### 4.3 Compliance Assessment and Ratings

The CMP utilizes average compliance for a prescription among FPAs rather than the proportion of completely compliant FPAs. Each FPA is analyzed as a cluster of rules within each prescription. FPAs are then grouped according to relevant riparian prescriptions or road activities. Haul Routes, Roads, No Inner Zone Harvest (NIZH), Desired Future Condition Option 1 (DFC1), Desired Future Condition Option 2 (DFC2), Non-Fish-Bearing Perennial Waters, Non-Fish-Bearing Seasonal Waters, Type A&B Wetlands, and Forested Wetlands comprise the evaluated prescriptions. Compliance with individual rules is given a Bernoulli 0/1 result; the prescription is the sum of compliant rules divided by the sum of all rules applied across all FPAs. For example: If a prescription has 17 rules that apply to it (across all sampled FPAs), and 16 of those rules are implemented per rule requirements, then the average compliance for that prescription is 94% (16 compliant rules ÷ 17 total rules = 94%).

#### Compliant/Deviation Determination

Compliance percentages disseminated in CMP reports do not necessarily represent the complete picture of compliance with FP rules because there are varying levels of compliance that are difficult to quantify. The terminology describing compliance was changed to better recognize this issue. In past CMP reports, prescriptions have been described as Compliant or Noncompliant. Beginning with the 2012 report, prescriptions were considered Compliant with or a Deviation from FP rules. The former Noncompliant category has been relabeled Deviation to more accurately acknowledge that while a prescription as a whole may deviate from FP rules, several of the FP rules that comprise a prescription may be compliant. Section 1.2 of this report explains that a prescription is a grouping of FP rules. These groups were constructed by the CMP for the purposes of estimating compliance. The following example illustrates this concept.

The DFC2 prescription type (leaving trees closest to the water in Western Washington) is not a single FP rule but rather a grouping of several rules, some of which are listed below ([WAC 22-30-021](#)):

- Core zone — “No timber harvest or construction is allowed in the core zone.”
- Inner zone — “Forest practices in the inner zone must be conducted in such a way as to meet or exceed stand requirements” (see Glossary). “Trees are selected for harvest starting from the outer most portion of the inner zone first.”
- Outer zone — “Timber harvest in the outer zone must leave twenty riparian leave trees per acre.” “Dispersal strategy-riparian leave trees, which means conifer species with a diameter measured at breast height (DBH) of twelve inches or greater, must be left dispersed approximately evenly throughout the outer zone.”

These 6 rules are only a few of the FP rules that are part of the DFC2 prescription type. When the DFC2 prescription in a CMP report is shown with a compliance of 97.7%, this refers to the

average compliance of the sampled relevant rules within the DFC2 prescription. The corresponding Deviation category includes any FPAs that are a part of the DFC2 sample that deviated from at least 1 of the FP rules included in the prescription type.

It is important for decision makers to understand the meaning and severity of deviation from FP rules. To aid in this understanding, compliant and deviation assessments are assigned a compliance rating. Compliant prescriptions are rated either Compliant or Exceeds Rule Requirements. Prescriptions that deviate from FP rules are rated either Low, Moderate, High. When the compliance monitoring field team cannot determine the degree of deviation, it is rated Indeterminate. These ratings help to convey the level of deviation from what was required by the relevant rule.

### **Compliance Ratings Descriptions**

This section describes 5 compliance ratings that are applied after the Compliant/Deviation assessment is made, as well as the Indeterminate rating. There are 2 categories for a Compliant assessment: Compliant and Exceeds Rule Requirements. There are 3 ratings for a Deviation assessment — Low, Moderate, High — as well as the Indeterminate rating.

#### *Compliant Rating Determinations*

The Compliant rating means that an activity meets the requirements of the individual FP rule that is relevant to that activity. By signing and submitting an FPA, a landowner is conveying the intention to conduct specific forest practices activities on lands with specific site characteristics as described on the FPA. The landowner's signature on the FPA acknowledges that the landowner understands that FP activities must comply with the FP Act and rules. It is important to note that these deviation ratings employ professional judgment and should not be used to excuse activities that violate FP rules or approved FPAs.

Implementing this system requires the following assumptions:

- All participants acknowledge that this process relies on professional judgment and does not represent determinations of rule effectiveness.
- There will be no statistical analysis beyond the narrow scope intended.

#### *Compliant Ratings Definitions*

- Compliant rating — The FP rule is compliant.
- Exceeds Rule Requirements (or Exceeds) rating — While implementing their forest practices activities, landowners/applicants sometimes choose to provide more protection than required by FP rules.



### *Deviation Rating Determinations*

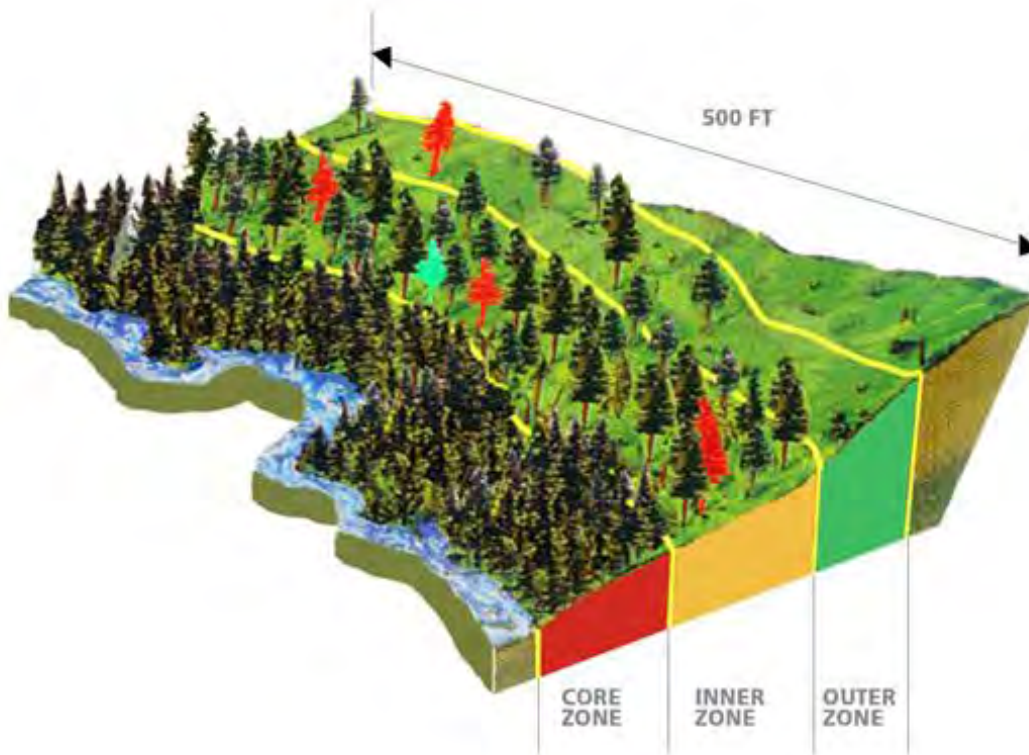
The Deviation rating means that an activity does not meet the requirements of the individual FP rule that is relevant to that activity. In order to gauge the magnitude of the deviation and where DNR might focus training efforts to improve compliance, the compliance monitoring field team uses professional judgment to rate deviations. There are 3 Deviation categories — Low, Moderate, High — as well as an Indeterminate rating. The following guidelines are used to assist professional judgment when rating the impact of deviation in the field:

- Low Deviation — Minor deviation from requirements of the rule
- Moderate Deviation — Moderate deviation from requirements of the rule
- High Deviation — Major deviation from requirements of the rule
- Indeterminate — The rule is out of compliance, but the compliance monitoring field team cannot determine the degree of deviation.

The following examples of deviations from FP rules illustrate that there can be a level of compliance for many of the rules included in a prescription type, even when they are assessed as a Deviation. The examples show the process of assigning ratings to the deviation.

Figure 1 illustrates a riparian harvest adjacent to Type F water assessed as a Deviation and rated as Low. A riparian zone harvest is subject to a number of complex FP rules. In this example, the landowner/applicant followed multiple FP rules by typing the stream accurately; measuring the stream width correctly; correctly measuring the core, inner, and outer zone widths; and leaving the core zone intact and harvesting the correct number and type of trees in the inner zone.

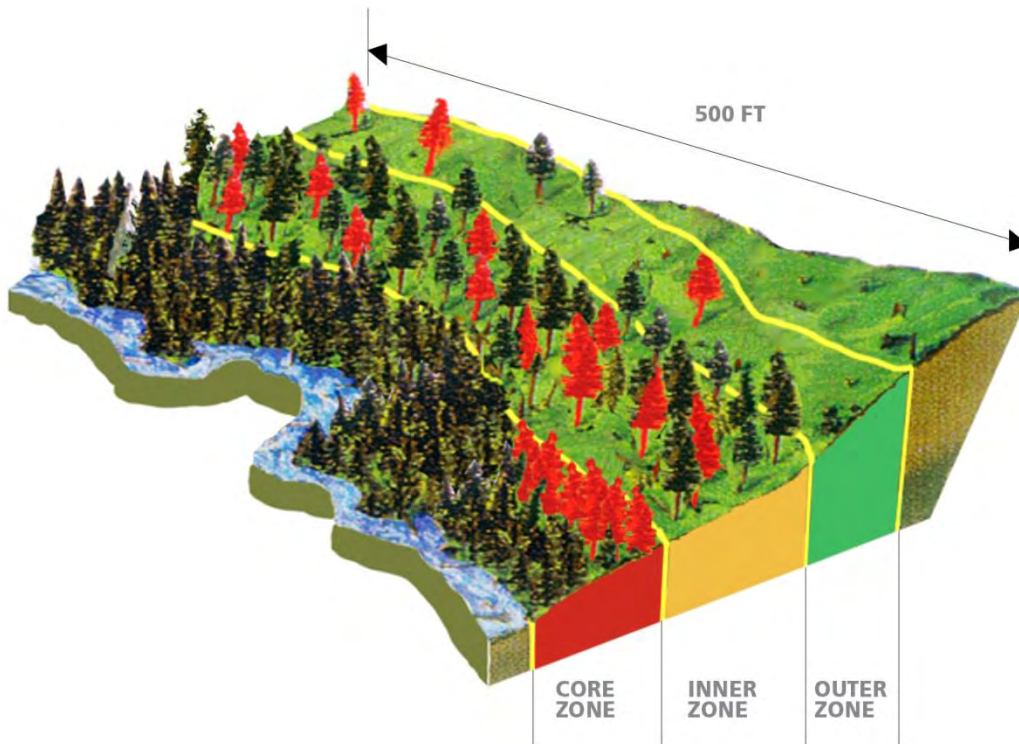
**Figure 1. Inner Zone Harvest with Deviation Rated as Low**



The red trees in the image represent trees that were required by rule to be left but were harvested. An offsetting factor in representing the average number of trees per acre required is that 1 tree per 500 feet was taken out of the outer zone, 3 trees too many were harvested from the inner zone, and an additional tree that had *not* been required to be left was left in the inner zone (represented in Figure 1 by the lime green tree outline).

In contrast, Figure 2 illustrates an example of inner zone harvest assessed as a Deviation and rated as High, on fish-bearing waters. In this scenario, the landowner/applicant planned a riparian zone harvest and followed the same FP rules as in the example above, except that harvest rules were not followed completely in any of the 3 zones. Each zone would be assessed for individual rule compliance. In this example, primarily core zone trees were harvested, as were many inner zone trees and outer zone trees that were required to be left.

**Figure 2. Inner Zone Harvest with Deviation Rated as High**



In Figure 2, 11 trees are missing per 500 feet of the inner zone and 3 trees are missing per 500 feet of the outer zone. Additionally, some harvest occurred in the core zone.

The expectation is for landowners to follow all relevant FP rules. However, there is more to evaluating compliance with FP rules than estimating average compliance for prescription types. The CMP continues to work toward finding better ways to report a more complete picture of compliance.

## **4.4 Design/Methodology Changes**

### **Evaluation of Rule Compliance**

An FPA contains a set of rule applications for a particular prescription. As part of the former study design, each FPA was evaluated as either compliant or not compliant for the prescription, based on 100% compliance with all rules in the prescription. The prescription compliance was the number of FPAs that were 100% compliant divided by the total number of FPAs containing the prescription. This can be viewed as a binomial proportion, and confidence intervals were formed under this assumption. This is statistically simple, but the sample sizes required for precise estimates of these proportions were difficult to attain, and there was concern about the pass/fail aspect of the compliance assessment.

The CMP has integrated a more quantitative estimate of compliance with each rule, with an increase of precision in the overall estimates. The sampling method remains cluster sampling. There are 2 levels of sampling units: the FPA and the rule application. The FPAs are clusters of rule prescriptions. In the previous method, only 1 assessment was made for each prescription per FPA, so the FPAs were all clusters of size 0 or 1, and the zeros dropped out of the population for the prescription. The changes made are to the methodology of assessing compliance with each prescription, rather than changes to the sampling design. These changes under the current sampling design amount to multiple applications of rules on single FPAs (i.e., the number of rules under prescription A on a single FPA = 0, 1, 2 ... up to the total number of rules under prescription), so the FPAs are treated as clusters.

The purpose of the change is to estimate the *average* compliance for a prescription or rule group among FPAs rather than the proportion of completely compliant activities among FPAs. As discussed above, each FPA is a cluster of rule prescriptions, which can be grouped in various ways (prescription or rule group) or evaluated individually. If a single rule is of interest, the compliance proportion for that rule is a simple binomial proportion — FPAs that do not apply the rule drop out of the population. When groups of rules (or prescriptions) are of interest, all FPAs that contain at least 1 of the rules are part of the population (from a random sample). Multiple implementations on a single FPA are not independent, the FPA is a cluster sample, and each has a different number of rules. The mean or average compliance and the variance of the mean are calculated according to the rules of estimation for cluster samples (Cochran 1963; Scheaffer et al. 1990). Compliance rates will most likely be higher than the compliance rates previously estimated. For example, if there are many rules in a prescription, bad performance on a single rule will have very little effect on overall average compliance. On the other hand, compliance for each individual rule can be tracked separately, although precision will not be controlled for individual rule compliance.

### **Sample Size Estimation**

The variance of the mean prescription compliance depends on the total number of FPAs that contain the prescription (the population size; because this is a finite population), the sampled number of FPAs that contain the prescription, the average number of prescription rules applied on each FPA, and the variability of compliance among FPAs. Data from 2010–2013 are used to estimate compliance variance for each prescription by year and to approximate sample sizes that should attain reasonable standard errors. Population sizes for each prescription are needed to approximate sample sizes. Because population sizes can vary from year to year, upper bounds for population sizes were used as initial estimates. When good estimates or census data are available before sampling is complete, the population sizes can be updated in the sample size estimation worksheet and the sample sizes can be adjusted. However, it is important to remember that the variance used for the sample size estimates is also only an estimate. There is no guarantee that the estimated confidence intervals will be the exact width that was projected.

## 4.5 Compliance Monitoring Challenges

Challenges are not uncommon for any complex assessment program. This section reviews current challenges for the CMP.

### Sample and Measurement Error

Sampling error occurs when rule or Board Manual guidance specifies that average values are to be used during the layout of a specific prescription type. This is because averages vary depending on where measurements are taken. It is unlikely that the compliance monitoring field team can duplicate the exact same 10 measurements made along a stream reach for calculating stream width as were measured by a landowner. The result is that the compliance monitoring field team's average stream width value is likely different from the landowner's average stream width value. Statistical analysis techniques, such as a variability study to determine error tolerances, have not yet been pursued by CMP to help determine if a landowner's average measurement that differs slightly from the compliance monitoring field team's average measurement is considered the same or not (statistically speaking, "significantly different"). The CMP resolves the inability to determine statistical variability for average values by assigning an absolute 5% measurement error tolerance. This measurement error tolerance applies for only 2 specific measurements: when determining 1) leave tree to edge of bankfull width; or 2) buffer widths and lengths or floors within no-harvest RMZ areas. When a landowner's average value is within 5% of the compliance monitoring field team's average value, the landowner's values are considered accurate. If the landowner's average value falls outside the 5% error tolerance, the compliance monitoring field team value is assumed to be correct and the landowner's average value incorrect. The CMP employs a different approach to determine error tolerance for BFW measurements (Appendix B).

### Variation in Natural Conditions

Natural systems such as forests are highly variable and difficult to measure with precision. Forest practices rules require precise measurements to implement forest practices activities. Applying precise measurements becomes difficult for forest practice activity implementation as well as for FPA compliance and compliance monitoring. When precise measurements required in the FP rules are confounded by variable site conditions, the CMP follows the most protective interpretation of the FP rules to determine compliance.

A frequent example of precise FP rules conflicting with imprecise on-site conditions occurs when a stream reach has FP rule-defined characteristics of both a Type Np stream and a Type F stream. Type Np streams are defined as streams that have a gradient greater than 20% and have perennial flow. Type F streams are defined as having a gradient equal to or less than 20%. When a stream reach meets the physical criteria for a Type F stream, and lies upstream of a portion of a stream reach that has a gradient greater than 20%, the stream is considered Type F. The only exception is when an approved Water Type Modification Form or supporting Interdisciplinary Team documentation has been submitted endorsing the change of the water type.

## 5. Forest Practices Rule Compliance for Water Types and Riparian, Wetland, and Equipment Limitation Zones



Forest practices rules (FP rules) are designed to protect aquatic resources and related habitat adjacent to typed waters and wetlands when forest practices activities are proposed. Riparian and wetland areas provide fish, amphibian, and wildlife habitat and protect water quality. A riparian management zone (RMZ) is the area adjacent to Types S, F or Np streams (see definitions below) where trees are retained to provide functions required by aquatic and riparian species and for protection from disturbance. A wetland management zone (WMZ) is the area located around the perimeter of a wetland where trees are left to provide protection from disturbance, as well as shade and nutrients for the wetland. Both RMZ and WMZ buffers filter runoff to minimize sediment entering water; provide long-term large woody debris recruitment and organic material crucial for fish and amphibian habitat; maintain shade to help regulate stream temperatures; and provide amphibian and wildlife habitat. Protection on Type Np and Ns streams also includes an equipment limitation zone (ELZ). This is a 30-foot-wide zone adjacent to Type Np and Ns streams. There are limitations on equipment use within the ELZ, and on-site mitigation measures are required if activities expose the soil on more than 10% of the zone.

FP rule protection measures that guide timber harvest options within RMZs depend on the water type (Type S, F, Np, Ns), width of the stream (bankfull width), and the site class (I, II, III, IV, V) of the RMZ. Wetland protection depends on the type and size of the wetland.

Section 3 provides FP rule and on-site review descriptions and compliance monitoring findings for the following within the Standard Sample:

- Water type observations
- Western Washington RMZs
- Eastern Washington RMZs
- Statewide wetlands

While maintaining adequate shade is an important part of riparian prescriptions, the forest practices shade rules are not yet part of the FP rules being monitored. Consequently, the riparian descriptions throughout the remainder of this report do not include shade, even though shade is integral to the overall protection provided in riparian areas. The CMP will initiate sampling for shade compliance after the program has methods suitable to produce relevant information.

Findings are limited in this report (and all annual reports) because sample sizes are smaller, representing less than half of the biennial sample. Caution must be taken when attempting to draw meaningful conclusions from the results provided in an annual report. The data and findings reported here may or may not be an indicator for upcoming findings that will be provided when both the 2014 and 2015 field season data are combined and reported in the 2014–2015 biennial report scheduled for 2016. The CMP is offering the following compliance monitoring findings primarily as a status update of CMP sampling.

## 5.1 Statewide Water Type Observations

In the initial years of compliance monitoring, compliance monitoring field team observations indicated that at times water types observed on the ground did not match water type classifications provided on submitted and approved forest practices applications (FPAs). This led to a concern regarding consistency and accuracy of water type information on FPAs, because the width and length of riparian buffers required under FP rules are directly linked to water type. In the FP rules, water is classified in specific stream and wetland categories, or “types,” based on several factors ([WAC 222-16-030](#), [031](#), and [035](#)). Stream and wetland type classification is a fundamental aspect of determining which FP rules apply to forest management activities taking place adjacent to typed water. Specific FP rules apply to specific water types because different water types fulfill unique and cumulative functions for aquatic and riparian species and water quality. Waters of the state were initially classified by type using local knowledge and orthophotos and were represented on a set of water type maps. Currently, the public can find information about the water type assigned to a particular stream on the FPARS mapping site: <http://www.dnr.wa.gov/programs-and-services/forest-practices/forest-practices-application-review-system-fpars>. Because waters depicted on DNR water type maps were originally typed without a field visit, the maps can display incorrect water types and must be field verified prior to FPA approval.

## FP Rules for Water Type

Forest practices water typing rules define 4 types of streams (S, F, Np, and Ns) and 3 types of wetlands (forested, nonforested Type A [including bogs], and nonforested Type B). The 4 types of streams are classified hierarchically based on stream function and level of protection required for the stream. The following are the stream types in hierarchical order starting with the highest level (requiring the most protection):

- Type S streams — The highest level of classification, “Shorelines” of the state as designated by the Department of Ecology.
- Type F streams — The second highest level of classification, with fish or specifically defined human uses or both.
- Type Np streams — The next lowest classification in the stream hierarchy, these are non-fish-bearing streams that have a perennial flow of water year-round during a normal rainfall year and include intermittent dry portions of the perennial channel.
- Type Ns streams — The lowest level of classified streams, seasonal non-fish-bearing streams where surface flow is not present year-round.

Wetlands are classified into 2 broad categories: Forested and Nonforested. Nonforested Wetlands are further divided into Type A and Type B.

- Forested Wetlands — Wetlands that have a crown closure of 30% or more (see Glossary).
- Nonforested Wetlands — Wetlands that have a crown closure of less than 30%.
  - Type A Wetlands — Greater than 0.5 acre in size and associated with at least 0.5 acre of ponded or standing open water present for at least 7 consecutive days between April 1 and October 1.
  - Type B Wetlands — All other nonforested wetlands greater than 0.25 acre.

## On-site Review for Statewide Water Types

Field observations sometimes indicate that water types depicted on water type maps are incorrect. Landowners may use existing DNR water type maps as a starting point for information as they prepare their FPA for submittal to DNR, but must verify water types located within the areas proposed for forest management activities and indicate the correct water types on the FPA. Correct and accurate water typing is critical. When water is typed incorrectly, inadequate riparian protection measures may be applied, which may ultimately impact public resources. Water type verification occurs through measurement of the water’s physical characteristics as defined in [WAC 222-16-031](#) and [035](#), or through a protocol (fish) survey (to confirm fish presence/absence) as specified in [Forest Practices Board Manual, Section 13](#). Applicants are encouraged but not required to complete water type classification worksheets or protocol surveys and submit them with their FPA as supporting documentation for the water types indicated on the FPA.

Changes to DNR water type maps can be made when data from field observations indicate that the water type on the water type map is incorrect and/or if a stream is found on the ground in a different location than depicted on the map or not at all. To propose a permanent water type



change from the water type indicated on the DNR water type map, an individual submits a [Water Type Modification Form](#) to DNR. The Water Type Modification Form goes through a concurrence process that provides opportunity for review by several stakeholder groups.

The compliance monitoring field team observes physical criteria (such as stream width, stream gradient, etc.) to determine if there appear to be differences between water types recorded on FPAs and what is observed on the ground. These observations are made on randomly selected stream reaches and wetlands within the FPA areas that have been previously randomly selected for compliance monitoring for other rules that year. The compliance monitoring field team evaluates only the stream reach or wetland within the proposed boundary shown on the FPA; therefore, the information is not sufficiently comprehensive to determine all water types, depending on the length and location of the water within the FPA. Water types can sometimes only be determined by continuing to observe and measure beyond the FPA harvest unit boundary.

The CMP developed the Supplemental Water Information Form (SWIF), used specifically for the purpose of recording potential water type discrepancies and other water related discrepancies. A SWIF is completed when potential inconsistencies are found by the compliance monitoring field team between on-the-ground measurements and observations and what is described in the FPA. The information is reported in the compliance monitoring report. If an FP rule violation occurred because of the water type inaccuracy observed (i.e., the water did not receive enough riparian protection — buffer width and length), then the information relating to the violation is sent to the appropriate DNR region for follow up. The intent of using SWIFs is to obtain a sense of both the overall magnitude of possible water typing discrepancies on the landscape and the incorrect implementation of riparian buffers designed to protect aquatic resources. The compliance monitoring field team does not engage in formal water typing (e.g., fish protocol surveys) with the intent of changing water types, because that action has a defined process beyond the scope of the compliance review. The burden is on the landowner to ensure that the water types on the FPA have in fact been field validated.

## **Findings for Statewide Water Types**

Water types recorded on a SWIF are further broken down into waters correctly classified, underclassified, overclassified, and indeterminate. The latter 3 categories are defined as follows:

- Underclassified — Physical characteristics indicate that the water should have been typed on the FPA and protected on the ground at a higher level of the hierarchical water typing system. For example, the FPA depicts a Type Np water that after observation is found to be a Type F stream.
- Overclassified — Physical characteristics indicate that the water should have been typed on the FPA and protected on the ground at a lower level of the hierarchical water typing continuum. For example, the FPA depicts a Type F water that after observation is found to actually be a Type Np stream.
- Indeterminate — Waters for which the compliance monitoring field team determines there is not enough information to make a water typing determination. For example, when the compliance monitoring field team visits a site in the wettest part of the year

(winter) and cannot determine if the water would flow in the driest part of the year (summer), the compliance monitoring field team cannot determine with certainty if the water is a Type Np (perennial) or Ns (seasonal).

**Table 3. 2014 Water Typing Observation Information**

Water Type on FPA	# Waters in Standard Sample	# Waters Recorded on SWIF	SWIF # Waters Underclassified	SWIF # Waters Overclassified	SWIF # Waters Indeterminate
<b>F or S</b>	24	0	*	0	0
<b>Ns</b>	14	5	1	3	1
<b>Np</b>	14	0	0	0	0
<b>Type A Wetlands</b>	6	4	2	1	1
<b>Type B Wetlands</b>	8	2	0	1	1
<b>Forested Wetlands</b>	9	1	1	0	0
<b>Total</b>	75	12	4	5	3

\*Compliance Monitoring field protocols stipulate that F or S waters are not to be evaluated for underclassification.

Of the 75 sampled waters for this annual report, 12 samples called for SWIFs due to water typing discrepancies. Four samples were underclassified, resulting in an underclassification rate of roughly 8%. Of the 4 underclassified waters, 3 were wetlands where fish presence was observed. The other underclassified water was typed as Ns, but water flow was observed during the compliance monitoring field visit in September. Five samples were overclassified. The overclassified waters were typically typed as Ns waters and were observed to be nonexistent during the compliance monitoring field visit. Three samples were indeterminate. Two of the indeterminate observations were for wetlands. Bog indicators were observed by the compliance monitoring field team for a sampled Type B wetland. However, due to physical sampling limitations, a final water typing determination was not possible. (See Table 3.)

Additionally, 2 SWIFs were completed for non-water typing issues. A SWIF was filled out when the compliance monitoring field team observed a channel migration zone that was unreported on the accompanying application. Rule compliance was unaffected due to an excessively large no-cut buffer left by the landowner. In addition, a SWIF was completed for an overstated stream size (by the applicant) on a Type F water (stream was less than 10 feet wide).

## 5.2 Statewide Summary for FP Rule Compliance for RMZs, WMZs, and ELZs

Section 3.2 provides 2 summary tables: Table 4 lists the RMZ, WMZ, and ELZ prescriptions sampled in 2014; Table 5 shows statewide results for compliance with RMZ and WMZ FP rules. The data and findings for each prescription are discussed in Section 3.3 (Western Washington RMZs) and Section 3.4 (Statewide RMZs, WMZs, and ELZs).

**Table 4. RMZ, WMZ, and ELZ Prescriptions Sampled in 2014**

Western WA	Eastern WA	Statewide
RMZ — Option 1, Thinning from Below RMZ — Option 2, Leaving Trees Closest to Water	No sample unique to Eastern WA	WMZ — Wetlands RMZ — No Inner Zone Harvest ELZ — Type Ns & Np Activities RMZ — Type Np

Each prescription has a unique set of timber harvest requirements and includes the use of a corresponding set of protocols and questions to determine compliance status. FP rule prescriptions for Type F and N streams can be different for Eastern and Western Washington. However, samples were not separated by Eastern and Western Washington. Wetland rules are consistent for Eastern and Western Washington.

The reader should be aware that the reported results represent only the first year of a biennial sample. Therefore, confidence intervals in this report may be artificially wide (wider confidence intervals represents less confidence in the value) but are expected to narrow with additional sampling and completion of the analysis for the entire biennium. The small proportion of small forest landowner FPAs in Table 5 reflects the small proportion of total small forest landowner FPAs in the total FPA population that contain the prescriptions assessed.

**Table 5. 2014 Compliance with FP Rules for Riparian and Wetland Harvest Prescriptions**

		Western WA		Statewide					
		DFC1	DFC2	No Inner Zone Harvest	Np Activities	Ns Activities	Type A&B Wetlands	Forested Wetlands	Roads
<b>Small Forest Landowners</b>	# Compliant Rules	n/a	n/a	9	2	2	14	4	n/a
	# with Deviation	n/a	n/a	0	0	0	1	0	n/a
	% of Sample Compliant	n/a	n/a	100%	100%	100%	93%	100%	n/a
	Confidence Interval	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Prescriptions Assessed	0	0	2	2	2	4	2	0
<b>Large Forest Landowners</b>	# Compliant Rules	53	42	37	56	22	40	12	29
	# with Deviation	3	1	4	1	1	0	1	1
	% of Sample Compliant	94.6%	97.7%	90%	98%	96%	100%	92%	95.7%
	Confidence Interval	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Prescriptions Assessed	8	6	8	12	12	10	7	6
<b>All Landowners</b>	# Compliant	53	42	46	58	22	54	16	29
	# with Deviation	3	1	4	1	1	1	1	1
	% of Sample Compliant	94.6%	97.7%	92%	98%	96%	98%	94%	95.7%
	Confidence Interval	(90, 99)	(92, 100)	(78, 100)	(95, 100)	(87, 100)	(95, 100)	(80, 100)	(86, 100)
	Prescriptions Assessed	8	6	10	14	14	14	9	6

## 5.3 Western Washington RMZs



### 5.3.1 Western WA Type S and F Waters

Section 3.3.1 addresses Type S and F riparian prescriptions: DFC1, Thinning from Below; and DFC2, Leaving Trees Closest to the Water.

#### On-site Review for Western WA Type S and F Waters

During the compliance monitoring field review, there are questions on the [Western Washington Riparian Field Forms](#) common to all riparian harvest options for Type S and F waters, including the following:

- Is there any harvest within the core, inner, and outer zones?
- Is the site class (variable in determining inner zone width) consistent with DNR site class maps?
- Is the stream width (variable in determining inner zone width) the same as stated on the FPA? If not, does it impact the inner zone width?
- Are unstable slopes with the potential to deliver (sediment) bounded out of the harvest unit?

In addition to common questions relevant to all Type S and F water riparian prescriptions, specific Western Washington riparian prescription questions are asked on the Western Washington Riparian Field Forms that assesses the unique rules directed at individual harvest options.

### 5.3.1.1 Western WA Type S and F Waters — DFC1, Thinning from Below

Desired Future Condition Option 1 is available if DFC growth modeling results show an available surplus basal area that allows for harvest to take place in the inner zone. DFC calculations indicate if a forest stand meets basal area requirements, that is, if the stand is on a trajectory to meet the DFC of 325 square feet of basal area per acre at a stand age of 140 years. When DFC calculations indicate that harvest is allowed because the model projects that more basal area is available than needed to meet the target basal area in the FP rule, then the smallest diameter trees are allowed to be harvested, followed by the selective harvest of progressively larger trees until the surplus basal area limit has been reached (also referred to as “thinning from below”). This selection process is intended to establish a forest environment where the leave trees in the inner zone can grow larger in a shorter time and meet desired large wood, fish habitat, and water quality requirements more quickly. The widths of the inner zone and outer zone vary depending on the bankfull width of the stream and the site class. A minimum of 57 conifer trees per acre must be left in the inner zone. A minimum of 20 conifer trees per acre greater than 12 inches diameter breast height (DBH) must be retained in the outer zone. The leave trees in the outer zone may be dispersed evenly throughout the zone or clumped around sensitive features such as seeps, springs, and forested wetlands.

### Findings for Western WA Type S and F Waters — DFC1, Thinning from Below

Desired Future Condition Option 1 is the most complex Type F prescription to implement in terms of the number of conditions to be met. It occurs relatively rarely in the population of FPAs. In the 2014 sample, 8 FPAs statewide chose DFC1 as the harvest option from a total population of 18 FPAs. The resulting DFC1 prescription sample size was 8, and a total of 56 rules were evaluated.

**Table 6. 2014 Compliance Ratings for Western WA Type S and F Waters — DFC1, Thinning from Below**

RMZ Prescription	FP Rule Compliance Ratings					
	Compliant Ratings		Deviation Ratings			
	Exceeds (part of Compliant)	Compliant	Low	Moderate	Major	Indeterminate
DFC1 (%)	3.5%	94.6%	5.4%	0%	0%	0%
DFC1 (Rule Count)	2	53	3	0	0	0

Sample size = 8

Fifty-three of the sampled 56 rules were compliant for the DFC1 prescription sample, resulting in a 94.6% compliance rate. Of the 8 sites sampled, 5 were 100% compliant and 3 showed deviation from at least 1 FP rule in the prescription type. Of the sites with a Low Deviation rating, 1 site had less than the required number of outer zone trees; 1 site had inner zone leave trees that did not meet the diameter requirements; and 1 site revealed harvest in the core zone. This third deviation, per the compliance monitoring field team notes, involved an unaccounted for meander in stream course that was approximately 10 feet wide. (See Table 6.)

### 5.3.1.2 Western WA Type S and F Waters — DFC2, Leaving Trees Closest to the Water

Desired Future Condition Option 2 only applies to RMZs in site classes I, II, and III on streams that are less than or equal to 10 feet wide and to RMZs in site classes I and II for streams greater than 10 feet wide. For this option, DFC growth modeling results show an available surplus basal area that allows for harvest to take place in the inner zone. Trees are selected for harvest starting from the outermost portion of the inner zone first and then progressively closer to the stream. Twenty conifer trees per acre with a minimum DBH of 12 inches must be left in the harvested area of the inner zone. The widths of the inner zone and outer zone vary depending on the bankfull width of the stream and the site class. For site classes I, II, and III on streams less than or equal to 10 feet, there is a 30-foot no-harvest extension beginning at the outer edge of the core zone. For site classes I and II on streams greater than 10 feet, there is a 50 foot no-harvest extension beginning at the outer edge of the core zone. Twenty conifer trees per acre greater than 12 inches DBH must be retained after harvest in the outer zone, unless a large woody debris in-channel placement strategy is selected. Leave trees in the outer zone may be evenly dispersed throughout the zone or clumped around sensitive features.

### Findings for Western WA Type S and F Waters — DFC2, Leaving Trees Closest to the Water

Desired Future Condition Option 2 harvest is less complex to implement and is chosen more frequently than DFC1. In the 2014 sample, 6 DFC2 prescriptions were sampled from an estimated population of 49 FPAs. The resulting DFC2 prescription sample size was 6, and a total of 43 rules were evaluated.

**Table 7. 2014 Compliance Ratings for Type S and F Waters in Western WA — DFC2, Leaving Trees Closest to the Water**

RMZ Prescription	FP Rule Compliance Ratings					
	Compliant Ratings		Deviation Ratings			
	Exceed (part of Compliant)	Compliant	Low	Moderate	Major	Indeterminate
DFC2 (%)	18.6%	97.7%	2.3%	0%	0%	0%
DFC2 (Rule Count)	8	42	1	0	0	0

Sample size = 6

Forty-two of the sampled 43 rules were compliant for the DFC2 prescription sample, resulting in a 97.7% compliance rate. Of the 6 sites sampled, 5 were 100% compliant and 1 showed deviation from at least 1 FP rule in the prescription type. Harvest in the core zone was observed for the 1 sampled rule deviation; 3 harvested stumps were counted, resulting in a Low Deviation rating. All observed Exceeds ratings were the result of leaving more than the required amount of inner and outer zone leave trees. (See Table 7.)

## 5.4 Statewide RMZs, WMZs, and ELZs

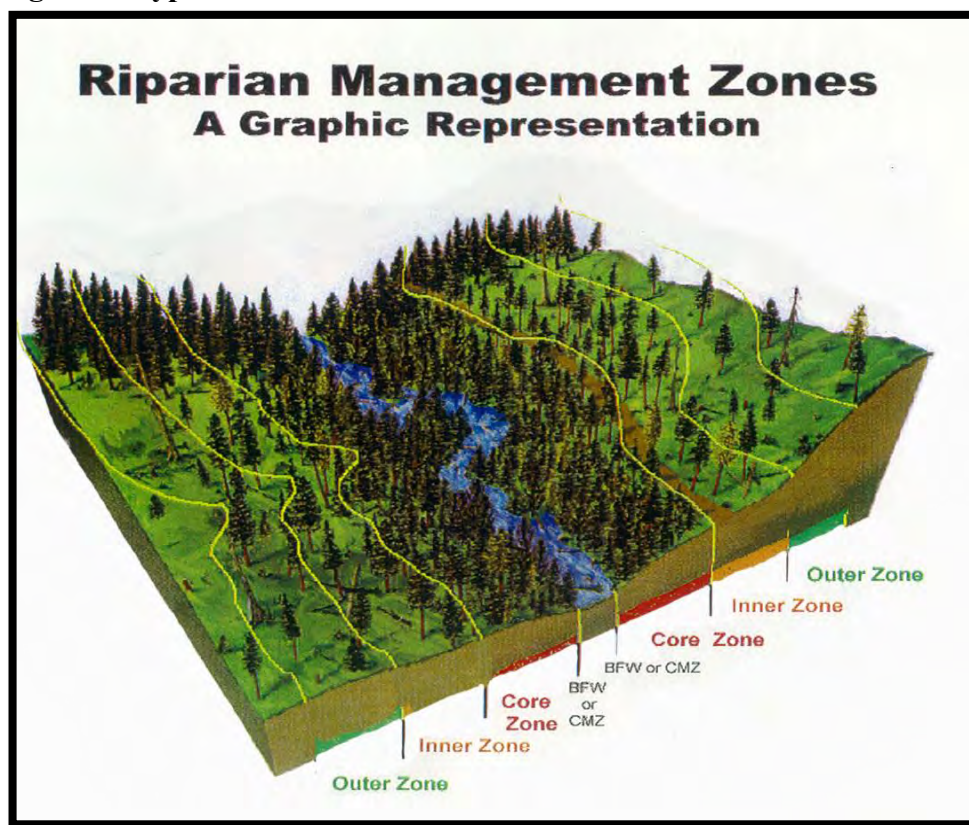


Protection measures adjacent to typed water in the state of Washington include protecting channel migration zones (CMZs); establishing riparian management zones (RMZs) along the full length of fish-bearing waters and along a portion of the length of perennial non-fish-bearing waters; retaining no-harvest buffers adjacent to sensitive sites; and establishing equipment limitation zones (ELZs), where equipment is limited along non-fish-bearing waters. RMZs adjacent to fish-bearing streams include a core zone, inner zone, and outer zone, with differing prescriptions delineated in FP rules for inner and outer zones (see Figure 3).

In Western Washington, no timber harvest or road construction is allowed in the 50-foot core zone (zone closest to the water), except for the construction and maintenance of road crossings and the creation and use of yarding corridors. The inner zone (middle zone, not including core zone) ranges from 10 to 100 feet, depending on width of the stream and the site class (see Glossary) of the forested stand. Timber harvest of excess trees in the inner zone is only allowed if predetermined stand requirements are met, which are intended to result in a mature riparian forest stand at 140 years of age (called “desired future condition,” or DFC). Timber harvest is allowed in the outer zone (adjacent to and outside the inner zone), with 20 riparian leave trees per acre retained following harvest.



Figure 3. Type S and F Water RMZs



### 5.4.1 Statewide Typed Waters

Protection along non-fish-bearing waters in Western Washington includes RMZs along at least 50% of the length of Type Np waters and around sensitive sites, and the establishment of ELZs for both Np and Ns waters. An ELZ is a 30-foot-wide area where equipment use is restricted in order to minimize ground and soil disturbance. The ELZ protects stream bank integrity and helps minimize sediment delivery to non-fish-bearing waters that could potentially be routed farther downstream to fish-bearing waters.

In Eastern Washington, riparian management is intended to result in stand conditions that vary over time. Management is designed to mimic local disturbance (such as wildfire) regimes in a way that protects riparian function conditions and maintains general forest health. Harvest adjacent to a Type S, F, or Np stream is based on the DNR site class map, timber habitat type, basal area, and shade requirements needed to protect the stream. Habitat types include Ponderosa Pine, Mixed Conifer, and High Elevation. The no harvest core zone along type S and F waters is 30 feet. Harvest units within the Bull Trout Habitat Overlay must leave all available shade within 75 feet of the bankfull width or CMZ, depending on which is greater. Np and Ns waters have an ELZ of 30 feet.

#### 5.4.1.1 Statewide Type S and F Waters — No Inner Zone Harvest

For the No Inner Zone Harvest (NIZH) option, DFC results show that existing stands in the combined core and inner zone do not meet stand requirements. Therefore, NIZH can take place, or sometimes the landowner elects not to harvest in the inner zone for operational or other reasons.

## Findings for Statewide Type S and F Water — No Inner Zone Harvest

No Inner Zone Harvest is the most frequently selected harvest strategy adjacent to fish-bearing waters. This harvest strategy occurred on an estimated 264 FPAs in the 2014 population. The resulting NIZH prescription sample size was 10, and a total of 50 rules were evaluated.

**Table 8. 2014 Compliance Ratings for Statewide Type S and F Waters — No Inner Zone Harvest**

RMZ Prescription	FP Rule Compliance Ratings					
	Compliant Ratings		Deviation Ratings			
	Exceeds (part of Compliant)	Compliant	Low	Moderate	High	Indeterminate
No Inner Zone Harvest (%)	4%	92%	6%	0%	2%	0%
No Inner Zone Harvest (Rule Count)	2	46	3	0	1	0

Sample size = 10

Forty-six of the sampled 50 rules were compliant for the NIZH prescription sample, resulting in a 92% compliance rate. Of the 10 sites sampled, 8 were 100% compliant and 2 showed deviation from at least 1 FP rule in the prescription type. Of the 4 noncompliant rules recorded, 3 were rated Low Deviation because of incorrect site class, harvest in the inner zone, and a CMZ not reported on the FPA. Harvest was observed in the inner zone through the observation of 4 stumps. The fourth deviant observation was rated High Deviation due to an incorrect number of outer zone leave trees. No leave trees were observed in the outer zone, 10 leave trees were required. (See Table 8.)

The Exceeds ratings were recorded on 2 separate samples for the same rule. Additional outer zone leave trees were left beyond what was required by rule.

### 5.4.1.2 Statewide Type Np Waters

Type Np streams and sensitive sites contribute to the quality of water and fish habitat in downstream Type S and/or F streams. They also provide habitat for some wildlife.

Fifty-foot-wide RMZs are required along portions (and specified locations) of Type Np streams. For example, a 50-foot-wide no-harvest RMZ is required where Type Np streams join a Type S or F stream.

The total distance of the 50-foot buffer required along a Type Np stream varies and depends on the length of the Type Np stream from the confluence with the Type S or F stream. At least 50% of a Type Np water's length must be protected by buffers on both sides of the stream (2-sided buffers). If the Type Np water on the FPA is located more than 500 feet upstream from the confluence of a Type S or F water, and if the Type Np water is more than 1,000 feet in length, then the minimum percentage of the length of Type Np water to be buffered varies per the table in [WAC 222-30-021\(2\)\(b\)\(vii\)](#).

Sensitive sites associated with Type Np streams must also be protected with buffers or harvest restrictions. These include headwater springs or the uppermost point of perennial flow; the intersection

of 2 or more Type Np waters; perennially saturated side-slope seeps; perennially saturated headwall seeps; and alluvial fans. No harvest is allowed within alluvial fans.

Type Np streams also require a 30-foot-wide ELZ. Equipment use and other forest practices are specifically limited, and mitigation may be required if activities expose the soil on more than 10% of the ELZ length.

### On-site Review for Statewide Type Np Waters

Questions asked on the Field Form for Type Np streams differ from those for Type S and F fish-bearing streams. Examples include the following:

- Is there evidence of equipment entry into the 30-foot ELZ? If so, was less than 10% of the soil within the ELZ exposed due to activities?
- Was the appropriate length of 50-foot no-harvest zone left on the given stream segment?

### Findings for Statewide Type Np Waters

Type Np streams were commonly encountered with an estimated 322 FPAs having 1 or more Np streams within their harvest boundaries. The resulting Np prescription sample size was 14, and a total of 59 rules were evaluated.

**Table 9. 2014 Compliance Ratings for Statewide Type Np Waters**

RMZ Prescription	FP Rule Compliance Ratings					
	Compliant Ratings		Deviation Ratings			
	Exceeds (part of Compliant)	Compliant	Low	Moderate	High	Indeterminate
Np Water (%)	0%	98.3%	1.7%	0%	0%	0%
Np Water (Rule Count)	0	58	1	0	0	0

Sample size = 14

Fifty-eight of the sampled 59 rules were compliant for the Type Np prescription sample, resulting in a 97% compliance rate. Of the 14 sites sampled, 13 were 100% compliant and 1 showed deviation from at least 1 FP rule in the prescription type. The 1 noncompliant rule recorded was rated Low Deviation for an incorrect uppermost point of perennial flow location and confluence buffer. (See Table 9.)

#### 5.4.1.3 Statewide Type Ns Waters

Buffers are not required for Type Ns streams. There is a 30-foot ELZ requirement, and mitigation measures are required if more than 10% of the soil in the ELZ is exposed.

### Findings for Statewide Type Ns Waters

Type Ns waters are common, occurring in an estimated 356 FPAs in the statewide population for the 2014 sample. The resulting Ns prescription sample size was 14, and a total of 25 rules were evaluated.

**Table 10. 2014 Compliance Ratings for Statewide Type Ns Waters**

RMZ Prescription	Forest Practices Rule Compliance Ratings					
	Compliant Ratings		Deviation Ratings			
	Exceeds (part of Compliant)	Compliant	Low	Moderate	High	Indeterminate
Ns Water (%)	0%	96%	0%	0%	4%	4%
Ns Water (Rule Count)	0	24	0	0	1	1

Sample size = 14

Twenty-four of the sampled 25 rules were compliant for the Ns prescription sample, resulting in a 96% compliance rate. Of the 14 sites sampled, 13 were 100% compliant and 1 showed deviation from at least 1 FP rule in the prescription type. The 1 noncompliant rule recorded was the result of an incorrectly typed stream. The compliance monitoring team observed flowing water in the channel of a stream that had been typed Ns by the landowner. The observed discrepancy resulted in a rating of High Deviation. The 1 Indeterminate rating resulted from the landowner/applicant’s wording on the FPA regarding water typing. (See Table 10.)

## 5.4.2 Statewide WMZs

Forest practices wetland rules are the same for Western and Eastern Washington. Wetland management zones have variable widths based on the size and type of wetland. Type A Wetlands greater than 5 acres have a minimum 50-foot WMZ width. Type A&B Wetlands of 0.5 to 5 acres have a minimum 25-foot WMZ width, while Type B Wetlands less than 0.5 acre and Forested Wetlands require no WMZ. Leave trees are required (by size and number) within the WMZ. There are no leave tree requirements for the Forested Wetlands type. Restrictions also apply regarding the maximum width of openings created by harvesting within the WMZ. Additionally, ground-based harvesting systems shall not be used within the minimum WMZ width without written approval from DNR.

### On-site Review for Statewide Wetlands

Protection measures for wetlands depend on the size and type of wetland. The information collected by the compliance monitoring field team varies depending on the type of wetland. Only one of the questions answered by the team is applicable to all wetlands:

- Were the wetlands typed and sized appropriately on the ground and consistent with the FPA?

In addition, for Type A&B Wetlands, the compliance monitoring field team evaluates the following:

- Leave trees in the WMZ for species, number, and size
- Is the variable buffer width appropriate relative to the WMZ table in the rules?
- If operations were conducted within the WMZ, were the openings less than 100 feet wide?
- If operations were conducted within the WMZ, were the openings no closer than 200 feet from each other?

- Approval by DNR for use of ground-based harvesting systems within the minimum WMZ and for any timber that was felled into or cable yarded across the wetland
- Protections applied when a WMZ overlaps an RMZ
- For particular leave tree requirements, if the harvest within the WMZ is greater than or less than 10%

If harvest occurs within a forested wetland, the compliance monitoring field team determines whether the harvest method is limited to low impact harvest or cable systems; and whether the wetland boundaries (if greater than 3 acres within the harvest unit) are delineated correctly and shown on the activity map by the landowner/applicant.

#### 5.4.2.1 Statewide Type A&B WMZs

##### Findings for Type A&B WMZs Statewide

Type A&B Wetlands are estimated to occur on 53 FPAs statewide in the 2014 population. The resulting Type A&B Wetlands prescription sample size was 14, and a total of 55 rules were evaluated.

**Table 11. 2014 Compliance Ratings for Statewide Type A&B WMZs**

WMZ Prescription	FP Rule Compliance Ratings					
	Compliant Ratings		Deviation Ratings			
	Exceeds	Compliant	Low	Moderate	High	Indeterminate
Type A&B (%)	0%	98.2%	0%	0%	1.8%	1.8%
Type A&B (Rule Count)	0	54	0	0	1	1

Sample Size = 14

Fifty-four of the sampled 55 rules were compliant for the Type A&B WMZ sample, resulting in a 98.2% compliance rate. Of the 14 sites sampled, 13 were 100% compliant and 1 showed deviation from at least 1 FP rule in the prescription type. The 1 noncompliant rule recorded was the result of an incorrectly typed wetland. The selected Type A Wetland was determined to be associated with a fish-bearing lake. This typing discrepancy resulted in a rating of High Deviation. The 1 indeterminate rating was a result of a Type A Wetland being potentially associated with a fish-bearing lake. A final determination could not be ascertained due to seasonal water flow conditions, and the associated Type S water in question was located on another landowner's property. (See Table 11.)

#### 5.4.2.2 Statewide Forested WMZs

##### Findings for Statewide Forested WMZs

Approximately 104 FPAs statewide contained Forested Wetlands in the 2014 sample population. The resulting Forested Wetlands prescription sample size was 8, and a total of 17 rules were evaluated.

**Table 12. 2014 Compliance Ratings for Statewide Forested WMZs**

WMZ Prescription	FP Rule Compliance Ratings					
	Compliant Ratings		Deviation Ratings			
	Exceeds	Compliant	Low	Moderate	High	Indeterminate
Forested (%)	17.6%	94.1%	0%	0%	5.9%	0%
Forested (Rule Count)	3	16	0	0	1	0

Sample size = 8

Sixteen of the sampled 17 rules were compliant for the forested WMZ sample, resulting in a 94.1% compliance rate. Of the 8 sites sampled, 7 were 100% compliant and 1 showed deviation from at least 1 FP rule in the prescription type. The 1 noncompliant rule recorded was the result of an incorrectly typed wetland. Fish presence was observed in the selected Forested Wetland, resulting in a rating of High Deviation. (See Table 12.)

## 6. Forest Practices Rule Compliance for Roads and Haul Routes



Section 4 provides rule and on-site review descriptions and compliance monitoring findings regarding the Standard Sample for roads and haul routes statewide.

Although Roads prescription sampling follows the same design as riparian sampling, Haul Routes prescription sampling is designed differently. Haul Routes sampling assesses each 0.1 mile segment of forest road for correct design and for construction or maintenance of roads to protect typed waters from sediment delivery. This strategy enables determination of the rate of compliance for the entire haul route specified on the FPA.

Findings are limited in this report (and all annual reports) due to smaller sample sizes that represent approximately half of the entire biennial sample. Caution must be taken when attempting to draw meaningful conclusions from the findings provided in this annual report. The data and findings shown here may or may not be an indicator for upcoming findings that will be provided when both the 2014 and 2015 field season data are combined and reported in the biennial report. The Compliance Monitoring Program offers the following data as a status update of CMP sampling.

A well-designed, located, constructed, and maintained system of forest roads is essential to both forest management and protection of public resources. Washington State forest practices rules — including those for road construction, maintenance, and abandonment and for “best management practices” — are

some of the most, if not the most, stringent in the country. The FP rules are designed to help ensure that forest roads are constructed, maintained, and abandoned to do the following:

- Provide for fish passage
- Prevent mass wasting
- Limit delivery of sediment and surface runoff to all typed waters
- Avoid capture and redirection of surface water or groundwater
- Divert road runoff to the forest floor
- Provide for the passage of some woody debris
- Protect stream bank stability
- Minimize construction of new roads
- Assure no net loss of wetland function

FP rules accomplish these goals through ensuring the proper location, design, construction, maintenance, and abandonment of forest roads, landings, and stream crossings.

The CMP collects data annually on sites where one or more of the following exists:

- Road construction
- Landing construction
- Type N stream road crossing construction, including fords
- Road abandonment
- Haul routes (forest roads used to truck timber to market)

### **FP Rules for Statewide Roads and Haul Routes**

FP rules for road construction, landing construction, Type F and N stream road crossings, road abandonment, and haul routes are explained below.

#### *Forest Road Construction*

Road construction is composed of 3 components: road location, road design, and actual construction. The road rules require specific standards for road location, design, and construction, which are reflected in the questions found in the compliance monitoring [Roads Field Form](#) (defined in the on-site review section, below).

- 1) Road location — FP rules require that roads be located to fit the topography to minimize alteration of natural features ([WAC 222-24-020](#)). Examples of FP rule requirements related to road location are the requirement that the landowner/applicant minimize the number of stream crossings and not locate roads in bogs or within natural drainage channels (except for crossings).
- 2) Road design — FP rules include road design standards that address construction techniques and water management ([WAC 222-24-020](#)). For example, new road construction on side slopes exceeding 60% that have the potential to deliver sediment to any typed water or wetland need to utilize full bench construction techniques ([WAC 222-24-020\[8\]](#)).
- 3) Road construction — Road construction requirements focus on maintaining stable road prisms and water crossing structures, and on minimizing sediment delivery to surface waters and wetlands ([WAC 222-24-030](#)). For example, road construction requires that erodible soil



disturbed during road construction needs to be located where it could not reasonably be expected to enter the stream network or needs to be seeded with noninvasive plant species.

### *Landing Location and Construction*

Landings are subject to several FP rules. Landings must not be located within specific areas such as natural drainage channels, RMZs, or WMZs. Landings must be constructed so that they are sloped to minimize accumulation of water on the landing. Excavation material shall not be sidecast where there is high potential for material to enter WMZs or within the bankfull width of any stream or the 100-year flood level of any typed water ([WAC 222-24-035](#)).

### *Type F and N Stream Crossings*

Installation, maintenance, and removal of bridges, culverts, and temporary water crossings are subject to several FP rules and to Forest Practices Board Manual, Section 5. For example, culvert placement must be designed so that the alignment and slope of the culvert parallels the natural flow of the stream and so that placement does not cause scouring of the streambed and erosion of the stream banks in the vicinity of the project. Additionally, bridges must not constrict clearly defined channels, and temporary water crossings must be constructed to facilitate abandonment ([WAC 222-24-040](#)).

### *Road Abandonment*

Landowners have the option to abandon forest roads, with the exception that in some watersheds landowners are required to abandon roads to keep the road ratio at a certain level. When a landowner chooses to abandon a forest road, specific standards delineated in the FP rules and Board Manual, Section 3, must be followed. For example, abandoned roads must be out-sloped, water barred, or otherwise left in a condition suitable to control erosion and maintain water movement within wetlands and natural drainages. An abandoned road must be blocked so that four-wheeled highway vehicles cannot pass the point of closure at the time of abandonment, and water crossing structures must be removed ([WAC 222-24-052\[3\]](#)).

### *Haul Routes*

FP rules state that roads currently used or proposed to be used for timber hauling must be maintained in a condition that prevents potential or actual damage to public resources ([WAC 222-24-051\[12\]](#)). The compliance monitoring field team observes and records observations for haul routes regarding level of sediment delivery.

## **On-site Review for Statewide Roads and Haul Routes**

In order to determine road compliance, the compliance monitoring field team visits FPA sites where forest road construction, landing construction, Type N stream road crossings, abandoned roads, and haul routes are present. The compliance monitoring field team uses the Roads Field Form and the Haul Route Field Form to record information onsite. The data recorded on the Roads Field Form and the Haul Route Field Form help the compliance monitoring field team determine road compliance for each FPA sampled.

### *Roads Field Form*

The compliance monitoring field team uses the Roads Field Form to record data observed for forest road construction, landing construction, Type N stream road crossings, and abandoned roads. The initial series of questions on the Roads Field Form assesses road surface conditions, drainage structure placement and stabilization, routing of drainage water to the forest floor, and potential delivery of sidecast. Stream crossing questions assess stream crossing placement, frequency, culvert sizing, positioning, and stabilization. Other questions address wetland crossings, road location, wetland replacement, abandonment and stabilization of temporary roads, road abandonment, and proper construction and drainage for forest road landings.

The following are examples of questions found on the Roads Field Form:

- Road location — “Does new road construction minimize stream crossings?” ([WAC 222-24-020\[5\]](#))
- Road design — “Where the potential for sediment delivery existed, was full bench construction utilized for roads built on slopes greater than 60%?” ([WAC 222-24-020\[8\]](#))
- Road construction — “Were erodible soils disturbed during construction stabilized to prevent the potential to deliver to typed waters?” ([WAC 222-24-030\[4\]](#))
- Road landing location and construction — “Was the landing sloped to minimize accumulation of water on the landing?” ([WAC 222-24-035](#)) (Western WA only)
- Type N stream crossings — “Are the alignment and slope of all culverts on grade with the natural streambed?” ([WAC 222-24-040\[2\]](#), [\[3\]](#), [\[4\]](#), and [\[5\]](#))
- Road abandonment — “Was the road blocked so that four-wheel highway vehicles cannot pass the point of closure at the time of abandonment?” ([WAC 222-24-052](#))

### *Haul Route Field Form*

The compliance monitoring field team uses the Haul Route Field Form to assess haul routes. The sampling method provides information for reporting the proportion of compliance/deviance, the level of sediment delivery (Table 13), and the cause of the noncompliance (Table 14).

There are 5 recorded levels of sediment delivery (No Delivery, De Minimis, Low, Medium, and High) used by the compliance monitoring field team for rating levels of sediment delivery, as well as 1 decision type (No Consensus). (See Table 13.)

**Table 13. Haul Route Sediment Delivery Level Categories**

<b>Delivery Level</b>	<b>Delivery Level Description</b>
<b>No Delivery</b>	Complete disconnection of sediment delivery to typed water. Considered compliant.
<b>De Minimis</b>	Overland flow from roads reaches typed waters, but sediment delivery is indeterminable from background levels of turbidity. Considered compliant.
<b>Low</b>	Low chronic or temporary delivery. Effects are observable at the site of entry (distance downstream less than 1 channel width) only are and not expected to magnify over time given the existing activity.
<b>Medium</b>	Measurable but noncritical levels of delivery. Visual plume at the reach scale.
<b>High</b>	Extensive or critical levels of delivery. Substantial violations of turbidity criteria or significant visual plumes that occupy the channel and go beyond the reach scale (for example, around multiple bends in a stream).
<b>No Consensus</b>	The observers do not agree on the classification. Comments are essential to determine the scope of the difference, recording each observer's classification and the basis of disagreement.

It is helpful, to determine, where possible, causes for sediment delivery. The compliance monitoring field team observes and records both primary and secondary causes of sediment delivery. (See Table 14.)

**Table 14. Potential Causes of Sediment Delivery**

<b>Potential Causes</b>	<b>Cause Description</b>
<b>Faulty cross drainage</b>	Inadequate frequency of or nonfunctioning drainage structures that carry road prism runoff or seepage, allowing sediment delivery to typed water
<b>Inadequate water crossing structures</b>	Absence of or nonfunctioning structures designed to pass typed water across a forest road, resulting in sediment delivery
<b>Obstructed or bermed ditch line</b>	Features of the road surface or ditch that divert water normally serviced by the ditch, causing sedimentation of typed water
<b>Intercepted water</b>	Water intercepted by road features and diverted to a channel other than its channel of origin prior to the road construction
<b>Contaminated ditchwater</b>	Ditchwater containing suspended sediment that flows into typed water
<b>Ruts/inadequate crown</b>	Perturbations of the road surface contributing sediments to runoff that reaches typed water
<b>Driving in ditch line</b>	Vehicular disturbance of stabilized ditches, resulting in sediment reaching typed water
<b>Haul on native surface or inadequate rock</b>	Road haul on a running surface containing fine particles that are captured by runoff and contributed as sediment to typed water
<b>Water channeled to eroded/failing slopes</b>	Water flow or runoff across unstabilized road features that contributes sediment to typed water
<b>Road fill failure</b>	Sediment resulting from the effects of gravity on the fill (slumps, raveling, etc.) being deposited in or carried by runoff to typed water
<b>Cut slope failure</b>	Sediment resulting from the effects of gravity on the cut slope (slumps, raveling, etc.) being carried by ditch flow to typed water

## Findings for Statewide Roads and Haul Routes

This section summarizes data from both the Roads Field Forms and Haul Route Field Forms.

### Roads Findings

Road construction or abandonment occurred on an estimated 591 FPAs in the 2014 sample. The resulting Roads prescription sample size was 6, and a total of 30 rules were evaluated.

**Table 15. FP Rule Compliance for 2014 Road Activities**

Statewide Road Activities for 2014		
All Landowner Types	Status of Compliance	Road Activities Rule Compliance
	# of Rules Sampled	30
	# Compliant Rules	28
	# with Deviation	2
	Compliance %	96%
	95% Confidence Interval*	CI (86, 100)

Sample size = 6

\*CI is confidence interval at the 95% confidence level

Twenty-eight of the sampled 30 rules were compliant for the Roads prescription sample, resulting in a 96% compliance rate. Of the 6 sites sampled, 4 were 100% compliant and 2 showed deviation from at least 1 FP rule in the prescription type. At 1 of the noncompliant sites, water was observed running across the road surface due to an inadequately sized ditch, resulting in a deviation. The other noncompliant observation was the result of a drainage structure not installed at the natural grade of the stream. Both noncompliant rules had a rating of Low Deviation. (See Table 15.)

### Haul Routes Findings

The Haul Route prescription sample included an inspection of haul routes along forest roads from the farthest points in the FPA to public access roads. In each sample, the entire road was observed if it was less than 5 miles long. If the entire road was over 5 miles, ten 0.5-mile-long road segments were observed. Within each 0.5 mile, every 0.1-mile segment was observed as to its actual or potential delivery of sediment to typed water; and the primary and secondary causes for the delivery (see Table 17) were also recorded. The compliance monitoring field team recorded compliance information for haul routes in general and also specifically for haul routes categorized by side slopes less than or greater than 60%. The data for side-slope percentage provide information needed to fulfill requirements for Clean Water Act assurances. (For more information see [2009 Clean Water Act Assurances Review of Washington's Forest Practices Program](#).)

**Table 16. Haul Route Compliance Summary**

Compliant		Deviation		
91% (80, 100) CI*		9% (0, 20) CI		
No Delivery	De Minimis	Low	Medium	High
87% (76, 99) CI	3.9% (0, 8.5) CI	3.1% (0, 7) CI	5.7% (0, 17) CI	0%

\*CI is confidence interval at the 95% confidence level

**Table 17. Haul Route Deviation by Cause**

<b>Primary Cause</b>	<b>% Deviation with This Primary Cause</b>
Inadequate water crossing structures	2.6%*
Contaminated ditchwater	2.6%
Other (described in comments)	18%
Faulty cross drainage	2.6%
Stream of Spring Intercepted	5.1%
Road fill failure	2.6%
Sediment from stream adjacent parallel road	67%

\*Over 60% of inadequate water crossings also exhibited ruts or inadequate crowns that contributed to sediment delivery.

The overall 2014 haul route compliance rate is 91% (Table 16). Sediment from stream adjacent parallel roads accounted for 67% of the deviations (Table 17). The 18% that aggregates the “other” category is comprised of non-point-source sediment delivery and blocked drainage structures (Table 17). For efficiency reasons, haul routes were observed on FPAs that had been selected for the harvest prescription sample. Since this is not an independent selection, there is some possibility of bias.

## 7. Forest Practices Application Compliance



Section 5 addresses compliance with the forest practices application (FPA).

Overall FPA compliance generally mirrors FP rule compliance on individual FPAs; however, occasionally one may be compliant while the other is not. When the prescription deviates from the FP rules but is compliant with the FPA, there are typically mistakes in the timber harvest design layout and/or approval process. When the FPA is compliant with FP rules but deviates from the landowner's stated protections on the FPA, typically the landowner proposed activities that were more conservative than what was implemented. (See Table 18.)

**Table 18. 2014 Compliance with FPAs for Riparian and Wetland Harvest Prescriptions**

	Status of Compliance	Western WA		Statewide					
		DFC1	DFC2	No Inner Zone Harvest	Np Activities	Ns Activities	Type A&B Wetlands	Forested Wetlands	Roads
	# Compliant Rules	0	0	9	2	4	16	4	n/a
	# with Deviation	0	0	0	0	0	1	0	n/a
<b>Small Forest Landowners</b>	% of Sample Compliant	n/a	n/a	100%	100%	100%	94%	100%	n/a
	Confidence Interval	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Prescriptions Assessed	0	0	2	1	2	4	2	0
	# Compliant Rules	52	42	38	54	23	41	13	29
	# with Deviation	3	1	3	1	0	0	1	1
<b>Large Forest Landowners</b>	% of Sample Compliant	94.5%	97.7%	92.7%	98.2%	100%	100%	93%	95.7%
	Confidence Interval	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	Prescriptions Assessed	8	6	8	13	12	10	7	6
	# Compliant Rules	52	42	47	56	27	57	17	29
	# with Deviation	3	1	3	1	0	1	1	1
<b>All Landowners</b>	% of Sample Compliant	94.5%	97.7%	94%	98.3%	100%	98.3%	94.4%	95.7%
	Confidence Interval	(90, 99)	(92, 100)	(85, 100)	(95, 100)	n/a	(95, 100)	(82, 100)	(86, 100)
	Prescriptions Assessed	8	6	10	14	14	14	9	6

**Table 19. 2014 Comparison between FPA and Rule Compliance Assessments by Count**

	<b>RMZ Prescription</b>	<b>Total Prescriptions Sampled</b>	<b>FPA and Rule Compliance the Same</b>	<b>Deviation from FPA and Rule Compliant</b>	<b>FPA Compliant and Deviation from Rule</b>	<b>Deviation from Rule and FPA Indeterminate</b>	<b>FPA Compliant / Rule Indeterminate</b>
<b>Statewide</b>	RMZ — No Inner Zone Harvest	10	10	0	0	0	0
	RMZ — Type Np Prescriptions	14	14	0	0	0	0
	RMZ — Type Ns Prescriptions	14	13	0	0	1	0
	WMZ — Type A&B Wetlands	14	12	1	1	0	0
	WMZ — Forested Wetlands	9	8	0	1	0	0
	Roads	6	6	0	0	0	0
<b>Western WA</b>	RMZ — Type S or F Inner Zone Harvest DFC1	8	8	0	0	0	0
	RMZ — Type S or F Inner Zone Harvest DFC2	6	6	0	0	0	0



## Findings for FPA/FP Rule Compliance Differences

There are few differences between FPA compliance and FP rule compliance for the 2014 sample. Differences were found in the statewide Type Ns and Type A&B Wetlands prescription samples. (See Table 19.)

Within the statewide Type Ns prescription, the difference occurred as a deviation from the FPA/Rule Compliant, where the landowner treated the stream as an Ns but it was determined to be an Np by the CMP. The landowner used ambiguous “typing” related language on the FPA. The FPA indicated that if no flowing water was observed in the channel, the stream would be typed Ns for harvest related operations. Neither the Water Type Modification Form nor related Interdisciplinary Team documentation was received by region FP staff. During the compliance monitoring field visit, flowing water was observed in the channel, resulting in the determination of Type Np water. The field visit occurred in September, near to the time of seasonally low water flows. The sample was concluded to be a deviation from FP rules; however, due to the ambiguous language on the FPA, application compliance was rated Indeterminate.

Within the Type A&B Wetlands prescription, 2 samples deviated from either rule or application compliance. For the first sample, the landowner declared on the FPA that a 50-foot no-cut buffer would be utilized around a Type B wetland, when only 25-foot no-cut buffer was required by FP rules. During the compliance monitoring site visit, it was observed that the landowner met the 25-foot requirement but harvested within 50 feet of the wetland. The sample was compliant with FP rules but not compliant with the language on the FPA. For the second sample, the landowner declared that the selected wetland was Type A. However, during the compliance monitoring field review, it was determined that the wetland was an associated wetland of a fish-bearing water. This determination resulted in the sample being compliant with the FPA but deviating from the FP rules.

## 8. Report Discussion

Discussion regarding results in this annual report is limited because data collected are only for 1 year of a 2-year sample. The 2016 biennial report will utilize the combined data from both the 2014 and 2015 field seasons for results, discussion, and conclusions.

### Riparian and Wetland Compliance Proportioned across the Population

Tables that describe 2014 riparian and wetland findings are located in Sections 3.2, 3.3, and 3.4 for individual prescription types. Section 3 also provides estimates of the population sizes for each prescription type. Table 20 (below) summarizes FP rule compliance according to these estimated populations. The sampling methodology employed provides desired precision for a biennial sample but does not support an unbiased way to combine rates and weight by their proportion in the population. Therefore, CMP cannot offer, for example, an overall compliance rate for fish-bearing streams.

**Table 20. 2014 Estimated Population Size and Associated FP Rule Compliance**

Prescription Type	Estimated Population of FPAs with the Prescription	Compliance %
RMZ — Type Np Prescriptions	322	98%
RMZ — Type Ns Prescriptions	356	96%
RMZ — Type S or F No Inner Zone Harvest	264	92%
Forested Wetlands	104	94%
Type A&B Wetlands	53	98%
Western WA RMZ — Type S or F Inner Zone Harvest DFC2	49	98%
Western WA RMZ — Type S or F Inner Zone Harvest DFC1	18	95%
Roads	591	96%
Haul Routes	2,273	91%

### CMP Challenges

#### *Representation of Complete Compliance*

In this annual report, there is a danger with interpretation and perception when compliance rates are calculated and presented. The reader should avoid interpreting a deviation assessment as a failure of the prescription. Such a rating is merely an assessment of whether or not the prescription was in compliance with the affected FP rules included in the prescription. In most scenarios where there is deviation from at least 1 FP rule in the prescription, there is compliance with the remaining FP rules in the prescription. In fact, it is not unusual for prescriptions rated with a minor deviation to also exceed rule requirements for some FP rules. For example, with DFCs, if there were too few outer zone trees, there were often also excess trees in the inner zone, where trees have greater riparian benefits to

streams. In this example, the letter of the rule may not have been met, but many more trees remained in the RMZ than the minimum required by rule.

The expectation is for landowners to follow all FP rules. However, there is more to evaluating compliance with FP rules than simply a compliance rating for prescription types. The CMP continues to work toward finding better ways to report a more complete picture of the results.

### *Sample and Measurement Error*

The CMP resolves the inability to determine statistical variability for average values by assigning a standard absolute 5% measurement error tolerance. This measurement error tolerance applies for only 2 specific measurements: when determining 1) leave tree to edge of bankfull width; or 2) buffer widths and lengths or floors within no-harvest RMZ areas. When a landowner's buffer is within 5% of the compliance monitoring field team's measured buffer, the values are considered the same. If the landowner's buffer value falls outside the 5% error tolerance, the compliance monitoring field team's measured buffer is assumed to be correct and the landowner's buffer incorrect.

Measurement methods involving averages such as stream width continue to be contentious because of the application of the absolute error value of 5%. This becomes problematic when the stream width is very near the threshold width. Imposing the set value of 5% may appear imprudent when there is high variability in individual stream width measurements.

### *Variation in Natural Conditions*

Because natural features are variable, on-site conditions do not fit neatly into FP rule categories. When this occurs, review team members may opt to record the compliance as Indeterminate. The challenge is to improve understanding of the conditions and rule to minimize and ultimately eliminate Indeterminate determinations. This may involve revisiting rule interpretation and how to apply the rules in imprecise situations or developing suggested changes to make FP rules clearer.

### *Shade*

Shade is a key function provided by the RMZ and as such is of interest to the CMP for monitoring. However, compliance monitoring of riparian shade rules has presented challenges that have precluded the ability to monitor for shade compliance.

Checking shade documentation for compliance and taking measurements in the field to determine if the required amount of vegetation was left to meet temperature standards both continue to be issues. Measurement repeatability is of concern when using a densiometer (the instrument used to determine shade). Also, when the compliance monitoring field team conducts an on-site review, the trees have been harvested, so it is impossible to re-create original conditions. Currently, the CMP does not take shade measurements in the field.

## **9. Forest Practices Program/Forest Practices Rule Changes Based on Compliance Monitoring Feedback**

Several rule and Board Manual updates are currently in process as a result of the 2012–2013 CMP biennium report. Leave tree, DFC, and RMZ length rule and Board Manual clarifications are currently under review and will be completed by 2016. Rule and Board Manual clarifications were presented at the May 2015 Forest Practices Board meeting.

# 10. Glossary

## **bankfull width (BFW).**

- a) **For streams** — The measurement of the lateral extent of the water surface elevation perpendicular to the channel at bankfull depth. In cases where multiple channels exist, bankfull width is the sum of the individual channel widths along the cross section (see Board Manual, Section 2).
- b) **For lakes, ponds, and impoundments** — The line of mean high water.
- c) **For tidal water** — The line of mean high tide.
- d) **For periodically inundated areas of associated wetlands** — The line of periodic inundation, found by examining the edge of inundation to ascertain where the presence and action of waters are so common and usual, and of so long a duration in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland.

**basal area.** The area in square feet of the cross section of a tree bole measured at 4.5 feet above the ground.

**Bull Trout Habitat Overlay.** Those portions of Eastern Washington streams containing bull trout habitat as identified by the Department of Fish and Wildlife’s bull trout map.

**channel migration zone (CMZ).** The area within which the active channel of a stream is prone to move, resulting in a potential near-term loss of riparian function and associated habitat adjacent to the stream, except as modified by a permanent levee or dike. For this purpose, “near-term” means the time scale required to grow a mature forest. (See Board Manual, section 2, for descriptions and illustrations of CMZs and delineation guidelines.)

**clear-cut.** A harvest method in which the entire stand of trees is removed in 1 timber harvesting operation (except for trees required by rule or law to be left uncut).

**confidence interval.** A type of interval estimate of a population parameter, used to indicate the reliability of an estimate. Confidence intervals consist of a range of values (interval) that act as good estimates of the unknown population parameter.

**crown closure.** The percentage of canopy overlying the forest floor.

**desired future condition (DFC).** The stand conditions of a mature riparian forest at 140 years of age, the midpoint between 80 and 200 years. Where basal area is the only stand attribute used to describe 140-year-old stands, these are referred to as the “target basal area.” The DFC is a reference point on a pathway and not an endpoint for forest stands.

**diameter breast height (DBH).** The diameter of a tree at 4.5 feet above the ground measured from the uphill side.

## **dominant and co-dominant trees.**

- a) **dominant** — Trees or shrubs with crowns receiving full light from above and partly from the side. Typically larger than the average trees or shrubs in the stand, with crowns that extend above the general level of the canopy and are well developed but possibly somewhat crowded on the sides.

- b) **co-dominant** — A tree that extends its crown into the canopy and receives direct sunlight from above and limited sunlight from the sides. One or more sides of a co-dominant tree are crowded by the crowns of dominant trees.

**equipment limitation zone (ELZ).** A 30-foot-wide zone measured horizontally from the outer edge of the bankfull width of Type Np or Ns waters. ELZ rules apply to all perennial and seasonal non-fish-bearing streams.

**end hauling.** The removal and transportation of excavated material, pit or quarry overburden, or landing or road cut material from the excavation site to a deposit site not adjacent to the point of removal.

**finite population correction factor.** A formula frequently used in statistics and probability that allows adjustment to a population from larger to smaller or to indicate no change in the population. The result of the formula's calculation is called the "z-factor."

**forest practices application or notification (FPA or FPN).** The DNR form used by forest landowners to apply for approval of a class III or IV forest practice or to notify DNR that they are conducting a class II forest practice.

- a) **FPA** — An application for a permit to conduct a site class III or IV forest practice. Site class III and IV forest practices have a higher potential to impact a public resource than does a site class II forest practice.
- b) **FPN** — A notification to DNR that a class II forest practice will take place. Class II forest practices have less than ordinary potential to damage a public resource.

**forest road.** Since 1974, lanes, roads, or driveways on forestland used for forest practices. "Forest road" does not include skid trails, highways, or local government roads except where the local governmental entity is a forest landowner. For road maintenance and abandonment planning purposes only, "forest road" does not include forest roads used exclusively for residential access located on a small forest landowner's forestland.

**full bench road.** A road constructed across a slope without using any of the material removed from the hillside as part of the road. This construction technique is usually used on steep or unstable slopes.

**laser hypsometer.** An instrument that measures the distance to the top and bottom of an object and that measures the angle between the lines from the observer to each top and bottom to calculate height of the object.

**100-year flood level.** A "100-year" event means a calculated flood event flow based on an engineering computation of flood magnitude that has a 1% chance of occurring in any given year.

**partial cut strategy.** The removal of a portion of the merchantable volume in a stand of timber so as to leave an uneven-aged stand of well-distributed residual, healthy trees that will reasonably utilize the productivity of the soil.

**prescription.** A grouping of similar rules by forest practices activity type (e.g., No Inner Zone Harvest, Desired Future Condition Option 1, Desired Future Condition Option 2, Non-Fish-Bearing Perennial Stream, Non-Fish Bearing Seasonal Stream, Type A&B Wetlands, Forested Wetlands, Roads, and Haul Routes).

**public resources.** Water, fish, and wildlife; also, capital improvements of the state or its political subdivisions.

**riparian function.** Includes bank stability, the recruitment of woody debris, leaf litter fall, nutrients, sediment filtering, shade, and other riparian features important to both riparian forest and aquatic system conditions.

**riparian management zone (RMZ).** The area located on each side of a Type S, F, or N stream, where trees are left to provide protection from disturbance when forest practices activities such as timber harvest are conducted.

**sensitive sites.** Areas near or adjacent to Type Np water and that have one or more of the following:

- a) **headwall seep** — A seep located at the toe of a cliff or other steep topographical feature and at the head of Type Np water, connecting to the stream channel network via overland flow and characterized by loose substrate and/or fractured bedrock with perennial water at or near the surface throughout the year.
- b) **side-slope seep** — A seep within 100 feet of Type Np water located on side slopes with grades greater than 20%, connected to the stream channel network via overland flow and characterized by loose substrate and fractured bedrock, excluding muck with perennial water at or near the surface throughout the year. Water delivery to the Type Np channel is visible by someone standing in or near the stream.
- c) **Type Np intersection** — The intersection of 2 or more Type Np waters.
- d) **headwater spring** — A permanent spring at the head of a perennial channel. Where a headwater spring can be found, it will coincide with the uppermost extent of Type Np water.
- e) **alluvial fan** — A depositional landform consisting of a cone-shaped deposit of waterborne, often coarse-sized sediments.

**sidecast.** The act of moving excavated material to the side and depositing such material within the limits of construction or dumping it over the downhill side and outside the limits of construction.

**significance level.** A fixed probability of wrongly rejecting the null hypothesis H0, when the hypothesis is in fact true. The smaller the significance level, the better the protection for the null hypothesis. Including a significance level prevents the investigator, as far as possible, from inadvertently making false claims.

**site class.** A growth potential rating for trees within a given area based on soil surveys. The designated site class along Type S or F streams will determine the width of the RMZ.

**site index.** An index based on ranges of site classes. For example:

**50-year site index range (state soil survey)**

Site class	Years
I	137+
II	119–136
III	97–118
IV	76–96
V	< 75

**stand requirement.** The number of trees per acre, the basal area, and the proportion of conifers in the combined core and inner zone such that the growth of the trees would meet the desired future condition.

**stream adjacent parallel roads.** Roads (including associated right-of-way clearing) in an RMZ on a property that have an alignment parallel to the general alignment of the stream, including roads used by others under easements or cooperative road agreements. Also included are stream crossings where the alignment of the road continues to parallel the stream for more than 250 feet on either side of the stream. Not included are federal, state, county, or municipal roads not subject to forest practices rules, or roads of another adjacent landowner.

**temporary road.** A forest road constructed and intended for use during the life of an approved FPA or FPN.

**uppermost point of perennial flow.** The point in the stream where water begins to flow perennially (year-round) downstream.

**wetland management zone (WMZ).** The area located around the perimeter of a wetland where trees are left to provide protection from disturbance, as well as shade and nutrients for the wetland.

**yarding corridor.** A narrow, linear path through an RMZ to allow suspended cables necessary to support cable logging methods, or to allow suspended or partially suspended logs to be transported through these areas by cable logging methods.



# 11. Appendix A: Statistical Methods

## Methods for Confidence Intervals

There are 2 types of compliance proportions estimated in this report: simple proportions and ratio proportions. Estimation for both types is described below, with examples.

### *Simple Proportions*

Most compliance proportions estimated in this report are simple proportions. FPAs containing individual prescriptions are sampled until the target sample size is reached. One prescription is evaluated for each FPA, so the compliance proportion is simply the number of compliant FPAs divided by the total sampled for each prescription. This is a binomial proportion, and 95% confidence intervals were estimated using the F-distribution as described in Zar (1996: 524):

$$LCL = \frac{X}{X + (n - X + 1) * F_{\alpha(2), \nu1, \nu2}},$$

$$UCL = \frac{(X + 1) * F_{\alpha(2), \varpi1, \varpi2}}{n - X + (X + 1) * F_{\alpha(2), \varpi1, \varpi2}},$$

where

$LCL$  = lower confidence limit,

$UCL$  = upper confidence limit,

$X$  = the number of compliant activities,

$n$  = the total number of activities, and

$F$  = the F-distribution critical value for the given alpha and degrees of freedom,

$$\nu1 = 2(n - X + 1),$$

$$\nu2 = 2X,$$

$$\varpi1 = 2(X + 1),$$

$$\varpi2 = 2(n - X).$$

These binomial confidence intervals are not symmetric.

Because there is a finite population of FPAs, the confidence intervals are corrected using the finite population correction factor. The overall population size for each prescription (i.e., the number of completed FPAs containing the prescription) is not known, but can be estimated based on the number of FPAs that were opened and found to be part of the population containing the given prescription. We estimate  $\hat{N}$  for an individual prescription as follows:

$$\hat{N} = \frac{n_1 \times F_1}{f_1},$$

where

$F_1$  = the total number of FPAs approved in Year 1,

$f_1$  = the number of FPAs evaluated for membership in the population (“opened”) in Year 1, and

$n_1$  = the number of FPAs opened that contained road/riparian prescriptions in Year 1.

The finite population correction factor (FPCF) is  $1 - \frac{n}{\hat{N}}$ .

To correct the confidence intervals for the finite population, we follow the equation in Zar (1996: 527) as follows:

$$LCL_c = \frac{X - 0.5}{n} - \left( \frac{X - 0.5}{n} - LCL \right) \times \sqrt{1 - \frac{n}{\hat{N}}},$$

$$UCL_c = \frac{X + \frac{X}{n}}{n} + \left( UCL - \frac{X + \frac{X}{n}}{n} \right) \times \sqrt{1 - \frac{n}{\hat{N}}}.$$

It is possible for the upper confidence bound to exceed 100%. In these cases, the confidence bound is set to 100%.

### **Example**

The proportion of statewide Type A Wetland prescriptions that are compliant is an example of a simple proportion. For 2012, there were 12 FPAs containing Type A Wetland prescriptions that were evaluated for application compliance. Of these, 10 out of 12 were compliant with the application:

$$n = 12$$

$$X = 10$$

$$\frac{10}{12} = 0.83 \text{ (83\% compliant)}$$

$$v1 = 6$$

$$v2 = 20$$

$$w1 = 22$$

$$w2 = 4$$

$$LCL = \frac{10}{10 + (12 - 10 + 1) * 3.128} = 0.52(52\%)$$

$$UCL = \frac{11 * 8.533}{12 - 10 + (11) * 8.533} = 0.98(98\%)$$

The population estimate for 2012 Type A Wetlands is 54. Correcting for finite populations,

$$LCL_c = \frac{10 - 0.5}{12} - \left( \frac{10 - 0.5}{12} - 0.52 \right) \times \sqrt{1 - \frac{12}{54}} = 0.55 \text{ (55\%)},$$

$$UCL_c = \frac{10 + 0.83}{12} + \left(0.98 - \frac{10 + 0.83}{12}\right) \times \sqrt{1 - \frac{12}{54}} = 0.97 \text{ (97\%)},$$

In this case, the FPCF changed the confidence interval from (52, 98) to (55, 97).

### *Ratio Proportions*

Some compliance proportions are estimated using a ratio proportion. This is necessary when both the numerator and the denominator of the proportion are random variables. The only estimation that used a ratio proportion was the haul route analysis. The haul route compliance for each FPA is the length of road that is compliant divided by the length of road evaluated. The denominator of the compliance ratio is a random variable because the length of road being evaluated differs among FPAs. In this case, the estimated compliance proportion is

$$\hat{p} = \frac{\sum_{i=1}^n y_i}{\sum_{i=1}^n x_i},$$

which is the total length of compliant haul route segments divided by the total length of haul route segments that were sampled across all FPAs ( $n$  is the number of FPAs sampled).

A 95% confidence interval for the proportion compliant is formed as follows:

$$\hat{p} \pm t_{.025, (n-1)} \cdot SE(\hat{p}),$$

where  $t_{.025, (n-1)}$  is the 97.5th percentile of the student- $t$  distribution with  $(n-1)$  degrees of freedom,  $n$  is the number of sampled FPAs, and

$$SE(\hat{p}) = \frac{\sqrt{n \cdot \left(1 - \frac{n}{N}\right) \cdot \sum_{i=1}^n (y_i - \hat{p}x_i)^2}}{\sqrt{(n-1)} \cdot \sum_{i=1}^n x_i} \quad (\text{Cochran 1977: 32}).$$

These confidence intervals are symmetric. Note that the FPCF is already built in to this equation. It is possible for the upper confidence bound to exceed 100% — in these cases the confidence bound is set to 100%.

# 12. Appendix B: Bankfull Width Error Tolerance

Board Manual (Section 2.1.3) prescribes a sample of at least 10 evenly spaced measurements over 500 feet to determine average bankfull width (BFW). Several cases have arisen using the Board Manual stream width protocol in which the outcome of the review field sample average is very close to the threshold value where the required riparian management zone (RMZ) width changes. A formula based on sample error will be used to determine compliance, to determine the probability that 1) a landowner could have followed the proper procedures for measuring BFW; and 2) the landowner’s measured result is less than 10 feet. The basis for this determination is 20%. Two examples follow:

## Example 1

Station	BFW (ft)
0	n/a
50	15
150	17.5
250	13.5
350	14
450	7
550	12.7
650	12
750	9
850	14
950	7
1050	13
1150	10
1250	13
1350	12
1450	23
1550	6
1650	13.5
1750	33
1850	16
1950	3
	264.2 Sum
	20 Count
	13.21 Mean
	6.41937 SD

Using a t-distribution instead of a normal distribution because the variance is an estimate, we estimate that the probability that a landowner could have measured this stream and recorded an average BFW less than 10 feet to be 7.4%. This means that we estimate a less than 1 in 10 chance that a landowner could have measured an average BFW of less than 10 feet following proper procedures. If a landowner had called this a small stream, we would consider this a deviation from compliance.

## Example 2

Station	BFW (ft)	
50	5.5	
150	9	
250	5.5	
350	5	
450	7	
550	8	
650	20.5	
750	15.5	
850	7	
950	5	
1050	19	
1150	13	
1250	7.5	
1350	13.5	
1450	24	
	165.00	Sum
	15	Count
	11.00	Mean
	6.230684	SD

Using the same process as in Example 1, we estimate the probability that a landowner could have measured this stream and recorded an average BFW of less than 10 feet to be 31.2%. This means there is an 1 in 3 chance that a landowner could have measured a BFW of less than 10 feet following proper procedures. Thus, we cannot be sure that a landowner did not follow the rules, because there is a greater than 1 in 4 chance that the landowner did follow the rules and still got a measurement of less than 10 feet. This stream would be compliant.

## 13. References

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**Timber, Fish, & Wildlife Policy Committee**  
**Policy Co-Chair:**  
Adrian Miller, Olympic Resource Management

January 20, 2015

TO: Forest Practices Board

FROM: Adrian Miller, Co-Chair

SUBJECT: TFW Policy Co-Chair Process & Description

Policy had already identified the need for a process and description for Policy Co-Chairs when the Board directed all committees to do so. Policy has drafted and finalized a Policy Co-Chair Process & Description document in response to the Board's request.

cc: Forest Practices Board Liaisons  
TFW Policy

**Timber, Fish, & Wildlife (TFW) Policy Committee  
Co-Chair Selection Process & Duties**

**1.0 TFW Policy Co Chair – General**

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1.1 The TFW Policy Committee (“Policy”) aspires to operate with two Co-Chairs who provide facilitation and administrative leadership to accomplish tasks in a timely and efficient manner.

1.2 The Co-Chairs will be affiliated with two different caucuses.

1.3 Policy will strive to rotate Co-Chair positions through all nine voting caucuses over time.

1.4 Policy caucuses may offer a Co-Chair in addition to their voting caucus representative.

1.5 Although Policy Co-Chairs are highly desirable, the temporary inability to fill one or both of these seats does not preclude Policy from continuing to function.

**2.0 Duties**

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2.1 General Description: The role of Policy Co-Chairs is to plan for and facilitate Policy meetings. Facilitation could occur in collaboration with the professional facilitator supporting Policy (resources permitting) and on occasion with the Adaptive Management Program Administrator (AMPA). Co-Chair facilitation focuses both on content and process, but the Co-Chairs’ focus is generally more weighted toward meeting content, while the Professional Facilitator is more focused on process – except where the AMPA can help facilitate discussions on technical content.

2.2 Specific Co-Chair Expectations. Co-Chairs will:

- i. Facilitate meetings by managing the consensus decision process and coordinating dispute resolution when necessary.
- ii. Develop meeting agendas and other materials with the facilitator and strive to make these available to participants within a reasonable time before meetings.
- iii. Ensure that meeting notes are recorded, reviewed, and approved in a timely manner.
- iv. Implement agendas by balancing the need for full discussion to attain closure or further issue definition with the need to maintain rigidity in order to give other topics their due respect and attention.
- v. Facilitate technical advisory subgroups to Policy, or ensure that adequate facilitation is otherwise being provided.



- vi. Communicate as needed with caucus representatives between meetings to ensure that issues of concern are placed on the agenda and topics are accurately and constructively framed for discussion. As needed, work with caucuses as needed to attempt to resolve inter-caucus issues.
- vii. Ensure AMP Board Manual provisions and “ground rules” are followed.
- viii. Be a model for the behavior expected of peers.
- ix. Report to the Forest Practices Board on the status of Policy’s accomplishments and deliberations at regularly scheduled meetings and/or as otherwise requested by the Board.
- x. Consistently attend regular and special Policy meetings. Strive for physical presence at all meetings with few exceptions.
- xi. Communicate with the AMPA, CMER Co-Chairs, and Forest Practices Board to maintain a working knowledge of the status of CMER Master Schedule Projects, budget and spending issues, and all matters relating to Policy consideration.

### **3.0 Co-Chair Terms of Service; Vacancies; Selection**

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3.1 Ideally, the term for a Policy Co-Chair would be two years.

3.2 Incumbents may serve more than one 2-year term, but must be approved each additional term by Policy consensus.

3.3 In the absence of both Co-Chairs, Policy will divide Co-Chair duties among Policy members on an ad-hoc basis.

3.4 Any TFW Policy caucus may nominate a Co-Chair candidate.

3.5 The Board will be updated on the status of a Co-Chair selection process, but Board approval of Policy Co-Chairs is not required.



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October 29, 2015

To: Forest Practices Board  
From: Todd Baldwin and Doug Hooks  
Subject: CMER co-chair Nomination and Selection Process

Dear Forest Practices Board Members,

At your request, attached is a compilation of the language describing the process for the nomination and selection of a CMER co-chair. With the exception of the second paragraph, this language was borrowed from the CMER Protocols and Standards manual.

Sincerely,

A handwritten signature in cursive script, appearing to read "Todd Baldwin", followed by a horizontal line.

Todd Baldwin  
TFW Project Manager, *CMER co-chair*  
Kalispel Tribe of Indians

## **CMER Co-chair Nomination and Selection Process**

The first step in a selection process is to develop a position description. The roles and responsibilities of the co-chair position are described in Section 3.2.2. of the Protocol and Standards Manual (PSM) below. Additionally, critical knowledge, skills, and abilities (KSAs) for co-chairs are listed in Appendix F to the PSM. While all of these responsibilities are not required, they do provide a good description of the expectations of the position. The suggested term for the position is described in Section 3.2.2.1. The CMER co-chair selection process itself is pretty straight forward as described below in section of 3.2.2.3 of the PSM.

CMER (and SAG's) current problem is getting more than one nomination for co-chair replacement. Currently Todd Baldwin is nearing his 2-year deadline as a co-chair and there is currently no replacement proposed for him. Doug Hooks recently replaced Mark Hicks and although he is not a CMER member or biologist, he has a very good understanding of the Adaptive Management Program and CMER processes and is skilled at facilitating meetings.

### **3.2.2 CMER Co-Chairs**

CMER co-chairs provide scientific and administrative leadership to CMER to help the committee accomplish its tasks in a timely and efficient manner. Many of their responsibilities are shared with the Adaptive Management Program Administrator (AMPA). It is up to the individuals in these positions to work out the appropriate working relationship and task assignments.

In general, the CMER co-chair duties are as follows:

1. Facilitate the preparation, revision, and implementation of the adaptive management research work plan in accordance with the research priorities of Policy and the Board.
2. Maintain an atmosphere of high-quality, unbiased science in the development, implementation, analysis, reporting, and technical review of CMER work products.
3. Maintain a regular meeting schedule with a posted agenda at least a week in advance.
4. Communicate with key CMER participants between meetings to ensure that issues of concern are placed on the agenda and topics are properly framed for discussion at the meetings.
5. Facilitate CMER meetings and strive to manage a consensus process for decision-making.
6. Ensure that meeting notes are recorded, reviewed, approved and distributed.
7. Communicate with the AMPA to maintain a working knowledge of the status of CMER budget and spending issues.
8. Collaborate with the AMPA to prepare and present reports to Policy, the Board and other interested parties.
9. Maintain open communication with the AMPA, CMER participants, Policy co-chairs and DNR Forest Practices Board staff.
10. Facilitate Scientific Advisory Group support/coordination.
11. Communicate the results of research and monitoring studies clearly and accurately, in a timely fashion to AMPA and Policy.
12. Ensure CMER ground rules and other CMER rules, protocols, and guidelines are followed.
13. Facilitate and coordinate dispute resolution.

*Appendix F*

*Critical Knowledge, Skills, and Abilities (KSAs) for CMER Co- chairs*

The KSAs were taken from the Washington State Manager Development and Performance Plan (PER SF-MCPP2000 4/93) and edited to better reflect the CMER co- chair position. The eight KSAs represent broad areas of ability deemed critical to most state managerial positions. “Prompts” included for each KSA are indicators to better guide the co-chairs’ performance expectations.

KSAs	“Prompts”
Communication	<ul style="list-style-type: none"> <li>○ Adapt communications to diverse audiences</li> <li>○ Deliver quality oral presentations</li> <li>○ Demonstrate consistency between verbal and nonverbal communication</li> <li>○ Share appropriate information internally and externally</li> <li>○ Manage meetings effectively</li> <li>○ Possess effective listening skills</li> <li>○ Write clearly and concisely</li> <li>○ Speak clearly and concisely</li> </ul>
Decision Making	<ul style="list-style-type: none"> <li>○ Take calculated risks</li> <li>○ Use a logical rational approach</li> <li>○ Make timely/responsive decisions</li> <li>○ Take responsibility for decisions</li> <li>○ Modify decisions based on new information when appropriate</li> <li>○ Involve appropriate others in the decision making process</li> </ul>
Interpersonal Skills	<ul style="list-style-type: none"> <li>○ Relate well with others</li> <li>○ Demonstrate trust, sensitivity and mutual respect</li> <li>○ Provide timely and honest feedback in a constructive and non-threatening way</li> <li>○ Maintain confidentiality</li> <li>○ Accept constructive criticism</li> <li>○ Demonstrate consistency and fairness</li> <li>○ Negotiate effectively</li> </ul>
Leadership	<ul style="list-style-type: none"> <li>○ Coach and mentor; inspire and motivate</li> <li>○ Delegate responsibility with associated authority</li> <li>○ Demonstrate self-confidence</li> <li>○ Lead by example; serve as appropriate role model</li> <li>○ Promote a cooperative work environment</li> <li>○ Set clear, reasonable expectations and follows through</li> <li>○ Remain visible and approachable and interacts with others on a regular basis</li> <li>○ Demonstrate high ethical standards</li> <li>○ Gain support and buy-in through participation of others</li> </ul>
Planning	<ul style="list-style-type: none"> <li>○ Maintain a clear focus on internal and external customer needs</li> </ul>

	<ul style="list-style-type: none"> <li>○ Work with Policy and SAGs to plan future budgets and resource requirements</li> <li>○ Anticipate problems and develops contingency plans</li> <li>○ Work with CMER members to: <ul style="list-style-type: none"> <li>▪ Set priorities</li> <li>▪ Establish challenging, attainable goals and objectives</li> <li>▪ Identify short and long range organizational needs</li> <li>▪ Look to the future with a broad perspective</li> </ul> </li> </ul>
Human Resource Management	<ul style="list-style-type: none"> <li>○ Recruit, select and retain capable, productive volunteers</li> <li>○ Promote volunteer safety and wellness</li> <li>○ Demonstrate knowledge of volunteer support/coordination</li> <li>○ Recognize and reward good performance</li> <li>○ Assess and provide for volunteer development and training</li> <li>○ Encourage and assist volunteers to achieve full potential</li> <li>○ Evaluate volunteers timely and thoroughly</li> <li>○ Take timely, appropriate corrective/dispute resolution action</li> </ul>
Program/Project Management	<ul style="list-style-type: none"> <li>○ Monitor and verify ongoing cost effectiveness (AMPA task only?)</li> <li>○ Ensure protocols and standards are met</li> <li>○ Respond effectively to unforeseen problems</li> <li>○ Understand policy and FPB needs</li> <li>○ Ability to lead CMER in achieving results</li> <li>○ Use resources efficiently and manages effectively within budget limits</li> </ul>
Interacting with the External Environment	<ul style="list-style-type: none"> <li>○ Work effectively within the political environment</li> <li>○ Exhibit knowledge and show cooperation regarding intra- and inter-agency programs/ activities/ responsibilities</li> <li>○ Display sensitivity to public attitudes and concerns</li> <li>○ Understand and cultivate stakeholder relationships</li> <li>○ Demonstrate team play</li> </ul>

### 3.2.2.1 CMER Co-Chair Term

The term for a CMER co-chair is two years, with each co-chair starting and ending on alternate years. Ideally, terms will start on July 1 and end on June 30 to coincide with the start of each new fiscal and work plan year. This will provide the highest level of continuity in the transition of these positions. Incumbents may serve more than one term, but must be nominated and approved each time. When a co-chair cannot fulfill the two-year commitment, a minimum two-month notice is desired. An interim co-chair may be appointed or a new selection process started to find a person to complete the remaining term. If there is no consensus on an interim co-chair, CMER may choose to function under one chair until the next nomination cycle or may request that Policy make a decision.

### 3.2.2.3 CMER Co-Chair Nomination and Selection Process

#### Nomination Process

CMER core members (Board-approved) may nominate one person, preferably from a different caucus than the remaining co-chair, by April 1 of each year in anticipation of the selection process. Candidates do not need to be Board-approved CMER members during the selection period, but will become members

if approved by the Board. CMER will submit the list of candidates, including qualifications and time and funding commitments by the organizations they represent, to the AMPA. CMER should strive to nominate a minimum of three viable candidates. Where three candidates are not forthcoming, CMER should inform Policy of the reason.

### **CMER Co-chair Selection Process**

When there are multiple candidates for a co-chair position, the AMPA will call for a special meeting by a seven-member committee to select the CMER co-chair. The committee will comprise the following members: (a) the AMPA; (b) the current CMER co-chairs plus one CMER core member volunteer; and (c) the current Policy co-chairs plus one Policy member volunteer. This committee will then recommend a CMER co-chair for CMER approval. Policy and the Board will be updated on the co-chair selection process, but Policy and the Board approval of CMER co-chairs is not required.

A CMER co-chair does not need to be a Board-approved core member to serve. However, if the candidate is not a core member, it is recommended the candidate's caucus nominate the candidate to the Board for approval as a core member.



October 22, 2015

MEMORANDUM

To: Forest Practices Board

From: Timber/Fish/Wildlife Cultural Resources Roundtable Co-Chairs

Jeffrey Thomas, Puyallup Tribe of Indians

Karen Terwilleger, Washington Forest Protection Association

RE: Timber/Fish/Wildlife Cultural Resources Roundtable Co-Chair Selection Process

The TFW Cultural Resources Roundtable (Roundtable) is pleased to submit this report to the Forest Practices Board (Board), as requested by the Board.

On August 11, 2015, the Board passed the following motion:

*“The Forest Practices Board request (sic) each of the TFW committees that do not have a process for selecting co-chairs, to discuss a possible process and report back to the Board in November. The process should consider term limits, how many consecutive terms, staggered terms, how co-chairs are elected whether by consensus or by a majority quorum of members. The co-chairs should be reflective of the participant pool.”*

The Roundtable discussed the Board’s motion at September and October meetings. The following considerations comprise the current process for Roundtable co-chair selection. The Board’s motion created considerable deliberation so the Roundtable intends to continue discussions and will report back to the Board if any of the current strategies change.

***T/F/W Cultural Resources Roundtable Current Co-chair Selection Strategies  
September 15, 2015***


- Continuity and history are important in co-chair selection.
- Advisable if new co-chairs had previous experience with the group. As the new co-chair, Karen had to go up a steep learning curve.
- Co-chair positions are represented by 1 tribal and 1 non-tribal entity
- Co-chairs should have the ability to be a co-chair as well as an advocate but need to separate these roles
- Trust between members of the group is important, and trust of the co-chairs. This enables good listening, and eventually solutions for the issues.
- Co-chairs need to be knowledgeable, passionate, motivated with proven leadership and team-building skills. Co-chairs should also have standing in their communities and be professional.
- Tribal co-chair selection is accomplished through existing TFW intertribal designation processes.
- The non-tribal co-chair is selected by consensus of the entire Roundtable.





## MEMORANDUM

**DATE:** January 29, 2016

**TO:** Forest Practices Board 

**FROM:** Hans Berge, Adaptive Management Program Administrator

**SUBJECT:** Adaptive Management Program Quarterly Staff Report

This update includes a summary of work to date on work elements focused on contributing to a permanent water typing rule by the November 2016 Board Meeting. The summary on the pilot LiDAR hydrologic model evaluation, best practices of electrofishing in protocol surveys, and off-channel habitat projects are described below.

### Model Evaluation

The Forest Practices Board directed the Adaptive Management Program Administrator “to scope and initiate a pilot project to re-run the existing hydrologic model using LiDAR data, including at least two watersheds; one westside and one eastside” at the 11 February 2014 Board Meeting. This fall I worked with the University of Washington Precision Forestry Cooperative to develop a scope of work and contract to start the analysis as directed by the Board. The two pilot basins identified for the pilot project are the Mashel (westside) and Darland Mountain (eastside) Watershed Analysis Units. The work has begun and is on track for completion by 30 June 2016.

### Type F: Protocol survey electrofishing

Since August, I have been working with TFW Policy to convene a technical group to provide Policy with a recommendation in response to the Board’s motion from 11 February 2014 on best practices related to the use of protocol survey electrofishing. I convened a technical subgroup composed of stakeholders and subject matter experts to be responsive to the needs of Policy. Regular meetings have been held since 5 October, and the group is preparing the recommendations now. This group plans to produce a memo for Policy by April that provides guidance in addressing the Board’s motion as well as recommendations on areas of improvement in protocol surveys overall.


### Type F: Off-channel habitat

In September 2015, TFW Policy submitted a Proposal Initiation to the AMPA asking for a recommendation on addressing off-channel habitat of Type F waters. In response to the motion, I recommended that both *policy* and *science* tracks would be necessary to resolve the topics contained in the proposal. The *policy* track focuses upon the language contained in \*WAC 222-16-031, while the *science* track will require a technical review of the definitions currently used in identifying off-channel habitat. The technical group is being formed and I expect both tracks to be completed before July 2016.



## MEMORANDUM

January 28, 2016

TO: Forest Practices Board  
FROM: Marc Ratcliff   
Forest Practices Policy Section Manager  
SUBJECT: Board Manual Development Update

### Section 16, Guidelines for Evaluating Potentially Unstable Slopes and Landforms

A status update will be provided to the Board on the qualified expert's discussion regarding requested additional materials for inclusion into this section of the board manual at the February meeting. DNR is not asking for Board action.

### Section 21, Guidelines for Alternate Plans

DNR staff will distribute a draft of this section of the board manual for Board review and approval at the May 2016 meeting. The manual is being amended to restore a part of this section inadvertently left out after the Board's approval of other amendments to the section in 2008. The part being restored is previously Board approved stakeholder developed guidance for restoring riparian functions in forests having a high risk of mortality from fire or disease. This section will be distributed to Board members prior to the May meeting.

Other amendments may occur later in 2016, but are dependent on the Board's rule making timeline and completions of TFW Policy Committee's work load.

Please feel free to contact me with any questions at 360.902.1414, or [marc.ratcliff@dnr.wa.gov](mailto:marc.ratcliff@dnr.wa.gov).

MR



**MEMORANDUM**

**TO:** Forest Practices Board  
**FROM:** Garren Andrews, Compliance Monitoring Program Manager  
**SUBJECT:** Current status of the Compliance Monitoring Program

2016 field season will begin in February.

Compliance Monitoring stakeholder committee meeting will be held Thursday, February 18<sup>th</sup>.

2014-2015 data analysis ongoing.

Trend analysis ongoing.

If you have any questions please contact me at (360) 902-1366 or [garren.andrews@dnr.wa.gov](mailto:garren.andrews@dnr.wa.gov)

GA/



MEMORANDUM

January 11, 2016

TO: Forest Practices Board

FROM: Tami Miketa, Manager, Forest Practices Small Forest Landowner Office

SUBJECT: Small Forest Landowner Office and Advisory Committee

Small Forest Landowner Advisory Committee (SFLAC)

Since my last staff report, the Small Forest Landowner Advisory Committee met on November 17, 2015 and January 5, 2016. Issues discussed and presented included:

- SFLO Stewardship Grant Proposals
- Discussion of a sample alternate plan for SFLOs
- Update on WFFA template
- WFFA's overview of ID team process
- Changes being made to Oregon Riparian Management Area prescriptions
- Short and long term goals for SFLAC

Forestry Riparian Easement Program (FREP)

For the FY 15-17 biennium, the Forestry Riparian Easement Program received \$3.5 million from the State Capital Budget. There are now 135 forestry riparian easement applications on the list waiting for compensation. The oldest application on the list was submitted to the SFLO on 6/28/2008. The Program hopes to cruise and value these 135 FREP easement applications that are on the waiting list and to purchase 45 conservation easements encompassing approximately 430 acres.

The SFLO recently received approval to hire two project Natural Resource Specialists. These positions will help the program by overseeing the cruising contracts for the 135 easements on the waiting list.

Rivers and Habitat Open Space Program (R&HOSP)

The State Capital budget appropriated the R&HOSP \$1 million for the FY15-17 biennium. The Small Forest Landowner Office has opened the application solicitation period, and will remain open until March 21, 2016. Generally, when the funding level exceeds \$1 million, DNR expects to allocate approximately 70 percent of the funds for critical habitat and 30 percent for channel migration zones (CMZs). If the demand is limited in either funding category, DNR may shift moneys between the funding categories. Applications will be funded in order of ranked priority until all funds are expended. All remaining eligible applications will be offered the opportunity to be considered for future funding.

After the application period closes, applications will be prioritized for funding based on, but not limited to, the following elements:

- The habitat quality of the property
- Risk of future habitat loss
- Documented occupancy
- Species' landscape continuity
- Species diversity

To qualify for a conservation easement under the Rivers and Habitat Open Space Program, your property must be:

- Located on forestland containing at least one of two habitat styles:
  - Critical habitat for state threatened or endangered species that has been designated a particular concern by the Forest Practices Board;
  - A specific type of river habitat called a Channel Migration Zone as described in the Forest Practice Rules and Forest Practices Board Manual Section 18.
- Identified as either "designated forestland" or "current use forestland" on county assessor records, and
- Free of unacceptable liabilities such as hazardous substances or other site conditions that may jeopardize the preservation of fisheries enhancement or ecological protection of the project area.

#### Family Forest Fish Passage Program (FFFPP)

The State Capital budget appropriated \$5 million to the Family Forest Fish Passage Program for the FY15-17 biennium. In the 2016 field season, the FFFPP will be correcting 20 fish passage barriers opening up approximately 50 miles of habitat for fish.

#### Long Term Applications (LTA's)

There are now a total of 205 approved long term applications; which is an increase of 6 approved applications since the end of the last reporting period (10/12/2015).

<b>LTA Applications</b>	<b>LTA Phase 1</b>	<b>LTA Phase 2</b>	<b>TOTAL</b>
Under Review	4	2	<b>6</b>
Validated	22	0	<b>22</b>
Approved	3	205	<b>208</b>
<b>TOTAL</b>	<b>29</b>	<b>207</b>	<b>236</b>

#### Upcoming Landowner Events

The WSU Forestry and Wildlife Extension program, in coordination with DNR, provides education and information about forest management to private forest landowners as well as the general public. They offer classes, workshops, and field days as well as publications, videos, and online resources to help landowners achieve their various land management objectives. Below is a list of upcoming events designed to aid small forest landowners.

*Forest Stewardship Coached Planning* - WSU's flagship class will teach you how to assess your trees, avoid insect and disease problems, attract wildlife, and take practical steps to keep your forest on track to provide enjoyment and even income for years to come. In this class you will develop your own Forest Stewardship Plan, which brings state recognition as a Stewardship Forest and eligibility for cost-share assistance, and may also qualify you for significant property tax reductions.

- Vashon Island, March 2 – April 20, 2016  
Class session 6:00 – 9:00 PM Wednesday evenings  
Vashon Land Trust Building
- Everett, March 29 – May 17, 2016  
Class session 6:00 – 9:00 PM Tuesday evenings  
WSU Snohomish County Extension Cougar Auditorium
- Deming, September 15 – November 3, 2016  
Class session 6:00 – 9:00 PM Thursday evenings  
Location TBD
- Preston, September 27 – November 15, 2016  
Class session 6:00 – 9:00 PM Tuesday evenings  
Preston Community Center

#### Small Forest Landowner Office Outreach and Grant Opportunities

The Small Forest Landowner Office currently has a vacancy for the Outreach Specialist/Grant Writer position. We are currently reviewing the duties of this position and the needs of the Office and will fill this position as soon as possible.

The Small Forest Landowner Office/Forest Stewardship Program recently received a grant from the USDA Forest Service's State & Private Forestry Landscape Scale Restoration Grant Program. This grant will create a Landscape Scale Master Forest Stewardship Plan and expand small forest landowner educational programs (e.g., Forest Owners Field Days, Forest Stewardship Coached Planning Courses, etc.) in the Upper and Lower Chehalis Basins. The master plan will combine general and forestry specific information about the basin to be used as a template for stewardship plans tailored to individual ownerships. The grant dollars appropriated to DNR is \$300,000. The partners in this grant are WSU Extension, Grays Harbor Conservation District, and WA Farm Forestry Association. It is expected this grant will begin to be administered some time this spring.

Please contact me at (360) 902-1415 or [tamara.miketa@dnr.wa.gov](mailto:tamara.miketa@dnr.wa.gov) if you have questions.

TM/



## Cultural Resources Roundtable

January 21, 2016 MEMORANDUM

To: Forest Practices Board

From: Timber/Fish/Wildlife Cultural Resources Roundtable Co-Chairs  
Jeffrey Thomas, Puyallup Tribe of Indians  
Karen Terwilleger, Washington Forest Protection Association

RE: Timber/Fish/Wildlife Cultural Resources Roundtable - February 2016 Quarterly Report to the Forest Practices Board

The TFW Cultural Resources Roundtable (Roundtable) is pleased to submit this latest report to the Forest Practices Board (Board). During the past quarter, the Roundtable has focused on stakeholder perspectives on Forest Practices conditioning authority, which is also a reflection of how well the WAC 222-20-120 is working. Four memos have been produced that reflect different stakeholder's perspective. From those memos, "Tentative Consensus Points" and "Tentative Points of Difference" were identified. The memos and list of points are attached along with the regular updated "Action Item" list.

We look forward to your February 10, 2016 meeting and answering any questions you may have. In the meantime, please do not hesitate to contact us:

[Jeffrey.thomas@puyalluptribe.com](mailto:Jeffrey.thomas@puyalluptribe.com) and (253) 405-7478

[kterwilleger@wfpa.org](mailto:kterwilleger@wfpa.org) and (360) 352-1500.

## **Cultural Resources Roundtable 1/19/16**

### **Forest Practices Application (FPA) Conditioning Collaboration**

#### **Tentative Consensus Points**

- Protecting cultural resources is critical to the tribal way of life (“cultural resources” as defined by the tribes? By the Timber/Fish/Wildlife’s Cultural Resource Protection and Management Plan?)
- Protecting archaeology is regulated by law
- Current laws and regulations do not effectively address the full breadth of cultural resources as identified/prioritized by the tribes.
- Educating all stakeholders is an essential component of cultural resources protection, which needs priority attention
- Pre-project resource assessment before submitting Forest Practices proposal is the preferred approach for evaluating risk.

#### **Tentative Points of Difference**

- Tribal/landowner meetings:
  - Required vs. voluntary
  - Triggering mechanism(s)
  - (In)consistency
- Using DAHP predictive model as a solution
- Using legislation as a solution
- Tribal access & inventorying of cultural resources when found
- Pre-project assessment and subsurface sampling expectations/process
- Differences in the problem statement

#### **Actions in Progress**

- Inadvertent discovery language will be included in the FPA.

\*This collaboration document is based in the conditioning memos submitted by the Department of Archaeological and Historic Preservation, Yakama Nation, Washington Forest Protection Association/Washington Farm Forestry Association, Assistant Attorney General Phil Ferester and the 1/19/16 meeting of the Cultural Resource Roundtable (not all members present).



## **Washington Farm Forestry Association (WFFA) and Washington Forest Protection Association (WFPA)**

- WFFA and WFPA are committed to abiding by all applicable current laws and regulations pertaining to forest practices and cultural resources.
- Forest landowners represented by WFFA and WFPA are committed to protection of and care about all cultural resources that exist on our lands; this commitment is part of our larger commitment as stewards of the land.
- WFFA and WFPA recommend that the Cultural Resources Roundtable (Roundtable) make a concerted, focused effort to concisely identify and clearly articulate (with written problem statements) the specific issues / problems that Roundtable participants have with current cultural resource protection in the forest environment in the State of Washington.
- WFFA and WFPA contend that until such a thorough, consensus-driven problem / issue identification process for cultural resource protection has been completed, development of / discussion about implementing problem-solving recommendations is premature and may not address actual issues / opportunities for adequately protecting cultural resources.
- WFFA and WFPA also remain committed to working with the Roundtable to develop appropriate guidance and training, and providing effective outreach to forest landowners to assist them in understanding the forest practices rules related to identifying and protecting cultural resources.



Allyson Brooks Ph.D., Director  
State Historic Preservation Officer

December 8, 2015

To: Cultural Resources Roundtable

From: Allyson Brooks, Ph.D., Director  
State Historic Preservation Officer

Re: DAHP Review of Forest Practice Permits

### Background

- The Department of Archaeology and Historic Preservation has the authority under RCW 27.53 and corresponding WACs, to require a permit when an archaeological, historic archaeological site and/or human remains/burials are altered, removed, dug into or excavated.
- In order to streamline processes, the agency considers a Memorandum of Agreement developed under Section 106 of the National Historic Preservation Act to stand in lieu of an archaeological permit, and until recently, a management/protection plan for cultural resources under the authority of DNR's Forest Practice Permit.

### Problem

- The agency was informed by DNR that DNR cannot enforce activities that are not operational conditions of a permit, or that are part of a cultural resource management plan not provided to DNR as part of an application.
- Cultural Resources are not a public resource under the Forest Practice Act.

### Current Process

- DAHP shares buffered cultural resource data with DNR on a quarterly basis
- DNR staff notifies DAHP when there is conflict in a FPA with a known site defined above.
- DAHP confirms the existence of a spatial overlap in the information provided.
- DAHP notifies DNR and the landowner, and tribes (as requested), of the conflict.
- DAHP provides information to the landowner on potential avoidance methods and landowner contacts DAHP.
- Landowner voluntarily adjusts FPA to avoid site, or must apply for a DAHP permit.
- Landowner may also go through SEPA. The DAHP will review the permit under SEPA and respond to DNR whether the applicant requires a permit.

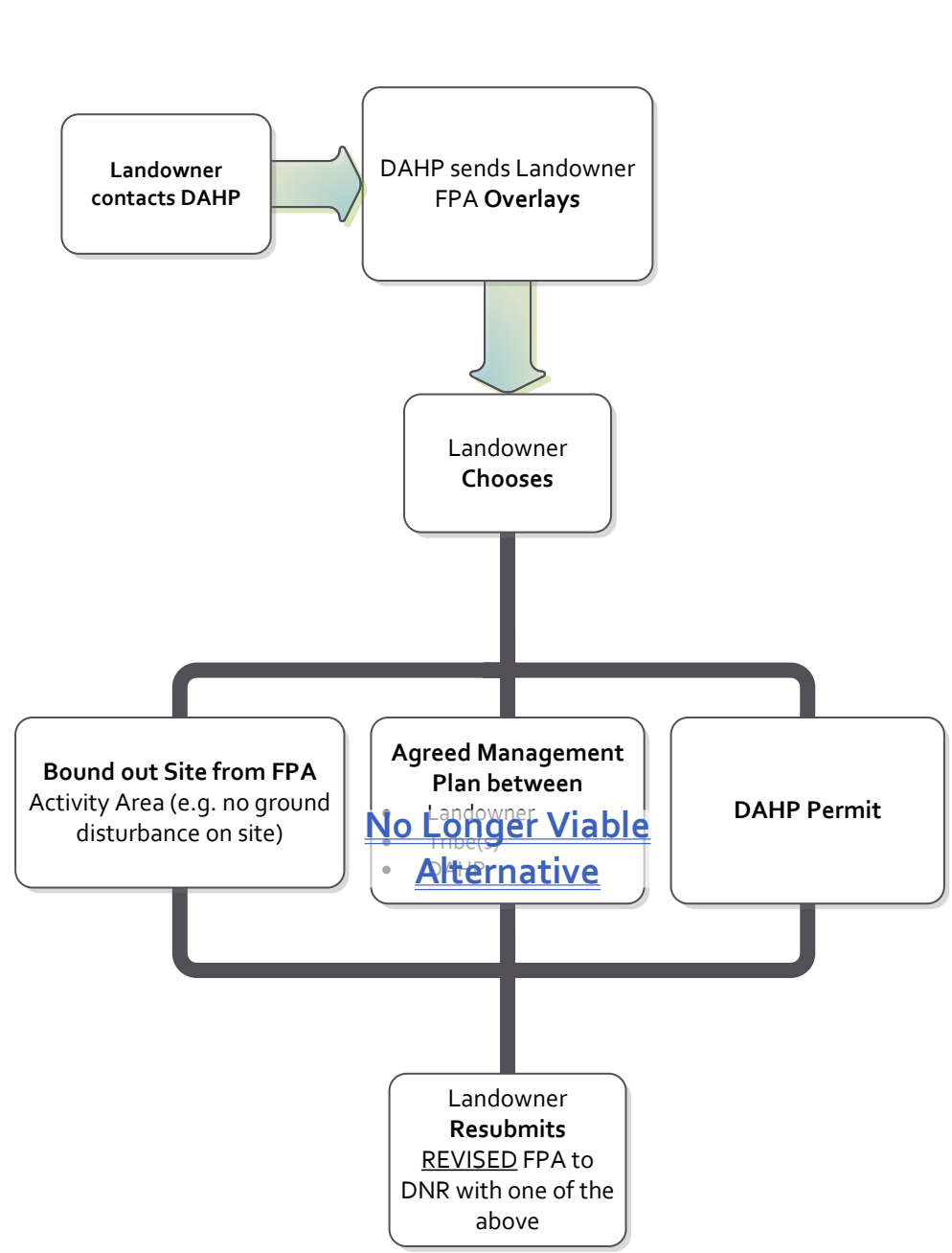
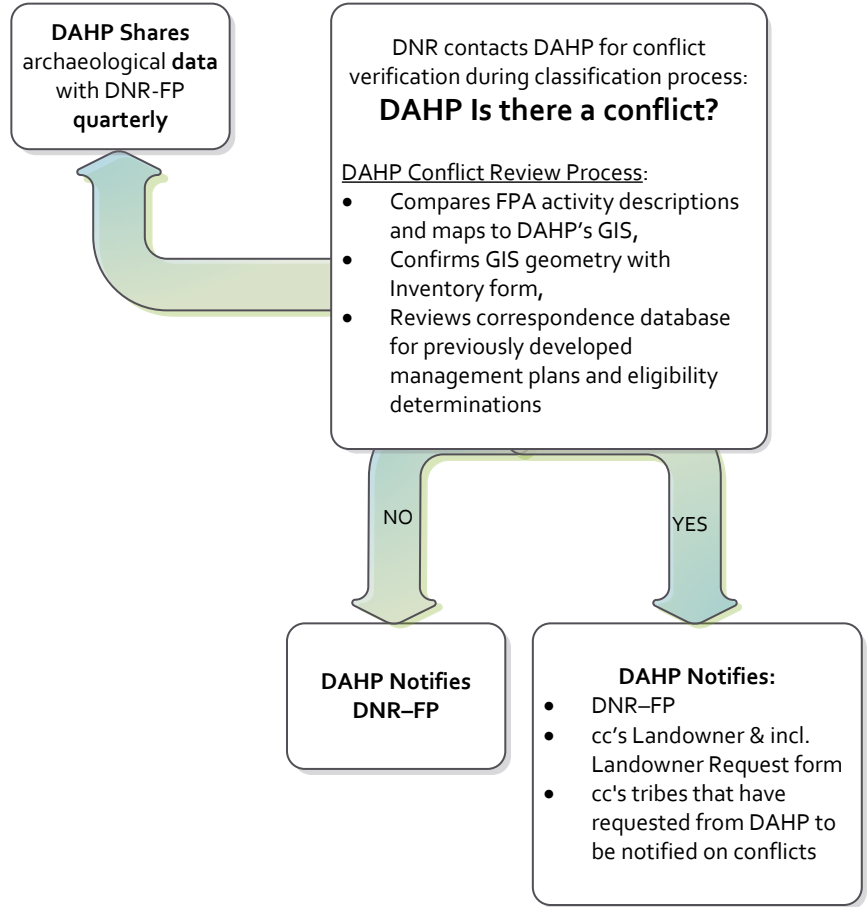
### Potential solutions to enforcing management/protection plans

- Place cultural resources as a public resource in Forest Practice Act.
- Continue current process of requiring a permit from DAHP understanding management/protection plans cannot be enforced by DNR.

Note: DAHP AAG has opined that WACs to enforce management/protection plans cannot be established until cultural resources are identified as public resources under the RCW.



# DAHP's Forest Practice Application Workflow





According to Phil Ferester's Opinion: Forest Practices Division's Conditioning Authority

- The Forest Practices Act, RCW 76.09, does not include cultural resources as a public resource; therefore all rules adopted to protect cultural resources are unenforceable. The exception is class IV forest practices applications that are subject to SEPA.
- The promises made to Tribes in the Timber, Fish and Wildlife (TFW) Agreement of 1987 to inventory, evaluate, preserve and protect traditional cultural and archaeological spaces and assure Tribal access is unenforceable.
- The TFW Roundtable's Charter to identify, protect, and manage cultural resources that are significant to the history and cultures of the people of Washington State located on the state's non-federal forest lands is unenforceable.
- Plans agreed to between Landowners and Tribes are unenforceable, except when defined in other rules.
- The agreement to ensure cultural resource protection is accomplished is empty and meaningless.

Solution

- Forest Practices Division must draft and support legislation that gives the Forest Practices Division the authority to protect Tribal cultural resources at the same level as public resources in the Forest Practices Act, RCW 76.09.
- The legislation must ensure the following proposed solutions supported by at least nine federally recognized Tribes be enforceable:
  - 1) Restore WAC 222-20-120(4) with the "may" changed to "shall". Instruct all Regions to consistently make plans agreed to between Tribes and landowners an FPA condition when requested.
  - 2) Instruct all Regions to consistently require meetings under WAC 222-20-120(2) when Tribes appropriately use WAC 222-16-050(5)(k) to identify cultural resources.
  - 3) Insert incidental discovery language into every approved FPA.
  - 4) Use the DAHP predictive model to screen every FPA. High Risk and Very High Risk areas shall trigger a required professional survey to "inventory archaeological/cultural spaces". Consultation with local Tribes will be required.
  - 5) When archaeological and cultural sites are discovered professionals shall "inventory, evaluate" and make recommendations to "preserve and protect" in consultation with local Tribes.
  - 6) "Assure Tribal access" to Tribally significant areas in "managed forests" through binding consultation between affected Tribes and landowners.



**Bob Ferguson**  
**ATTORNEY GENERAL OF WASHINGTON**  
Natural Resources Division  
PO Box 40100 • Olympia, WA 98504-0100

**MEMORANDUM**

DATE: June 10, 2015

TO: Stephen Bernath, Chair, and the Forest Practices Board

FROM: Philip M. Ferester, Senior Counsel  
Natural Resources Division

SUBJECT: **Open Primer on Forest Practices Act Conditioning Authority**

**INTRODUCTION**

The Forest Practices Board (Board) passed a resolution at its May 12, 2015, quarterly meeting that requested a short, public memorandum on conditioning authorities under the Forest Practices Act. This request came about because of current issues before the Board's Cultural Resources Roundtable, and a proposal suggesting that the Board change "may" to "shall" in [WAC 222-20-120\(4\)](#).

This memorandum provides a brief open primer on Board rule making and DNR conditioning authority. The memorandum starts with general concepts of administrative law and the scope of administrative authority. That provides a foundation for reviewing past forest practices cases addressing conditioning and a foundation from which various entities might explore lawful ways to address cultural resource issues either through the Forest Practices Act structure or elsewhere.

While this memorandum reflects my own legal judgment as counsel to the Board, it is not an official opinion of the Attorney General's Office.

**ANALYSIS**

**A. The Statutory Framework of the Forest Practices Act Establishes the Subjects That May Be Regulated By the Board and DNR.**

A fundamental aspect pertaining to the authority of any administrative agency is the statutory structure under which they operate. "The Board has only those powers expressly granted to it and those powers necessarily implied from its statutory delegation of authority." [Att'y Gen. Op. 1, at 5 \(2015\)](#). An agency has implied authority to carry out a task "where an agency is

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charged with a specific duty, but the means of accomplishing that duty are not set forth by the Legislature.” *Tuerk v. Dep’t of Licensing*, 123 Wn.2d 120, 124-25, 864 P.2d 1382 (1994). From these general concepts, some key provisions in the Forest Practices Act (FP Act) will be explored.

**1. Board’s Forest Practices Act Authorities.**

The Board’s primary rule-making responsibilities are established in [RCW 76.09.040](#)(1)(a). The Legislature directed the Board as follows:

*Where necessary to accomplish the purposes and policies stated in RCW 76.09.010, and to implement the provisions of this chapter, the board shall adopt forest practices rules pursuant to chapter 34.05 RCW and in accordance with the procedures enumerated in this section that:*

- (i) Establish minimum standards for forest practices; . . . [and]
- (iii) Set forth necessary administrative provisions; . . . .

[RCW 76.09.040](#)(1)(a)(i) and (iii) (emphasis added). [RCW 76.09.010](#) thus directly bears upon the scope of the Board’s rule-making authority. [RCW 76.09.010](#)(2) sets forth the purposes and policies of the Forest Practices Act:

The legislature further finds and declares it to be in the public interest of this state to create and maintain through the adoption of this chapter a comprehensive statewide system of laws and forest practices rules which will achieve the following purposes and policies:

- (a) Afford protection to, promote, foster and encourage timber growth, and require such minimum reforestation of commercial tree species on forest lands as will reasonably utilize the timber growing capacity of the soil following current timber harvest;
- (b) Afford protection to forest soils and public resources by utilizing all reasonable methods of technology in conducting forest practices;
- (c) Recognize both the public and private interest in the profitable growing and harvesting of timber;
- (d) Promote efficiency by permitting maximum operating freedom consistent with the other purposes and policies stated herein;

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- (e) Provide for regulation of forest practices so as to avoid unnecessary duplication in such rules;
- (f) Provide for interagency input and intergovernmental and tribal coordination and cooperation;*
- (g) Achieve compliance with all applicable requirements of federal and state law with respect to nonpoint sources of water pollution from forest practices;
- (h) To consider reasonable land use planning goals and concepts contained in local comprehensive plans and zoning regulations;
- (i) Foster cooperation among managers of public resources, forest landowners, Indian tribes and the citizens of the state;*
- (j) Develop a watershed analysis system that addresses the cumulative effect of forest practices on, at a minimum, the public resources of fish, water, and public capital improvements of the state and its political subdivisions; and
- (k) Assist forest landowners in accessing market capital and financing for the ecosystem services provided to the public as a result of the protection of public resources.

[RCW 76.09.010\(2\)\(a\)–\(k\)](#) (emphasis added). These policies establish the parameters for proper Board rule making. The two italicized provisions address working with Indian tribes on forest practices applications and promoting cooperation. The FP Act and rules strongly focus upon the protection of “public resources,” pursuant to [RCW 76.09.010\(2\)\(b\)](#). “Public resources” includes “water, fish, wildlife, and capital improvements of the state or its political subdivisions.” [RCW 76.09.020\(25\)](#).<sup>1</sup>

“Cultural resources” is a term not found in the FP Act. That means that cultural resources are not a regulatory focus that the Legislature assigned to the Board or to DNR, beyond promoting cooperation between landowners and Indian tribes.<sup>2</sup>

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<sup>1</sup> The protection of water quality through the protection of public resources carries extra significance as a regulatory purpose behind the FP Act because it provides the means of Washington’s compliance with federal non-point source water pollution laws on forest lands. See [RCW 90.48.420\(1\)](#); [RCW 77.85.180\(2\)](#).

<sup>2</sup> Agreements like TFW inform the interpretation of many Board rules and promote cooperation among resources managers, landowners, and tribes. However, those agreements do not expand the regulatory authority of either the Board or DNR. That authority can only be set or established by the Legislature.

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The Board must act within its statutory authority when it adopts rules. Rules adopted in excess of an agency's statutory authority may be stricken under the Administrative Procedure Act.<sup>3</sup>

## 2. DNR Forest Practices Act Conditioning Authorities.

DNR administers the regulatory programs created under the FP Act and rules. [RCW 76.09.040](#)(1)(c). DNR's conditioning authority is not exhaustively set forth in the FP Act. In [RCW 76.09.050](#)(4), the Legislature indicated that "forest practices shall be conducted in accordance with the forest practices regulations, orders and directives as authorized by this chapter or the forest practices regulations, *and the terms and conditions of any approved applications.*" [RCW 76.09.050](#)(4) (emphasis added). This is a strong indication that the Legislature anticipated that applications may include some conditions.<sup>4</sup>

DNR also has important enforcement authority regarding issued permits that further emphasizes its conditioning authority to protect public resources. As will be discussed in greater detail below, the quasi-judicial agencies that review DNR's regulatory decisions under the FP Act have found that DNR's authority to issue Stop Work Orders or Notices to Comply to prevent actual or potential damage to public resources provides an additional statutory basis for site-specific application conditioning to protect public resources.<sup>5</sup>

Importantly, DNR's authority is limited to site-specific circumstances. DNR does not have the authority to adopt rules under the FP Act. That authority rests with the Forest Practices Board, as discussed above. Should DNR attempt to impose uniform conditions on all sites having a particular issue, that would be considered a rule under the Administrative Procedure Act, and conditions imposed in that manner would be invalidated.<sup>6</sup>

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<sup>3</sup> [RCW 34.05.570](#)(2)(c); *Edelman v. State ex rel. Pub. Disclosure Comm'n*, 152 Wn.2d 548, 99 P.3d 386 (2004) (rule in excess of statutory authority invalid; agency cannot promulgate a rule that amends or changes a statute).

<sup>4</sup> Washington courts have expressly held that "the power to disapprove a permit necessarily includes the power to condition an approval." *State v. Crown Zellerbach Corp.*, 92 Wn.2d 894, 899, 602 P.2d 1172 (1979), quoting *S. Pac. Co. v. Olympian Dredging Co.*, 260 U.S. 205, 208 (1922). *Crown Zellerbach* involved a criminal gross misdemeanor charge associated with the violation of conditions on a hydraulic project approval by the Department of Game for a timber harvest. The permit conditions required cut logs to be yarded over a fish-bearing stream named Williams Creek (in Pacific County). *Crown Zellerbach*, 92 Wn.2d at 897-98.

<sup>5</sup> DNR may issue Stop Work Orders under [RCW 76.09.080](#) and Notices to Comply under [RCW 76.09.090](#).

<sup>6</sup> [RCW 34.05.010](#)(16); *Failor's Pharmacy v. DSHS*, 125 Wn.2d 488, 495-98, 866 P.2d 147 (1994) (invalidation of action of general applicability when not based upon a rule adopted under the APA's process); *SDS Lumber Co. v DNR*, FPAB 92-27, Final Findings of Fact, Conclusions of Law, and Order, Conclusion Nos. 3-5 (1992) (reliance upon general guidance memorandum concerning Northern spotted owl as rule was improper).



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While a permitting agency generally has the authority to condition its permit as discussed in note 4, this does not mean the agency has *carte blanche* to require *any* conditions. Rather, the conditions imposed must still be tethered to the agency's underlying regulatory purpose established by the Legislature. This concept will become more apparent in Section B of this memorandum.

### 3. DNR SEPA Authority.

Applications under the FP Act must go through the State Environmental Policy Act (SEPA) process if they fit the criteria for Class IV.<sup>7</sup> [WAC 222-16-050\(1\)\(f\)](#) designates some forest practices as Class IV-Special if they affect particular archaeological or historic resources, as follows:

(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.

[WAC 222-16-050\(1\)\(f\)](#). Activities that would otherwise be Class IV-Special may avoid that designation and the SEPA process if the landowner voluntarily implements certain protection strategies. [WAC 222-16-050\(1\)\(f\)\(iv\)](#).

Applications subject to SEPA require additional information called a "SEPA Checklist," to help make what is called a "threshold determination."<sup>8</sup> The SEPA Checklist includes an area of inquiry into historic and cultural resource preservation.<sup>9</sup> If a proposal receives a threshold "determination of significance" because it will likely have significant adverse environmental impacts, an environmental impact statement (EIS) must be prepared to discuss the impacts,

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<sup>7</sup> [RCW 76.09.050](#) (1); [RCW 43.21C.037](#)(3).

<sup>8</sup> [WAC 197-11-310](#); [WAC 197-11-315](#); and [WAC 197-11-330](#)(1). The SEPA Checklist is set forth in [WAC 197-11-960](#).

<sup>9</sup> SEPA Checklist, question 13. Proposals subject to SEPA due to a different provision in [WAC 222-16-050](#)(1) or (2) must also complete this part of the SEPA Checklist.

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alternatives to the proposal that might reduce the impacts, and ways that the impacts may be mitigated.<sup>10</sup>

If a particular forest practices proposal will cause significant adverse impacts, DNR has additional conditioning authority that it may exercise under SEPA to address the specific, adverse environmental impacts identified in the SEPA Checklist or EIS.<sup>11</sup> If the impacts can be mitigated to an insignificant level, a mitigated determination of non-significance may be issued in lieu of an EIS.<sup>12</sup> Some Forest Practices Board rules articulate how DNR should exercise its authority under SEPA for particular environmental issues.<sup>13</sup>

### **B. Decisions Addressing Conditioning Authority Find DNR Has Limited, Site-Specific Conditioning Authority to Protect Public Resources.**

The Pollution Control Hearings Board (PCHB) has authority to review whether DNR appropriately conditioned or failed to condition any application.<sup>14</sup> Although [WAC 222-20-120\(4\)](#) indicates that DNR “may condition the application in accordance with the plan” negotiated between a landowner and tribe, no case interprets this requirement.<sup>15</sup>

The PCHB and its predecessor (the Forest Practices Appeals Board) have consistently held that DNR has conditioning authority to prevent material damage to public resources.<sup>16</sup> These precedents draw upon DNR’s statutory authority to condition applications and issue orders that prevent

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<sup>10</sup> [WAC 197-11-360\(1\)](#); [WAC 197-11-402](#).

<sup>11</sup> [WAC 222-10-010\(4\)](#); [WAC 197-11-660](#).

<sup>12</sup> [WAC 197-11-350](#).

<sup>13</sup> See [WAC 222-10-030](#); [WAC 222-10-035](#); [WAC 222-10-040](#); [WAC 222-10-041](#); and [WAC 222-10-042](#).

<sup>14</sup> [Yakama Indian Nation v. DNR](#), Order Granting Summary Judgment at 4-5, FPAB No. 01-017 (2002) (denying landowner’s contention that the FPAB lacked jurisdiction to review appellant Yakama’s conditioning claim). The conditioning claim here concerned wildlife reserve trees and green recruitment trees. The PCHB took over the duties of the Forest Practices Appeals Board (FPAB) in 2010. Laws of 2010, ch. 210, §§ 1, 19-25. The PCHB still cites and relies on the FPAB’s decisions, however.

<sup>15</sup> The only case mentioning WAC 222-20-120 indicates that when an operator disturbs cultural resources and failed to get an approved application, DNR is not authorized to charge the operator with civil penalties for both harvesting without an application *and* for violating the WAC 222-20-120 meeting requirement. [T.J. Henderson v. DNR](#), FPAB No. 95-9, Final Findings of Fact, Conclusions of Law, and Order, Conclusion No. V (1995).

<sup>16</sup> See, e.g., [Long v. DNR](#), FPAB No 94-005, Final Findings of Fact, Conclusions of Law, and Order, Conclusion III (1994); [Confederated Bands & Tribes of the Yakama Indian Nation v. DNR](#), FPAB Nos. 96-38 and 97-11, Final Findings of Fact, Conclusions of Law, and Order, Conclusion No. II (1998); and [City of Bellingham v. DNR](#), PCHB No. 11-125 and 11-130, Order Granting Summary Judgment to Respondents at 17 (2012).

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material damage to public resources.<sup>17</sup> The PCHB or a court would likely consider these prior conditioning decisions in interpreting [WAC 222-20-120\(4\)](#), even though there is no statutory basis for conditioning to protect cultural resources.

A few cases indicate that DNR's ability to condition applications is limited, even for the protection of public resources. In one of the cases cited above, the appellant believed that permit approvals were inappropriate when the marking of wildlife reserve trees and green recruitment trees did not occur before application approval. The FPAB determined that the pre-approval marking was not warranted because doing so would have conflicted with the legislative mandate in RCW 76.09.010(2)(d) to "promote efficiency by permitting the maximum operating freedom" to landowners consistent with the other purposes and policies in the FP Act. Given this mandate, "*any restrictive condition that is not warranted by the facts should not be lightly disregarded.*"<sup>18</sup>

This case highlights that the purposes and policies in the FP Act are many, and even though a strong focus on public resources exists, that does not necessarily trump other legislatively established policies under the FP Act. It also highlights that in order for conditions to be valid, there must be some reason for the conditions specific to the site in question.

In a different case, DNR added conditions by a Notice to Comply after an application's approval to protect pileated woodpeckers and northern goshawk. The landowner challenged these conditions, which the FPAB struck down. The FPAB applied a narrow interpretation of what constitutes "material" damage to public resources as it concerned woodpeckers and goshawks. The FPAB found that material damage to wildlife only occurs when there is actual or potential harm to a *species*, not an individual or a pair of individuals.<sup>19</sup> Importantly, the FPAB determined that:

what is "material" [damage to public resources] will vary with the facts of each case and the species at issue. In this context, the paramount concern is to ensure that the statute is interpreted consistent with its underlying policy . . . "to afford

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<sup>17</sup> [RCW 76.09.050\(4\)](#); [RCW 76.09.080\(1\)\(c\)](#); and [RCW 76.09.090](#). DNR's ability to condition will be at its zenith when it implements a statutory source of authority, such as protecting public resources. As the cases below reveal, however, even DNR's ability to condition for potential harm to public resources is limited.

<sup>18</sup> [Yakama Indian Nation v. DNR](#), Order Granting Summary Judgment, FPAB No. 01-017 (2002) (emphasis added).

<sup>19</sup> [Confederated Bands & Tribes of the Yakama Indian Nation v. Boise Cascade, DNR, and WDFW](#), Final Findings of Fact, Conclusions of Law, and Order, Conclusion Nos. VI and VII, FPAB No. 96-38 (1998).

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protection to . . . wildlife” in a manner that is “coincident with maintenance of a viable forest products industry.”<sup>20</sup>

These cases illustrate that DNR has limited, site-specific conditioning authority even when addressing a “public resource,” a key statutory focus under the FP Act. However, “cultural resources” are not a “public resource,” and the FP Act does not directly provide for the regulation of “cultural resources.”

[WAC 222-20-120](#)(2) contains one mandatory duty for landowners – they must make a good faith attempt to meet to discuss a tribe’s cultural resource concerns with a proposed forest practice, with the objective of agreeing on a plan for protecting the archeological or cultural value at the site. [WAC 222-20-120](#)(2) does not require the landowner to agree to a plan. That is consistent with the policies in the FP Act that promote cooperation.<sup>21</sup>

Whether a plan negotiated between a tribe and a landowner would be amenable to DNR’s conditioning authority under the FP Act depends on the plan’s contents and whether it strays from the issues regulated under the FP Act. If the negotiated plans included agreements on issues that DNR does not regulate, such as for the landowner to provide access, for the landowner to survey for archaeological resources, or for a landowner to fund a tribe’s archaeological exploration, DNR conditions on those points would likely be unenforceable. DNR’s application conditions must be tethered to its regulatory responsibilities under the FP Act.<sup>22</sup> If the plans involved protecting areas by removing them from the proposed operational area covered by the permit, this would be a permit term or condition that DNR could enforce.<sup>23</sup>

Outside of the Class IV-Special SEPA requirements discussed above, the Board’s remaining rule structure concerning cultural resources consists mostly of voluntary measures. The use of voluntary measures follows the policies established by the Legislature in [RCW 76.09.010](#)(2) to

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<sup>20</sup> *Id.* at Conclusion of Law IX. The FPAB thus balanced policies among those stated in [RCW 76.09.010](#). The words “viable forest products industry” and “afford protection to . . . wildlife” appear in [RCW 76.09.010](#)(1) and are reflected in the purposes and policies in [RCW 76.09.010](#)(2) (e.g., (2)(b) pertains to protecting public resources, while (2)(c) recognizes the public and private interest in the profitable growing and harvesting of timber).

<sup>21</sup> [RCW 76.09.010](#)(2)(f) and (i). Additionally, a private agreement between a landowner and tribe may be enforceable in court as a contract. A contract has potential legal consequences should performance not occur, while not all agreements have legal consequences. *Corbit v. J.I. Case Co.*, 70 Wn.2d 522, 531-37, 424 P.2d 290 (1967).

<sup>22</sup> Conditions on DNR-approved applications must also address specific issues, be visible to all interested parties who may review the proposal, and contain definite terms that do not require future studies or assessments. *SDS Lumber Co. v. DNR*, FPAB No. 98-5, Order Granting Summary Judgment, Conclusions of Law III, IV, and VI.

<sup>23</sup> *T.J. Henderson v. DNR*, FPAB No. 95-9, Final Findings of Fact, Conclusions of Law, and Order, Finding Nos. IV, IX, and XIII, and Conclusion Nos. II and III (1995) (harvests beyond permitted areas lacked approved applications and were subject to civil penalty under RCW 76.09.170).

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ensure cooperation among landowners, tribes, and other public resource managers. The policies in the FP Act do not support mandatory conditioning for cultural resources.

**CONCLUSION**

Hopefully, this memorandum provides some guidance regarding the DNR's and the Board's authorities under the FP Act to require application conditions and will help align parties' expectations with statutory roles. Once this occurs, several options may be discussed to bring clarity to the plans developed under [WAC 222-20-120](#) as well as the parties' various roles.

PMF:kk

T/FW Cultural Resources Roundtable				12/15/2015	Changes from the previous report are in Red or Italics
Project Priority	Action Items	Lead	Status	Next Action	Relationship to the CRPMP
On-Going Tasks	1 The Roundtable will: (a) meet quarterly; (b) Report to the FP Board at each regular meeting; (c) Review the CRPMP each year; (d) Report to the FP Board each August on progress of the CRPMP and implementation of WAC 222-20-120 during the previous FY (e) suggest recommendations for modification to CRPMP.	Co-Chairs	FPB meeting report due		Annual & quarterly obligation
	2 Give a CRPMP presentation at Regional TFW meetings as new CRPMP support material is released.	All	Next opportunity for TFW presentations after the 20-120 rule and supporting manual is passed by the FPB		Communication
	Create a Roundtable presentation about the CRPMP and Roundtable activities with a singular message and bullet points	Jeffrey and Jesse			
	3 Maintain an annual calendar of recurring Roundtable tasks and functions and post on DNR's website. Include FP Board report due dates, DNR regional TFW meetings and upcoming training opportunities. Emphasize accomplishments when communicating progress on implementing the CRPMP. Post examples of successes and cooperative opportunities on the DNR Forest Practices web site.	Jeffrey	Planning	Select calendaring software	CRPMP Support; Communication
	4 Contact individual FP Board members to "champion" CR Roundtable issues	All	Collaborate with current FP Board members regarding cultural resources issues coming to the Board.		Advance the Roundtable's work
	5 Individual caucuses will continue to support funding for a full time position at DAHP for the maintenance of CR data in support of the forest practices risk assessment tool.	Individual Caucuses	Currently the position has 1/2 time funding	Next opportunity is the 2014 Legislature	DNR Forest Practices Program support
	6 Seek funding for a CR Module pilot project		On hold	Waiting for the next opportunity	Board Manual Section 11 Appendix J

T/F/W Cultural Resources Roundtable					12/15/2015	Changes from the previous report are in Red or Italics
Project Priority		Action Items	Lead	Status	Next Action	Relationship to the CRPMP
High	1	Continue to review WAC 222-20-120 interpretations and DNR conditioning authority and develop recommendations for implementation. The Roundtable will begin with the following tasks:	Jeffrey, Karen, David, Sherri	Ongoing	<i>Identify specific issues and policy framework</i>	
		Presentations on 3 Models and Cultural Module	David, Robert Morgan Jeffrey	Completed	<i>Presentations at August and September meetings</i>	
		Review DNR's suggested Inadvertent Discovery language	Sherri, Marc	Scheduled	<i>Review language at August-November meeting</i>	
		Review additional watershed models	Jeffrey, Karen,	Beginning	<i>Discuss what additional models to review in August.</i>	
High	2	Seek funding and staff support for the Roundtable's work		<i>Roundtable will bring a request to the FPB in May</i>	<i>Identify needs and potential resources</i>	
High	3	Prepare the cultural resource guidance documents and tools as agreed to in the CRPMP		Target completion date: 2015		Educational Program and Commitments
		Scope the guidance/manual project to develop a detailed description and outline of the proposed guidance or manual.		Complete		
		Work products: 1) Guidance for T/F/W stakeholders, 2) Guidance specific to forest landowners, and 3) Guidance specific to Tribes.	Jesse and Gretchen	In progress	Schedule work group in April to review completed drafts; prepare drafts on remaining sections	
		Post Roundtable guidance documents and other information and training material on the DNR Forest Practices web site		On going		
High	4	Investigate opportunities to develop training workshop curricula and presentation for private industrial foresters.	Jeffrey Karen	Planning	<i>Schedule work group in 2014</i>	An education component of the CRPMP
Medium	5	Develop a Logo for the Cultural Resources Roundtable	Jeffrey and dAVE	In progress	Draft logo under review	Publicity
Medium	6	CRPMP amendments to consider and further discuss:	All	Scoping	Members of the Roundtable will provide suggestions for amendments after the guidance document task is completed.	CRPMP Support
		Regarding MOUs, consider adding a statement specifying when DNR has a role in implementing MOUs and if there is a role, specifying its nature.				
		Under "Education Program and Commitments," modify #2 to recognize that agreements are often executed at the field level without the need for higher level contacts				
		Reference a role for the CRPMP in Forest Practices ID team deliberations and preparation of SEPA documents for Class IV Special FPAs	Jeffrey			
Low	7	Prepare a report to the Forest Practices Board on the impact to cultural resource protection and management when forest land is converted to another use and regulatory responsibility passes to local government (county or city)	Jeffrey and Karen	On hold	Wait for other higher priority items to be addressed	

T/FW Cultural Resources Roundtable				12/15/2015	Changes from the previous report are in Red or Italics
Project Priority	Action Items	Lead	Status	Next Action	Relationship to the CRPMP
Completed Items	1 Cultural Resource Protection and Management Plan (CRPMP)		Completed 2003		
	2 Forest Practices Board adopted the rules recommended in the CRPMP		Completed 2005		
	3 Statutory exemption for sensitive cultural resource information gathered during a watershed analysis CR module or stand-alone CR module		Completed 2005		
	4 Updates to the CRPMP		Completed 2008		
	5 Recommendation to DNR staff and the Board for changes to the historic site definitions in Class III and Class IV Special definition to correct long standing interpretation issues		Completed 2008		
	6 A recommendation to include a cultural resource question on the Phase II 15-year small landowner permit application.		Completed Spring 2009		
	7 Draft a motion for the Forest Practices Board to request that the staff create a CR page on the Department's forest practices website		Complete (Board action was unnecessary)		
	8 With the support of the Commissioners Office, a Charter for the Timber/Fish/Wildlife Cultural Resources Roundtable (formerly known as TFW Cultural Resources Committee) delivered to the Forest Practices Board		Completed 2011		
	9 Consensus recommendation on changes to WAC 222-20-120 delivered to the Forest Practices Board		Completed 2011		
	10 As requested by the FPB, review and comment on a suggestion to amend 222-20-120 Sub-Section (3)(c)(i)		Completed 2011	Recommendation adopted by the Board in Feb, 2012	
	11 Prepare a streaming video of Lee Stilson's lecture on cultural resources that typically may be found in Washington's managed forests		Completed May 2012		
	12 In time for the FY 2012 report to the FPB, develop a method for formally assessing the performance CRPMP in accomplishing its purposes as stated on page 1 of the plan.		Completed June 2012		
	13 Two new cultural resource links have been added to the DNR Forest Practices webpage. Roundtable agendas, notes and action item list are on the Forest Practices Board's webpage		Completed September 2012		
	14 Improve knowledge, understanding and use of the GLO, historic and current USGS quad maps and other publicly available information to identify historic features recognized during 19th century land surveys.		Completed October 2012		Making available tools to improve identification and recognition of cultural resources in the field
	15 Update the instructions for question 7 of the forest practices application.	Sherri	Completed October 2013	Draft submitted to DNR for inclusion in the next update of FPA instructions.	This would be an edit to Appendix B of the Cultural Resources Protection and Management Plan
	16 Follow the State Environmental Policy Act rule making by the Department of Ecology to draft rules to increase categorical exemptions.	Gretchen	Completed November 2014	<i>Ecology is recommending that Cultural Resource be considered as one of three top priorities for Phase 2 rulemaking.</i>	






State of Washington  
**Department of Fish and Wildlife**

Mailing Address: 600 Capitol Way N, Olympia WA 98501-1091, (360) 902-2200, TDD (360) 902-2207  
Main Office Location: Natural Resources Building, 1111 Washington Street SE, Olympia WA

January 22, 2016

**M E M O R A N D U M**

**To:** Forest Practices Board  
**From:** Terry Jackson, Forest Habitats Section Manager   
**Subject:** Upland Wildlife Update

The following provides a brief status update for ongoing or pending actions pertaining to priority wildlife species.

**Northern Spotted Owl**

1988: State listed as endangered

1990: Federally listed as threatened

2012: Designation of revised critical habitat for the USFWS recovery plan

- The results of WDFW's draft periodic status review for the Northern Spotted Owl was presented to the Washington Fish and Wildlife Commission at its January 2016 meeting, along with recommendations for listing. An update will be provided to the Board at their February meeting.
- Summary of draft periodic status review: Because of the species' continued population decline, primarily from continued habitat loss due to forest harvest and fire, as well as competitive interactions with Barred Owls, it is recommended that the Northern Spotted Owl remain a state endangered species in Washington.

**Western Gray Squirrel**

1993: State listed as threatened

1996: Forest Practices Board established voluntary management approach

- The results of WDFW's draft periodic status review for western gray squirrel was presented to the Washington Fish and Wildlife Commission at its January 2016 meeting, along with recommendations for listing. An update will be provided to the Board at their May meeting.
- Summary of draft periodic status review: Because of the species' relatively small total population size, continuing threats, and a lack of information suggesting that any of the three populations have either reached the downlisting goals of the recovery plan or substantially declined since 2005, it is recommended that the western gray squirrel remain a state threatened species in Washington. Ongoing surveys will provide

information to better clarify current population levels and to assess the status of the species for the next scheduled periodic status review.

- WDFW staff continues to:
  - screen FPAs for possible impacts to western gray squirrels;
  - conduct nest surveys as needed, and work with landowners to develop voluntary management plans; and
  - track information on FPAs having potential impacts in order to better assess the effectiveness of the voluntary protection approach.

### **Fisher**

1998: State listed as endangered

2014: Federally proposed to be listed as threatened

2016: Final decision on listing is expected on April 7, 2016

### Current Status:

WDFW, along with USFWS and private and tribal stakeholders, has developed a draft Candidate Conservation Agreement with Assurances (CCAA). The draft is now going through the federal approval process, which includes a 30-day public comment period. WDFW and USFWS have worked closely with WFPA, small forest landowners, and interested tribes to develop appropriate conservation measures. After approval (hopefully in February 2016), landowners will then be able to sign on to the agreement, committing to the conservation measures for the species. By doing so, they will not be subject to additional requirements beyond those in the CCAA, should the proposed listing of the species become final in April of 2016 or at a later date. WDFW is currently conducting outreach. It is important that interested landowners be signed up prior to the impending listing decision in April. If the fisher is not listed in April, landowners will have more time to sign on to the CCAA. WDFW, along with federal and NGO partners, have started a multi-year project to reintroduce extirpated fishers to the Cascades part of its historic range. In November, releases have been and continue to be conducted in the South Cascades around Mt. Rainier. The fisher has already been successfully reintroduced in the Olympic National Park.

### **Future Updates to the Board**

The forest practices rules require that when a species is listed by the Washington Fish and Wildlife Commission and/or the U.S. Secretary of the Interior or Commerce, DNR consults with WDFW and makes a recommendation to the Forest Practices Board as to whether protection is needed under the Critical Habitat (State) rule (WAC 222-16-080). WDFW and DNR continue to coordinate in order to anticipate federal actions and/or state action in response to changes in the status of a species.

cc: Penny Becker  
Gary Bell  
Marc Engel  
Sherri Felix  
Kevin Kalasz  
Amy Windrope



**MEMORANDUM**

January 15, 2016

**TO:** Forest Practices Board

A handwritten signature in blue ink, appearing to read 'HAB'.

**FROM:** Hans Berge, Adaptive Management Program Administrator

**SUBJECT:** CMER Membership for Dr. Jenny Knoth

Green Crow has supported the nomination of one of their scientists, Dr. Jenny Knoth, to participate at CMER as a full voting member. Dr. Knoth has been a contributing participant in many CMER activities over the past year including the Wetland Scientific Advisory Group and has taken an active role in the development of an updated Protocol and Standards Manual for CMER. As her curriculum vitae (attached) demonstrates, Dr. Knoth's specific expertise is in Forestry, with an emphasis on nutrients and microbial processes.

**Cooperative Monitoring, Evaluation, and Research Committee (CMER)  
Membership Roster  
February 2016**

<b>Name</b>	<b>Representing</b>	<b>Approved</b>
Mark Mobbs	Tribal	2/13/2001
Todd Baldwin	Tribal	11/9/2010
Debbie Kay	Tribal	8/14/2012
<b>Vacant</b>	Tribal	
Mark Hicks	State/DOE	6/6/2007
<b>Vacant</b>	State/DNR	
Marc Hayes	State/DFW	8/11/2015
Doug Martin	Landowner	2/13/2001
Jenny Knoth	Landowner	2/10/2016*
Julie Dieu	Landowner	2/22/2008
A.J. Kroll	Landowner	5/11/2010
Chris Mendoza	Conservation Caucus	11/10/2004
<b>Vacant</b>	USFWS	
Harry Bell	WFFA	8/12/2014
Bill Ehinger	State/DOE Alternate	2/8/2006
<b>Vacant</b>	State/DFW Alternate	
<b>Vacant</b>	Tribal Alternate	
<b>Vacant</b>	Tribal Alternate	

*\*Pending approval from the Forest Practices Board on 10 February 2016*

**Jenny Knoth, Ph.D.**

[rjknoth@gmail.com](mailto:rjknoth@gmail.com)

Education:

**Ph.D., Forest Resources**, University of Washington, Seattle, WA, 2012

**M.S., Forest Genetics and Bioinformatics**, North Carolina State University, Raleigh, NC, 2002

**B.S., Microbiology**, University of Washington, Seattle, WA, 1994

National Science Foundation Innovation Corps Program, Stanford University, 2011

Forest Resources University, International Paper Co., Savannah, GA, 2003

Honor Societies: *Xi Sigma Pi (Forester for UW Chapter)* and *Gamma Sigma Delta*  
*Member Society of American Foresters*

Summary of qualifications

- Over 15 years of field and laboratory experience; over 10 years specific to forestry.
- Interdisciplinary and Multicultural Collaborator: Strong understanding of Pacific Northwest Public, Private, and Tribal Nations' governance, related to natural resources and ecological programs.
- Plant biotechnology: Molecular biology, knowledge of gene expression techniques and plant transformation.
- Skilled Communicator: Proven communication of complex scientific ideas through public speaking and published writing.
- Sustainable Forestry Research: high intensity pulpwood and biomass production, tree-breeding and forest genetics for wood quality and disease resistance; experimental design and data collection.
- Statistical and Quantitative Analysis: SAS, R, and Excel – multivariate, probability, and regression analysis; basic linear modeling, population and quantitative genetic analysis, computer operating platforms – PC, Mac, Unix / linux.
- Spatial analysis: ArcGIS.
- Educator: University instructor, mentor and program leader for public outreach.
- Business Acumen: Co-founder forest products company; business and leadership training program within International Paper and through the National Science Foundation.

Research and Professional Experience

Green Crow, Port Angeles, WA <i>Director of Environmental Affairs</i>	8/2015 - present
Carbon Cultures Inc, Seattle, WA <i>Co-Founder and Board Member</i>	6/2011 - present
Saint Martin's University, Lacey, WA <i>Adjunct Professor</i>	Fall 2013
Brittland Company, Inc., Elma, WA <i>Forester</i>	2013
NSF IGERT Fellow, Seattle, WA National Science Foundation Integrative Graduate Education and Research Traineeship	2009 –2012
University of Washington, Seattle, WA <i>Biology Laboratory Coordinator</i>	Winter 2008
Armstrong Atlantic State University, Savannah, GA <i>Instructor of Biology</i>	2006 - 2008
Effingham Girls in Science, <i>Founder and Co-Director</i>	2004 -2008
International Paper, Savannah, GA <i>Research Forester</i>	2001 – 2006
North Carolina State University, Raleigh, NC <i>Graduate Research Assistant</i>	1999 – 2002
Microbiologist – Seattle, WA; Dothan, AL; Raleigh, NC	1994 – 1999

Patent:

Blanket for pyrolysis or drying of biomass. Faires, K. B., Schwartz, D.T., **Knoth, J.L.**, *et al.* U.S. Provisional Application No. 61/485,521, International Application No.: PCT/US2012/037829, WIPO publication number WO/2012/155145.

Select Publications and Presentations

**Knoth, J. L.**, Kim, S.-H., Ettl, G. J. and Doty, S. L. (2014), Biological nitrogen fixation and biomass accumulation within poplar clones as a result of inoculations with diazotrophic endophyte consortia. *New Phytologist*, 201: 599–609. doi: 10.1111/nph.12536

**Jenny L. Knoth**, Soo-Hyung Kim, Gregory J. Ettl, Sharon L. Doty, (2013) Effects of cross host species inoculation of nitrogen-fixing endophytes on growth and leaf physiology of maize, 2013, *GCB Bioenergy* 5(4): 408-418

**Jenny Knoth**, John Frampton, and Ray Moody, Genetic improvement of Virginia Pine planting stock for Christmas tree production in South Carolina, 2002, *HortTechnology* 12(4) p. 675-678

**Jenny Knoth**, Gregory Ettl, Soo-Hyung Kim, Sharon Doty, Growth Enhancing Endophytes for Improving Ecosystem Services, 2011 Proceedings 8<sup>th</sup> Annual Conference Phytotechnology Society, Portland, OR  
\*\*\*Awarded 1<sup>st</sup> Place Graduate Student Presentation Competition Oral Presentation

**Jenny Knoth**, Henry Amerson, RossWhetten, David O'Malley, and Ron Sederoff, Identification of Candidate Fusiform Rust Resistance Genes in Loblolly Pine, 2000, Proceedings Society of American Foresters National convention, Washington DC, Poster

Grants and Awards:

\$62,306 Student Technology Fund Grant for epifluorescent microscope, 2010

\$50,000 Commercialization Gap Fund, University of Washington Center for Commercialization, 2012

\$50,000 NSF Innovation CORPS, 2011

\$30,000 Annual stipend with tuition and fees for two years – NSF IGERT 2009 -2011

\$15,000 Jones Milestone Achievement Award, 2011

\$10,000 Student support granted from Plumb Creek Timber Co and Rayonier, 2001

\$2,000 Award for the Effingham Girls in Science from International Paper Co.

- Starbucks Honorable Mention 2010 Environmental Innovation Challenge UW School of Business; \$2500 award
- 1<sup>st</sup> Place Graduate Student Oral Presentation Competition. 8<sup>th</sup> Annual Conference Phytotechnology Society, Portland, OR, 2011. \$200.00 and gifts.
- Student Travel Award, 12<sup>th</sup> World Congress of the International Association for Plant Biotechnology, St. Louis, MO. 2010
- Forest Resources Leadership, International Paper Co. 2004

## GREEN CROW

727 E. 8th • P.O. Box 2469  
Port Angeles, WA 98362-0074  
(360) 452-3325 • FAX (360) 417-3676


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Dear Members of the Forest Practices Board,

This is a letter of support for Jenny Knoth, Ph.D. to take on the responsibilities associated with being a board approved, voting member of the cooperative monitoring evaluation and research committee (CMER). She has been an active attendee of CMER meetings and the WetSAG therefore, I understand that serving CMER in this capacity will require a substantial commitment of participation in regular meetings as well as time dedicated to advance the science needed to support adaptive management. Jenny will bring her dedication to strong scientific research as well as her collaborative spirit.

Sincerely,

  
Randy Johnson  
President



MEMORANDUM

January 28, 2016

TO: Forest Practices Board

FROM: Marc Engel, Assistant Division Manager, Policy and Services

Subject: Board's Practices & Procedures Rule Making

At your February 10 meeting, I will request your approval to file a CR101 Preproposal Statement of Inquiry to begin rule development to amend chapter 222-08 WAC relating to the Board's process to receive last minute submissions of information from the public on topics before the Board for action.

Board meetings often involve many topics and large volumes of written materials for you to review. At recent meetings, members of the public have inundated board members with hundreds of pages of materials, submitted electronically the day prior to a meeting with the intent to include those materials in the Board's decision making records. These type of documents are highly technical and scientific in nature and cannot be read and digested by board members the evening before the Board takes up the specific action item the next day.

The Board's work is complex and requires time for board members to consult with their staff in preparation for important decisions. DNR staff recommends the Board discourage the practice of parties trying to inundate the Board with materials at the eleventh hour in the hope that it will require the Board to alter its work plan and postpone planned action items, or to "pad" the record for judicial review with materials that board members were never really able to consider.

I look forward to discussing this rule making with you in February.

MDE/paa