



DEPARTMENT OF
NATURAL RESOURCES

OFFICE OF THE COMMISSIONER
OF PUBLIC LANDS
1111 WASHINGTON ST SE
MS 47001
OLYMPIA, WA 98504-7001

360-902-1000
WWW.DNR.WA.GOV

December 15, 2017

Kim Kratz, Assistant Regional Administrator
NOAA Fisheries Service
c/o Scott Anderson
510 Desmond Drive SE, Suite 103
Lacey, WA 98503

Eric Rickerson, State Supervisor
Washington Fish and Wildlife Office
U.S. Fish & Wildlife Service
510 Desmond Drive SE, Suite 102
Lacey, WA 98503

Subject: 2017 Forest Practices HCP Annual Report, Incidental Take Permits 1573
(NOAA) and TE 121202-0 (USFWS)

Dear Assistant Regional Administrator Kratz and State Supervisor Rickerson:

Enclosed, please find the 2017 Annual Report for the *Forest Practices Habitat Conservation Plan* (Forest Practices HCP). The annual report covers the period from July 2016 through June 2017. This report fulfills the State's obligation to "submit periodic reports to the federal Services describing actions taken by the State to implement the Forest Practices HCP" per Section 9.1 of the Implementing Agreement.

A few highlights from the report include:

Forest Practices Board (Board)

- Timber, Fish, and Wildlife Policy Committee continued to develop the elements of a permanent water typing system rule. The Committee brought recommendations to the Board at their November 2016 meeting to develop each element. The Forest Practices Board at their May 2017 accepted recommendations and provided direction to complete the outstanding components needed to finish the permanent water typing system rule.

Adaptive Management Program

- The Adaptive Management Program Administrator (AMPA) made recommendations to the Board based on stakeholder input received, on potential ways to improve the efficiency and effectiveness of the Adaptive Management Program. The Board formed a subcommittee to work with the AMPA and caucus principals to review these recommendations and develop a path forward to facilitate a recommitment to Timber/Fish/Wildlife (TFW).

Road Maintenance and Abandonment Plans

- During the reporting period, 2,105 miles of forest road were improved and 403 fish passage barriers were removed. Since 2001, a total of 27,694 miles of forest road were improved and 6,956 fish passage barriers – approximately 84 percent of those identified – were eliminated, opening up 4,180 miles of fish habitat.

Kim Kratz
Eric Rickerson
December 15, 2017
Paget 2

Small Forest Landowner Office

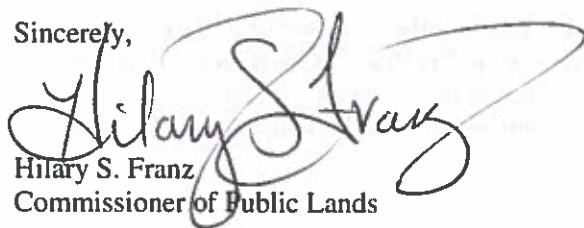
- During the reporting period, there were 30 new eligible forestry riparian conservation easement (FRE) applications received under the Forest Riparian Easement Program (FREP) and 33 FREs were acquired. Since the 2001 start of the conservation program, a total of 370 easements have been purchased.
- There were 16 fish passage barriers removed, opening up 35 miles of upstream fish habitat in FY2017. Since the 2003 initiation of the program, a total of 384 barriers to fish passage have been removed, opening up approximately 919 miles of fish habitat.
- Implementation of FREP, FRE, and the Rivers and Habitat Open Spaces programs for FY2018 is currently halted because a new state capital budget has not yet been enacted. I am closely monitoring this and will ensure that you are updated as the situation changes.

There are many other accomplishments described in the 2017 Forest Practices HCP Annual Report. The report can be found on the Washington State Department of Natural Resources website at <http://www.dnr.wa.gov/programs-and-services/forest-practices/forest-practices-habitat-conservation-plan>. If you have any questions, please feel free to contact Charlene Rodgers, FPHCP Administrator, at 360-902-1409 or charlene.rodgers@dnr.wa.gov.

The State looks forward to a strong, continuing partnership with NOAA National Marine Fisheries Service and the U.S. Fish and Wildlife Service to conserve federally listed aquatic species and their habitats on Washington's private and state-owned forestlands.

I certify that, to the best of my knowledge, after appropriate inquiries, the information submitted is true, accurate and complete.

Sincerely,



Hilary S. Franz
Commissioner of Public Lands

c: The Honorable Jay Inslee, Washington State Governor
Washington State Forest Practices Board
James Unsworth, Director, Washington State Department of Fish and Wildlife
Maia Bellon, Director, Washington State Department of Ecology

Forest Practices Habitat Conservation Plan

July 1, 2016- June 30, 2017

Annual Report

Washington State Department of Natural Resources

Forest Practices Program, Forest Practices Division

Charlene Rodgers



Acknowledgements

On behalf of Washington State, this report was prepared by the Washington State Department of Natural Resources, Hilary Franz, Commissioner of Public Lands.
2017

Executive Sponsorship

Megan Duffy, Department Supervisor
Stephen Bernath, Deputy Supervisor for Forest Practices

Forest Practices Division

Joe Shramek, Division Manager

Forest Practices Program Staff

DNR Review and Assistance

Forest Practices Division
Communications and Outreach Program

Other Contributors

Terry Jackson and Laura Till, Washington Department of Fish and Wildlife

Successful implementation of the Forest Practices Habitat Conservation Plan involves the efforts of all of our partners in resource protection.

Washington Department of Fish and Wildlife
Washington Department of Ecology
Governor's Salmon Recovery Office
Recreation and Conservation Office
Washington Forest Protection Association
Washington Farm Forestry Association
Conservation Caucus
Tribal Governments
Northwest Indian Fisheries Commission
Upper Columbia United Tribes
US Fish and Wildlife Service
NOAA Fisheries
US Environmental Protection Agency
Washington State Association of Counties

Contact Information

Charlene Rodgers Forest Practices Habitat Conservation Plan Administrator
Washington State Department of Natural Resources
Forest Practices Division
P.O. Box 47012, Olympia, WA 98504-7012
Phone: (360) 902-1409 or online at: charlene.rodgers@dnr.wa.gov

Table of Contents

Chapter	Title
	Executive Summary
1	Introduction to Forest Practices Habitat Conservation Plan 2017 Annual Report –Report Highlights
2	Forest Practices Board
	2.1 Introduction
	2.2 Forest Practices Board Overview
	2.3 Forest Practices Board Rule Making Activity
	2.4 Forest Practices Board Manual
	2.5 Anticipated Forest Practices Board Direction
	2.6 Unstable slopes and Landforms
3	Adaptive Management Program
	3.1 Introduction
	3.2 Adaptive Management Program
	3.3 Cooperative Monitoring, Evaluation and Research Committee
	3.4 CMER Work Plan and Activities
	3.5 TFW Policy Committee Activity
	3.6 AMP Challenges
	3.7 Clean Water Act Assurances
	3.8 Adaptive Management Program Website
	3.9 Electrofishing Report
4	Forest Practices Operations
	4.1 Introduction
	4.2 Forest Practices Positions and FPA/N Workload
	4.3 Priorities
5	Small Forest Landowner Office
	5.1 Introduction
	5.2 Forestry Riparian Easement Program
	5.3 Family Forest Fish Passage Program
	5.4 Long-Term Applications
	5.5 Technical assistance for Small Forest Landowners
	5.6 Small Forest Landowner Office Outreach
6	20-Acre Exempt Riparian Forestland
	6.1 Introduction
	6.2 Type Np Water Leave Tree Requirement
	6.3 Watershed Administrative Unit and Water Resource Inventory Area Thresholds
	6.4 Cumulative Reduction in Function Calculation Methodology
	6.5 Data Collection for Watershed Administrative Unit Threshold
	6.6 Bull Trout Areas of Concern

6.7	20-Acre Exempt Forest Practices Application Data
7	Alternate Plans, Rivers and Habitat Open Space Program
7.1	Introduction
7.2	Alternate Plans
7.3	Rivers and Habitat Open Space Program
8	Enforcement
8.1	Introduction
8.2	Enforcement Activity
9	Compliance Monitoring Program
9.1	Introduction
9.2	History of Compliance Monitoring Program Design
9.3	Compliance Monitoring Program Reports and Findings
9.4	Forest Practices Program Changes Based on CMP Feedback
9.5	Future Plans for the Compliance Monitoring Program
9.6	Funding
10	Training/Education/Information
10.1	Introduction
10.2	Status of Forest Practices Training Programs
11	Road Maintenance and Abandonment Planning for Large Forest Landowners
11.1	Introduction
11.2	Extension of RMAP Deadline
11.3	Road Maintenance and Abandonment Plan Implementation
11.4	Washington Department of Fish and Wildlife Efforts
12	Cultural Resources
12.1	Introduction
12.2	Landowner/Tribal Meetings and WAC 222-20-120 Update
12.3	Update on Timber/Fish/Wildlife Cultural Resources Roundtable
13	Washington State Legislature
14	Information Technology
15	Forest Practices Program Budget
15.1	Introduction
15.2	2015-2017 Biennial Allocation by Activity
15.3	2015-2017 Biennium Operating Expenditures by Activity
15.4	Full Time Employees
16	Washington Timber Harvest Report
17	References
18	List of Acronyms
Appendix	

Executive Summary

In 2005, Washington State submitted the [Forest Practices Habitat Conservation Plan](#) (Forest Practices HCP) with the goal of obtaining Incidental Take Permits from the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NOAA Fisheries) (collectively, the Services). In 2006, the Services accepted Washington's Forest Practices HCP and under the authority of the Endangered Species Act, the Services issued Incidental Take Permits to Washington State. The implementation of the Forest Practices HCP is a partnership between the Services and Washington State, which protects public resources including aquatic and riparian-dependent species. This multi-stakeholder effort addresses the habitat needs of all covered aquatic species, including certain fish species that are federally designated as 'threatened' or 'endangered'. The Forest Practices HCP covers more than 9 million acres of nonfederal and non-tribal forestlands in Washington State.

As a part of the Forest Practices HCP Implementing Agreement (IA), the State submits to the Services an annual report describing implementation activities. This year's annual report covers the period from July 1, 2016, through June 30, 2017.

July 2016 – June 2017 Activities and Accomplishments

General

During the reporting period, the Timber, Fish, and Wildlife (TFW) Policy Committee, at the direction of the Forest Practices Board, continued to develop the elements of a permanent water typing system rule as described in the forest practices rules. TFW Policy Committee brought recommendations to the Board at their November 2016 meeting for steps to develop each element and with subsequent Board direction brought recommendations to the Board for the process to reach a permanent water typing system rule at their May 2017 meeting. The TFW Policy Committee's recommendations to the Forest Practices Board for the completion of the outstanding elements that were needed to provide all of the components for the permanent water typing system rule were accepted and included:

- Those elements of existing water typing system rules in WAC 222-16-030 and -031 including current physical defaults which will remain in the water typing system rule;
- The definition of off-channel habitat;
- Using the regulatory Type F/N break points established through concurred water type modification forms;
- A Fish Habitat Assessment Methodology; and
- Convening a technical expert group, to report directly to the Board, to determine the metrics for Potential Habitat Break points.

Forest Practices Board (Board)

In addition to the efforts toward a permanent water typing system rule:

- The Board is working to amend the Forest Practices Rules to allow for electronic signatures and payments for Forest Practices Applications/Notifications.

- The Board, in response to suggestions submitted by the Adaptive Management Program Administrator, established a subcommittee to work on bringing recommendations to the Board in August 2017, regarding suggested steps needed to improve the Adaptive Management Program efficiency and effectiveness and to work to establish meeting with TFW Principles.

Road Maintenance and Abandonment Planning (RMAP) for Large Forest Landowners

- One-hundred and two RMAPs were completed by October 31, 2016, and 58 RMAP extensions were approved which will give landowners until October 31, 2021 to complete their work.
- In calendar year 2016, 2,105 miles of forest road were improved and 403 fish passage barriers removed.
- Since 2001, 27,694 miles of forest road have been improved to meet state forest practices standards and 6,956 fish passage barriers—approximately 84 percent of those identified—have been eliminated, opening up 4,180 miles of fish habitat.

Family Forest Fish Passage Program

The Family Forest Fish Passage Program completed projects for the removal of 16 fish passage barriers opening 35 miles of upstream fish habitat. Since the beginning of the program in 2003, 384 barriers to fish passage have been removed, opening up approximately 919 miles of fish habitat.

Forestry Riparian Easement Program (FREP)

During the 2017 fiscal year, 30 new FREP applications were received and 33 conservation easements were acquired. Since the beginning of the program in 2001, 370 easements have been purchased.

Rivers and Open Space Program (ROSP)

ROSP has established 1121 acres of conservation easements on channel migration zones and 25 acres of conservation easements on critical habitat of state-listed threatened and endangered species since the 2001 program initiation.

Adaptive Management Program (AMP)

- AMP developed reports on best practices for protocol survey electrofishing, an approach used in delineating the regulatory break between Type F and Type N waters and on off-channel habitat.
- Work continued related to multiple proposal initiations on unstable slopes and a westside alternate plan template.
- The Adaptive Management Program Administrator (AMPA) made recommendations to the Board on proposed ways to improve the efficiency and effectiveness of the Adaptive Management Program; and the Board formed a subcommittee to work with the AMPA and caucus principals to review these recommendations and develop a path for moving forward.

- AMP completed two research and/or monitoring projects and sent four draft and three final reports to Independent Scientific Peer Review, and continued to work on many other projects (See Chapter 3 for more information).

Forest Practices Applications

The Forest Practices Program processed 4,771 new Forest Practices Applications/Notifications (FPA/N) during fiscal year 2017. Also during this reporting period, there were 13,657 active FPA/Ns (non-expired applications) that were subject to regulatory field compliance.

1. Introduction to Forest Practices Habitat Conservation Plan 2017 Annual Report

1.1 Introduction

In 2005, Washington State submitted the [Forest Practices Habitat Conservation Plan](#) (Forest Practices HCP) with the goal of obtaining Incidental Take Permits from the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NOAA Fisheries) (collectively, the Services). In 2006, the Services accepted Washington’s Forest Practices HCP and under the authority of the Endangered Species Act, the Services issued Incidental Take Permits to Washington State. The implementation of the Forest Practices HCP is a partnership between the Services and Washington State, which protects public resources including aquatic and riparian-dependent species. This multi-stakeholder effort addresses the habitat needs of all covered aquatic species, including certain fish species that are federally designated as ‘threatened’ or ‘endangered’. The Forest Practices HCP covers more than 9 million acres of nonfederal and non-tribal forestlands in Washington State.

Three state agencies—the Washington State Department of Natural Resources (DNR), the Washington Department of Fish and Wildlife (WDFW), and the Washington Department of Ecology (Ecology)—work together to ensure implementation of the Forest Practices HCP. DNR provides the majority of staff positions that oversee implementation of this HCP due to the authority given the department in the Forest Practices Act (Chapter 76.09 Revised Code of Washington (RCW)) and Rules (Title 222 Washington Administrative Code (WAC)). However, both WDFW and Ecology have dedicated office and field staff time to support the various functions of the Forest Practices program and the implementation of the Forest Practices HCP. A portion of the work that WDFW and Ecology conduct is funded through Interagency Agreements 16-44 and 16-149 respectively. WDFW and Ecology support includes participation in the following:

- The Adaptive Management Program (AMP)
- The Compliance Monitoring Program (CMP)
- The Family Forest Fish Passage Program (FFFPP)
- The review of Road Maintenance and Abandonment Plans (RMAPs)
- Consultation on Forest Practices Hydraulic Project Approvals (FPHPs)
- The development of chapters in the Forest Practices Board Manual (Board Manual)
- The evaluation of water type change proposals
- The review of Forest Practices Applications/Notifications (FPA/Ns)
- Interdisciplinary Teams (ID Teams)

Under the Forest Practices HCP, the state has a commitment to submit an annual report to the Services describing implementation activities for the year. This year’s annual report covers the period from July 1, 2016, through June 30, 2017.

1.2 2017 Report Highlights

Highlights of the Forest Practices HCP implementation from July 1, 2016, through June 30, 2017, include:

Forest Practices Board

TFW Policy Committee brought recommendations to the Board at their November 2016 meeting for steps to develop each element and with subsequent Board direction brought recommendations to the Board for the process to reach a permanent water typing system rule at their May 2017 meeting. The TFW Policy Committee's recommendations to the Forest Practices Board for the completion of the outstanding elements needed to provide all of the components for the permanent water typing system rule were accepted and included:

- Those elements of existing water typing system rules in WAC 222-16-030 and -031 including current physical defaults which will remain in the water typing system rule;
 - The definition of off-channel habitat;
 - Using the regulatory Type F/N break points established through concurred water type modification forms;
 - A Fish Habitat Assessment Methodology; and
 - Convening a technical expert group, to report directly to the Board, to determine the metrics for Potential Habitat Break points.
- The Board accepted the TFW Policy Committee's recommendations to conduct an adaptive management review of components outlined in the unstable slopes proposal initiation.
 - The Board will include electronic submittal of forest practices application, signature and payment in rule.
 - The Board began an efficiency improvement review of the Adaptive Management Program (AMP) processes.

Adaptive Management Program

- The TFW Policy Committee brought recommendations to the Board for a permanent water-typing rule.
- The Forest Practices Adaptive Management Program completed two research projects: (1) Extensive Riparian Status and Trends Monitoring, and (2) Literature Synthesis of the Effects of Forest Practices on Glacial Deep-Seated Landslides and Groundwater Recharge.
- The Adaptive Management Program Administrator (AMPA) made recommendations to the Board on proposed ways to improve the efficiency and effectiveness of the Adaptive Management Program; and the Board formed a subcommittee to work with the AMPA and caucus principals to review these recommendations and develop a path forward.

Forest Practices Operations

- Forest Practices Operations staff processed 4,771 Forest Practices Applications/Notifications (FPA/Ns) and 745 water type modification forms.

- Operations developed guidance documents for forest practices staff including; clarifying DNRs' interpretation of stream bank integrity, improving processing of FPAs with potentially unstable landforms, providing the 2017 protocol stream survey process and water level and streamflow forecast, and providing water type review team guidance.
- Region and Division operations staff were involved in two large training efforts that took significant staff time and were in cooperation with the Office of the Attorney General: 1) Enforcement Training, and 2) Brief Adjudicative Proceeding Training.

Small Forest Landowner Office

- There were 30 new eligible applications received under the Forest Riparian Easement Program (FREP) and 33 forestry riparian conservation easements (FRE) were acquired. Since the 2001 start of the conservation program, 370 easements have been purchased. As of June 30, 2017, the backlog of unfunded, eligible FRE applications was 122.
- The Family Forest Fish Passage Program completed the removal of 16 fish passage barrier projects opening 35 miles of upstream fish habitat. Since the beginning of the program in 2003, 384 barriers to fish passage have been removed, opening up approximately 919 miles of fish habitat.

20-acre Exempt Riparian Forestland

- Forest practices applications utilizing the small forest landowner 20-acre exempt rule (non-conversion FPAs) along fish-bearing water comprised approximately 1.8 percent (76 out of 4167 FPAs) of all approved applications submitted during the 2016-2017 reporting period.
- Of the 846 watershed administrative units (WAUs) in the state, 206 have possible reduction in the potential recruitment of large woody debris resulting from the cumulative total of non-conversion FPAs utilizing the 20-acre exempt rule. Of these, all but five currently have the potential of less than one percent cumulative reduction in function as measured by potential recruitable LWD. The five WAUs with more than one percent potential reduction all show less than three percent cumulative potential reduction in function in the WAU and are, therefore, not yet near or past the threshold of 10 percent.
- There were zero forest practices applications associated with 20-acre exempt parcels in the bull trout areas of concern.

Alternate Plans

- There were 108 (37 large forest landowner and 71 small forest landowner) alternate plans approved during the reporting period. Two of the alternate plans were small forest landowner long-term forest practices applications.

Rivers and Open Space Program (ROSP)

- ROSP has established 1121 acres of conservation easements on channel migration zones and 25 acres of conservation easements on critical habitat of state-listed threatened and endangered species since the 2001 program initiation.

Enforcement

- There were 13,657 active (non-expired) FPAs during the reporting period. During this time, DNR issued 90 Notices to Comply and 41 Stop Work Orders. Of these enforcement actions, 104 were for violations of the Forest Practices Rules.
- There were two civil penalties and one Notice of Intent to Disapprove issued during this reporting period.

Compliance Monitoring

- A 2016 interim report was written, however, the data from that report presented in Chapter 9 is only for the first year (2016) of a two-year (2016-2017) data collection cycle. Accordingly, no conclusions or trends have been drawn from the one year of data. Next year's 2018 Forest Practices Annual Report will show the conclusions from the combined 2016-2017 data.
- During this reporting period, the Compliance Monitoring Program submitted the FY 2014-15 Biennial Compliance Report for an Independent Scientific Peer Review process with a specific emphasis on the validity of the statistical analysis methodology conducted by the program.

Training, Information, Education.

- During FY 2017, the training program's main focus was working to re-establish a regular training schedule providing needed classes, including, core classes offered on a more regular and predictable schedule.
- A comprehensive Forest Practices Enforcement and Compliance class was delivered in October 2016. This course is designed to be a core required training class for all forest practices staff.
- The State invested in equipment needed for eLearning and began recording class training sessions for future use in webcasts, video lecture, and fully interactive online courses. Moving in the direction of eLearning will increase accessibility of classes to both internal and external customers

Road Maintenance and Abandonment Planning (RMAP) for Large Forest Landowners

- During this reporting period, 102 RMAPs were completed by October 31, 2016. Fifty-eight landowners have approved extensions to complete remaining RMAP work by October 31, 2021.
- In calendar year 2016, 2,105 miles of forest road were improved and 403 fish passage barriers removed.
- During the reporting period, WDFW biologists reviewed 903 Forest Practices Hydraulic Projects (FPHPs), which included 162 concurrence-required project reviews and 741 standard FPHPs. It is important to note that WDFW counted each pipe as a separate project; FPAs can have multiple FPHPs or projects.
- Since 2001, 27,694 miles of forest road have been improved to meet state forest practices standards and 6,956 fish passage barriers—approximately 84 percent of those identified—have been eliminated, opening up 4,180 miles of fish habitat.

Cultural Resources

- The State, tribal leadership, and forest landowners are engaging in further discussions relative to cultural resources protections. This includes systematic review of current process and development of best practices. The conversation is ongoing.
- During this reporting period, there were 14 forest practices applications requiring a landowner/Tribe meeting and all 14 fulfilled the meeting requirement.

Information Technology

- In this reporting period, 4,771 FPAs were received or renewed and entered into the Forest Practices Application Review System. As of June 30, 2017, there were 1,226 reviewers receiving email notification of FPAs.
- During this reporting period, 954 Informal Conference Notes, 16 Notices of Conversion to Non-forestry Use, 90 Notices to Comply and 41 Stop Work Orders were entered into the Forest Practices Enforcement Tracking System.
- Staff processed 745 Water Type Modification Forms resulting in updates to approximately 439 stream miles. These updates included stream type upgrade to approximately 34 miles of stream and stream type downgrade to approximately 37 miles of stream. As of June 2017, the Water Type Modification Forms backlog was 29. This is the lowest backlog DNR has achieved. The fiscal year (FY) 2016 backlog was 172.

2. Forest Practices Board

2.1 Introduction

The Forest Practices Board's (Board) activities during the July 2016 through June 2017 reporting period are explained in this section. They include:

- Continued Board work toward a permanent water typing system rule.
- The Board accepted the TFW Policy Committee's recommendations to conduct an adaptive management review of components outlined in the unstable slopes proposal initiation.
- The Board is working to amend the Forest Practices Rules to allow for electronic signatures and payments for FPA/Ns.
- The Board began an improvement review of the Adaptive Management Program (AMP).

2.2 Forest Practices Board Overview

The Board sets the public resource protection standards that are the basis for the Forest Practices Program. The State's Forest Practices Act established the Board's authority in 1974 as an independent state agency responsible for the adoption of rules for forest practices on nonfederal and non-tribal forestlands. The legislature directed the Board to protect public resources while maintaining a viable forest products industry. "Public resources" are defined as water, fish and wildlife, and capital improvements of the state or its political subdivisions.

Forest practices rules marked with an asterisk (*) pertain to water quality protection and are amended only by agreement between the Board and the Department of Ecology.

The Board consists of 13 members: the Commissioner of Public Lands or the Commissioner's designee; four additional state agency directors or their designees; and eight members appointed by the governor. The represented agencies are the state departments of Natural Resources, Commerce, Ecology, Agriculture, and Fish and Wildlife. The governor-appointed members include a member representing a timber products union, a forest landowner who actively manages his or her land, an independent logging contractor, an elected county commissioner or council member, and four general public members whose affiliations are not specified in the Forest Practices Act. The membership of the Board as of June 30, 2017, was:

- Stephen Bernath, Commissioner of Public Lands Designee, Chair
- Heather Ballash, Department of Commerce
- Tom Laurie, Department of Ecology
- Patrick Capper, Department of Agriculture
- Joe Stohr, Department of Fish and Wildlife
- Lisa Janicki, Skagit County Commissioner
- Noel Willet, timber products union representative
- Bob Guenther, general public member and small forest landowner
- Carmen Smith, general public member and independent logging contractor

- Paula Swedeen, general public member
- Tom Nelson, general public member
- David Herrera, general public member
- Brent Davies, general public member

In addition to adopting rules, the Board provides guidance through the Forest Practices Board Manual (Board Manual), an advisory technical supplement to the rules. The Board Manual guides field practitioners and DNR regulatory staff when implementing certain rule provisions. The forest practices rules and Board Manual largely represent the state's protection measures for public resources related to forestlands.

The Board is also a key structural component of the AMP and empowers three of the five primary structural components engaged in the process, including:

- The Cooperative Monitoring, Evaluation and Research Committee (CMER)
- The Timber/Fish/Wildlife Policy Committee (TFW Policy Committee)
- The Adaptive Management Program Administrator (AMPA)

The Board itself and the Independent Scientific Peer Review Committee (ISPR) are the fourth and fifth structural components of the adaptive management process. The adaptive management program is intended to provide science-based recommendations and technical information to assist the Board in determining when it is necessary or advisable to adjust rules and guidance in order to achieve established goals and objectives. The Board also directs and approves funding allocation for the implementation of the Adaptive Management Program.

CMER is the research component of the AMP. CMER is comprised of scientists from forest landowners, environmentalists, state agencies, county governments, federal agencies, and/or tribal governments. The Board approves membership of voting CMER members. These members need to have a demonstrated background in research and represent the science, not the position of their caucus.

The TFW Policy Committee considers scientific findings from CMER and makes recommendations to the Board related to forest practices rule amendments and guidance changes. The committee consists of one caucus principal, or their designee, from environmental interests, industrial private timber landowners, nonindustrial private timber landowners, western Washington tribal governments, eastern Washington tribal governments, county governments, DNR, other natural resource state agencies (includes: state departments of Fish and Wildlife, and Ecology as one vote), and federal agencies.

The Adaptive Management Program administrator is a full-time DNR employee and is responsible for overseeing the program, supporting CMER and reporting to the TFW Policy Committee and the Board.

The Independent Scientific Peer Review Committee performs independent peer review of CMER work products to ensure they are scientifically sound and technically reliable.

2.3 Forest Practices Board Rule Making Activity (July 1, 2016 – June 30, 2017)

Water Typing

The Board directed TFW Policy Committee to present recommendations for steps to complete the development of each element for a permanent water typing system rule at their November 2016 meeting. The Board accepted the TFW Policy recommendations outlining the steps to complete development of each element and request for continued work at their November 2016 meeting and directed Policy to finish development of recommendations through mediated dispute resolution. The November TFW Policy recommendations for continued work included: combining elements of existing water typing rules in WAC 222-16-030 and -031; evaluating the necessary criteria for developing a fish habitat assessment methodology; gaining consensus on the definitions of off-channel habitat; gaining consensus regarding the acceptance of completed water type modification forms; and determining how physical defaults will be used as the regulatory break for typed water.

At its May 2017 meeting, the Board accepted the TFW Policy Committee recommendations that included:

- Declaring Stage 2, mediation, of the TFW Policy Committee dispute resolution process complete;
- Those elements of existing water typing system rules in WAC 222-16-030 and -031 including current physical defaults which will remain in the water typing system rule;
- The definition of off-channel habitat;
- Using the regulatory Type F/N break points established through concurred water type modification forms;
- A Fish Habitat Assessment Methodology; and
- Convening a technical expert group to report to the Board and determine the metrics for Potential Habitat Break points. The Board, however, directed the technical expert group to report their results and recommendations directly to the Board.

The Board also approved additional funding for continued development of the water-typing model. It was anticipated the TFW Policy Committee would bring final recommendations for developing a permanent water-typing rule to the Board in August 2017.

Electronic Signature

The Board will amend the rules to allow for electronic submission of Forest Practices Applications and Notifications (FPA/N), signatures, and electronic payments. This will allow landowners an alternate way of submitting applications to the Department of Natural Resources region offices. Rule adoption is expected in November 2017.

2.4 Forest Practices Board Manual

The Board Manual is an advisory technical supplement to the forest practices rules. It is arranged by subject matter by section and provides technical information and guidance for DNR staff, forest landowners, and cooperating agencies and organizations when they implement certain rules. WAC 222-12-090 directs DNR to prepare revisions to the Board Manual in cooperation with the state Departments of Fish and Wildlife, Agriculture, Ecology and other agencies, affected tribes, and interested parties with appropriate expertise.

Board Manual revisions typically begin with a DNR-led working group that identifies key elements to be addressed, followed by the actual drafting of Board Manual language. For sections that provide guidance for rules protecting aquatic resources, a final draft is shared with the TFW Policy Committee for review, after which the Board considers the final approval.

Forest Practices Board Manual Activity (July 1, 2016 – June 30, 2017)

No sections of the Board Manual were amended during this reporting period.

2.5 Anticipated Forest Practices Board Direction

Anticipated Rule Making Activity

Water typing

The TFW Policy Committee continued their efforts to complete recommendations for a permanent water-typing rule. It was anticipated the final elements for the new water typing system would be completed and presented to the Board at their August 2017 meeting.

Adaptive Management Program Review

At the May 2017 meeting, the Board heard from several TFW caucuses whom identified inefficiencies within the AMP and suggested improvements to AMP processes. As a result, the Board established a subcommittee to work on bringing recommendations to the August 2017 meeting regarding suggested next steps. Next steps would include facilitating a meeting with caucus principals with the goal of improving the AMP effectiveness and efficiency through a recommitment to the “TFW-way” of doing business. Ultimately, this effort could lead to rule making.

Anticipated Board Manual Revision Activity

Board Manual Section 12, Guidelines for Application of Forest Chemicals.

DNR staff presented to the Board several program recommendations resulting from stakeholder discussions regarding the application of aerial forest chemicals. Amendments will incorporate some of those recommendations and include updated language reflecting advances in trade practices and terminology. Completion of this section is anticipated in mid calendar year 2018.

Board Manual Section 13, Guidelines for Determining Fish Use for the Purposes of Typing Waters

When the Board adopts a new permanent water typing system this section will be removed from the Board Manual. With the new rules the current protocol for determining fish use contained in this section will become obsolete. New guidance to determine fish habitat through a fish habitat assessment methodology developed by the Adaptive Management Program will be included in the newly developed Board Manual Section 23 *Guidelines for Field Protocol to Locate Mapped Divisions between Stream Types and Perennial Stream Identification*.

Board Manual Section 23, Guidelines for Field Protocol to Locate Mapped Divisions between Stream Types and Perennial Stream Identification

This section, when developed, will consist of two parts. The first part will provide guidelines for locating the division between Type F and N Waters and is being developed concurrently with the permanent water typing system rules. It will feature guidance to determine fish habitat through a fish habitat assessment method and incorporate improved best management practices for conducting an electrofishing protocol as a tool within the fish habitat assessment. The second part involves guidelines for locating the division between Type Np and Ns Waters (locating the upper most point of perennial flow). The TFW Policy Committee will resume work to develop recommendations on a wet season method to locate the uppermost point of perennial flow in Type N Waters once the first part is complete.

Adaptive Management Program Priorities

The Adaptive Management Program's work in several subject areas could result in recommendations to the Board after the current reporting period, including the following:

- Determining how to locate the Type F/N Water regulatory break point (water typing);
- Establishing an unstable slopes research strategy, including glacial deep-seated landslides and groundwater recharge areas (see section 2.6 Unstable Slopes and Landforms for more information); and
- Adding a small forest landowner alternate plan template in Board Manual Section 21 *Guidelines for Alternate Plans* for harvest in riparian management zones.

2.6 Unstable Slopes and Landforms

Unstable slopes and landforms have been a particular focus for the Board and its TFW Policy and CMER committees, as well as for the State's Forest Practices Program for the last few years. The Board accepted an unstable slopes proposal initiation in early 2016 requesting an evaluation of additional information and published science for possible inclusion in Board Manual Section 16, *Guidelines for Evaluating Potentially Unstable Slopes and Landforms*. In August 2016, the Board accepted the TFW Policy Committee's recommendations to conduct a phased approach for addressing the elements of the proposal initiation. In addition, refinements to the FPA and accompanying unstable slopes information form occurred in 2016. This additional information will aid DNR employees when they classify forest practices activities and staff geologists when they screen for potentially unstable landform information contained in submitted FPAs.

Future Amendments to Board Manual Section 16

The unstable slopes proposal initiation currently under the Adaptive Management Program review may further inform on guidance helpful for identifying potentially unstable slopes and will verify unresolved scientific questions and processes outlined in the proposal initiation. Results and recommendations for improving guidance resulting from the proposal initiation implementation will be incorporated into Section 16 when available.

3. Adaptive Management Program

3.1 Introduction

This chapter provides a brief background on the forest practices Adaptive Management Program (AMP) and accomplishments from July 1, 2016, to June 30, 2017. In large part, those accomplishments occur through the Cooperative Monitoring, Evaluation and Research Committee projects (CMER). The CMER Work Plan presents an integrated strategy for conducting research and monitoring to provide scientific information to support the Adaptive Management Program. Section 3.8 lists websites that give detailed information on the work plan and projects.

Section 3.9 contains information on electro-fishing activities associated with AMP research and monitoring projects. The federal Services specifically requested this information through the conditions that govern the Incidental Take Permits.

3.2 Adaptive Management Program

In response to water quality and aquatic endangered species issues, the Board adopted emergency water typing rules in 1996 and salmonid emergency rules in 1998. In addition, in 1997 the governor formed a Joint Natural Resources Cabinet and charged it with creating a salmon recovery plan for Washington State by June of 1998. A “Salmon Recovery Strategy” developed by the State called for the protection of salmon habitat through forest, agriculture, and urban modules.

The Joint Natural Resources Cabinet turned to Timber, Fish, and Wildlife (TFW) to develop recommendations for the forestry module. The TFW stakeholder process resulted in a set of recommendations called the Forest and Fish Report (1999) that was presented to the Board and the Governor’s Salmon Recovery Office. These recommendations responded to federal fish listings and water quality problems in Washington State on approximately 12.7 million acres of private and state-owned forestland.

The authors of the *Forests and Fish Report* agreed to use all reasonable efforts to support the expeditious implementation of the recommendations contained in it. The authors’ commitments, however, were subject to the:

- Washington State Legislature’s adoption of a statutory package providing for implementation of the report;
- Forest Practices Board’s adoption of permanent rules implementing the recommendations of the report;
- Provision of adequate funding for the implementation of the recommendations contained in the *Forests and Fish Report*;
- Receipt of federal assurances relating to the Endangered Species Act and the Clean Water Act; and

- Continued support from the authors for the completion of the tasks and implementation of the provisions specified in the report.

The *Forests and Fish Report* recommended an adaptive management program to address the effectiveness of the forest practices prescriptions in meeting resource objectives, the validity of the resource objectives for achieving the overall goals, and basic scientific uncertainties in the ecological interactions among managed forests, in-stream functions, and fish habitat. The 1999 Washington Legislature referenced the 1999 *Forests and Fish Report* in the Salmon Recovery Bill (Engrossed Substitute House Bill 2091), in which it directed the Forest Practices Board to adopt rules that were consistent with the recommendations of the report. Following that direction, the Forest Practices Board adopted rules that included AMP, a formal science-based program.

The purpose of AMP is to provide science-based recommendations and technical information to assist the Board in determining if and when it is necessary or advisable to adjust forest practices rules and guidance for protecting aquatic resources. The program was created to ensure that: programmatic changes will occur as needed to protect resources; there is predictability and stability in the process; and there are quality controls applied to scientific study designs, project execution, and the interpreted results. AMP is an integral component of the Forest Practices Program, and since the Forest Practices HCP is a programmatic habitat conservation plan based on the Forest Practices Program, AMP is essential to successful implementation of the Forest Practices HCP.

From 2000 to 2011, more than \$25 million in federal funding provided through the Pacific Coastal Salmon Recovery Fund was spent to help implement the 1999 *Forests and Fish Report*. This included funding for development of an adaptive management program, a multi-landowner Forest Practices Habitat Conservation Plan (Forest Practices HCP), and information systems. Funds were primarily used to design and implement research and monitoring projects, workshops, and science conferences.

AMP is governed by an official state rule-making body (the Board), and includes a policy committee and a science committee. The unique model of collaborative decision-making that was adopted was as significant as the program itself. In addition, an independent scientific peer review process (ISPR) was established to ensure the rigor and integrity of adaptive management research and monitoring projects and reports.

Another significant outcome of the federal funding was the early emphasis on developing ‘rule tools’—projects designed to develop, refine or validate tools (e.g., models, methods and protocols) used to implement the Forest Practices Rules that support the 1999 *Forests and Fish Report*. These projects have helped define, test, or refine protocols, models, and guides that allow the identification and location of rule-specified management features, such as landslide screening tools or the achievement of specified forest stand conditions, such as the ‘desired future riparian condition’ basal area target. Target verification projects were designed to confirm riparian function performance targets developed during *Forests and Fish Report* negotiations that

authors identified as having a weak scientific foundation, such as the desired future condition basal area targets for Type F (fish-bearing) streams. Now CMER's focus has shifted from rule tools to effectiveness and extensive status and trends projects. Results from these types of projects will inform if forest practices rules are effectively protecting natural resources or if changes are necessary and recommendations made to the Board.

Development of the 1999 *Forests and Fish Report* and subsequent Washington State laws and Forest Practices Rules were based on the best scientific knowledge that was available at the time. Both the report and the rules were developed in a collaborative, transparent process, with many stakeholders involved. Another outcome of providing funding for establishment and support for AMP is the continued participation by many stakeholders, including tribes and tribal organizations, state agencies, landowner groups, counties, and conservation organizations (through the "conservation caucus"). The stakeholder-consensus decision-making process continues to be used in AMP to review and suggest revisions to Forest Practices Rules and guidance on state and private forestlands based on findings from research, monitoring and other information.

AMP research and monitoring efforts have led to revisions in the Forest Practices Rules, guidance in the Forest Practices Board Manual, and guidance for small forest landowners. For example, in past years, the rules containing the target threshold for the riparian desired future condition basal area have been revised; and a small landowner fixed-width buffer template has been developed in cooperation with small landowner representatives and added to the Forest Practices Board Manual.

3.3 Cooperative Monitoring, Evaluation and Research Committee History

The Cooperative Monitoring, Evaluation and Research Committee (CMER) is the scientific component of the Adaptive Management Program (AMP) and oversees research and monitoring. The CMER Work Plan describes the various research and monitoring programs, associated projects and work schedule. Schedule L-1 from the *Forests and Fish Report* (U.S. Fish and Wildlife Service, 1999) was revised, Board-approved, and Schedule L-1 (2001) was incorporated into the HCP to serve as the structure of the adaptive management program, and specifically to guide the development of projects described in the [2015 CMER Work Plan](#).

Time has shown that participants change research and monitoring priorities within CMER over time as adaptive management proceeds, new information becomes available, and improvements are made to the forest practices program based on these scientific findings. At the project level, some reprioritization took place in 2010 to answer questions related to Clean Water Act (CWA) assurances (see Appendix 2, letter from Mark Hicks, for explanation of CWA assurances); it occurred again in 2014 with the completion of the 2012 HCP Settlement Agreement¹ and a

¹ In response to a potential challenge to issuance of the ITPs, the State negotiated a settlement agreement with the Forests and Fish Conservation caucus and the Washington Forest Protection Association concerning implementation of the Forest Practices HCP.

Master Schedule. These processes essentially prioritized projects when the TFW Policy Committee agreed on a schedule and a long-term budget.

While the first few years of the Adaptive Management Program focused on development of rule tools, the program is now primarily focused on effectiveness monitoring with a particular focus on water quality. See Section 3.4, which discusses CMERs' activities.

3.4 CMER Work Plan and Activities

The CMER Work Plan is a dynamic document that is revised biennially in response to: research findings; changes in the Forest Practices Board and the TFW Policy Committee objectives; and available funding. The 2017-2019 Biennium CMER Work Plan, found at <http://www.dnr.wa.gov/about/boards-and-councils/forest-practices-board/cooperative-monitoring-evaluation-and-research>, (on the right side of the screen under "Files") describes 97 projects.

Approximately 36 projects have been completed and 29 projects are ongoing or to be initiated (i.e., undergoing study design development, or being implemented or reviewed). The CMER Work Plan is updated biennially and presented to the TFW Policy Committee at their regular April meeting. The most recent update was presented to the TFW Policy Committee in April 2017. Currently, 22 projects are ongoing and seven projects have yet to be initiated. For the 2017–2019 biennium, there are three projects in the Stream Typing Rule Group, 14 projects in the Type N Riparian Prescriptions Rule Group, 5 in the Type F Prescriptions Rule Group, 3 in the Unstable Slopes Rule Group, 1 in the Roads Rule Group, and 3 in the Wetlands Protection Rule Group.

The projects in the work plan originally were prioritized based on the level of scientific uncertainty and resource risk as related to the priorities of Schedule L-1 in the *Forests and Fish Report* (U.S. Fish and Wildlife Service et.al., 1999) and incorporated into the Forest Practices HCP (Washington DNR, 2005). CMER projects are intended to address the needs of higher priority subjects first, to ensure that the most important questions about resource protection are answered before questions with lower scientific uncertainty or lower resource risk. Projects were re-prioritized in 2010 to focus on CWA assurances; re-prioritized in the Master Schedule proposed in the 2012 HCP settlement agreement; and again in bringing the settlement before the TFW Policy Committee for adoption in the 2014 CMER Work Plan.

During the previous reporting period, the TFW Policy Committee approved the Master Project Schedule (MPS) for projects identified in the Adaptive Management Program. The goals of the MPS are to have a planning document that will help the Adaptive Management Program forecast when projects can be implemented, sequence projects for efficiencies, keep the budget within projected revenue and complete the critical projects that are already on the MPS by 2030. In addition, development of the MPS provides the Adaptive Management Program with a tool to evaluate its progress, which meets requirements of the 2012 HCP Settlement Agreement.

From July 1, 2016, to June 30, 2017, two projects were completed and approved by CMER, and considered for action by the TFW Policy Committee.

1. Extensive Riparian Status and Trends Monitoring – Temperature, Type F/N Westside: This project was intended to develop unbiased estimates of the frequency distribution of Type F/N stream temperatures across Forest Practices HCP lands in western Washington. Stream temperatures were monitored upstream and downstream from the study site. Additionally, air temperature, shade, riparian vegetation type, LWD, and several channel measurements were collected.
2. Literature Synthesis of the Effects of Forest Practices on Glacial Deep-Seated Landslides and Groundwater Recharge: This project was a focused literature review to summarize the best available science on the effects of forest practices on deep-seated landslides in glacial materials. The literature review includes an annotated database, a GIS map product, and a synthesis report. The synthesis found that the sensitivity of glacial deep-seated landslides to forest practices is poorly understood and that many of the effects of forest practices must be inferred using measurements for different land-cover types. The TFW Policy Committee approved the final report in March 2017. TFW Policy Committee decided no action would be taken until they had received the results of the Non-Glacial Deep- Seated Landslides literature synthesis to be completed in September 2017.

Four draft study plans and three final reports were approved by CMER to go through Independent Scientific Peer Review (ISPR) in FY 2017.

Study plans in ISPR

- Road Prescription-Scale Effectiveness Monitoring Project: This project will monitor forest roads at the prescription scale to inform surface erosion sediment reductions from site-specific measures that have been implemented.
- Eastside Type N Riparian Effectiveness Project: This study will determine if, and to what extent, the prescriptions found in the Type N Riparian Prescriptions Rule Group are effective in achieving performance targets and water quality standards, particularly as they apply to sediment and stream temperature in eastern Washington.
- Westside Type F Riparian Prescription Effectiveness Project: The purpose of this project is to determine how stand conditions respond over time to the Westside Type F riparian prescriptions and to evaluate the effectiveness of the prescriptions in meeting Forest Practices HCP resource objectives and performance targets.
- Van Dyke’s Salamander Project: Conflicting information exists regarding the occurrence of Van Dyke’s salamander on managed landscapes. This project is being proposed in three phases to address Van Dyke’s salamander distribution: Phase I: Literature review; Phase II: Developing a sampling tool; and Phase III: Develop a before-after/control-impact (BACI) type study comparing harvested and unharvested units.

Final reports in ISPR

- Buffer Integrity-Shade Effectiveness Project: This project examined the effects of three levels of shade reduction from timber harvest on stream associated amphibian density,

body condition, and spatial distribution, as well as water temperature, primary productivity, litterfall and macroinvertebrates.

- Eastside Modeling Evaluation Project (EMEP): This project uses the riparian stand data collected from Phase 1 of the Eastern Washington Riparian Assessment Project (EWRAP) to model current riparian stand conditions to estimate the extent to which current riparian stands achieve the three FFR eastside riparian objectives.
- Type N Experimental Buffer Treatment Project on Hard Rock Lithologies: This study assesses the effects of three riparian buffer strategies (compared to unharvested reference basins) during an Initial Phase (2006-2011) and an Extended Monitoring Phase (2012-2017) in basins with basalt or other hard rock lithologies. Initial field sampling included amphibians, water quality (temperature, turbidity, nutrients and suspended sediment concentration), riparian stand characteristics, LWD, riparian shade, litterfall, stream discharge, and detritus and macroinvertebrate export. Data on downstream effects on stream temperature and fish populations have also been collected. The final report for the Initial Phase is in ISPR.

In addition to the completed projects and those currently in ISPR listed above, progress is being made for the following CMER projects:

- Type N Experimental Buffer Treatment Project in Soft Rock Lithologies: This project is a field experiment analogous to the Hard Rock project but implemented on more erodible (soft rock, largely marine sedimentary) lithologies. Two years of pre-harvest data collection has been completed. Harvesting of the study sites was completed in 2015 and post-harvest data is currently being collected.
- Extended Type N Experimental Buffer Treatment Project on Hard Rock Lithologies: Project description is above in section “Final reports in ISPR”. The resample was initiated in 2012 and will be completed in the fall of 2017 for all data except water temperature, which will be fall 2018. This data will be presented in an appendix to the original report (anticipated to be completed in 2017), which will likely be completed in 2019. The extended monitoring and report development comparing pre- to post-harvest genetics is being conducted for the amphibian genetics component of this study. The final report for this component of the project is expected to be completed in 2018.
- Literature Review and Synthesis Related to the Salvage of Fire Damaged Timber: A contractor has been hired and is currently working on a literature review evaluating timber salvage after fire damage and its effects (i.e. shade, sediment, water quality) in and near riparian areas located in eastern Washington. It is anticipated that a final report will be completed in 2017.
- Extensive Riparian Status and Trends Monitoring – Vegetation, Type F/N Westside and Eastside Projects: A literature synthesis was completed in June 2015 on the use of remote sensing to evaluate the cost and value of various remote sensing tools to quantify 13 riparian forest metrics. The literature review included recommendations for a pilot project to determine if remote sensing can be used in place of traditional fieldwork. The pilot project was started in November 2015 and is anticipated to be completed in 2017.

- Literature Synthesis of the Effects of Forest Practices on Non-Glacial Deep-Seated Landslides and Groundwater Recharge: This project is to conduct a literature review and synthesis on assessing the effect of forest practices on groundwater recharge areas and deep-seated landslides in non-glacial materials. The literature synthesis final report is currently under review by the Upslope Scientific Advisory Group (UPSAG) and CMER, and is anticipated to be completed in 2017. UPSAG will use this literature review and synthesis to further develop a deep-seated landslide research strategy.
- Wetland Mapping Tool: This project consists of two phases. Phase I will develop the GIS-based wetland identification tool by linking pixel-based and object-based approaches for delineating forested wetlands. Phase II will calibrate the wetland identification model to predict the probability of wetlands by type on forestlands of western Washington. Phase I is currently being implemented and should be completed in 2017.
- Westside Type N Buffer Characteristics, Integrity, and Function Project: This project is designed to evaluate the effectiveness of the westside Type N riparian prescriptions, including survival of buffer leave trees, stand condition and trajectory over time, and changes in riparian functions, including shade, LWD recruitment, and soil disturbance/stream-bank protection. Field data were collected three, five, and ten years post-harvest. Data analysis and final report writing is currently being worked on.
- Eastside Type F Riparian Effectiveness Monitoring Project (Bull Trout Overlay add-on): Data was collected on changes in vegetation, buffer integrity, and LWD recruitment at 18 eastside Type F sites that were harvested utilizing the eastern Washington riparian buffer prescriptions and pairing them with untreated control sites. Data were collected within one year post-harvest and five years post-harvest. Data analysis and final report writing is currently being worked on.
- Riparian Hardwood Conversion Project: This project is a series of case studies at eight sites where hardwood trees were harvested from the riparian buffer and replanted with conifers. Data about tree regeneration and residual stand conditions were collected at each site four and ten years post-harvest. The final report is currently being completed.
- Wetland Management Zone Effectiveness Monitoring Project: This project will evaluate wetland functions to determine if the target of no net loss of hydrologic function, Clean Water Act assurance targets, and hydrologic connectivity are being achieved. The Wetlands Scientific Advisory Group is currently working on the best-available science document to inform study design development.

The Forest Practices Board directed CMER to implement “piloted” lean process improvement (Lean) for a limited number of new projects with the intent of increasing efficiency in the development of the scoping and study design phases. As part of the Lean process, small teams (referred to as Technical Writing and Initiation Groups, or TWIGs) of qualified scientists and technical personnel in the area of expertise specified are assembled *in lieu* of a larger group of technical personnel referred to as a scientific advisory group (SAG). The premise is that this smaller team of experts will be more effective and efficient than a SAG in developing scoping documents and study designs. Four projects are currently in various stages of the Lean process as of FY 2017:

- Eastside Type Np Riparian Effectiveness Project: This project will determine if and to what extent the prescription found in the Type N Riparian Prescription Rule Group for Type N streams in eastern Washington maintain performance targets and water quality with a particular focus on effects in downstream typed waters. The project will develop a literature review that will inform a field study to examine the effect of applying the Type N rules on the Type Np and Type F waters lying downstream. The study design is currently being developed.
- Unstable Slopes Criteria Project: The initial writing team completed a best available science alternatives analysis and is currently writing a study design, which will address the critical question of whether unstable landforms are being correctly and uniformly identified and evaluated.
- Forested Wetland Effectiveness Project: This project will look at the effectiveness of forest practices prescriptions to protect, maintain, and restore aquatic resources. The project team is working on drafting a study design.
- Default Physical Criteria Assessment Project: The accuracy of the current default physical criteria has not been validated, and research describing the physical characteristics at the upstream extent of fish distribution is limited. The magnitude of difference between the last fish and the default physicals is also unknown. The Instream Scientific Advisory Group is currently scoping this project.

3.5 TFW Policy Committee Activity (July 1, 2016 – June 30, 2017)

General Policy Activity

The TFW Policy Committee held a budget meeting in April 2017 and reviewed the FY 2017-18 CMER Work Plan and budget identified in the Master Project Schedule. Following that discussion, TFW Policy Committee reviewed and approved the proposed FY 2017-19 biennial budget. In May 2017, the Forest Practices Board approved the proposed FY 2017-19 biennial budget. With the exception of new projects that will be developed through the piloted Lean process, most of the FY 2017 research and monitoring projects had been in the work plan and were ongoing projects. Although completion of some project elements was delayed in FY 2016 due to disagreements within the CMER Committee, it is reasonable to anticipate that CMER will complete four projects by the end of FY 2018 including; the Type N Experimental Buffer Treatment Project on Hard Rock Lithologies, Buffer Integrity Shade Effectiveness Study, Type N Buffer Characteristics Integrity, and Function and Hardwood Conversion projects.

Type N and Permanent Water Typing System

In FY2012, the TFW Policy Committee initiated discussions on two priority items: development of a Type N water strategy (how to address Type N water issues); and, development of a strategy for transitioning from the interim water typing system rule to a permanent water typing system rule (Type S, F and N waters) as was anticipated by the Forests and Fish Report and the Forest Practices HCP. In FY2012, the TFW Policy Committee determined the development of the Type N water strategy was of the highest priority. Since 2012, while TFW Policy Committee has

completed most of work on the Type N water strategy and the Board directed the TFW Policy Committee to develop recommendations for a permanent water typing system rule as their top priority.

During FY 2016, the TFW Policy Committee, including subcommittees and technical groups, engaged in intense work centered on development of a permanent water typing system. The work involved; an evaluation of past water type modification forms and the decision to accept all the Type F/N Water breaks from concurred water type modification forms as the Type F/N regulatory division point, evaluating how to delineate the extent of off-channel habitat, and developing a fish habitat assessment methodology which reduces protocol survey electrofishing in establishing the regulatory Type F/N Water break point.

The Board directed TFW Policy Committee to present recommendations for steps to complete the development of each element at their November 2016 meeting. The Board accepted the TFW Policy recommendations and directed Policy to finish development of recommendations through mediated dispute resolution. The November TFW Policy recommendations for continued work included: combining elements of existing water typing rules in WAC 222-16-030 and -031; evaluating the necessary criteria for developing a fish habitat assessment methodology; gaining consensus on the definitions of off-channel habitat; gaining consensus regarding the acceptance of completed water type modification forms; and determining how physical defaults will be used as the regulatory break for typed water.

At the Board's May 2017 meeting, the Board accepted the TFW Policy Committee recommendations: to combine elements of existing water typing system rules in WAC 222-16-030 and -031 including current physical defaults; accepting the majority consensus on the definition of off-channel habitat while continuing discussions on the line of delineation of off-channel habitat in stream associated wetlands; accepting as final the regulatory Type F/N break points established through concurred water type modification forms; accepting the proposed Fish Habitat Assessment Methodology; and to convene a technical expert group to determine the metrics for Potential Habitat Break points. The Board, however, established the technical expert group to report their results and recommendations directly to the Board.

3.6 AMP Challenges

Capacity of Participants

The capacity of TFW Policy and CMER participants remains finite. Although many projects were continued in FY 2017 and significant milestones were met on others, human resource scarcity limited progress on projects. The TFW Policy Committee recognized this and efforts were made to adjust the Master Schedule for Adaptive Management Program projects and review the Lean process at CMER.

Structure of CMER and TFW Policy

The Adaptive Management Program Administrator (AMPA) was asked by the Board in February 2017 to bring recommendations to the Board's May 2017 meeting on proposed ways to improve

the efficiency and effectiveness of the Adaptive Management Program. The AMPA made recommendations in May to the Board and the Board formed a subcommittee to work with the AMPA and caucus principals to review these recommendations and develop a path forward. Emphasis from the subcommittee will be to implement changes that can be undertaken without changes to the Washington Administrative Code.

3.7 Clean Water Act Assurances

Upon the completion of the *Forests and Fish Report* in 1999, the Washington State Department of Ecology (Ecology) agreed to provide Clean Water Act assurances, with the support of the U.S. Environmental Protection Agency, to the State of Washington for a period of ten years. It was assumed ten years would be sufficient time to determine if implementation of the revised rules and Forest Practices Program—including adaptive management—were effective in either meeting water quality standards or putting impaired waters on a trajectory toward meeting those standards. Ecology reviewed the Forest Practices Program to determine if the Clean Water Act assurances should be retained and then produced a report of their findings in July 2009. On Ecology’s webpage [Non-point pollution from Forestry](#), click on: [2009 Clean Water Act Assurances Review of Washington’s Forest Practices Program](#) (Ecology 2009). This report was transmitted to the Forest Practices Board in October 2009. Ecology committed to providing the Board with periodic updates on the progress being made to meet milestones established for retaining the CWA Assurances for the forest practices rules and associated programs. Please see Appendix 2 for the latest information on progress.

3.8 Adaptive Management Program Websites

Refer to the following websites (underlined) for more information about the Adaptive Management Program.

Adaptive Management Program:

<http://www.dnr.wa.gov/programs-and-services/forest-practices/adaptive-management>

CMER:

<http://www.dnr.wa.gov/about/boards-and-councils/forest-practices-board/cooperative-monitoring-evaluation-and-research>

3.9 Electrofishing Report

One of the conditions of the incidental take permits (ITPs) relates to electrofishing used in research and monitoring. United States Fish and Wildlife Service and National Marine Fisheries (NMFS) asked for an accounting of any electrofishing related to Adaptive Management Program research and monitoring. However, the ITPs do not cover electrofishing used during operational water typing. Refer to the [NMFS ITP](#) “Specific Conditions number 4” which states: “This incidental take permit does not apply to operational water typing by individual landowners: these activities would need incidental take authorization through other means.”

Electro-fishing Activity

Research:

The Services' Incidental Take Permits cover electrofishing conducted for research and monitoring by the Adaptive Management Program. No electrofishing surveys were conducted between July 1, 2016, and June 30, 2017, as part of the Adaptive Management Program's research and monitoring.

4. Forest Practices Operations

4.1 Introduction

Forest Practices Operations is responsible for administering and enforcing the Forest Practices Rules on approximately 12.7 million acres of private, state, and other nonfederal public forestlands. The Forest Practices Rules protect public resources related to forestland in Washington State, which are defined as water, fish, wildlife, and capital improvements of the state or its political subdivisions. The Forest Practices Rules establish some of the highest standards for resource protection on forestlands in the nation. They give direction on how to implement Washington’s Forest Practices Act and Forest Practices HCP.

4.2 Forest Practices Positions and Forest Practices Application/Notification (FPA/N) Workload

Forest Practices Operations consists of both office and field staff. Forest Practices forester field positions are directly responsible for reviewing new FPA/Ns and complying and enforcing Washington’s Forest Practices Act and Rules on active FPA/Ns. During this reporting period, there were approximately 94 full-time positions statewide in Forest Practices Operations. Of the 94 positions, 63 were field positions, which indicates no change in staff numbers from the FY 2016 reporting period.

During this reporting period, Forest Practices Operations staff processed 4,771 FPA/Ns. The table below provides a breakdown of this information by DNR region.

Decisions for FPA/Ns Received/Renewed During Fiscal Year 2017

Region	Approved	Closed	Disapproved	Renewed	Total by Region
Northeast	763	23	17	57	860
Northwest	551	60	28	30	669
Olympic	563	36	6	56	661
Pacific Cascade	1,429	62	20	79	1590
South Puget Sound	687	31	27	52	797
Southeast	174	13	6	1	194
Total by Decision	4,167	225	104	275	4,771

Closed means the FPA/N was withdrawn by the applicant.

Additionally, there were a total of 13,657 active (not yet expired) approved and renewed FPA/Ns statewide, 1,465 (9 percent) fewer active FPA/Ns than during the prior reporting period.

4.3 Priorities

Forest Practices Operations has three over-arching functions: FPA/N processing, FPA/N compliance, and FPA/N enforcement. The following information focuses on topics that have had the largest impact on workload during this reporting period.

Enforcement Training

During FY 2017, large training efforts involved significant staff time from both Forest Practices Division and Region staff and in cooperation with Assistant Attorney Generals from the Office of the Attorney General. As part of the effort, staff were involved with updating two internal manuals, the *Enforcement Handbook*, an Operations product and *The BAP (Brief Adjudicative Proceedings) Book*, an Attorney Client Privileged document from the Office of the Attorney General.

The first training was Enforcement Training, which took place in Wenatchee in October 2016. Division and region staff prepared seven modules, including a scenario, which staff worked through in the training. The modules included an overview of the updated Enforcement Handbook, FPA Review and Processing (office), FPA Field Review and Final Decisions, Conditioning and FPAs, Compliance, Overview of Enforcement, Appeals Process, and AAG defense of department decisions. The scenario-based case study walked the participants through a violation that resulted in a civil penalty and a Superior Court case. The class was broken into groups. They were presented with the information related to the case. At each decision point in the process, the groups evaluated the facts available and made recommendations for enforcement based on accumulated training throughout the session. After each step, the class was involved in discussion focused on the reasoning that led to each group's decisions and then discussion of the actual case decisions made.

In preparation for the training, presenters participated in three multi-day dry runs, after which they presented two real time enforcement training sessions. This training included all forest practices staff from office staff to assistant region manager (ARM).

The second training was a one-day training given in Tumwater in March 2017, which was focused on the brief adjudicative proceeding (BAP) process. This training was presented to the majority of the forest practices coordinators, field foresters, district managers and ARMs. It is one of the requirements for an ARM to act as presiding officer during a BAP appeal. A BAP can only occur because of an appeal of a Notice to Comply.

See chapter 10 - *Training/Information/Education* for additional information.

Unstable Slopes

Beginning in the fall of 2016, Forest Practices Operations staff began a review of processed FPA/Ns that contained triggers for additional review, as outlined in the March 2016 memo, *Unstable Slopes Review Expectations*. The purpose of this review was to determine which review steps needed additional training or clarification in FPA/N instructions and/or guidance. This

review encompassed all FPA/Ns meeting any of the following criteria: Questions 11 and/or 12 checked “Yes”; an attached geotechnical memo, letter, or report; a positive screening result showing either a portion or all of the unit area of an FPA/N that is found in a “High/Very High Landslide Hazard Zonation” screen and/or fell on the “Landslide Inventory Polygons” screen. From this pool of FPA/Ns, a minimum of 10 percent were selected from each region. The FPA/Ns were then evaluated using the office checklist, which is DNR’s standard practice. Forester field logs/notes and geologist notes were reviewed.

Because of the review, training was developed and presented to forest practices region staff. In May of 2017, Forest Practices Operations delivered this focused training to each region office. Office staff, field foresters, district managers, and science team geologists attended. The training covered the intake and review of FPA/Ns associated with potentially unstable landforms; specifically, when to accept an FPA/N, ensuring recommendations from a geotechnical memo, letter, or report are included in FPA/N question 31, review of screening tools during office staff review, and when to send an FPA/N to the science team geologist for office and/or field review.

Forest Practices Hydraulic Projects

Forest practices engineers assisted foresters in the regions with review of 134 forest practices applications involving hydraulic projects or road construction. This involves either pre-approval reviews, review of the design work, participation on interdisciplinary teams and compliance post installation.

Forest Practices Program Guidance

Forest practices guidance supplements the Forest Practices Rules and Board Manual.

The complexity of the Forest Practices Rules, details of program administration, and variability in the forested environment pose unique challenges for landowners and DNR Forest Practices staff in implementing the Forest Practices Rules across the landscape. Situations arise in which neither the rules nor the Board Manual provide enough specificity to resolve a particular implementation issue. Therefore, DNR Forest Practices develops internal guidance, which provides direction consistent with established program goals, resource protection objectives, and performance targets. New guidance or changes to existing guidance are internally communicated to region forest practices staff in writing. Guidance affecting cooperating agencies, organizations, and landowners is shared outside the agency.

DNR Forest Practices created several guidance documents between July 1, 2016, and June 30, 2017. The following is a summary description of the written guidance that has been shared with Forest Practices staff:

Summary of Written Guidance Issued to DNR Forest Practices Staff July 1, 2016 – June 30, 2017

Date	Reason for guidance	Accomplishment
8/5/2016	Clarify DNRs' interpretation of stream bank integrity	Delivered consistent, statewide interpretation of the stream bank integrity WAC (WAC 222-30-030).
10/16/2016	Improved processing of FPAs with potentially unstable landforms	Provided expectations for the processing of FPA/Ns with potentially unstable landforms, outlined training needs and changes to FPARS.
1/3/2017	Guidance for Office and Field Review of FPAs with Potentially Unstable Slopes	A supplemental memo to the 10/16/2016 memo, which provided further guidance on training expectations as well as an overview of changes.
2/28/2017	2017 Protocol Stream Survey Process and Water Level and Streamflow Forecast	Annual memo, which outlined stream typing expectations and forecast for stream typing season. This year's memo also provided additional clarification of the 2002 "Type 3 Water Breaks". This memo supersedes the 2002 memo.
2/28/2017	Water Type Review Team Guidance	Provided clarification to the water type review team guidance originally distributed in 2011.

WDFW contribution to Forest Practices Operations as written by WDFW

Forest Practices Hydraulic Projects (FPHP)

WDFW's goal, pertaining to FPHPs, is to review all FPAs containing FPHPs in order to help assure that fish protection standards are met and project approvals are timely and successful for landowners. It is important to note that each FPA may have multiple FPHP projects, which may be a combination of projects requiring WDFW concurrence, and other "standard" projects pertaining to Type S and F streams that require WDFW review and comment. Therefore, WDFW has tracked numbers of individual projects rather than numbers of FPAs. From July 1, 2016, through June 30, 2017, WDFW biologists reviewed 903 FPHPs, which included 162 concurrence-required project reviews and 741 standard FPHPs. WDFW encourages landowners to engage in pre-application consultation and on-site technical assistance to identify the optimal project operating season as often as the opportunities arise. During this period, WDFW provided consultation on 313 pre-application site visits.

Other

Other forest practices operational work conducted by WDFW biologists included: review of over 944 Water Type Modification forms and participation in field reviews as appropriate to validate those proposed water types, participation on ID teams for various forest practices issues, road maintenance and abandonment plan (RMAP) review, review and technical assistance on alternate plans for both large and small forest landowners, and technical assistance on other aquatic resource protection issues.

5. Small Forest Landowner Office

5.1 Introduction

The Small Forest Landowner Office (SFLO) serves as a resource and focal point for small forest landowner concerns and policies. Its mission is to promote the economic and ecological viability of small forest landowners while protecting public resources. The office was created because of the 1999 Salmon Recovery Act, when the Forests and Fish Rules were passed. These new Forest Practices Rules resulted in increased size of riparian buffers and created further measures to protect water quality and restore salmon habitat in the forests of Washington State. The State Legislature recognized that the Forests and Fish Rules would have a disproportionate economic effect on small, family-owned forests. To help small landowners to navigate the regulatory system, the legislature authorized the creation of a Small Forest Landowner Office within DNR to provide technical assistance. The Forest Practices HCP is a programmatic HCP based on the Forest Practices Program. The SFLO is an integral part of the Forest Practices Program helping small forest landowners in implementing the protective measures for aquatic species found in the forest practices rules. The integral nature of the SFLO to the Forest Practices Program makes the SFLO an important part of implementing the Forest Practices HCP and protecting federally listed species habitat.

It is estimated that small forest landowners manage approximately half of the private forest acreage in the state. Their forests tend to be concentrated in the lower elevation habitats along lakes and streams, which are key locations for providing ecosystem functions. Their forests also tend to be subject to development pressures, making it especially important to support them in their efforts to maintain their land in forestry. Due to population growth and a shrinking commercial forestland base, these landowners' forests may face increasing demands for timber, fish, wildlife, and water protection, recreational uses, and aesthetics.

The Small Forest Landowner Office focuses on several efforts including small forest landowner assistance through the Forestry Riparian Easement Program (FREP), the Family Forest Fish Passage Program (FFFPP), the Forest Stewardship Program, and Small Forest Landowner Technical Assistance service for western Washington, as well as outreach to inform landowners of the various assistance programs available to them. Another program administered by the office, which assists both small and large forest landowners, is the Rivers and Habitat Open Space Program, which is described in Chapter 7 of this report.

5.2 Forestry Riparian Easement Program

Provisions included in the 1999 Salmon Recovery Act established the Forestry Riparian Easement Program (FREP). This easement program acknowledges the importance of small forest landowners and the potential for a disproportionate financial effect of forest practices riparian protection rules on them.

The Forestry Riparian Easement Program compensates eligible small forest landowners for “qualifying timber” within the riparian management zones in exchange for a 50-year conservation easement. “Qualifying timber” includes those trees that the landowner is required to leave unharvested in the riparian zone because of forest practices rules protecting Washington’s aquatic resources. Landowners cannot cut or remove any qualifying timber during the life of the easement. The landowner still owns the property and retains full access, but has “leased” the trees and their associated riparian function to the state. The Washington State Legislature has allocated funding for the program since 2002.

Applications and Acquisitions

Since FREP began, funding has not kept up with demand. There remains a backlog of eligible applications waiting funding for the cost of acquiring the easements. During the 2017 fiscal year, 30 new applications were received and 33 conservation easements were acquired (12 applications were determined to be ineligible for the Program). As a result, as of July 1, 2017, the backlog of unfunded FREP applications is 134. Using private contractors, the FREP qualifying timber has been cruised on 87 of the 134 applications.

In the 2017 legislative session, DNR requested \$10 million for the next two years. As of June 30, 2017, the legislature had not passed a capital budget for the 17-19 biennium. In the draft legislative budget, there is support for \$3.5 million.

The table on the following page summarizes the Forestry Riparian Easement Program’s acquisition activity over time.

Easement Application Numbers by Fiscal Year

	FY 2011-2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Totals
Queue Balance at Start of Fiscal Year	-	98	89	101	112	132	125	134	-
Applications Received	409	15	16	26	33	24	21	30	574
Easements Purchased	278	12	0	13	6	19	9	33	370
Applications Ineligible / Rejected	33	12	4	2	7	12	3	12	85
Queue Balance at End of Fiscal Year	98	89	101	112	132	125	134	119	-
Conservation Acres Purchased	4,793	148	0	110	122	166	133	396	5,868

5.3 Family Forest Fish Passage Program

The Washington State Legislature established the Family Forest Fish Passage Program (FFFPP) in 2003 (RCW 76.13.150) to provide a cost share program for small forest landowners to comply with the Forests and Fish Rule requirement for the removal of fish passage barriers. The voluntary program allows these landowners to sign up for assistance to correct fish passage barriers on their forest road stream crossings. The program is a continuing success, recognized as a model for interagency cooperation and for assisting landowners.

In general, the 2003 law required:

- Washington State was required to create a cost-share program that would provide from 75-to-100 percent of the cost of removing fish barriers on small forest landowner lands.
- Washington State was required to annually rate and then rank barriers and repairs based on specific criteria explained below in “WDFW Ranking”.
- Washington State was required to relieve landowners, who sign up for the program, of any forest practices obligations to fix a fish passage barrier until funding is made available to complete the project.

Three state agencies and a stakeholder group cooperate to manage and fund the program:

- The Washington State Department of Natural Resources (DNR) Small Forest Landowner Office is the main point of contact for program information, assisting landowners, providing outreach, and coordinating additional funding sources.
- The Washington State Department of Fish and Wildlife (WDFW) is responsible for evaluating the barrier, assessing habitat quality of the stream, and ranking barriers for correction.
- The Washington State Recreation and Conservation Office (RCO) administers program funding and provides information on program contracts, billing, and reimbursement.
- The Washington Farm Forestry Association (WFFA) represents the small forest landowner community on the steering committee; providing program oversight and assisting with project approval.

WDFW Ranking of Fish Passage Barriers for the Family Forest Fish Passage Program

Program legislation (RCW 77.12.755) directs the repair of the worst barriers first starting with barriers lowest in the watersheds. To identify and prioritize the worst barriers, WDFW rates the barriers enrolled in the FFFPP on the following criteria:

- How many fish species benefit from the repair?
- What will be the amount and quality of habitat opened?
- What is the degree of fish barrier (that is, the degree to which fish are prevented from moving up or down stream)?
- What are the number and location of other barriers and the degree of those barriers?

- Is there concurrence from lead entity watershed groups (groups that take the lead on salmon habitat recovery plans in the watershed) on the repair?
- What is the cost effectiveness of the project?

Projects are scored to provide an initial list that is evaluated by the three state agencies DNR, RCO, and WDFW. This information, along with project cost estimates, is provided to the FFFPP Steering Committee for final funding decisions.

Information on the fish passage barriers obtained during site visits is placed in the WDFW Fish Passage Barrier Inventory. The inventory includes those stream crossings that have been identified through Washington State Department of Transportation inventories, local government inventories, barriers identified in FFFPP stream surveys, and local inventories funded by the Salmon Recovery Funding Board.

When a small forest landowner signs up for the FFFPP, they are then relieved of responsibility to correct that fish passage barrier until it becomes a funded high priority for correction under FFFPP, or if the barrier becomes a threat to public resources. If a landowner does not sign up for the FFFPP, it is the landowner’s responsibility to correct the fish passage barrier.

In addition to providing adequate funding, the two greatest challenges for the FFFPP are filling data gaps in the fish passage barrier inventory information and getting the word out to landowners who would benefit from the program. DNR and cooperating partners continue to pursue funding for inventory related work.

In the 2017 legislative session, DNR requested \$10 million to correct approximately 10 percent of the fish barriers on the FFFPP waiting list. As of June 30, 2017, the legislature had not passed a capital budget for the 17-19 biennium. In the 2016 field season, the FFFPP completed 16 fish barrier removal projects opening 35 miles of upstream fish habitat. Below is a table showing the FFFPP accomplishments since its creation in 2003.

Family Forest Fish Passage Program Accomplishments since 2003*

Numbers and Costs	FY 2016	Cumulative Since 2003
Eligible Small Forest Landowner Applications	90	1018
Eligible Barriers	129	1,433
Barriers Corrected	16	384
Stream Miles Opened Up	35	919
Cost of Completed Projects	\$1.8 million	\$35.1 million

* This year, changes in reporting results from previous HCP Reports are a result of the use of a new data set that has been updated and verified to reflect more accurate numbers of barriers corrected and stream miles opened.

The applicant can have more than one barrier per application.

5.4 Long-Term Applications

Washington's forest practices rules allow a landowner to apply for a forest practices permit to engage in forest practices, which is valid for three years, and in certain cases up to five years. Permits are renewable under certain conditions. The three-year permit works well for those who frequently conduct forest practices such as timber harvesting and road building. Landowners who harvest small volumes of timber and harvest infrequently often find that the application process can be complex, time consuming, and challenging.

To ease the paperwork burden and allow more flexibility in timing harvests with the market, small forest landowners may apply for a Long-Term permit that is valid for up to 15 years. To prepare for a longer period, landowners need to plan further ahead than the typical permit requires, while the flexibility will allow landowners to react quickly to changing markets and unforeseen events such as forest health problems or weather related disturbance.

The Long-Term Application permit process was implemented in 2007, and DNR has seen a steady increase in Long-Term Applications since that time. As of June 30, 2017, DNR's Forest Practices Activity Review database reported 242 approved Long Term Applications for small forest landowners. This was an increase of 22 Long-Term Applications approved during this reporting period.

5.5 Technical Assistance for Small Forest Landowners

The Small Forest Landowner Office revised the SFLO outreach/grant writer specialist position during this reporting period. This position still conducts outreach activities in support of the Small Forest Landowner Office programs, but the majority of the duties are related to serving as the designated technical assistance forester in western Washington who assists small forest landowners in understanding the Forest Practices Rules, timber harvest systems, small forest landowner alternate plan templates, 20-acre exempt harvest rules, long-term applications, low impact harvest activities, road construction techniques, and any other Forest Practices Rule related issues.

Since the time this position was filled in July 2016, the technical assistance forester has received almost 200 inquiries from small forest landowners. Some of the most common questions received are those regarding alternate plans, long-term applications, riparian buffers, and stream typing. This position has worked, or is currently working, with landowners on seven Alternate Plans, and has helped 13 small forest landowners complete their Long-term forest practices applications.

5.6 Small Forest Landowner Office Outreach

The Small Forest Landowner Office communicates with agencies and the public to foster a mutual understanding, promote public involvement, and influence actions with the goal of serving as a resource and focal point for small forest landowners' concerns and policies.

One of the challenges of the Small Forest Landowner Office is reaching small forest landowners to make them aware of technical, educational, and cost-share assistance programs to protect water quality, fish and wildlife habitat, improve forest health, reduce the risk of wildfire, and help small forest landowners retain their forestland.

The Small Forest Landowner office now has a growing list of subscribers to the Small Forest Landowner Newsletter, which totals over 6,000 subscribers. The newsletter is distributed quarterly. Landowners can subscribe at www.dnr.wa.gov/sflo or request by email to sflo@dnr.wa.gov. Readers can catch up on [Archived Small Forest Landowner News editions](#).

6. 20-Acre Exempt Riparian Forestland

6.1 Introduction

The 1999 Washington State Legislature exempted certain forestland parcels from some riparian protection measures in the Forest Practices Rules derived from the 1999 Forests and Fish Report. Exempt parcels include those that are 20 contiguous acres or less and are owned by individuals whose total ownership is less than 80-forested acres statewide. These parcels are commonly referred to as “exempt 20-acre parcels.” While not subject to some forest practices riparian protection rules, exempt 20-acre parcels must still provide protection for public resources in accordance with the Forest Practices Act.

In arriving at their ESA permitting decisions in 2006, the federal Services concluded that they would condition the Incidental Take Permits regarding 20-acre exempt forest practices. Conditions include:

- The permits require leave trees to be left along Type Np (non-fish-bearing, perennial) waters for riparian function.
- The permits establish eligibility criteria for coverage of 20-acre exempt parcels under the Incidental Take Permits.
- The permits define coverage thresholds for 20-acre exempt parcels in each watershed administrative unit and water resource inventory area.
- The permits identify certain spawning and rearing habitat of bull trout (also known as “Bull Trout Areas of Concern”) where Incidental Take Permit coverage may not apply.

6.2 Type Np Water Leave Tree Requirement

[By Washington State Regulation](#), DNR requires trees to be left on Np (non-fish-bearing, perennial) waters on 20-acre exempt parcels where needed to protect public resources, defined as water, fish, and wildlife. The Services concluded that leaving trees along Np waters is necessary in most situations. The Forest Practices HCP Incidental Take Permits say, “permittee (Washington State) shall require trees to be left along Type Np waters under the 20-acre exemption unless such leave trees are not necessary to protect covered species and their habitats.” In order to implement this permit condition, a guidance memo was written September 26, 2006, and delivered to DNR region forest practices staff clarifying that “henceforth Forest Practices Applications (FPAs) should be conditioned to require leave trees along Type Np waters within exempt 20-acre parcels unless DNR determines this is not necessary”. See the 2007 Forest Practices HCP Annual Report for a copy of the guidance memo. Leave-tree requirements are detailed in WAC 222-30-023(3): “...leave at least 29 conifer or deciduous trees, 6 inches in diameter or larger, on each side of every 1000 feet of stream length within 29 feet of the stream. The leave trees may be arranged to accommodate the operation.”

There were seven forest practices applications associated with 20-acre exempt parcels that had Type Np waters during FY 2017. All seven applications were conditioned according to the Np guidance memo or did not propose harvest within 29 feet of the Np water.

6.3 Watershed Administrative Unit and Water Resource Inventory Area Thresholds

In the Incidental Take Permits, the Services defined permit coverage thresholds for watershed administrative units (WAU) and water resource inventory areas (WRIA). The Services placed a 10 percent threshold on cumulative reduction in riparian function (as measured by the amount of recruitable large woody debris such as snags and tall trees that could fall across a stream or other water body) within a watershed administrative unit for 20-acre exempt parcels. Additionally, the Services placed a 15 percent stream length threshold within water resource inventory areas. The 15 percent threshold is based on the cumulative stream length of the affected streams within each WAU in the WRIA that has reached the 10 percent threshold. When a threshold within a watershed administrative unit or water resource inventory area is reached, subsequent FPAs on 20-acre exempt parcels within those units or inventory areas will not be covered by the Incidental Take Permits unless the landowner chooses to follow standard Riparian Management Zone (RMZ) rules. Washington State has adopted a method, approved by the Services, to estimate cumulative percent reduction of potential large woody debris recruitment function, by watershed administrative unit, and percent cumulative stream length affected, by water resource inventory area.

6.4 Cumulative Reduction in Function Calculation Methodology

A formula called the Equivalent Area Buffer Index (Buffer Index) is used to estimate the percent reduction in function, as measured by potential large woody debris that could be recruited along fish-bearing streams. The Buffer Index was developed for the Forest Practices HCP [Environmental Impact Statement](#) (EIS) (USFWS et. al 2006) as a tool for comparing management alternatives in terms of the level of ecological function conserved through various management practices. The Buffer Index for large woody debris recruitment potential is a quantitative measure that evaluates the potential of a riparian forest to provide trees and other woody debris across and into streams originating from tree mortality, windthrow and bank undercutting. The Buffer Index is expressed as a function of slope distance from the stream channel in relationship to tree height. The methodology takes into account management activities within the buffer zone. The Buffer Index value is determined based upon the 'mature conifer curve of large woody debris recruitment potential' by McDade et al (1990). It relates the cumulative percent of large woody debris recruitment with the distance from the stream bank in terms of tree height. The Environmental Impact Statement (EIS) for the Forest Practices HCP provides average Buffer Indexes for western and eastern Washington. These averages are used each year to estimate the potential cumulative reduction in large woody debris recruitment function from 20-acre exempt forest practices applications submitted to DNR during the fiscal year.

Example explaining Buffer Index formula for fish-bearing stream in western Washington

- **Step 1 — Consider a fish-bearing stream (Type F).**

The assumptions for this stream's Riparian Management Zone include a Channel Migration Zone (CMZ) that is 10-feet wide, followed by a 50-foot core zone of forest along the stream, followed by a 60-foot inner forest zone in which a light selection harvest is assumed (30 percent volume removal), followed by a 45-foot outer zone in which a moderately heavy selection harvest is assumed (70 percent volume removal). This gives a total RMZ width of 155 feet including the 10-foot CMZ. The total RMZ width of 155 feet is based on an average of Site Class II and III areas $[(140+170)/2]$, which represent the most common site classes on forestland covered by the Incidental Take Permits.

- **Step 2 — Refer to the McDade (1990) mature conifer curve.**

The McDade curve has been standardized for 155 feet, as the buffer distance that assumes full protection for the 100-year Site Potential Tree Height. This curve shows the cumulative percentage of large woody debris contribution in relation to the distance from the stream. In our example, we need to determine the percent of the total large woody debris contributed by the different RMZ zones (e.g., 0-10 feet, 10-60 feet, 60-120 feet and 120-165 feet). The values from McDade are 17 percent for the 0-10 foot zone, 62 percent for the 10-60 foot zone, 18 percent for the 60-120 foot zone, and 3 percent for the 120-165 foot zone.

- **Step 3 — Multiply the contribution percentage by the tree retention percentage for each RMZ zone, and sum them up.**

$$(0.17 \times 1.0) + (0.62 \times 1.0) + (0.18 \times 0.7) + (0.03 \times 0.3) = 0.925$$

- **Step 4 — Results**

Therefore, the RMZ on Type F streams in western Washington would provide for an estimated 92.5 percent of large woody debris recruitment potential, given the assumption that full recruitment potential is achieved at a buffer width equal to the 100-year Site Potential Tree Height.

Annual in-office calculations of reduction in function based on proposed harvests

An estimate of potential reduction in function by watershed administrative unit is calculated annually and reported in the Forest Practices HCP annual report. The impact is "potential" because the calculations are based on "proposed" harvests, not "completed" harvests and estimates of stream impact are made in-office from information supplied on the FPA, not on-the-ground measurements. Average Buffer Index values are used to calculate the overall possible reduction in function by WAU. The average Buffer Index values used for the annual report calculations are taken from the Final EIS (Appendix B page B-28) for the Forest Practices HCP. These average Buffer Index values were obtained through modeling harvests based on both Forests and Fish Rules, and pre-Forests and Fish Rules. Many assumptions went into the modeling effort including degree of harvest, width of riparian area, stream width, etc. A result of the harvest modeling was the development of average values for an overall Buffer Index for eastern and western Washington for harvests complying with Forests and Fish Rules, as well as with pre-Forests and Fish Rules.

The EIS average Buffer Index values for Forests and Fish Rules are used in our calculations without modification; however, an additional 15 percent was added to the EIS average Buffer Index values for pre-Forests and Fish Rules because the 1999 Salmon Recovery Act required 20-acre exempt landowners to protect an additional 15 percent of riparian trees above pre-Forests and Fish Rules. The average reduction in function value was calculated by subtracting the pre-Forests and Fish Rules Buffer Index values from the Forests and Fish Rules Buffer Index values for a percent reduction in function.

Below are the Buffer Index values and reduction in function factors used for the Forest Practices HCP Annual Report.

Buffer Indexes for Western Washington:

Buffer Index average for Forests and Fish Rules = 0.93

Buffer Index average for Rules prior to Forests and Fish = 0.60

Buffer Index average for 20-acre exempt rules = $0.60 \times 1.15 = 0.69$

Average Reduction in function factor = $0.93 - 0.69 = 0.24$

Buffer Indexes for Eastern Washington:

Buffer Index average for Forests and Fish Rules = 0.91

Buffer Index average for Rules prior to Forests and Fish = 0.67

Buffer Index average for 20-acre exempt rules = $0.67 \times 1.15 = 0.77$

Average Reduction in function factor = $0.91 - 0.77 = 0.14$

The estimated number of feet of fish bearing stream potentially affected by harvests through FPAs are tracked throughout the year. The total number of feet of stream length on fish bearing waters in each watershed administrative unit that are potentially affected is calculated for the fiscal year and then multiplied by 0.24 in western Washington and 0.14 in eastern Washington to derive the total stream distance over which large woody debris recruitment functions are reduced in function. These numbers are summed over the years and then divided by the GIS calculated total fish bearing stream length on lands regulated by forest practices in the watershed administrative unit to determine potential percent cumulative reduction in function.

Appendix 1 contains the cumulative in-office estimates of reduction in function by watershed administrative unit for the period of June 5, 2006 to June 30, 2017. A visual representation of the 20-acre Exempt forest practices applications accounted for in Appendix 1 can be found in Appendices #3a and #3b. The two maps in these appendices show the location of the 20-acre exempt applications for FY 2017 and the location of all 20-acre exempt applications since June 2006. Maps showing 20-acre exempt forest practices applications in previous fiscal years can be found in previous Forest Practices HCP annual reports.

Appendix 1 shows estimated percent of loss of potential large woody debris recruitment in each watershed administrative unit containing one or more 20-acre exempt FPAs over the elapsed eleven-year period of the Incidental Take Permits. There are 846 watershed administrative units

in the state, of which 206 have had 20-acre exempt FPAs approved. Currently, in-office calculations indicate that each watershed administrative unit affected by 20-Acre Exempt applications, except for five, have less than one percent potential cumulative reduction in function relative to standard forest practices prescriptions. The five WAUs: Diobsud Creek (2.097%), Muck Creek (1.895%), Smith Point (1.226%), Upper Little Pend Oreille River (1.192%), and Copper Creek (1.197%) all have less than three percent potential cumulative reduction in function. None of the five WAUs with potential reduction in function over one percent are near the 10 percent threshold (explained in 6.3) established in the Incidental Take Permits. Ninety-five watershed administrative units indicate a potential of reduction in function between 0.1 and 0.9 percent: and the remaining 106 watershed administrative units listed in Appendix 1 show the possibility of less than 0.1 percent reduction in function since the 2006 issuance of the Incidental Take Permits.

6.5 Data Collection for Watershed Administrative Unit Threshold Cumulative Stream Length for Water Resource Inventory Areas

A fish-bearing Forest Practices HCP covered stream baseline length was calculated, and is recalibrated periodically for all WRIsAs, as the DNR hydrography and forest GIS layers are improved. As in-office calculations indicate that the 10 percent threshold may be approaching in watershed administrative units, the State will compare the total Forest Practices HCP covered stream length in each watershed administrative unit to determine when the 15 percent threshold might be reached for the water resource inventory area. DNR will then inform landowners that subsequent forest practices applications associated with 20-Acre Exempt parcels within the area will no longer be covered by the Incidental Take Permits, unless individual landowners choose to apply standard riparian management zone rules on their 20-Acre Exempt forest practice. Currently, there are no watershed administrative units approaching the 10 percent threshold for reduction in function; therefore, no areas currently are at risk for reaching the 15 percent stream threshold.

6.6 Bull Trout Areas of Concern

The USFWS placed conditions on its Incidental Take Permit regarding specific, identified spawning and rearing habitat areas for bull trout. These areas are of concern because of extremely low populations of bull trout. The condition states that a forest practice that qualifies for and uses the 20-Acre Exempt riparian rules and falls within these bull trout areas of concern will not be covered by the Incidental Take Permits unless the forest practice is shown not to measurably diminish the level of riparian function. The function is measured by potential large woody debris recruitment and is compared to the level of function that would have been provided by the standard Forest Practices Rules. The State and USFWS together developed a process to track forest practices in these bull trout areas of concern. The process was described in the 2009 Forest Practices HCP Annual Report. There were no forest practices applications associated with 20-Acre Exempt parcels in the bull trout areas of concern during the reporting period from July 1, 2016, through June 30, 2017.

6.7 20-Acre Exempt Forest Practices Application Data

Of the 4,771 forest practices applications processed throughout the reporting period, 4,167 were approved, and of those, 76 were new, approved non-conversion 20-Acre Exempt applications adjacent to fish-bearing streams.

Number of 20-Acre Exempt Forest Practices Applications (July 2016 – June 2017)

20-Acre Exempt Forest Practices Applications with Specific Characteristics	Number
Number of 20-Acre Exempt applications with fish-bearing water	77
Number of 20-acre Exempt applications that were conversions with fish-bearing water	1
Number of 20-Acre Exempt applications with fish-bearing water that were not conversions	76
Number of 20-Acre exempt applications that were in Bull Trout Areas of Concern	0

Twenty-acre exempt non-conversion applications along fish-bearing water comprised approximately 1.8 percent of all approved applications submitted during the 2016-2017 reporting period. Twenty-acre exempt conversion FPAs are not included in the calculation because the Incidental Take Permits do not cover FPAs that are conversions.

7. Alternate Plans, Rivers and Habitat Open Space Program

7.1 Introduction

This chapter provides information about two areas of interest to the Services—alternate plans, and the Rivers and Habitat Open Space Program. The Forest Practices HCP is a programmatic HCP based on the forest practices program. Both alternate plans and the Rivers and Habitat Open Space Program are codified in Forest Practices Rules, which are the foundation of the forest practices program.

Alternate plans are forest practices plans that deviate from standard Forest Practices Rules but provide public resource protection equal in overall effectiveness as the standard rules. The Rivers and Habitat Open Space Program is used to establish permanent forestland conservation easements between landowners and the State. Eligible for this program are lands with timber located along the area of active channel of a stream that is prone to move, also called channel migration zones. In 2009, the Legislature expanded the program to allow acquisition of conservation easements on forestland habitat for critical habitat for state-listed species identified as threatened or endangered.

7.2 Alternate Plans

An alternate plan is a tool forest landowners can use to develop site-specific management plans for forest activities regulated under the Forest Practices Act. An Alternate Plan may deviate from the standard Forest Practices Rules, as long as the plan provides protection to public resources at least equal in overall effectiveness to that provided by the Forest Practices Act and Rules. WAC 222-12-0401 describes the Alternate Plan process, including the review by interdisciplinary teams.

The following table shows the number and status of forest practices applications submitted that included an Alternate Plan during the period from July 1, 2016, to June 30, 2017:

Forest Practices Applications with Alternate Plans during FY 2017

Landowner Type	Status of Forest Practices Applications with Alternate Plans				Total
	Approved	Disapproved	In Review	Closed Out*	
Small	71**	6	9	7	93
Large	37	1	7	2	47
Total	108	7	16	9	140

***Closed Out** means that the applicant asked that the FPA be withdrawn and closed.

**This includes 2 long-term applications (LTAs).

7.3 Rivers and Habitat Open Space Program

Like the Forestry Riparian Easement Program (see chapter 5), the original Riparian Open Space Program was a product of the 1999 Salmon Recovery Act. It was codified in the Forest Practices Act and adopted by the Board as a forest practices rule. The 2009 Legislature amended the Riparian Open Space Program to be broader in scope. The Forest Practices Board then amended the forest practices rules to include the revisions in statute made by the legislature and changed the name of the Program to the Rivers and Habitat Open Space Program. The effective date of the revised rules was June 19, 2011.

The Rivers and Habitat Open Space Program is available to all forest landowners, not just small forest landowners. The Program promotes long-term conservation of aquatic resources and upland habitats through the purchase of conservation easements. The program establishes conservation easements on lands and timber within a specific type of channel migration zone known as an “unconfined channel migration zone.” It also establishes easements to conserve habitat of state-listed threatened and endangered species.

A channel migration zone is the area where the active channel of a stream is prone to move in the near term. Unconfined channel migration zones are generally larger water bodies, have less than 2 percent gradient and are found in a valley more than four times wider than the bank-full width of the channel. These areas typically have very high ecological value as spawning and rearing habitat for salmon and other fish species. Under the forest practices rules, no timber harvesting or road construction may occur within channel migration zones due to their ecological importance and sensitivity.

The Forest Practices Rules protect critical habitat of ten upland species, two of which are the northern spotted owl and the marbled murrelet. ‘Critical habitat’ is a designation to protect the important habitat characteristics that will assist in the recovery of the federally threatened or endangered species. Landowners of forests determined to be critical habitat for these species are

eligible to grant to the State a perpetual conservation easement under the Rivers and Habitat Open Space Program.

DNR screens applications, prioritizes qualifying applications, and acquires conservation easements based on available funding. There was \$1,000,000 allocated for the Rivers and Habitat Open Space Program for the FY 2015-2017 funding period, of which approximately \$840,000 was used to acquire two easements. The program intended to spend as much of the \$1 Million on easement purchases as possible. However, the first and second priority easements, which would have used the total allocated \$1,000,000 for critical habitat for state listed threatened or endangered species, were located in high elevation areas. These areas were not accessible (due to snow) to cruise or to value the land before the end of the biennium. Consequently, the program according to protocol had to purchase the third easement in priority (which was located at lower elevation) and was not valued as high as the first or second priority easement. The result was that the program spent less than the \$1,000,000 that was budgeted.

Applications for conservation easements for channel migration zones are prioritized separately from applications for habitat of threatened and endangered species. Applications are prioritized based on conservation benefits and landowner management options. There are currently 13 qualifying applications, five for channel migration zones easement applications and eight for critical habitat state easement applications. This biennium had four new qualifying applications; three CMZ easement applications and one critical habitat state easement applications. Just under 40 percent of the funds in the program were allocated in the 15-17 biennium to CMZ habitat and the remaining 60 percent of the funds were used to purchase a conservation easement on habitat recognized as critical habitat state.

DNR requested \$6.2 million for the Rivers and Habitat Open Space Program during the 17-19 biennium. As of June 30, 2017, the legislature had not passed a capital budget.

The following chart shows the budget allocated by the Washington State Legislature for the Rivers and Habitat Open Space Program, and the acres purchased since program's inception.

Budget, and Acres Purchased under Rivers and Habitat Open Space Program

Fiscal Year	Budget Allocated	Amount Spent	Number of Transactions	Acres Purchased/Channel Migration Zones	Acres Purchased/Critical Habitat
01-03	\$1,000,000	\$1,000,000	3	387	0
03-05	\$1,000,000	\$500,000	5	197	0
05-07	\$2,000,000	\$0	0	0	0
07-09	\$2,200,000	\$2,200,000	4	339	0
09-11	\$500,000	\$460,000	4	119	0
11-13	\$0	\$0	0	0	0
13-15*	\$500,000	\$500,000	1	0	25
15-17	\$1,000,000	\$840,000	2	79	0
Total	\$8,200,000	\$5,500,000	19	1,121	25

*13-15 was the first year money was allocated for Critical Habitat State

8. Enforcement

8.1 Introduction

The Forest Practices Program is responsible for ensuring forest practices activities are conducted in accordance with the Forest Practices Act and Rules and any conditions placed on the approved Forest Practices Application/Notification (FPA/N). This is also an integral component of implementing the Forest Practices HCP because the Forest Practices HCP is a programmatic HCP based on the Forest Practices Program.

FPA/Ns are classified depending on the level of potential risk the proposed activity has on public resources. This classification helps forest practices foresters prioritize compliance inspections. For example, a proposal to construct road in steep terrain where there is potential for sediment delivery to a stream will receive a higher level of compliance inspections than a proposal that has limited road construction on gentle slopes that have no associated risk of sediment delivery to a stream. This targeted approach ensures the most effective and efficient use of the forest practices forester's time.

Four classes of forest practices

- **Class I** – Class I forest practices activities are determined to have no direct potential for damaging a public resource.
- **Class II** – Class II forest practices activities are determined to have a less than ordinary potential to damage a public resource.
- **Class III** – Class III forest practices activities are determined to have an average potential to damage a public resource.
- **Class IV- Special** – Class IV- Special forest practices activities are determined to have potential for a substantial impact on the environment.
- **Class IV- General** – Class IV- General forest practices activities involve converting forestland to a use incompatible with growing timber or are determined to have a higher potential for a conversion to a use other than forestland.

Regardless of the classification, all forest practices activities must be carried out in compliance with the Forest Practices Act and Rules. More detailed information on [forest practices classifications](#) can be found in WAC 222-16-050. The program also places an emphasis on pre-approval review of FPA/Ns to address potential issues prior to FPA/N submittal and ultimately reduce of the need for enforcement actions.

Compliance inspections are an important part of a forest practices forester's job in large part because the inspections are a means of ensuring landowner compliance with forest practices rules. Additionally, the information gathered during compliance inspections coupled with the data collected by the Compliance Monitoring Program (Chapter 9) can help inform the forest practices program of areas where the program could benefit from modification. Modifications may include things such as providing clarification of rule language or Board Manual chapters,

improving forms and administrative processes, developing guidance documents, and/or training. Compliance inspections are an integral component of the continuous forest practices program feedback loop.

When an activity is found to be out of compliance with the forest practices rules, program staff have several enforcement options available: Notices to Comply (NTC), Stop Work Orders (SWO), civil penalties, Notices of Intent to Disapprove (NOID), and criminal penalties. The Forest Practices Act and Rules encourage informal, practical, result-oriented resolution of alleged violations and actions needed to prevent damage to public resources. A progressive approach to enforcement is used which begins with consultation and voluntary efforts to achieve compliance while reserving civil penalties (monetary fines) for more serious infractions. Often Informal Conference Notes (ICN) are used to document conversations and decisions, which are not related to enforcement actions, or to document the process when, or if, future enforcement actions may become necessary.

8.2 Enforcement Activity

During the reporting period, the DNR Forest Practices Program had approximately 63 field staff statewide who completed compliance visits and enforced the Forest Practices Act and Rules.

Enforcement documents can be used for violations or non-violations. Violations are forest practices activities that violate the Act or rule or have resulted in damage to a public resource. Non-violations are situations where damage to a public resource has not occurred but the forest practices forester has determined damage is imminent if the activity or condition is not addressed. For example, if an operator does not have adequate road surface drainage on a haul road for use in the rainy season, the operator could be issued a non-violation Notice to Comply requiring the road be improved and maintained so it does not pose a threat to public resources during heavy rain events. The following table shows enforcement activity between July 1, 2016, and June 30, 2017.

Stop Work Orders and Notices to Comply Issued in Fiscal Year 2017

DNR Region	Stop Work Orders		Notices to Comply		Total
	Non-Violation	Violation	Non-Violation	Violation	
Northeast	1	1	4	6	12
Northwest	0	13	5	18	36
Olympic	0	6	2	20	28
Pacific Cascade	2	6	1	12	21
South Puget Sound	7	5	5	7	24
Southeast	0	0	0	10	10
Total	10	31	17	73	131

Fiscal Year 2017 Enforcement Data Summary

Number of active Forest Practices Application/Notifications (FPA/Ns) through June 30, 2016 (See chapter 4 for information about FPAs received or renewed during Fiscal Year 2017.)	13,657*
Number of Notice To Comply / Stop Work Orders issued for violations	104
Ratio of Notice To Comply / Stop Work Orders violations to total number of active FPA/Ns (104/13,657)	0.8%
Number of Notice To Comply / Stop Work Orders issued for non-violations	27
Ratio of Notice To Comply / Stop Work Orders non-violations to total number of active FPA/Ns (27/13,657)	0.2%
Total number of documents issued (violation & non-violation)	131
Ratio of all documents issued to total active FPA/Ns (131/13,657)	1.0%

*Approved and/or Renewed FPA/Ns

The table above compares the number of NTCs and SWOs issued in FY 2017 to the number of active (that is, not yet expired) FPA/Ns through June 30, 2017. Overall, the intent is to encourage landowners to implement the rules successfully to protect public resources.

The majority of violations do not require additional enforcement action, such as issuance of a civil penalty or NOID. The majority of initial enforcement actions have proven to bring landowner behavior into compliance with the forest practices rules without a need to take more severe levels of enforcement action. When determining the appropriate level of enforcement a number of factors are taken into consideration. These include:

- Is there failure to comply with the terms or conditions of an FPA/N, NTC, or SWO?
- Is there the existence or probability of more than minor harm to public resources (water, fish, and wildlife) as the result of non-compliance?
- What is the extent of damage to the public resource?
- Is there a history of similar violation by the same landowner or operator?

The table below shows the number of Civil Penalties and NOIDs that became a Final Order (all appeal processes have concluded) during FY 2017.

Fiscal Year 2017 Civil Penalties and Notices of Intent to Disapprove

Region	Civil Penalties	Notice of Intent to Disapprove
Southeast	0	0
Northwest	1	1
South Puget Sound	0	0
Northeast	0	0
Pacific Cascade	0	0
Olympic	1	0
Total	2	1

9. Compliance Monitoring Program

9.1 Introduction

DNR is mandated by law to conduct compliance monitoring. WAC 222-08-160(4) states:

“DNR shall conduct compliance monitoring that addresses the following key question: *‘Are forest practices being conducted in compliance with the rules?’* DNR 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.”

The Compliance Monitoring Program (CMP) is a key component of the Forest Practices Program. DNR’s Compliance Monitoring Program uses detailed field protocols to produce statistically reliable compliance determinations. Compliance monitoring provides feedback on how well operators and landowners are complying with the forest practices rules when conducting forest practices activities. The information gained through the CMP (as well as from the daily efforts of onsite region forest practices foresters) provides critical feedback to the Forest Practices Program about where to focus training efforts and where improvements may be needed in forest practices application/notification forms, form instructions, application review, compliance, or enforcement and where rule clarification or board manual revisions are warranted.

When initial funding for the CMP was allocated by the legislature in 2006, DNR, with input from other stakeholders, developed a compliance monitoring program design and implemented a pilot sampling effort. The CMP has completed annual compliance monitoring sampling every year since the 2006 pilot. The program has also produced biennial reports that provide and explain results of the field reviews.

All completed reports can be found on the compliance monitoring program website: <http://www.dnr.wa.gov/programs-and-services/forest-practices/rule-implementation>.

The CMP is administered within DNR by a compliance monitoring program manager and is staffed by a manager and a program specialist. Survey teams of four to five professional foresters, geologists, and biologists conduct the monitoring. The professionals come from DNR, Ecology, WDFW, and several tribes. Landowners are invited to attend the field assessments.

Input to the program is provided by the Compliance Monitoring Stakeholder Committee, which includes representatives of DNR, Washington Department of Fish and Wildlife, Department of Ecology, tribes and tribal organizations, the Services, Washington Farm Forestry Association,

Washington Forest Protection Association, industrial landowner representatives and the conservation caucus. This forum meets regularly and provides advice on:

- Clarification of rule elements when questions arise,
- Consistent implementation of program protocols, and
- Recommendations from the committee for Compliance Monitoring Program improvement.

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

- Focus on individual landowners and compliance specific to those landowners, but rather focuses on the two overall groups of small and large forest landowners.
- Focus on individual region results. All data collected informs the overall population sample for a particular activity.
- Enforce forest practices rule violations: When field reviewers encounter rule violations, the appropriate DNR regional staff is notified for further action, or
- Modify water types: However, field reviewers do record observed differences between water type documentation on forest practices applications and on-the-ground physical features.

The Compliance Monitoring Program currently evaluates compliance with those rules considered to have the greatest impact on the protection of aquatic and riparian species and their habitat (riparian, wetland, road construction and maintenance, and haul route rules).

The Compliance Monitoring Program monitors by “rule prescription type”. Prescription types are groupings of similar Forest Practices Rules that apply to a forest practices activity. Forest practices activities are operations such as timber harvest and forest road construction that are subject to Forest Practices Rules. 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 (RMZ) (desired future condition (DFC) Option 1, DFC Option 2, etc.); and by function/feature being protected such as water quality and wetlands. In compliance monitoring reports, for example, DFC Option 1 is called a prescription type. The compliance monitoring program monitors and reports compliance monitoring findings by each of the prescription types.

The prescription type rule groupings allow for statistical estimation of compliance by those specific rule groups rather than an overall forest practices compliance rate. This enhances the ability to determine where additional training or education or forest practices compliance efforts might be needed to increase compliance with forest practices rules. The compliance monitoring program, with stakeholder input, determines which forest practices rule prescription types are sampled each year and then estimates the sample size required for each rule prescription to

obtain the desired statistical precision. The compliance monitoring field team then collects data from the required number of samples for each rule prescription type.

Some forest practices rules are monitored annually and are referred to as the *standard sample*. In addition, certain rule groups (or prescription types) are monitored periodically and these are known as an *emphasis sample*. The standard sample monitors the following rules:

- Riparian protection ([WAC 222-30-021](#) and [WAC 222-30-022](#))
- Wetland protection ([WAC 222-30-020\(7\)](#) 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 (that is, stream width, stream gradient, etc.) are observed to estimate the number of occurrences where water types recorded on forest practices applications are different from what is observed on the ground.

9.2 History of Compliance Monitoring Program Design

2006 – A statewide working group led by DNR completed a compliance monitoring program design focusing on RMZ Forest Practices Rules for all typed waters and road activities. The program design also included a detailed protocol for field assessments, field form revisions, and data collection templates. A pilot sampling effort was completed.

2008 – The Board recommended technical review of the program design. Five reviewers were selected that had operational monitoring experience and the report results were presented to the Board in February of 2008.

2008 – In response to the 2008 review, four significant changes to sampling were implemented for 2008-2009.

1. A protocol was added to capture observed differences between water type classification at the time of application approval and at the time of the compliance review.
2. Compliance with the rules as they are applied on the ground is assessed in addition to compliance with what was stated on the approved application.
3. The Forest Practices Application selection strategy was modified to sample each DNR region proportional to their representation in the entire population of applications statewide. This was to assure representation of each region in the sample.
4. DNR contracted with a professional statistician to review and approve the program design.

2011 – An interim annual report between biennial reports became a required element of the program.

2012 – The Compliance Monitoring Program made significant changes in the sample design to increase confidence in statistical estimates for each prescription type observed. Previously, the

design was based on a random selection of forest practices applications stratified by the proportion of the population found in each DNR region. The sample size for each prescription type was dependent on what prescription types were observed on the selected forest practices applications. Beginning in 2012, the sample design randomly selected instances of each sampled prescription type occurring in the population. An estimated sample size was calculated for each prescription type, which met a desired confidence interval for a biennium sample. This change in selection design allowed for some control in the level of statistical confidence in results and provided a larger information set to help determine causes of deviation from the rules. It also added flexibility in the future to add or remove different prescription types from the sample as needed while still providing the desired confidence intervals for each prescription type.

This change instituted in 2012 was designed to improve the confidence of the compliance estimates for the less frequently occurring prescription types. The design included using a finite population correction factor to estimate the sample size needed to provide a $\pm 6\%$ confidence interval (CI) for all prescription types assessed. The $\pm 6\%$ CI was selected because it was perceived to be the best precision achievable within the program budget. As a result, the 2012-2013 biennium sample saw a modest improvement in confidence but the implementation cost was too high to sustain.

2014 - The Compliance Monitoring Program made significant study design modifications to increase precision in statistical estimates for each prescription type observed. 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 by prescription. 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. Additionally, the No Inner Zone Harvest prescription, and No Outer Zone Harvest prescription have been combined into one sampled prescription. The cluster analysis method has distinct advantages:

- The method requires a smaller sample of FPAs, which allows more flexibility for possible emphasis samples, or sampling upland prescriptions.
- The revised method observes the same prescriptions assessed in the 2012-2013 report, which has not resulted in substantial changes to field data collection procedures.
- The program can use data from previous biennia and produce results using the cluster sampling ratio method, which will allow a comprehensive comparison of compliance trends.
- This method benefits the program in detecting the specific rules or guidance that will require additional clarification and training. This could also inform the adaptive management program about effectiveness monitoring studies that could be engaged by the Cooperative Monitoring Evaluation and Research Committee.

Each analysis method provides a different metric, which are not directly comparable with each other. However, the change from binomial ratio analysis will still allow for analysis of past data using the cluster sampling ratio method because past data were collected with the same method. During this reporting period, the Compliance Monitoring Program analyzed previous biennia data using the cluster analysis method and will present the results in the 2014/ 2015 biennium compliance monitoring report.

2016 – The Compliance Monitoring Program incorporated an ongoing trend analysis project to discern patterns of changes in compliance rates measured over time. Data collected prior to 2014 were transformed to be consistent with current data collections, and analytical protocols. Data for rules were combined and compared through time within each corresponding prescription type. Trends in average compliance with prescriptions and individual rule compliance are tracked to maintain consistency with current methods. Weighted least squares multiple univariate linear regression was used to predict general trends in average compliance across all prescription types through time.

2017 – The Compliance Monitoring Program (CMP) submitted the 2014-2015 biennial report, which includes current sampling and analytical methodology for Independent Scientific Peer Review (ISPR). The program’s goal for submittal of the report and methodology for peer review is a strengthening of the overall statistical validity of the methodology and results. The results from the ISPR will be incorporated into the 2016-2017 CMP biennial report, and subsequent compliance monitoring reports.

2017 – An interim annual report will no longer be provided by the CMP.

9.3 Compliance Monitoring Program Reports and Findings

The *2016 Forest Practices Compliance Monitoring Report* summarizes results for the first year of the two-year (2016 & 2017) sampling period in which randomly selected and approved forest practices applications were assessed for compliance with the forest practices rules. Because results are only from the first year of a two-year sampling period, conclusions and trends cannot be determined regarding the 2016 data.

2016 Report

The 2016 field season was the first season in a two-year data collection cycle: 2016-2017. During the 2016 field season, data were collected for all the standard sample prescriptions. There were no emphasis samples taken. Analyses (including trend analysis) will be updated once the remaining 2017 field data has been collected. Results of analyses will be reported in the 2018 Forest Practices HCP Annual Report.

Riparian Prescription Standard Sample Findings
2016 Riparian Prescription Standard Sample Findings

Riparian Prescription type	Percent (%) Compliant	Number Observed
Statewide Type F or S No Outer Zone Harvest	99%	14
Statewide Type Np Activities	94%	19
Statewide Type Ns Activities	100%	19
Statewide Type A&B Wetlands	95%	21
Statewide Forested Wetlands	100%	10
Western WA Desired Future Condition 1	94%	8
Western WA Desired Future Condition 2	95%	6

NOTE: The data presented in this table is only for the first year of a two-year data collection cycle. Accordingly, no conclusions or trends can be drawn from the one year of data.

Statewide Water Typing Findings

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. This led to concern regarding consistency and accuracy of water type information on forest practices applications because the width and length of riparian buffers required under forest practices rules are directly linked to water type. Stream and wetland type classification is a fundamental aspect of determining which forest practices rules apply to forest management activities taking place adjacent to typed water. Observed typing accuracy, as reported in the CMP biennial reports, has gone from 83 percent during the 2008-2009 biennium to 90 percent during the 2012-2013 biennium, and to 91 percent for the 2014-2015 biennium.

During the 2016 field season, the Compliance Monitoring Program evaluated 97 riparian related prescriptions involving typed water or wetlands. The number of typed water and wetlands that were either accurately typed (81) or overtyped (protected) (9) totaled 90 compliant water types for a 93 percent compliance rating.

The total number of typed waters (including over-typed, under-typed and indeterminate) or wetlands where the compliance monitoring field team found 16 discrepancies or 16 percent of the total observed in 2016. The inconsistencies occurred when typed water was either under-classified on the forest practices application (for example, the forest practices application depicts a Type Np water that is found to actually be a Type F stream); or over-classified (for example, the forest practices application depicts a Type F water that is found to actually be a Type Np stream); or indeterminate (that is, not enough information was available to accurately make a water type determination). The number of waters under-classified was 6, or 6.2 percent of the 97 observed waters or wetlands. This means that 6.2 percent of the observed waters or wetlands

received less protection than provided by forest practices rules due to the misclassification error. The number of waters or wetlands over-classified was 9, or 9.2 percent of the 97 observations. This means that 9.2 percent of the observed waters or wetlands received more protection than required by the forest practices rules. The number of waters or wetlands indeterminate was 1, or 1.0 percent of the 97 observations. This means that 1.0 percent of the observed waters or wetlands could not be typed by the compliance monitoring field team. Indeterminate observations are the result of natural physical impediments such as blowdown, steep slopes, or rocked slopes, which preclude field staff from adequately assessing water type, or the indicated water-typing break is physically located on another landowner's property.

Roads and Haul Routes Findings

In 2016, road construction and abandonment activities were assessed as compliant on 97 percent of the seven FPAs where road construction or abandonment was sampled.

Compliance rates for haul routes from 2016 are unavailable for this report.

Trend Analysis Findings

Trend analysis will be updated when the 2016 and 2017 field data has been collected and analyzed.

9.4 Forest Practices Program Changes Based on Compliance Monitoring Program Feedback

One of the primary goals of the Compliance Monitoring Program is to provide feedback from compliance monitoring for the purposes of improving compliance with the forest practices rules.

Rule and board manual changes clarifying Outer Zone Leave trees, Desired Future Condition, and the method to accurately measure length of RMZ are currently under review for DNR staff to determine if they should be recommended to the Board for inclusion in their work plan.

9.5 Future Plans for the Compliance Monitoring Program

With the addition of forest practices hydraulic projects (FPHP) to DNR forest practices applications, the Compliance Monitoring Program has been working on developing sampling methodology for a pilot study to help determine the FPHP compliance rate. The Compliance Monitoring Program is also developing sampling methodology for evaluating compliance with unstable slope rule prescriptions.

9.6 Funding

On an ongoing basis, the Forest Practices program actively seeks state funding from the legislature and support from the program's partners to effectively implement the Compliance Monitoring Program. DNR has received funds from the legislature since 2005 that supports staff from the Department of Ecology and the Department of Fish and Wildlife to work with DNR in the Compliance Monitoring Program. This funding was continued in the 2015-2017 legislative appropriation.

10. Training/Information/Education

10.1 Introduction

Training is a key element to successful implementation of, and compliance with, the Forest Practices Rules—some of the most comprehensive and function-based rules in the nation. Training is also an important element to successful implementation of the Forest Practices HCP because the Forest Practices HCP is a programmatic HCP based on the forest practices program. Forest Practices Rules require DNR to “conduct a continuing program of orientation and training, relating to forest practices and rules thereof, pursuant to RCW 76.09.250” (WAC 222-08-140). DNR conducts ongoing training to educate internal agency staff, forest landowners, and staff from cooperating agencies and organizations on implementation of forest practices rules.

Training is described under four primary groups:

- Single/Multiple Day Forest Practices Program Trainings;
- Single/Multiple Day Workshop Classes;
- Single Presentation trainings, and;
- Small Forest Landowner Training.

10.2 Status of Forest Practices Training Programs

The focus of the Forest Practices Training Program this year was to re-establish the training calendar. This was made possible due to the hiring of a dedicated training manager. The training calendar will offer core multi-day workshop classes on a regular and predictable schedule and the program will develop and provide new multi-day Forest Practices Program trainings. The effort to reestablish core classes on a more regular and predictable schedule began last year and has continued during this reporting period. Multiple day workshop classes are now offered in both the spring and the fall. New multi-day Forest Practices Program trainings were also offered during this reporting period.

Continuing on this theme, the Forest Practices Program intends to bolster further the Training Program catalog of training offerings provided over the next year with additions of multi-day classes on Forest Practices Hydraulic Projects and bankfull width. These new courses are intended to be added to the training rotation.

ELearning (online) Course Development

The Forest Practices Program made significant investments during the reporting period to procure equipment needed to develop e-learning courses. Through the purchase of video camera equipment and editing software the program is now capable of developing courses that can be accessed much more easily for both internal and external customers. Class training sessions are now being recorded for further use in several new presentation styles. We are currently planning to use training sessions to create webcasts, video lecture, and fully interactive online courses.

Single/Multiple Day Forest Practices Program Trainings

Single/Multiple Day Forest Practices Program training is provided for complex subjects, which require larger blocks of time. Region staff that are trained during single/multiple day forest practices training sessions share the information they learn in the class with landowners, where appropriate, and other stakeholders at region TFW meetings or through special TFW meetings to ensure the information is immediately implemented.

Forest Practices Enforcement and Compliance

This course is a cornerstone class for all forest practices staff. The course reviews and discusses forest practices application evaluation, enforcement rules, compliance methods, compliant responses, minimizing damage to public resources, and ensuring personnel safety. The class was delivered in two sessions from Oct. 3 to Oct. 7, 2017. The assembled training cadre included the best and most experienced forest practices staff from across the state. The training was provided to all forest practices staff. The current target for reoccurrence is every three years. Aspects of this course are priority development pieces for eLearning development.

– 80 people attended the training

Brief Adjudicative Proceedings (BAP) Training

This course, given March 28, 2017, involved a systematic approach to handling the brief adjudicative proceeding process and managing cases as they escalate to higher levels of enforcement and penalty. The class provided in depth training to a large cross section of forest practices staff. Instruction was completed through a joint effort of forest practices operations experts and attorneys from the Washington State Attorney General's Office.

-50 people attended the training

Single/Multiple Day Workshop Classes

Compliance Monitoring

The Compliance Monitoring Program provides annual training for staff from DNR, Department of Ecology, WDFW and tribal field staff who participate in onsite review of completed forest practices applications. The one-day classroom session held in March 2017 focused on the protocols used to collect compliance monitoring data. Protocols, which are updated periodically to reflect design changes, were reviewed to ensure understanding of field procedures and their purpose. Additional field coaching and on-the-job training is done using experienced staff to promote consistency in observations by new program participants.

– 20 people attended the training.

Unstable Slopes

The Forest Practices Program was able during the reporting period to successfully reduce the backlog of students waiting to take Unstable Slopes Training. A class was provided in May 2017 in Olympia. The course objectives were to improve the ability to recognize unstable slopes and landforms, improve consistency in recognition of these features, and identify when a specialist is needed for further consultation. The Training Program intends to resume offering classes that rotate to different locations across the state and, in doing so, provide more region-specific

training. Classes offered in the fall of 2017 will re-establish the smaller class size and localized approach.

– 94 people attended the training

Channel Migration Zone (CMZ) Training

Channel Migration Zone Training was added in FY 2017 to the training calendar. This multi-day workshop training was provided in the spring of 2017 and will run on a regular cycle of two classes per year, in the spring and in the fall. Much like Unstable Slopes Training, the demand for this class is very high.

- 96 people attended training

Washington Contract Logger Association Training

DNR forest practices staff taught select classes to the Washington Contract Logger Association (WCLA). WCLA annually conducts a four-day training course, which includes one day of Forest Practices Rules training and one day of forest silviculture and ecology for operators seeking WCLA Master Logger certification. DNR Forest Practices program and other agency (WDFW and Ecology) staff teach subjects including water typing, riparian and wetland management zones, cultural resources, road maintenance, hydraulic projects, and general information regarding the Forest Practices Application/Notification process.

– 208 WCLA members attended the training

Single Presentation Trainings

Training provided to Forest Practices Staff

Forest Practices' staff continued to benefit from short, focused training sessions during scheduled program meetings. These short-duration trainings typically take place during regularly scheduled forest practices operations meetings. The meetings are held three times a year with the purpose of division and region staff sharing information and addressing program topics. Training topics this year included hydraulic projects, stream typing, Forest Practices Application Mapping Tool (FPRAM) and State Environmental Policy Act (SEPA). After these short-duration training opportunities, the participants share the information they learn with other region program staff as well as stakeholders when applicable.

Training Conducted by Region Staff

DNR forest practices region staff deliver both statewide and region-specific training. One of the forums used for region training are the regularly held region TFW “cooperator” meetings. During these meetings, the forest practices staff train on such topics as changes in forest practices rules, rule implementation, and application processing. Region staff also organize informal meetings where technical or scientific information is presented to keep field practitioners informed about recent research findings.

Regions completed or sponsored many training presentations and meetings during the reporting period. The topics varied widely and included, but were not limited to: enforcement documents, bank full width/water typing, archaeological/historical protection, channel migration zones,

compliance monitoring results, water type modification forms, road maintenance plans, hydraulic projects, alternate plans, and general forest practices rule topics.

Small Forest Landowner Training

The Small Forest Landowner Office provided a variety of informational outreach opportunities to small forest landowners and other DNR staff around the state.

Small Forest Landowner Office staff instructed classes for landowners at five WSU Coached Planning Courses. The average class size was approximately 30 landowners. Topics included creating and maintaining wildlife habitat, tree species identification, soils information, silvicultural prescriptions, and SFLO landowner assistance programs (Family Forest Fish Passage Program, the Forestry Riparian Easement Program, SFLO technical assistance, and the Forest Stewardship Program).

– Total attendance in these events was about 150 landowners

SFLO staff also participated in two Family Forest Owner Field Days where staff presented information to landowners regarding the above listed SFLO programs. A number of Timber Fish & Wildlife meetings, Washington Farm Forestry Association chapter meetings, and DNR district meetings were attended where SFLO staff presented information regarding SFLO programs.

– Total attendance at these events was approximately 300 people.

11. Road Maintenance and Abandonment Planning for Large Forest Landowners

11.1 Introduction

Forest Practices Rules include a Road Maintenance and Abandonment Program (RMAP) found in chapter 222-24 WAC, to help prevent sediment and hydrology-related impacts to public resources, such as fish and water quality, and to fix fish passage barriers. RMAP implementation is an important component of the Forest Practices Program, for protecting public resources. The Forest Practices HCP is a programmatic HCP based on the forest practices program, which makes RMAPs integral to and a critical part of implementing the Forest Practices HCP and protecting federally listed species habitat.

RMAPs rules state that large forest landowners were required to have all forest roads within their ownership covered under a DNR approved RMAP (WAC 222-24-051) by July 1, 2006, and to bring all roads into compliance with forest practices rules standards by October 31, 2016. This includes all roads that were constructed or used for forest practices after 1974. An inventory and assessment of orphaned roads (i.e., forest roads and railroad grades not used for forest practices since 1974) must also be included in the plan. Forest practices rules required large forest landowners to prioritize road maintenance and abandonment work based on a “worst first” principle—starting with road systems where improvements would produce the greatest benefit for public resources—and schedule their RMAP work to be metered throughout the time period prior to the deadline, on an “even-flow” basis so as not to wait until the last few years to complete all the work. Within each plan, maintenance and abandonment work is prioritized as follows:

- Remove blockages to fish passage;
- Prevent or limit sediment delivery;
- Correct drainage or unstable side-cast in areas with evidence of instability that could adversely affect public resources or threaten public safety;
- Disconnect the road drainage from entering typed waters;
- Repair or maintain roads that run adjacent to streams; and
- Minimize road interception of surface and ground water.

Board Manual Section 3 *Guidelines for Forest Roads* explains requirements and processes in the RMAPs program.

11.2 Extension of RMAP Deadline

On August 9, 2011, the Board amended WACs 222-24-050 and 222-24-051 to allow forest landowners to extend the deadline for completing the roadwork scheduled in their RMAPs beyond October 31, 2016. The rule change allowed for an extension of the deadline for up to five years, or until October 31, 2021. The Board adopted this rule amendment because of the impact

of the 2008 economic downturn on forest landowners. The cutoff for extension requests was September 3, 2014, (with requests approved by October 31, 2014). Fifty-eight RMAPs have approved extensions.

11.3 Road Maintenance and Abandonment Plan Implementation

A significant milestone occurred during the planning period, with the due date for RMAPs lacking extensions being October 31, 2016. By the October due date, 102 RMAPs had been completed. Landowners who completed RMAPs were publicly recognized at the May 2017 Forest Practices Board meeting, with certificates jointly presented by DNR Commissioner of Public Lands Hilary Franz, Tom Laurie, senior advisor for tribal and environmental affairs, Department of Ecology and Jim Unsworth, director, Washington Department of Fish and Wildlife.

Moving forward, RMAP specialists will continue to work with the approved 58 landowner RMAPs extended beyond the 2016 deadline. RMAPs that have not been extended, but were not completed by October 31, 2016, have been reviewed and appropriate compliance actions taken. Notices to Comply were issued to landowners directing compliance with the rules by the end of the 2017 operating season. Noncompliance with any of these orders will result in further enforcement action that could come in the form of a: stop work order (SWO), civil penalty, and/or notice of intent to disapprove (NOID).

Following are three tables:

- *Statewide Road Maintenance and Abandonment Plan Accomplishment Report 2001-2016;*
- *Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report;* and
- *Fish Passage Barrier Information for Large Landowners*

These tables detail the progress that has been made by forest landowners from July 2001 through December 2016. The information provided is derived from data supplied by landowners as part of their annual accomplishment report review. Following the *Statewide Road Maintenance and Abandonment Plan Accomplishment Report 2001-2016* is a description of each reporting element. In addition, several of the descriptions include reasons why some reporting element numbers fluctuate, and provides additional in-depth information about why earlier accomplishment reports included data, which differ from this report.

Statewide Road Maintenance and Abandonment Plan Accomplishment Report 2001-2016

DNR Region	Number of approved RMAPs	Miles of forest road assessed	Miles of forest road identified needing improvement*	Miles of road improved	Miles of road abandonment	Miles of orphaned roads	Number of fish passage barriers identified	Number of fish passage barriers corrected	Miles of fish habitat opened	Total of RMAP checklists from small forest landowners
Northeast	89	7,625	568	5,866	307	96	840	826	465	4,032
Northwest	27	6,979	383	3,529	1,394	691	523	472	150	1,815
Olympic	35	8,221	1,080	1,975	147	245	1,819	1,299	587	1,126
Pacific Cascade	61	17,262	2,605	12,404	928	246	3,168	2,793	1,929	3,841
South Puget Sound	26	6,102	1,482	1,482	554	787	926	628	296	1,318
Southeast	15	6,500	303	2,438	610	861	989	938	753	681
Statewide Totals	253	52,689	6,421	27,694	3,895	2,926	8,256	6,956	4,180	12,813

The content of this table is based upon data provided by landowners who are responsible for the facts and accuracy of the information presented herein.

The numbers in columns 1 and 2 can change based on changes in land ownership.

Note:*Beginning with the 2011 RMAP reporting cycle (January 1, 2011, to December 31, 2011), landowners provided a new data element — “miles of forest road identified needing improvement” — based on the definition below. The data was first incorporated in the 2012 *Forest Practices HCP Annual Report*.

Reporting Elements

Number of Approved RMAPs

The number of approved RMAPs represents those plans submitted predominantly by large forest landowners. Many large landowners have more than one plan. There are 12 small forest landowners that could have opted to submit a “checklist” RMAP, but have chosen (in writing) to continue to follow their pre-2003 submitted RMAP, or have decided to submit a plan as described in WAC222-24-0511(2). This does not include land previously owned by a large landowner covered under an approved RMAP, which has been sold to a small forest landowner that chooses not to continue or implement an RMAP.

The number of approved RMAPs is dynamic in nature. Large landowners may have one RMAP for large land holdings or multiple RMAPs covering several road management blocks within the large land holding. Landowners may choose to change their strategy on the number of RMAPs they manage. Property transactions can lead to an increase or decrease in the number of approved RMAPs. Decisions by small landowners to discontinue their RMAP plans and obtain checklists instead would result in a decrease of RMAPs reported. Another reduction in the number may be due to a large forest landowner’s decision to discontinue or reduce the amount of harvest, and submit a request to be released from the program due to qualifying as a small forest landowner (WAC 222-16-010).

Some landowners that received extensions on specific land holdings requested a new RMAP number for accurate tracking purposes.

Miles of Forest Roads Assessed

Landowners arrived at this number by conducting an inventory and assessment of all forest roads contained within a specific RMAP. This number includes roads that meet Forest Practices Rule standards as well as those that need to be improved.

Miles of Forest Road Identified Needing Improvement

Implementing the definition as described below, *Miles of Road Improvement*, the data was partially completed (dependent upon each landowners RMAP accomplishment reporting date) and first reported in the 2012 Forest Practices HCP Annual Report.

Miles of Road Improvement

For RMAP purposes, an improved road or road segment is defined as locations where actions have been taken to address issues associated with:

- Fish passage;
- Delivery of sediment to typed waters;
- Existing or potential slope instability that could adversely affect public resources;
- Roads or ditch lines that intercept ground water; and
- Roads or ditches that deliver surface water to any typed waters.

The improvements are to meet the current Forest Practices Rule requirements and are identified in the landowner plan, or problematic road conditions are subsequently discovered and actions are identified for inclusion within the period associated with an approved RMAP.

Once a landowner confirms that a road or road segment is brought up to current forest practices rule standards, it is captured in that year's accomplishment report. Accomplishment reports are provided per the landowner's annual RMAP date. This date ranges from November to May of the following year after the operational roadwork season is complete and is dependent upon their plan's anniversary date. The DNR RMAP specialist may concur with the reports, meaning the road no longer will be identified as an RMAP obligation; therefore, the road or road segment would not be included in subsequent reporting years for miles of road needing improvement. Over time, the "miles of forest road identified needing improvement" will decrease as the "miles of road improved" increases. All roads not under an RMAP obligation are subject to standard Forest Practices Rules found in Chapter 222-24 WAC.

Miles of Road Abandonment

The number of road abandonment miles includes those that have been reported under an approved RMAP as abandoned per WAC 222-24-052(3). Roads are not considered 'officially abandoned' until the DNR RMAP specialist or Forest Practices forester reviews the on-the-ground abandonment to ensure it meets the requirements. Reported road abandonment miles reflect some road miles that may not have been officially abandoned at the time this report was distributed.

Miles of Orphaned Roads

The number of miles of orphaned roads includes those that have been reported under an approved RMAP as orphaned. Inventory and assessment of orphaned roads will be used to help in the evaluation of the hazard-reduction statute and to determine the need for cost-share funding (RCW 76-09-300).

This information is challenging to track precisely due to the difficulty in locating orphaned roads on the landscape; they often are obscured by brush and forest cover and do not appear on any map. Some orphaned roads have been converted to active forest roads, some abandoned, and some may be scattered throughout the landscape with present status unknown.

Number of Fish Passage Barriers Identified

The total number of fish passage barriers includes those identified as part of an approved RMAP inventory.

The total number of fish passage barriers will fluctuate over time, depending on when landowners verify on-the-ground physical characteristics and/or perform a protocol survey or other approved methodology for verifying fish presence or absence. In cases in which a stream type has been changed from 'Type F' to 'Type N'—therefore negating the landowners'

obligation to remove fish passage barriers—sizing of the culvert will be assessed to ensure that it is able to pass a 100-year flood level event plus debris. Due to limited habitat gained, barriers also may be removed from the total number, if the structure was determined in consultation with Washington State Department of Fish and Wildlife to be partially fish passable and sufficient to remain until the end of its functional life. In addition, a barrier may be removed from the list if the structure was determined to play an important role in maintaining pond or wetland habitats; these decisions are made with stakeholder consultation.

Number of Fish Passage Barriers Corrected

The corrected number of fish passage barriers includes the total number that have been permanently removed or fixed with a fish-passable structure.

Miles of Fish Habitat Opened

The ‘miles of fish habitat opened’ refers to stream habitat opened for fish use after the fish passage barrier has been removed or replaced. This number is an estimate, due to the inability to always measure stream length on the ground. The measurement often is based upon aerial photos or maps.

This number of miles of fish habitat opened may fluctuate depending on when, or whether or not, a stream type verification survey occurs. This number is reflected by large forest landowner data or topographical information when there are no protocol surveys to pinpoint exact breakpoints. It also is difficult for landowners to determine this number if the stream enters another ownership.

Number of RMAP Checklists Submitted by Small Landowners

The ‘number of RMAP checklists’ is the total submitted to the DNR regions by small forest landowners since the 2003 rule change. Small forest landowners may submit more than one RMAP Checklist.

The following table, *Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report* displays the data cumulatively by year, rather than by DNR region.

Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report

Year	Number of Approved RMAPs & Submitted Checklists	**Total # of RMAP Checklists from Small Forest Land-owners	***Miles of Forest Road Identified Needing Improvement	Miles of Road Improved	Miles of Road Abandoned	Miles of Orphaned Roads	Miles of Habitat Opened	# of Fish Passage Barriers Corrected
2001-2002	4,066	---	---		645	502	52	46
2001-2003	5,530	---	---		1,007 / *362	1,246	175/ *123	355 / *309
2001-2004	7,401	---	---		1,587 / *580	1,944	647 / *472	1,217 / *908
2001-2005	8,419	---	---		1,856 / *269	2,107	775 / *128	1,363 / *146
2001-2006	9,950	---	---		2,068 / *212	2,313	982 / *207	1,819 / *456
**2001-2007	107	8,121	---	13,140	2,153 / *85	2,293	1,221/ *239	2,248 / *429
2001- 2008	130	8,628 / *507	---	15,019/ *1,879	2,431 / *278	2,305	1,448/ *227	2,871 / *623
2001-2009	126	8,804 / *176	---	16,195/ *1,176	2,621/ *190	2,305	1,569/ *121	3,141/ *270
2001-2010	262	9,187 / *383	---	18,475/ *2,280	2,915/ *294	2,333	1,772/ *203	3,769/ *628
2001-2011	247	9,696/*509	7,413	18,738/ *263	3,090/*175	2,393	2,189/ *417	4,258/*489
2001-2012	254	10,268/*572	7,568	20,026/ *1,288	3,275/*185	2162	2659/ *470	4,846/*588
2001-2013	263	10,971/*703	8,886	22,793/ *2,767	3,417/*142	2,356	3,130/ *471	5,298/*452
2001-2014	266	11,854/*883	7,811	24,282/ *1,489	3,550/*133	2,059	3,419/ *89	5,730/*823
2001-2015	260	12,632/*778	7,202	25,589/ *1,307	3,833/*282	2,231	3,507/ *88	6553/*356
2001-2016	253	12,813/*181	6,421	27,694/ *2105	3,895/*62	2,926	4,180/ *673	6,956/*403

* Number represents the increase from the previous year's report.

** Beginning in reporting year 2007 and thereafter, checklists have been separated from the 'Number of Approved RMAPs' and tracked separately.

*** This was a new reporting element beginning with the 2011 RMAP reporting cycle.

Note: Miles of Road Abandoned for 2001-2012 was changed to 3,275 miles (from 5,002 miles previously reported in the 2013 FPHCP Annual Report) due to an error in the 2012 data for NW Region. The number of miles of road abandoned in NW Region for 2001-2012 was 1,075 miles (not 2,801 miles as previously reported in the 2013 FPHCP Annual Report).

Fish Passage Barriers

In addition to the fish barrier information in the above tables, the following table, “*Fish Passage Barrier Information for Large Landowners*” displays how many barriers have been repaired cumulatively since 2001; the total repaired in calendar year 2016, and the percent of total repaired as of December 31, 2016.

Fish Passage Barrier Information for Large Forest Landowners

DNR Region	Number of fish passage barriers identified*	Number of fish passage barriers corrected from 2001-2016	Number of fish passage barriers corrected in 2016	% of total fish passage barriers corrected as of 12/31/2016
Northeast	840	826	17	98%
Northwest	523	472	18	90%
Olympic	1,819	1,299	158	71%
Pacific Cascade	3,168	2,793	137	88%
South Puget Sound	926	628	57	68%
Southeast	989	938	16	95%
Totals	8,265	6956	403	84%

*This number may fluctuate annually as water types are confirmed and/or modified.

Beyond the Numbers

Due to the substantive scale of the landscape and locations where the RMAP program is being implemented, there is the possibility of some discrepancies in data reporting. This may result in the discovery of fish passage barriers which should have been listed on annual reports and corrected but were not. DNR has incorporated this likelihood into its enforcement strategy and will be treating these as “new discovery” fish passage barriers. The landowner will be given a Notice to Comply directing the barrier be removed by the end of the subsequent operating season.

DNR has developed an assessment process to field review conditions on all water crossing structures. The review process will evaluate a limited number of water crossing structures each year to review their current condition and level of function. If a structure is found to have the possibility or is currently affecting public resources, DNR will notify the landowner to address the non-functioning water crossing structure.

11.4 Washington Department of Fish and Wildlife Efforts written by WDFW

Biologists from the Washington State Department of Fish and Wildlife (WDFW) provide an essential role in the review and implementation of RMAPs. WDFW biologists reviewed RMAPs and the associated forest practices hydraulic projects, and assisted landowners and DNR to

assure that project plans and designs would be successful and meet fish protection standards. Since integration of WDFW's hydraulic code into forest practices rules, WDFW is no longer able to track which FPHPs are specifically associated with RMAPs. However, most of the FPHPs pertaining to fish-bearing streams are related to roads. Therefore, the numbers of FPHPs reviewed in Chapter 4 should be a close estimate. From July 1, 2016, through June 30, 2017, WDFW biologists reviewed 903 individual FPHPs, which included 162 concurrence-required project reviews, including the identification of the optimal project operating season, and 741 individual standard FPHPs (those not requiring concurrence, but pertaining to Type F and S streams). It is important to note that each FPA can have multiple FPHPs.

12. Cultural Resources

12.1 Introduction

As sovereign nations, federally recognized Indian tribes in Washington State are key cooperators in the Forest Practices Program. The Department of Natural Resources maintains a government-to-government relationship with tribal governments, and the [Commissioner's Order on Tribal Relations](#) commits the department to conduct relations with respect for tribal sovereignty. DNR's Director of Tribal Relations serves to facilitate relationships with the tribes and assists in building collaboration, resolving issues of concern and establishing stronger working relationships with the tribes.

The Forest Practices HCP is an agreement with the federal services to provide compliance with the Endangered Species Act on non-Federal and non-tribal forestlands: to restore and maintain riparian habitat for aquatic and riparian dependent species and support a harvestable supply of fish; to meet the requirements of the Clean Water Act for water quality; and to keep the timber industry economically viable in the state of Washington. Table 1.1 in the Forest Practices HCP lists reporting elements to be reported on in the annual and five-year reports submitted to the Services. One of the reporting elements listed is "landowner/tribal meetings and process improvements pursuant to WAC 222-20-120."

The Forest Practices Board (Board), under the authority of Forest Practices Act chapter 76.09 RCW, adopts forest practices rules that foster cooperative relationships and agreements with affected tribes. These rules direct DNR forest practices staff to notify and consult with affected Indian tribes when developing and implementing many parts of the Forest Practices Program. ([RCW 76.09.010](#), and [WAC 222-12-010](#)). In the forest practices rules, "*affected Indian tribe means any federally recognized Indian tribe that requests in writing information from the department on forest practices applications and notification filed on specified areas*" ([WAC 222-16-010](#)).

Tribes in Washington—as well as some tribes in Oregon and Idaho—currently participate as forest practices cooperators to varying degrees. Tribes are members of the Forest Practices Adaptive Management Program's Timber/Fish/Wildlife Policy Committee and Cooperative Monitoring, Evaluation, and Research (CMER) Committee. Tribal representatives are members of DNR's Small Forest Landowner Advisory Committee.

Additionally, tribal members and their representatives work with staff from DNR's Forest Practices Program in the areas of: Forest Practices Applications/ Notifications review; technical expertise during DNR's interdisciplinary team reviews; water typing; and wetland typing. Tribal members also participate with other agencies and organizations that work with DNR to draft Forest Practices Rules and Board Manuals. Tribes also work with those landowners who are interested in pre-application planning of their forest practices activities.

Chapter 12 provides information on two areas of forest practices work specific to tribal governments.

- Section 12.2 provides an annual summary specific to landowner-tribe meetings and process improvements regarding implementing and tracking of the forest practices rule in WAC 222-20-120.
- Section 12.3 provides an annual update on the work being conducted by the Board’s Timber/Fish/Wildlife Cultural Resources Roundtable (Roundtable).

12.2 Landowner/Tribe Meetings and WAC 222-20-120 Updates

Background

This Forest Practices HCP reporting element reads “*landowner/tribal meetings and process improvements pursuant to WAC 222-20-120*”. See [Table 1.1 FPHCP Reporting Elements](#), “Administrative and Regulatory Program Updates” (open the link, scroll to page 9).

Forest Practices rule [WAC 222-20-120](#) titled “*Notice of forest practices that may contain cultural resources to affected Indian tribes*” requires:

- DNR to notify tribes of all proposed applications within the tribe’s designated geographic area of interest and;
- When an FPA may contain cultural resources, DNR notifies the landowner of the requirement for them to contact affected tribes who will determine if a meeting is required. When a meeting is required, landowners meet with the affected tribe(s) to determine if the proposed activities within the forest practices activity area requires a plan to protect cultural resources. In the rule’s definitions, “*cultural resources means archaeological and historic sites and artifacts, and traditional religious, ceremonial and social uses and activities of affected Indian tribes.*” ([WAC 222-16-010](#)).

Currently, all but one of the federally recognized tribes in Washington has chosen and is signed-up to review Forest Practices Applications and Notifications, Multi-Year Permits, and Small Forest Landowner Long Term Applications. Several Washington state tribal organizations, the Northwest Indian Fisheries Commission, Skagit River Cooperative, and Upper Columbia United Tribes are signed up to review Forest Practices Applications and Notifications on behalf of member tribes.

Process

The Forest Practices Program continued to utilize its Forest Practices Risk Assessment Mapping tool (FPRAM) to review and appropriately classify proposed forest practices and implement WAC 222-20-120. FPRAM is the GIS-based interactive mapping and reporting tool, which allows forest practices staff to see the geographic relationships between known environmental features and the location of proposed forest practices. FPRAM includes:

- Data from the Washington State Department of Archaeology and Historic Preservation;

- The 1893-1950 US Geological Service and Army Mapping Service maps for Washington State;
- Bureau of Land Management Government Land Office historical maps; and
- Tribal Cultural Resources Contacts (each tribe's/tribal organization has designated geographic area of interest for cultural resources and the name and contact information of their designated cultural resources contact).

The Forest Practices Program funded one FTE in the state Department of Archaeology and Historic Preservation (DAHP). Through an interagency agreement, DNR has provided specific funding to DAHP for a staff position for database administration and Forest Practices Application and Notification review. For FY2017, DNR provided \$187,722 for this DAHP staff position.

Landowner/Tribe Meetings

During this reporting period (July 1, 2016, to June 30, 2017), there were 14 Forest Practices Applications requiring a landowner-tribe meeting. All 14 successfully fulfilled the meeting requirement.

WAC 222-20-120 Updates

During FY2017, the TFW Cultural Resources Roundtable did not meet; instead, DNR hired a professional facilitator to bring together interested tribes, industrial and non-industrial landowners and the State to discuss and review the implementation including DNR Forest Practices Application conditioning authority of WAC 222-20-120.

To this end, tribal leadership and policy staff, forest landowners on state and private forestlands, and the State are engaging in further discussions relative to cultural resources protections. This includes systematic review of current process and development of best practices. The conversation is ongoing and completion of this review is targeted for FY 2018. The group is interested in a recommitment to the Timber, Fish and Wildlife Agreement of 1987 and the 1999 Forests and Fish Report, and is interested in establishing increased funding to increase protection of cultural resources and develop planning, protection and management strategies for tribal cultural resources. The facilitation services will allow leadership from all parties to express deeply held views and for all parties to gain an in-depth understanding of the important cultural programs to tribal communities.

12.3 Update on Timber/Fish/Wildlife Cultural Resources Roundtable

Background – Origin, Charter, and Participants

Although the Timber/Fish/Wildlife (TFW) Cultural Resources Roundtable is in hiatus until the efforts of the facilitated process is complete, it maintains its important role in the implementation of the Forest Practices Rules. The Roundtable originated as the TFW Cultural Committee (Committee) of the 1987 TFW collaboration. The Committee continued to be active in various cultural resources endeavors. In 2001, the Board reconvened the Committee to work on the cultural resources commitments in the Forests and Fish Report (see below). Then in 2011, the

Forest Practices Board formally accepted the [Roundtable's charter](#), which formally changed the committee's name to TFW Cultural Resources Roundtable (Roundtable).

The Roundtable's purpose, as stated in its charter, is to:

- “foster cooperative protection and management of cultural resources as envisioned in the *Cultural Resources Protection and Management Plan*, and
- “facilitate the identification, protection, and management of cultural resources that are significant to the history and cultures of the people of Washington State, and which are located on the state's non-federal forest lands.”

It is anticipated that the Roundtable will continue to serve the Board's needs by providing insight on cultural resources issues affecting forest practices, providing consensus rule making recommendations for the Board's consideration and, as required by [WAC 222-08-160](#), annually reporting on behalf of the department on how implementation of the *Cultural Resources Protection and Management Plan* is working. This plan is described below. Accordingly, the Board's website includes a [TFW Cultural Resources Roundtable web page](#). Web page materials include meeting agendas and meeting notes, the *Cultural Resources Protection and Management Plan*, the Roundtable's charter, and cultural resources educational information.

Roundtable active participants have varied depending on the topics being addressed. The most recent Roundtable participants included the following tribes, landowners, and state natural resource agencies:

- Puyallup Tribe of Indians
- Confederated Tribes and Bands of the Yakama Nation
- Quinault Indian Nation
- Cowlitz Indian Tribe
- Jamestown S'Klallam Tribe
- Spokane Tribe of Indians
- Squaxin Island Tribe
- Upper Columbia United Tribes
- Washington Forest Protection Association
- Hancock Resource Management
- Green Diamond Resource Company
- Washington Farm Forestry Association
- Department of Archaeology and Historic Preservation
- DNR Forest Practices Division
- DNR Forest Resources Division

Other interested tribes, organizations, and persons are kept informed of the Roundtable's work through meeting agendas and meeting notes sent by the Roundtable via email. About 60 Tribal,

landowner, and state agency representatives participate in the Roundtable or receive ongoing mailings from the Roundtable.

Background – Cultural Resources Protection and Management Plan

The [*Cultural Resources Protection and Management Plan*](#) is a voluntary cooperative approach towards the protection of cultural resources on non-federal forestland in Washington. This approach is based on mutual respect and an appreciation of tribal and non-tribal culture and history.

The *Cultural Resources Protection and Management Plan* was born of the two commitments in the [*Forests and Fish Report*](#) specific to cultural resources. Appendix G of the report specifically commits to cooperatively developing a watershed analysis cultural resources module. Appendix O of the report commits to completing a cultural resources plan to enhance cooperative relationships between landowners and tribes. In 2001, the Forest Practices Board asked the Roundtable (then Committee) to develop collaboratively a multi-caucus proposal to address these Forests and Fish commitments.

The Roundtable presented its consensus *Cultural Resources Protection and Management Plan* to the Board in 2003. The Board accepted the plan as fulfillment of both *Forests and Fish Report* commitments, as the plan’s appendices included the proposed watershed analysis cultural resources module. The appendices also included proposed rules to implement the module, a proposed cultural resources question and instructions for Forest Practices Applications and Notifications, and a suggested process for implementing WAC 222-20-120. In May 2005, after completing the rule making process, the Board formally approved the watershed analysis cultural resources module for inclusion in Board Manual Section 11, *Standard Methodology for Conducting Watershed Analysis* as [Appendix J](#), and adopted the rules in [chapter 222-22 WAC](#) implementing the module. The Forest Practices HCP (Washington DNR, 2005) incorporates the *Cultural Resources Protection and Management Plan* as [Appendix I](#).

The *Cultural Resources Protection and Management Plan* is a “living” document. This means the plan is open to updates and changes to reflect progress and completion of tasks, as well as changes in priorities and direction of the plan. Therefore, updates are added occasionally by the Roundtable.

Priority Issue Work: WAC 222-20-120 Interpretations and DNR Forest Practices Application Conditioning Authority

In the first month of FY 2017, the TFW Cultural Resources Roundtable was addressing the varying perspectives regarding the implementation of DNR’s Forest Practices Application conditioning authority under WAC 222-20-120, *Notice of forest practices that may contain cultural resources to affected Indian tribes*. These efforts became the main topic of the facilitated discussions between the interested tribes, industrial and non-industrial landowners and the state during FY 2017.

Ongoing Responsibilities Work

The Roundtable will continue to implement commitments in the *Cultural Resources Protection and Management Plan* as appropriate.

13. Washington State Legislature

In 1974, the Washington State Legislature passed the Forest Practices Act (Act) declaring:

“forest land resources are among the most valuable of all resources in the state; that a viable forest products industry is of prime importance to the state's economy; that it is in the public interest for public and private commercial forestlands to be managed consistent with sound policies of natural resource protection; that coincident with maintenance of a viable forest products industry, it is important to afford protection to forest soils, fisheries, wildlife, water quantity and quality, air quality, recreation, and scenic beauty” (RCW 76.09.010).

The Act was the State’s first comprehensive law addressing the impacts of forest practices on the environment. The Act also created the Forest Practices Board, giving the Board rule making authority, which sets the specific standards that are the basis for the Forest Practices Program.

Each year, DNR monitors laws being passed by the Washington State Legislature for those that could affect the Forest Practices Program and, possibly, the Forest Practices HCP.

In FY 2017, three policy bills were passed which impact the Forest Practices Program:

- Second Substitute House Bill 1120, which was funded, exempts agencies that are able to demonstrate that a proposed rule does not affect small businesses from having to complete a small business economic impact statement. It also requires agencies proposing a rule affecting only small businesses to consider certain mitigation costs to reduce the cost to small businesses. The bill requires the Office of Regulatory Innovation and Assistance to provide assistance to agencies in order to meet the requirements of the Regulatory Fairness Act. All forest practices rule makings affect small forest landowners and require DNR to adhere to the requirements of the Regulatory Fairness Act. The ability to consult with the Office of Regulatory Innovation and Assistance in preparing small business economic impact statements will be of great benefit to DNR.
- Substitute House Bill 1275 allows a Forest Practices Application with a hydraulic project to serve as the permit to request funding for a fish habitat enhancement project and eliminates the need for local government permits.
- Engrossed Substitute House Bill 1531 includes the Forest Riparian Easement Program (FREP) in the state’s overall carbon reduction strategy, if one is created. It also requires DNR to promote the expansion of funding for FREP.

As noted elsewhere, as of June 30, 2017, the legislature had not passed a capital budget for the 17-19 biennium. Accordingly, funding for three programs of relevance to the HCP was unavailable at the start of the biennium: the Family Forest Fish Passage Program (\$10 million requested by DNR for the 17-19 biennium), the Forest Riparian Easement Program (\$10 million requested), and the Rivers and Open Space Habitat Program (\$6.2 million requested).

14. Information Technology

Information Technology-Based Tools Update

Information technology-based tools provide significant support for the administration of the Forest Practices program and therefore support the implementation of the Forest Practices HCP. These tools include information systems, such as the Forest Practices Application Review System (FPARS), Forest Practices Enforcement Tracking System (FPETS), Forest Practices Application and Mapping Tool (FPAMT) and the Forest Practices Risk Assessment Mapping (FPRAM) application, as well as discrete data sets, such as the DNR Hydrography Geographic Information System (GIS) data layer that forms the basis of the water typing system. Within DNR, the Forest Practices Division works closely with the Information Technology Division to develop and maintain these information technology tools.

Forest Practices Application Review System

The Forest Practices Application Review System streamlines the processing of Forest Practice Applications (FPAs) and provides the public with the ability to review proposed forest practices activities. It makes use of the internet, document imaging and management technology, interactive GIS technology, and the Oracle database system to collect Forest Practices Application/Notification information, and distribute it for regulatory and public review. FPARS also supports risk assessments of proposed forest practices activities, and archiving Forest Practices Applications/Notifications.

Between July 1, 2016, and June 30, 2017, there were 4,771 FPAs processed in FPARS. As of June 30, 2017, there were 1,226 reviewers receiving email notification.

Forest Practices Enforcement Tracking System

The Forest Practices Enforcement Tracking System provides the ability for region-based forest practices staff and Forest Practices Division staff to enter and report on data related to enforcement actions, civil penalties and appeals. It makes use of the internet, document imaging and management technology, and the Oracle database system to collect forest practices enforcement information.

By capturing enforcement data in a common database, FPETS streamlines and improves accuracy of data input by removing redundancies and enables production of automated reports that are used in the enforcement tracking process. FPETS also includes a robust search tool that allows users to query on and search the FPETS database for information related to informal conference notes, enforcement orders, civil penalties and appeals.

Between July 1, 2016, and June 30, 2017, 954 Informal Conference Notes, 16 Notices of Conversion to Non-forestry Use, 90 Notices to Comply, and 41 Stop Work Orders were entered into FPETS.

Forest Practices Risk Assessment Mapping

The Forest Practices Risk Assessment Mapping application is a web-based interactive mapping and reporting tool. It gives DNR Forest Practices Program staff, in both the division and the region offices, access to GIS data related to the implementation of the forest practices rules. It allows staff to see and review the geographic relationships between environmental features, including streams, potential landslide areas, archaeological sites, northern spotted owl habitat, and the locations of proposed forest practice activities. As of June 30, 2017, more than 100 map layers can be displayed or queried.

The DNR Hydrography Data Layer and Water Type Updates

The Forest Practices GIS section updates DNR's hydrography data layer with water typing information received on Water Type Modification Forms (WTMFs). These updates are based on direct observations in the field by DNR personnel, forest landowners, fish survey contractors, and others.

During the reporting year, DNR GIS staff entered approximately 6,155 GIS stream segment (number of segments depend on how stream was input into GIS) updates representing approximately 439 miles into the hydrography data set based on 745 WTMFs. These updates included approximately 34 miles of stream type upgrades and approximately 37 miles of stream type downgrades. As of June 30, 2017, the WTMF backlog was 29. This is the lowest backlog the Forest Practices Program has achieved. Number of water type upgrades and downgrades can be found in the following table.

The Water Type Modification Form Tracking Application (WTA) is an Oracle-based system initiated in April 2016 that facilitates the review and processing of WTMFs. WTA stores key data about each WTMF, automatically sends email notifications to all stakeholders, and captures reviewer comments and feedback.

Road Maintenance and Abandonment Plan Point Data Set

The Road Maintenance and Abandonment Plan (RMAP) points dataset is compiled from individual RMAP annual accomplishment and planning reports and other sources into a statewide data system. DNR continues to work to make the dataset as complete as possible. However, it is a work in progress. Not all points have been entered or updated. They represent the information that has been compiled to date from landowner annual reports.

Revised datasets are posted periodically to the Forest Practices RMAP Program stakeholder review site. DNR published revised versions of the Forest Practices RMAP point dataset in September 2016, December 2016, March 2017 and June 2017. The forest practices RMAP specialists in DNR regional offices continued to work diligently to update this data, providing many barrier replacement dates, and other data items that were previously missing

15. Forest Practices Program Budget

15.1 Introduction

The 2015-2017 biennial allocation for forest practices was adjusted by the 2017 Legislative Enacted Supplemental Budget in the Forest Practices Application Account (FPAA). This one-time adjustment of \$447,000 was a reflection of matching the Department of Natural Resources fund authority with actual revenue. Along with this modification, technical adjustments were made in the second fiscal year of the program’s biennial budget due to agency-wide information technology and cell phone consolidation charges. The overall impact of these modifications reduced the operating budget by \$483,600 for fiscal year 2017.

The Forest Practices Program continued to provide core programs utilizing the FPAA to fund the implementation of hydraulic project integration; the Forests and Fish Support Account (FFSA) to support project management and participation grants in the Adaptive Management Program (AMP); and the State Toxics Control Account (Toxics) and General Fund State funding for rule implementation, program development, and small forest landowner technical assistance. These foundational elements sustain the state’s Forest Practices HCP and federal Clean Water Act (CWA) assurances.

The 2015-2017 biennial adjusted allocation for the Forest Practices Program exceeded the \$22.7 million funding level minimum, measured in 2005 dollars, as identified in the 2012 Forest Practices HCP Settlement Agreement. The Forest Practices base biennial allocation by funding source is reflected below (Table 1).

Table 1: 2015-2017 Biennium Operating Adjusted Allocation with Personal Consumption Expenditure (PCE) Conversion in 2005 dollars

2015-2017 Adjusted Base Allocation by Activity	GF-State	GF-State Proviso	FFSA	FPAA & FY17 Supplemental	TOXICS	TOTAL FUNDS
Forest Practices Act & Rules	15,567,700		314,800	993,400	2,875,000	19,750,900
Adaptive Management Program	331,000	4,780,000	9,659,200		158,700	14,928,900
Small Forest Landowner	282,500				113,600	396,100
Program Development					891,500	891,500
TOTALS	16,181,200	4,780,000	9,974,000	993,400	4,038,800	35,967,400
PCE Conversion (2005 dollars)	13,475,108	3,980,608	8,305,980	827,267	3,363,364	29,952,326

15.2 2015-2017 Biennial Allocation by Activity

The Forest Practices Program is organized into four functional activities. Table 2 below lists program components and the funding source within each functional activity.

Table 2: 2015-2017 Functional Activities

Functional Activity	Activity Components	Funding Source
Forest Practices Act & Rules (Operations)	Application Processing, Compliance Monitoring, Enforcement, RMAPS, IT/GIS Development & Support & Stakeholder Assistance Training	GF-State & Toxics
	Department of Archeology & Historic Preservation Interagency agreement for GIS/Spatial data on forest practices applications with cultural resources.	FFSA
	Forest Practices Applications with activities carried out in water, such as the construction, removal, or replacement of a culvert or bridge. Department of Fish & Wildlife Interagency agreement for consultation on forest practices hydraulic projects.	FPAA
Adaptive Management Program	Adaptive Management Research/Monitoring Projects & Adaptive Management Administration Staff	GF-State & Toxics
	Adaptive Management Projects & Project Management Staff	FFSA
	Participation grants to tribes /tribal organizations; Participation grants to non-profits; & Interagency agreements with Ecology & Fish and Wildlife Departments.	FFSA
Small Forest Landowner Office	SFLO Program and Operations	GF-State & Toxics
Program Development	Forest Practices Board; Rule Making/Board Manual; and Forest Practices Habitat Conservation Plan.	GF-State & Toxics

15.3 2015-2017 Biennium Operating Expenditures by Activity

The Forest Practices Program expended a total of \$18.9 million in fiscal year 2017. A total of \$2.4 million was expended from the Toxics account. Approximately \$489,136 of the FPAA was spent continuing to finance an interagency agreement with Washington Department of Fish & Wildlife (WDFW) for consultation on forest practices hydraulic projects, statewide engineering assistance, and office/field staff in five regions.

Roughly, \$4.9 million of the FFSA continued to support project support, participation grants to tribal, non-profit public interest organizations and state agency involvement in the AMP. The AMP expended all of the provided \$2.3 million GF-State for research/monitoring projects. The expenditures for this fiscal year are reflected in Table 3. These expenditures do not include the full

time equivalent (FTEs) and budget for the federally funded portion of the forest stewardship program or state capital funding utilized through the Small Forest Landowner Office (SFLO).

Table 3: FY17 Expenditures (July 1, 2016 – June 30, 2017)

FY 2017 Expenditures by Activity	GF-State	GF-State Proviso	FFSA	FPA	TOXICS	TOTAL FUNDS
Forest Practices Act & Rules	7,663,692		84,408	489,136	1,851,346	10,088,582
Adaptive Management Program	569,904	2,390,000	4,970,492		79,895	8,010,291
Small Forest Landowner	307,399				113,366	420,765
Program Development					405,591	405,591
TOTALS	8,540,995	2,390,000	5,054,900	489,136	2,450,198	18,925,229

15.4 Full Time Employees

The Forest Practices program utilized 93% of the statewide allotted FTEs. Overall, the program experienced a position vacancy rate of 2% during fiscal year 2017. The reasons are primarily due to promotions, retirements, and transfers. Forest Practices program staff also participated in DNR’s statewide wildfire response program, which contributed to the differences in charging to the base forest practices program (that is, when staff is engaged in firefighting, employee time is not charged to the forest practice program). This staffing difference accounted for 5% of the FTE variance.

The Adaptive Management Program added an FTE in the latter part of fiscal year 2017, which accounts for the FTE overage. The Small Forest Landowner program utilized the positive variance in GF-S for stewardship foresters. This one-time funding shift preserved GF-Federal funding into the next biennium and accounts for the FTE surplus.

Table 4 reflects the actual FTEs utilized during fiscal year 2017.

Table 4: Full-Time Equivalents (FTEs)

2015-2017 Allocation by Activity	15-17 BN* FTEs	Actual FY 17 FTEs	Difference
Forest Practices Act & Rules	106.93	97.63	9.3
Adaptive Management Program	4.25	4.48	(0.23)
Small Forest Landowner	2.00	3.50	(1.50)
Program Development	4.99	4.22	0.77
TOTALS	118.17	109.83	8.34

*BN = Biennium

16. Washington Timber Harvest Report

16.1 Introduction

The following Washington State Timber Harvest Report¹ summary provides a historical record of timber harvest activities, by landowner class from 1990 to 2016. Volumes in million board feet.

Calendar Year	State Total	Forest Practices Habitat Conservation Plan and other Aquatic HCPs						Federal/Tribal Nat'l Forests, BLM , Others
		FPHCP, other Aquatic HCPs ²	Western WA	Eastern WA	Private ³	DNR ⁴ (state lands)	Other Public ⁵ (county, etc.)	
1990	6,032	5,017	4,159	859	4,330	657	30	1,015
1991	5,276	4,390	3,585	806	3,822	535	33	886
1992	5,203	4,549	3,692	858	4,030	476	43	654
1993	4,521	3,991	3,135	862	3,513	461	17	530
1994	4,355	3,952	3,116	836	3,619	323	10	403
1995	4,622	4,236	3,332	904	3,720	496	20	386
1996	4,536	4,179	3,247	931	3,544	600	35	357
1997	4,497	4,066	3,190	884	3,390	645	31	431
1998	4,297	3,901	3,067	835	3,319	546	36	396
1999	4,717	4,257	3,320	937	3,580	662	15	460
2000	4,507	4,083	3,191	893	3,507	559	17	424
2001	4,041	3,638	2,825	813	3,116	496	26	403
2002	3,901	3,497	2,685	814	3,000	457	40	404
2003	3,377	3,241	2,759	481	2,697	510	34	136 *
2004	3,787	3,691	3,134	556	3,052	588	51	96 *
2005	3,571	3,490	2,914	576	2,864	594	32	81 *
2006	3,324	3,249	2,682	567	2,786	404	59	75 *
2007	3,264	3,169	2,593	576	2,685	448	36	95 *
2008	2,757	2,653	2,297	357	2,067	515	71	104 *
2009	2,217	2,116	1,877	239	1,423	641	52	101 *
2010	2,737	2,619	2,337	283	1,828	764	27	118 *
2011	2,984	2,876	2,529	347	2,206	637	33	108 *
2012	2,739	2,657	2,311	347	2,182	442	33	82 *
2013	3,298	3,088	2,673	415	2,525	513	50	210
2014	3,389	3,090	2,693	396	2,457	585	48	299
2015	3,003	2,729	2,248	481	2,237	462	31	274
2016	2,997	2,599	2,250	349	2,030	534	34	398

*Tribal data is not included in these years

¹Timber harvest statistics are based on data gathered by the Washington Department of Revenue.

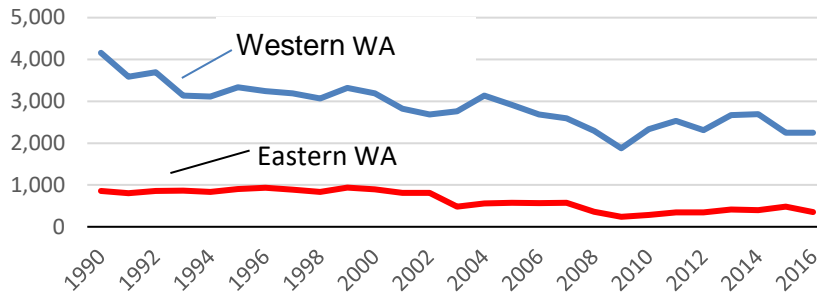
²Total FPHCP and other Aquatic HCPs = Western WA + Eastern WA = Private + DNR + Other Public

³Private includes large forest landowners, small forest landowners and industrial forest owner.

⁴Harvests from lands managed by the Washington State Department of Natural Resources (DNR).

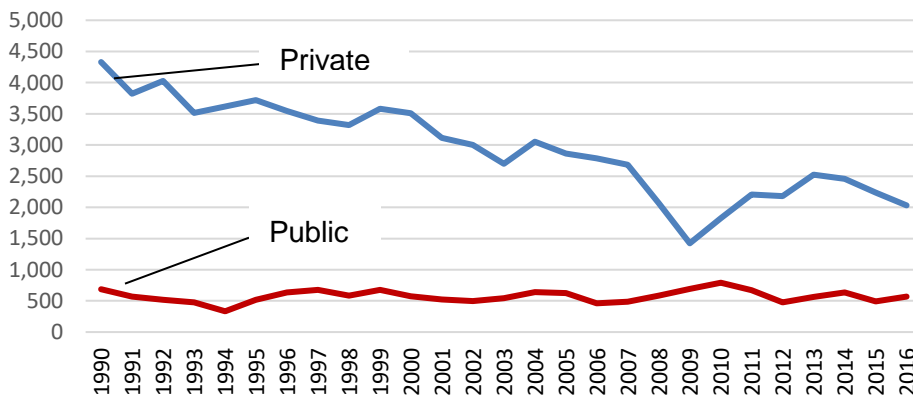
⁵Includes public lands owned by cities, counties, public utilities, and state agencies other than DNR.

Total harvested timber monitored by HCP
not including federal and tribal lands
(million board feet)



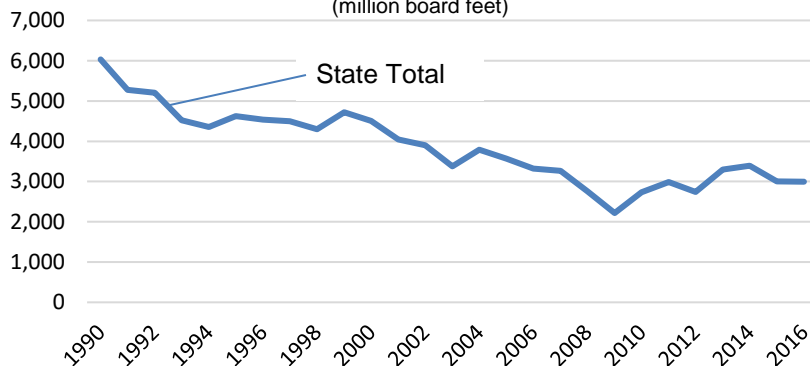
With near rainforest levels of rainfall, western Washington is among the greatest producers of softwood timber in the U.S. Even eastern Washington contributes up to half a billion board feet of annual timber harvest.

Harvests from Public and Private forests
not including federal and tribal lands
(million board feet)



The majority of timber harvested in Washington comes from privately owned—mostly industrial—forests. The harvest levels vary. In periods of low market prices, owners prefer to wait and allow the trees to grow another year. Most trees harvested from publicly-owned lands come from state-owned forests, managed by the Department of Natural Resources. The state agency generally harvests at uniform levels (400-550 million board feet per year).

Total harvested timber monitored by HCP
not including federal and tribal lands
(million board feet)



In 2016, Washington's total timber harvest was 3 billion board feet, a level that was exceeded slightly during 2013-2015. Up until 1992, harvest levels were between 5 and 8 billion board feet when they began to drop. Due to the housing market collapse, harvest levels decreased to 2.2 billion board feet in 2009.

17. References

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18. List of Acronyms

Agencies and Organizations

the Board	Washington Forest Practices Board
DAHP	Department of Archaeology and Historic Preservation
DNR	Washington State Department of Natural Resources
RCO	Recreation and Conservation Office
SFLO	Small Forest Landowner Office
SRFB	Salmon Recovery Funding Board
USFWS	United States Fish and Wildlife Service
WCLA	Washington Contract Loggers Association
WDFW	Washington Department of Fish and Wildlife
WDOT	Washington Department of Transportation
WFFA	Washington Farm Forestry Association
WFPA	Washington Forest Protection Association
Ecology	Washington State Department of Ecology

Technical Terms

CMZ	Channel Migration Zone
DFC	Desired Future Condition
EBAI	Equivalent Area Buffer Index
GF-State	General Fund - State
GIS	Geographic Information System
FTE	Full Time Equivalent
FY	Fiscal Year
FPA/N	Forest Practices Application/Notification
FPRAT	Forest Practices Risk Assessment Tool
ICN	Informal Conference Note
LGE	Local Government Entity
LHZ	Landslide Hazard Zonation
LWD	Large Woody Debris
NTC	Notice to Comply
RMZ	Riparian Management Zone
SWO	Stop Work Order
Type F	Fish-bearing stream
Type Np	Non fish-bearing, perennial stream
Type Ns	Non fish-bearing, seasonal stream
WAU	Watershed Administrative Unit
WRIA	Water Resource Inventory Area

Personnel, Programs, Plans and Reports

AMP	Adaptive Management Program
AMPA	Adaptive Management Program administrator
CMER	Cooperative Monitoring, Evaluation, and Research Committee
CMP	Compliance Monitoring Program
FFFP	Family Forest Fish Passage Program
FFSA	Forests and Fish Support Account
FPARS	Forest Practices Application Review System
FPETS	Forest Practices Enforcement Tracking System
FPHCP	Forest Practices Habitat Conservation Plan
FREP	Forestry Riparian Easement Program
FFR	Forests and Fish Report
HCP	Habitat Conservation Plan
IDT	Interdisciplinary Team
ISPR	Independent Scientific Peer Review
RMAP	Road Maintenance and Abandonment Plan
ROSP	Riparian Open Space Program
RP&S	Resource Protection and Services
SRC	Scientific Review Committee
TFW	Timber/Fish /Wildlife

Regulations, Acts and Permits

CWA	Clean Water Act
EIS	Environmental Impact Statement
ESA	Endangered Species Act
ITP	Incidental Take Permit
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act
WAC	Washington Administrative Code

19. Appendix



Appendix 1: Potential Percent Reduction in Function

Estimated Potential Percent Loss of Large Woody Debris Recruitment Potential, by Watershed Administrative Unit	
Watershed Administrative Unit	Percent (%) Reduction in LWD Function in WAU
Abernathy	0.048
Acme	0.105
Antonie Creek	0.022
Bangor-Port Gamble	0.490
Bear River	0.072
Bellingham Bay	0.128
Black River	0.012
Bogachiel	0.053
Blanchard Creek	0.037
Bunker Creek	0.218
Camano Island	0.212
Camas Valley	0.020
Carbon	0.121
Carpenter	0.141
Cathlapotl	0.279
Cedar Creek/Chelatchie Creek	0.580
Chehalis Headwaters	0.006
Chehalis Slough	0.102
Chimakum	0.065
Chinook	0.027
Church Creek	0.343
Cloquallum	0.098
Coal Creek	0.290
Columbia River/Rock Creek	0.018
Colvos Passage/Carr Inlet	0.148
Conboy	0.042
Connelly	0.148
Copper Creek	1.197
Corkindale	0.102
Cottonwood Creek	0.023
Cowlitz River/Mill Creek	0.119
Damfino	0.218
Davis Creek	0.153

Day Creek	0.259
Deadman Creek/Peone Creek	0.191
Delameter	0.061
Delezene Creek	0.138
Diobsud Creek	2.097
Discovery Bay	0.047
Dragoon Creek	0.115
Drayton	0.527
Dyes Inlet	0.273
East Creek	0.013
East Fork Hoquiam	0.136
East Fork Humptulips	0.102
EF Satsop	0.006
Electron	0.033
Elk River	0.069
Everett	0.040
Ferndale	0.366
French-Boulder	0.034
Friday Creek	0.865
Germany	0.101
Gibson Ck.	0.203
Gilligan	0.191
Grays Bay	0.039
Great Bend	0.040
Haller Creek	0.059
Hamilton Creek	0.044
Hansen Creek	0.460
Harstine Island	0.128
Hoko	0.004
Hope Creek	0.158
Horseshoe Falls	0.705
Huckleberry Creek	0.023
Hutchinson Creek	0.149
Independence Creek	0.168
Jim Creek	0.032
Johns River	0.058
Jordan	0.067
Key Peninsula	0.167
Kiona Creek	0.152

L. Pilchuck Creek	0.066
L.Snoqualmie River/Cherry Creek	0.005
Lacamas	0.187
Lacamas Lake	0.293
Lake Merwin	0.365
Lake Whatcom	0.128
Liberty Miller - Appletree	0.408
Lilliwaup	0.025
Lincoln Creek	0.039
Little Deep Creek	0.040
Little Spokane/Deer Creek	0.050
Little Washougal	0.227
Little White Salmon River	0.017
Long Beach	0.135
Lost Creek	0.517
Lower Chehalis/Elizabeth Creek	0.149
Lower Coweeman	0.272
Lower Cowlitz	0.219
Lower Deschutes	0.126
Lower Dosewllips	0.185
Lower Elochoman	0.192
Lower Humptulips River	0.042
Lower Kalama	0.119
Lower Little Pend Oreille	0.027
Lower Naselle	0.028
Lower NF Stillaquamish	0.125
Lower Newaukum	0.652
Lower Pilchuck Creek	0.213
Lower Pilchuck River	0.264
Lower Quinault	0.173
Lower Riffe Lake	0.109
Lower Skokomish	0.162
Lower Salmon Creek	0.171
Lower Snoqualmie River/Cherry Crk.	0.093
Lower Willapa	0.257
Lower Wind	0.044
Lower Wishkah	0.042
Lynch Cove	0.184
Magee Creek	0.125

Mashel	0.036
Mason	0.149
McLane Creek	0.049
MF Satsop	0.034
Middle Humptulips	0.044
Middle Sauk	0.014
Mill Creek	0.019
Mill Creek/Clugton Creek	0.034
Mitchel	0.039
Moran Creek	0.076
Mox Chehalis	0.123
Mt Zion	0.034
Muck Creek	1.895
Naselle Headwaters	0.009
Nemah	0.037
NF Granite Creek	0.034
NF Newaukum	0.048
Nineteen Creek	0.185
Nookachamps	0.015
North Headwaters	0.048
North-Middle Forks Deer Creek	0.062
Ohop	0.018
Olequa	0.311
Onion Creek	0.023
Ostrander	0.421
Otter Creek	0.067
Packwood Lake	0.383
Patit Creek	0.046
Pend Oreille/Cedar Creek	0.032
Pilchuck Mtn.	0.013
Port Angeles	0.153
Porter Canyon	0.038
Possession Sound-N. Elliot Creek	0.120
Quilceda Creek	0.346
Quillisascut Creek	0.517
Quinault Lake	0.208
Raging River	0.028
Reese Creek	0.038
Rock Creek	0.160

S. Sinclair Inlet	0.038
Salmon Creek	0.048
Salt Creek	0.275
Samish Bay	0.087
Samish River	0.189
Sammamish River	0.039
San Juan	0.032
Satsop	0.153
Scatter Creek	0.013
Sekiu	0.022
Sequim Bay	0.297
Siebert McDonald	0.062
SF Skokomish	0.070
SF Skykomish River	0.018
SF Willapa	0.071
Silver Lake	0.226
Skookum	0.015
Smith Creek	0.044
Smith Point	1.226
Sol Duc Lowland	0.027
Sol Duc Valley	0.042
Squalicum Creek	0.112
St. Peter-Lambert	0.078
Stahley Mtn.	0.160
Stillaguamish Flats	0.033
Sultan River	0.037
Sumas River	0.143
Sutherland Aldwell	0.319
Tacoma Creek	0.114
Tanwax Creek	0.427
Toandos Peninsula	0.064
Toutle River	0.186
Upper Chehalis/Rock Creek	0.099
Upper Coweeman	0.033
Upper Little Pend Oreille River	1.192
Upper NF Stilly	0.095
Vancouver	0.637
Vashon Island	0.051
Vedder	0.733

Verlot	0.046
Vesta Little N.	0.009
Warnick	0.084
West Fork/Mid Fork Hoquiam	0.073
West Fork Wasougal	0.069
Whidbey Island	0.429
White Salmon/Buck Creek	0.027
Wilkeson	0.032
Willapa Headwaters	0.009
Winston Creek	0.025
W. Kitsap	0.025
Wishkah Headwaters	0.076
Woodland Creek	0.571
Woods Creek	0.065
Wynochee River System	0.049
Yacolt	0.428
Yelm Creek	0.649

NOTE: The reader may note a percent change of large woody debris (LWD) recruitment potential for some WAUs. If there was no change in the length of stream with adjacent harvest, the cause is a 2016 recalculation of fish bearing stream length by WAU on Forest Practices HCP covered lands. The intent of the recalculation was to align report calculations with current GIS data. To conduct the HCP Analysis on fish bearing streams there are two GIS data sets that are used, both of which are dynamic and have changed over the last 10 years. The first data set contains all the mapped forestlands in the state that are regulated. The majority of the change the reader may see in WAU percentages has come from forestland changes where work has been done to more accurately extract forestlands in the state and develop information on these lands, as well as increased mapping of land ownership and transfers of data as ownership is updated statewide. The second data set utilized for the analysis and that contributes, to a lesser degree, in the differences seen in the LWD recruitment potential by WAU chart is the statewide stream layer (hydrography layer). The stream data has had many updates over the last ten years from water-type modifications that have occurred throughout the state. Both the improved forestland and hydrography datasets provide the baseline data for the current analysis and resulting LWD recruitment potentials by WAU.

The table above shows estimated percent of loss of potential large woody debris recruitment in each watershed administrative unit containing one or more 20-acre exempt FPAs over the elapsed eleven-year period of the Incidental Take Permits. There are 846 watershed administrative units in the state, of which 206 have had 20-acre exempt FPAs approved. Currently, in-office calculations indicate that each watershed administrative unit affected by 20-Acre Exempt applications, except for five, have less than one percent potential cumulative reduction in function relative to standard forest practices prescriptions. The five WAUs: Diobsud Creek (2.097%), Muck Creek (1.895%), Smith Point (1.226%), Upper Little Pend Oreille River (1.192%), and Copper Creek (1.197%) all have less than three percent potential cumulative reduction in function. None of the five WAUs with potential reduction in function over one

percent are near the 10 percent threshold (explained in 6.3) established in the Incidental Take Permits. Ninety-five watershed administrative units indicate a potential of reduction in function between 0.1 and 0.9 percent: and the remaining 106 watershed administrative units listed in the above table show the possibility of less than 0.1 percent reduction in function since the 2006 issuance of the Incidental Take Permits.

Appendix 2




STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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Memorandum

January 25, 2017

TO: Forest Practices Board
FROM: Mark Hicks, Ecology Forest Practices Lead 
SUBJECT: Clean Water Act Milestone Update

The Washington State Department of Ecology (Ecology) committed to provide the Forest Practices Board (Board) with periodic updates on the progress being made to meet milestones established for retaining the Clean Water Act (CWA) Assurances for the forest practices rules and associated programs. Our last update to the Board occurred at your May 2016 Board meeting.

Under Washington state law (Chapter 90.48 RCW and 76.09.040 RCW) forest practices rules are to be developed so as to achieve compliance with the state water quality standards and the federal Clean Water Act (CWA). The CWA assurances establish that the state's forest practices rules and programs, as updated through a formal adaptive management program, will be used as the primary mechanism for bringing and maintaining forested watersheds in compliance with the state water quality standards. The CWA assurances were originally granted in 1999 as part of the Forests and Fish Report (FFR). Those original assurances were to last for only a ten year period. After conducting a review of the program and hearing from stakeholders that they were committed to making the program work, Ecology conditionally extended the assurances for another ten years. This extension was based on the expectation that the program meet a list of process improvements and performance objectives. These are the milestones reported on in this update.

The 2009 CWA Assurance milestones were established to create a path of steady improvement. The milestones were intended to spur efforts to gather critical information to assess the effectiveness of the rules in protecting water quality as mandated by state law. Equally important, was the intent to encourage process changes that would lead to cooperators working more productively together to create a more effective research program to test and adjust the rules long-term.

Forest Practices Board Memo
January 25, 2017
Page 2

I want you to be aware of an issue that has emerged since our last update. A lawsuit has been filed against the EPA and NMFS. The suit asserts these federal agencies did not take required steps to formally approve or disapprove the state's nonpoint source control plan under the Coastal Zone Management Act. The plaintiffs are asking the court to require EPA and NOAA to withhold Coastal Zone and Clean Water Act Section 319 grant funds from the state as required by federal regulation since the two agencies have found that Washington has failed to submit an approvable Coastal Nonpoint Plan. While a broad range of concerns and arguments are presented, what is most relevant to the Board is that the plaintiffs note perceived inadequacies of the state's forest practices rules and the adaptive management program. This includes specific reference to the CWA assurances and the pace at which the rules are being tested and used to validate or adjust the rules.

Enclosed are two tables showing the CWA milestones and summarizing their current status.

The first table shows the non-CMER project milestones. These milestones are implemented outside of the CMER research program, and are largely within the control of the Forest Practices Operations Section of the Department of Natural Resources (DNR) or the Timber, Fish, and Wildlife Policy Committee (Policy). No changes have occurred in the status assigned to any of the non-CMER milestones since our May 2016 update to the Board.

The second table lays out the progress being made on the CMER research study milestones. Since our last update, one CMER milestone was completed with the approval of a scoping document to develop a Forested Wetland Effectiveness Monitoring Strategy. Changes in status since your last briefing and points of note are highlighted in **red font** to support more effective ongoing communication.

Please contact me if you have any questions or concerns (360) 407-6477.

Enclosure

Summary of CWA Assurances Milestones and current status:

Non-CMER Project Milestones		
	Summarized Description of Milestone	Status as of January 2017¹
2009	July 2009: CMER budget and work plan will reflect CWA priorities.	Completed October 2010 Key research projects slipped well behind schedule affecting the overall priorities.
	September 2009: Identify a strategy to secure stable, adequate, long-term funding for the AMP.	Completed October 2010
	October 2009: Complete Charter for the Compliance Monitoring Stakeholder Guidance Committee.	Completed December 2009 <i>Efforts remain pending for DNR to strengthen the cooperative approach used to involve the committee in design and prioritization decisions of the Compliance Monitoring Program.</i>
	December 2009: Initiate a process for flagging CMER projects that are having trouble with their design or implementation.	Completed November 2010 <i>Efforts remain pending for the AMPA to review and update the existing process and use it to inform Policy at their monthly meetings.</i>
	December 2009: Compliance Monitoring Program to develop plans and timelines for assessing compliance with rule elements such as water typing, shade, wetlands, haul roads and channel migration zones.	Completed March 2010
	December 2009: Evaluate the existing process for resolving field disputes and identify improvements that can be made within existing statutory authorities and review times.	Completed November 2010
	December 2009: Complete training sessions on the AMP protocols and standards for CMER, and Policy and offer to provide this training to the Board. <u>Identify and implement changes to improve performance or clarity at the soonest practical time.</u>	Completed May 2016

Non-CMER Project Milestones		
	Summarized Description of Milestone	Status as of January 2017¹
2010	January 2010: Ensure opportunities during regional RMAP annual reviews to obtain input from Ecology, WDFW, and tribes on road work priorities.	Completed September 2011
	February 2010: Develop a prioritization strategy for water type modification review.	Completed March 2013
	March 2010: Establish online guidance that clarifies existing policies and procedures pertaining to water typing.	Completed March 2013
	June 2010: Review existing procedures and recommended any improvements needed to effectively track compliance at the individual landowner level.	Completed November 2010
	June 2010: Establish a framework for certification and refresher courses for all participants responsible for regulatory or CMP assessments.	Completed September 2013
	July 2010: Assess primary issues associated with riparian noncompliance (using the CMP data) and formulate a program of training, guidance, and enforcement believed capable of substantially increasing the compliance rate.	Completed August 2012
	July 2010: Ecology in Partnership with DNR and in Consultation with the SFL advisory committee will develop a plan for evaluating the risk posed by SFL roads for the delivery of sediment to waters of the state.	Off Track Described below for 2013 report stage.
	July 2010: Develop a strategy to examine the effectiveness of the Type N rules in protecting water quality at the soonest possible time that includes: a) Rank and fund Type N studies as highest priorities for research, b) <u>Resolve issue with identifying the uppermost point of perennial flow by July 2012</u> , and c) Complete a comprehensive literature review examining effect of buffering headwater streams by September 2012.	Off Track A strategy was developed, and Policy and its' technical subgroups were working to implement the strategy. Conflict over providing default distances for defining the UMPPF stalled implementation, then the Forest Practices Board made Type F and mass wasting Policy priorities. This resulted in Policy setting aside work on completing the Type N milestone. Ecology agreed that due to the limited capacity of Policy, they needed to temporarily suspend work on resolving the Type N milestone in order to succeed in meeting the new Board priorities. But

Non-CMER Project Milestones		
	Summarized Description of Milestone	Status as of January 2017¹
		this Type N work remains necessary and overdue.
	October 2010: Conduct an initial assessment of trends in compliance and enforcement actions taken at the individual landowner level.	Completed November 2010
	October 2010: Design a sampling plan to gather baseline information sufficient to reasonably assess the success of alternate plan process.	Completed December 2014 DNR satisfied this milestone by releasing an Alternate Plan <u>Guidance memo (12-10-14) designed to strengthen the overall process for issuing alternate plans.</u> Efforts remain pending for DNR to review the ICNs associated with AP FPAs over the last year to assess whether the guidance is being effectively used. If not being used effectively, DNR will use outreach and/or training as necessary.
	December 2010: Initiate process of obtaining an independent review of the Adaptive Management Program.	Off Track Policy discussed this issue at their May 2016 meeting as part of reviewing their task list. At that meeting they agreed, with consensus, this outside audit is important but is really a responsibility of DNR to implement. No further conversations on how to accomplish this milestone have occurred.
2011	December 2011: Complete an evaluation of the relative success of the water type change review strategy.	Completed March 2013
	December 2011: Provide more complete summary information on progress of industrial landowner RMAPs.	Completed September 2011
2012	October 2012: Reassess if the procedures being used to track enforcement actions at the individual land owner level provides sufficient information to potentially remove assurances or otherwise take corrective action.	Completed June 2012
	Initiate a program to assess compliance with the Unstable Slopes rules.	Underway

Non-CMER Project Milestones		
	Summarized Description of Milestone	Status as of January 2017¹
		A pilot study is underway, with formal implementation targeted for 2017.
2013	November 2013: Prepare a summary report that assesses the progress of SFLs in bringing their roads into compliance with road best management practices, and any general risk to water quality posed by relying on the checklist RMAP process for SFLs.	<p>Off Track</p> <p>DNR conducted a pilot project in its' NW Region in 2014 and initiated additional SFL outreach efforts on a statewide basis in 2015. The results of the statewide assessment has not been provided. DNR was hoping to increase their statewide survey by having their stewardship and landowner assistance foresters ask for permission to conduct road status surveys. However, DNR has not been successful in getting enough foresters to do this added work, and has no other strategies to accomplish the assessment.</p>

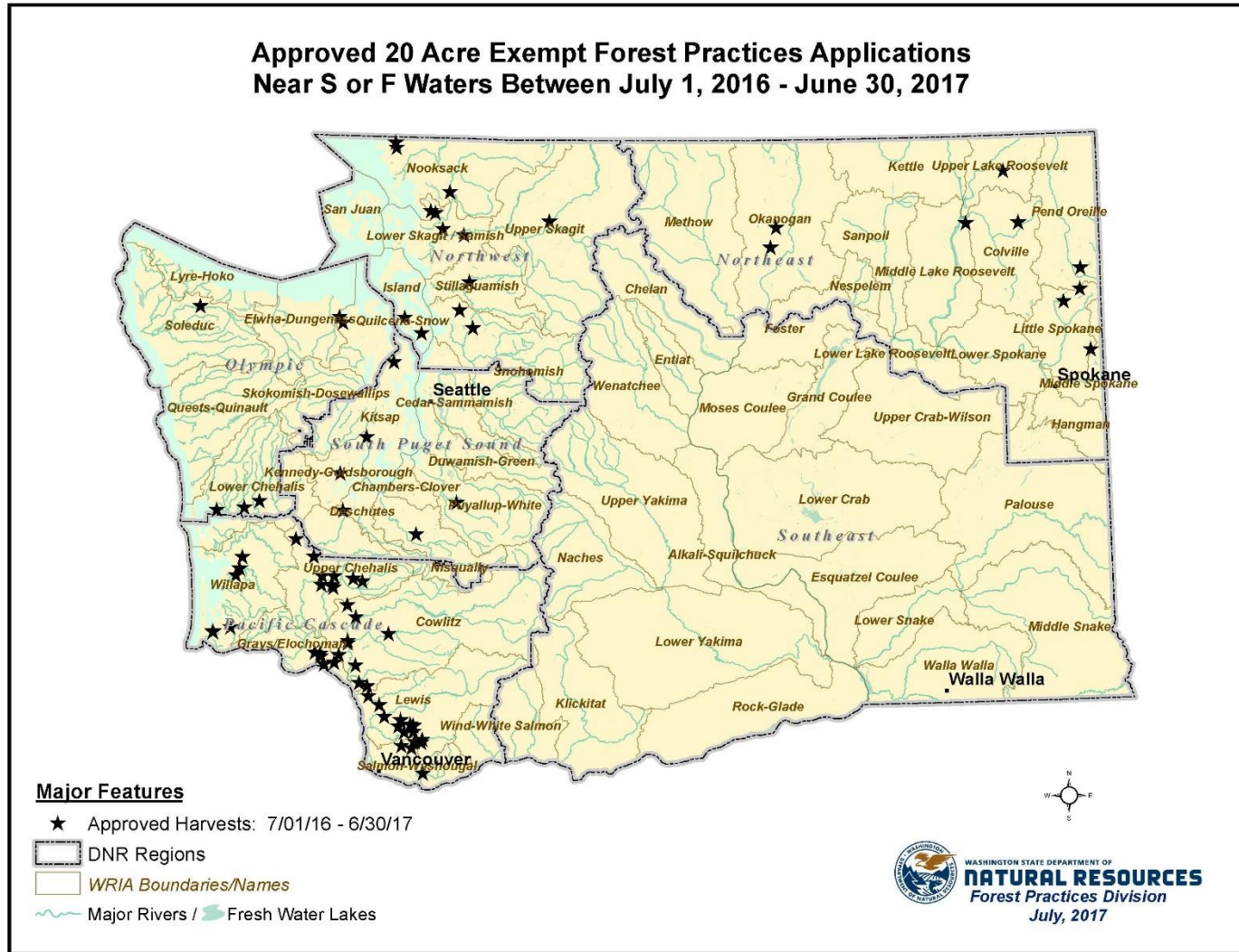
CMER Research Milestones		
	Description of Milestone	Status as of January 2017¹
2009	Complete: <u>Hardwood Conversion – Temperature Case Study</u> (Completed as data report)	Completed June 2010
	Study Design: <u>Wetland Mitigation Effectiveness</u>	Completed October 2010
2010	Study Design: <u>Type N Experimental in Incompetent Lithology</u>	Completed August 2011
	Complete: <u>Mass Wasting Prescription-Scale Monitoring</u>	Completed June 2012
	Scope: <u>Mass Wasting Landscape-Scale Effectiveness</u>	<p>Off Track</p> <p>No work has occurred. Policy moved this project to the hold list pending review as part of developing the unstable slopes research strategy. It was also omitted from the MPS list that went to the Board. Policy discussed this issue at their July 7, 2016 meeting. They</p>

CMER Research Milestones	
Description of Milestone	Status as of January 2017¹
	agreed to reaffirm the need to address this question by providing money in 2019 to conduct a project feasibility scoping effort. Funds are also in the MPS for outer years to develop a study if shown feasible.
	Scope: <u>Eastside Type N Effectiveness</u> Completed November 2013
2011	Complete: <u>Solar Radiation/Effective Shade</u> Completed June 2012
	Complete: <u>Bull Trout Overlay Temperature</u> Completed May 2014
	Implement: <u>Type N Experimental in Incompetent Lithology</u> On Track
	Study Design: <u>Mass Wasting Landscape-Scale Effectiveness</u> Off Track Described above for 2010 scoping.
2012	Complete: <u>Buffer Integrity-Shade Effectiveness</u> Underway This study was in dispute over concerns arising from the Spring 2013 ISPR comments. Changes are being made in response to a second round of ISPR comments. Approval by ISPR of the changes and CMER concurrence will be needed before project is final.
	Literature Synthesis: <u>Forested Wetlands Literature Synthesis</u> Completed January 2015
	Scoping: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting.</u> Underway Policy approved project objectives and critical questions June 2015 to guide scope of study. Work subsequently stopped due to the inability of TWIG members to meet and develop study design alternatives.

CMER Research Milestones	
Description of Milestone	Status as of January 2017¹
	A best available science and alternatives analysis document is expected to go to CMER for review in January 2017.
Study Design: <u>Eastside Type N Effectiveness</u>	<p>Underway</p> <p>Completed supplemental field work in 2014 to help in developing a study design in 2015. TWIG submitted two draft study designs for CMER review. Issues of concern were raised in 2015-2016 over what is being measured and the prescriptions proposed for testing.</p> <p>A formal process-based dispute appears to have been resolved at the June 28, 2016 CMER meeting. Disagreements over technical elements may have also been resolved at a special meeting held on July 12. The study design has now been sent to ISPR.</p>
2013 Scoping: <u>Forested Wetlands Effectiveness Study</u>	<p>Completed</p> <p>December 2016</p>
<u>Wetlands Program Research Strategy</u>	<p>Completed</p> <p>January 2015</p>
Scope: <u>Road Prescription-Scale Effectiveness Monitoring</u>	<p>Completed</p> <p>March 2016</p>
Study Design: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting.</u>	Earlier Stage Underway
Implement: <u>Eastside Type N Effectiveness</u>	Earlier Stage Underway
2014 Complete: <u>Type N Experimental in Basalt Lithology</u>	<p>Underway</p> <p>Expected July 2017.</p>
Study Design: <u>Road Prescription-Scale Effectiveness Monitoring</u>	<p>Underway</p> <p>Draft study design sent to CMER for review December 2016.</p>
Scope: <u>Type F Experimental Buffer Treatment</u>	<p>Complete</p> <p>December 2015</p>

CMER Research Milestones		
	Description of Milestone	Status as of January 2017¹
	Implementation: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting</u>	Earlier Stage Underway
	Study Design: <u>Forested Wetlands Effectiveness Study</u>	Earlier Stage Underway
2015	Complete: <u>First Cycle of Extensive Temperature Monitoring</u>	<p>Underway</p> <p>One of the four strata is complete and two are now back from ISPR. Problems using the DNR hydro layer to find Type Np study streams on the eastside thwarted efforts to find sites for the final strata. Policy decided not to fund temperature monitoring on the final strata and deprioritized temperature trend monitoring for the others. Final reports on the three tested strata are undergoing post ISPR revision.</p>
	Scope: <u>Watershed Scale Assess. of Cumulative Effects</u>	<p>Off Track</p> <p>This project was intended to follow and be built on the lessons learned from other effectiveness monitoring studies, which remain behind schedule.</p>
	Scope: <u>Amphibians in Intermittent Streams (Phase III)</u>	<p>Not Progressing</p> <p>Project milestone exists only if needed to fill research gaps left from Type N Experimental in Basalt Lithology.</p> <p>The Type N Basalt study is expected to be completed by 2018, so Policy established 2019 as a date to begin this study; if questions were not addressed.</p>
2017	Study design: <u>Watershed Scale Assess. of Cumulative Effects</u>	<p>Off Track</p> <p>Discussed above for 2016 scoping.</p>
	Study Design: <u>Amphibians in Intermittent Streams (Phase III)</u>	<p>Not Progressing</p> <p>Discussed above for 2015 scoping.</p>
2018	Complete: <u>Roads Sub-basin Effectiveness</u>	<p>Earlier Stage Underway</p> <p>Resample for trend analysis planned for 2022. Ecology agreed to this later timeline since it is prudent to wait until</p>

Appendix #3a: Approved 20-Acre Exempt FPAs Near S or F Waters 7/1/16 – 6/30/17



Appendix #3b: Approved 20-Acre Exempt FPAs Near S or F Waters 6/5/06 – 6/30/17

