



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, 2020

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

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

Subject: 2020 Forest Practices HCP Annual Report, Incidental Take Permits 1573
(NOAA) and TE 121202-0 (USFWS)

Dear Assistant Regional Administrator Quan and State Supervisor Thompson:

Please find enclosed the 2020 Annual Report for the *Forest Practices Habitat Conservation Plan* (Forest Practices HCP). The annual report covers the period from July 2019 through June 2020. 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" as stated in Section 9.1 of the Implementing Agreement.

The COVID-19 pandemic and its response beginning in March 2020 impacted all aspects of work described in the associated report, stimulating DNR and TFW partners to work differently. In March, the state went into a stay-at-home stance in response to the pandemic. The timber industry was identified as an essential industry, and DNR put in place safeguards to keep staff and TFW partners safe as forest practice applications continued to be processed and regulated in ways that enabled forest landowners to carry out timber harvesting, road construction and other forest practice activities. Eventually, other program activities were resumed after appropriate safety practices and plans were adopted (such as the AMP research projects and small forest landowner assistance). The forest practices board (Board) and its committees shifted to remote meetings. Overall, these practices contributed to a stellar safety record, and DNR is grateful to everyone involved in the implementation of the FPHCP and actions aimed at maintaining Clean Water Assurances for their diligence in moving ahead while keeping everyone safe and healthy.

Report highlights include:

Forest Practices Board (Board)

During this reporting period, the Board continued to focus on developing a permanent water typing system rule. Work was done to improve understanding of key policy and technical aspects, and to obtain additional data to compare Board-selected alternatives for the geomorphic features intended to be used in the fish habitat assessment methodology that will be a part of the rule. The purpose for this methodology is to provide a way for practitioners to consistently determine the division point in streams between fish and non-fish habitat.

Adaptive Management Program (AMP)

The AMP completed five Master Project Schedule research projects: *Westside Type N Buffer Characteristics, Integrity, and Function Project*; *Type N Experimental Buffer Treatment Amphibian Genetics Project*; *Riparian Hardwood Conversion Study*; *Eastside Type F Riparian Effectiveness monitoring-Temperature, Type F/S Westside*; and *Extensive Riparian Status and Trend Monitoring*.

Rule Compliance Monitoring

All riparian rule prescription compliance percentages were between 92 and 100 percent and both forest roads compliance percentages were above 96 percent.

Road Maintenance and Abandonment Plans

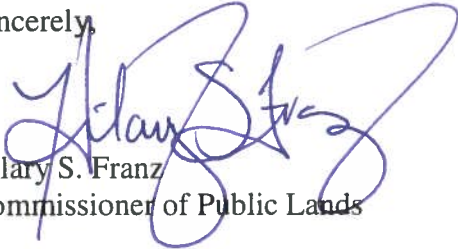
In calendar year 2019, 1,021 miles of forest road were improved. Since 2001, a total of 29,765 miles of forest road have been improved and 8,300 fish passage barriers—approximately 93 percent of those identified—eliminated, opening up 5,134 miles of fish habitat.

There are many other accomplishments described in the 2020 Forest Practices HCP Annual Report. I encourage you to read the full report, which 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 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,

A handwritten signature in blue ink, appearing to read "Hilary S. Franz", is written over the typed name and title.

Hilary S. Franz
Commissioner of Public Lands

- c: The Honorable Jay Inslee, Washington State Governor
 Washington State Forest Practices Board
 Kelly Susewind, Director, Washington State Department of Fish and Wildlife
 Laura Watson, Director, Washington State Department of Ecology
 Stephen Bernath, Deputy Supervisor of Forest Practices
 Joseph Shramek, Forest Practices Division Manager

Forest Practices Habitat Conservation Plan

July 1, 2019- June 30, 2020

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.
2020

Executive Sponsorship

Katy Taylor, 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

Terra Rentz 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
Washington State Recreation and Conservation Office
Washington Forest Protection Association
Washington Farm Forestry Association
Conservation Caucus
Tribal Governments
Northwest Indian Fisheries Commission
Upper Columbia United Tribes
U.S. Fish and Wildlife Service
National Marine Fisheries Service
U.S. 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 Email: charlene.rodgers@dnr.wa.gov

Table of Contents

Section	Title
1	Introduction to Forest Practices HCP 2020 Annual Report – Report Highlights
2	Forest Practices Board
2.1	Forest Practices Board Rule Making Activity
2.2	Forest Practices Board Manual Activity
2.3	Anticipated Forest Practices Board Direction
3	Adaptive Management Program
3.1	CMER Work Plan and Projects
3.2	TFW Policy Committee Activity
3.3	Clean Water Act Assurances
3.4	Electrofishing Associated with AMP Research
4	Forest Practices Operations
4.1	Forest Practices FPA/N Workload
4.2	Priority Project Work
4.3	Forest Practices Program Guidance
4.4	WDFW Contribution to Forest Practices Operations
5	Small Forest Landowner Office
5.1	Forestry Riparian Easement Program
5.2	Family Forest Fish Passage Program
5.3	Long-Term Forest Practices Applications
5.4	Stewardship and Technical Assistance for Small Forest Landowners
5.5	Small Forest Landowner Office Outreach
6	20-Acre Exempt Riparian Forestland
6.1	20-Acre Exempt Forest Practices Application Data
6.2	Type Np Water Leave Tree Requirement
6.3	Potential Large Woody Debris Reduction in Function
6.4	Watershed Administrative Unit and Water Resource Inventory Area Thresholds
6.5	Bull Trout Areas of Concern
7	Alternate Plans, Rivers and Habitat Open Space Program
7.1	Alternate Plans
7.2	Rivers and Habitat Open Space Program
8	Enforcement
8.1	Stop Work Orders and Notices to Comply
8.2	Fiscal Year Civil Penalties and Notices of Intent to Disapprove
8.3	Stop Work Order and Notice to Comply Ratios

9	Compliance Monitoring Program
9.1	Compliance Monitoring Program Reports and Findings
9.2	Future Plans for the Compliance Monitoring Program
9.3	Compliance Monitoring Funding
10	Training/Information/Education
10.1	Single/Multiple Day Forest Practices Program Trainings
10.2	Single/Multiple Day Workshop Classes
10.3	DNR Region Focused Training
11	Road Maintenance and Abandonment Planning for Large Forest Landowners
11.1	RMAP Implementation
11.2	Extension of RMAP Deadline
11.3	Washington Department of Fish and Wildlife Participation
12	Cultural Resources
12.1	Landowner/Tribe Meeting Update
12.2	WAC 222-20-120 Updates/Process Improvements
13	Washington State Legislature
14	Information Technology Tools
14.1	Forest Practices Information Technology Team
14.2	Forest Practices IT Projects
14.3	Forest Practices Information Technology Tools
15	Forest Practices Program Budget
15.1	Introduction
15.2	2019-2021 Biennial Funding Allocation by Functional Sub-Program or Activity
15.3	FY 2020 Biennium Operating Expenditures by Activity
15.4	Full Time Employees
16	Washington Timber Harvest Report – Currently Unavailable

Appendix 1: Clean Water Act Assurances 2-year Extension Letter

Appendix 2: Electrofishing Conducted for Adaptive Management Research Pre- and Post-Activities Report, 2020

Appendix 3: FPAs Associated with 20-Acre Exempt Parcels

- Appendix 3a:** Potential Loss of Large Woody Debris Recruitment by WAU
- Appendix 3b:** Approved 20-Acre Exempt FPAs near S or F Water (Current Fiscal Year)
- Appendix 3c:** Approved 20-Acre Exempt FPAs near S or F Water (Cumulative)

Appendix 4: History and Background for the Forest Practices HCP Reporting Elements

- Introduction
- Forest Practices Board
- Adaptive Management Program
- Forest Practices Operations
- Small Forest Landowner Office
- 20-Acre Exempt Forest Practices Applications
- Alternate Plans
- Rivers and Habitat Open Space Program
- Enforcement
- Compliance Monitoring Program
- Training/Information/Education
- RMAP for Large Landowners
- Cultural Resources
- Information Technology Tools

References

List of Acronyms

Figures

[Figure 1: Summary by Region of Alternate Plan Proposals – Small Forest Landowner](#)

[Figure 2: Summary by Region of Alternate Plan Proposals – Large Forest Landowner](#)

[Figure 3: Stop Work Orders and Notices to Comply By Region](#)

[Figure 4: Water Typing Accuracy Trend](#)

[Figure 5: Compliance Trend Lines for DFC1, DFC2, NIZH, and Ns Prescription Types](#)

Tables

[Table 1: Fiscal Year Forest Practices Application/Notification Totals by Decision Type](#)

[Table 2: Summary of Written Guidance Issued to DNR Forest Practices Staff](#)

[Table 3: Forestry Riparian Easement Program Application Numbers by Fiscal Year](#)

[Table 4: Family Forest Fish Passage Program Accomplishments Since 2003](#)

[Table 5: 20-Acre Exempt Forest Practices Applications](#)

[Table 6: Potential Large Woody Debris Reduction in Function Data](#)

[Table 7: Forest Practices Applications with Alternate Plans](#)

[Table 8: Rivers and Habitat Open Space Program Budget and Acres Purchased by Biennium and Type of Easement](#)

[Table 9: Fiscal Year Stop Work Orders and Notices to Comply by Region](#)

[Table 10: Fiscal Year Civil Penalties and Notices of Intent to Disapprove](#)

[Table 11: Enforcement Data Summary](#)

[Table 12: Riparian Prescription Compliance Monitoring Standard Sample Findings](#)

[Table 13: Statewide Unstable Slopes Compliance Results](#)

[Table 14: Errata for 2019 FPHCP Annual Report](#)

[Table 15: 2019 Statewide Road Maintenance and Abandonment Plan Accomplishment Report for Landowners with Extensions by Region](#)

[Table 16: Cumulative Statewide Road Maintenance and Abandonment Plan Accomplishment Report 2001-2019 by Region](#)

[Table 17: Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report by Year](#)

[Table 18: Fish Passage Barrier Information for Large Forest Landowners](#)

[Table 19: 2019-2021 Biennium Forest Practices Program Operating Budget Allocation by Sub-Program, expressed in nominal dollars and as 2005 dollars](#)

[Table 20: 2019-2021 Forest Practices Program Functional Sub-program or Activity](#)

[Table 21: Forest Practices Program Expenditures by Functional Sub-Program and Funding Source](#)

[Table 22: Forest Practices Program Staffing by Functional Sub-Program, Showing Allotted and Utilized Full Time Equivalents](#)

[Table 23: Washington Timber Harvest Volumes – Currently Unavailable](#)

1. Introduction to Forest Practices HCP 2020 Annual Report

[Appendix: Background on FP Habitat Conservation Plan](#)

In 2005, Washington state submitted the [Forest Practices Habitat Conservation Plan](#) (Forest Practices HCP) with the goal of obtaining Incidental Take Permits (ITPs) from the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) (collectively, the Services). In 2006, the Services accepted Washington’s Forest Practices HCP and, under the authority of the Endangered Species Act, issued ITPs to Washington State. The implementation of the Forest Practices HCP is a partnership between the Services and Washington State that 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 non-federal 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.

2020 Report Highlights

The work included in this report was affected by two unforeseen developments. First, the COVID-19 pandemic and its response beginning in March 2020 impacted all aspects of work, stimulating DNR and Timber, Fish and Wildlife (TFW) partners to work differently. In March, the state went into a stay-at-home stance in response to the pandemic. The timber industry was identified as an essential industry, and DNR put into effect safeguards to keep staff and TFW partners safe as forest practices applications continued to be processed and regulated in ways that enabled forest landowners to carry out timber harvesting, road construction and other forest practices activities. Eventually, other program activities (such as the adaptive management program (AMP) research projects and small forest landowner assistance) were resumed after appropriate safety practices and plans were adopted. The Forest Practices Board (Board) and its committees shifted to remote meetings. Overall, these practices contributed to a stellar safety record, and DNR is grateful to everyone involved in the implementation of the Forest Practices HCP and actions aimed at maintaining Clean Water Act Assurances, for their diligence in moving ahead while keeping everyone safe and healthy.

Secondly, concurrent with the onset of the COVID-19 pandemic, decisions by the state legislature resulted in a one-time Forest Practices Program funding shortage of \$4.0 million that became apparent in March 2020. This necessitated spending reductions in both the Adaptive Management Program (AMP) and the operational forest practices programs. These were initiated beginning in March 2020 but would be incurred mainly in the second year of the 19-21 biennium (after this report’s reporting period concluded).

- A reduction of about \$1.9 million was made within the AMP. The reduction plan was approved at the May 2020 Board meeting after the TFW Policy committee provided a consensus recommendation. The reduction plan consisted primarily of delays in research projects and delays in hiring Cooperative, Monitoring, Evaluation and Research Committee (CMER) staff scientists who play critical roles in developing and carrying out the research. In total, the research project budget originally approved by the Board for the 19-21 biennium was reduced by about 31 percent.
- A reduction of about \$2.1 million was made within the remainder of the forest practices operating program. Because this was viewed to be a one-time problem, the decision was made to accomplish the reduction mainly through a freeze on hiring and on non-essential expenses. At the end of the reporting period, the program was deliberately holding about 12 positions vacant (a vacancy rate of about 11%).

Highlights of the Forest Practices HCP implementation from July 1, 2019, through June 30, 2020, include:

Forest Practices Board

During this reporting period, the focus of the Board remained on consideration of a permanent water typing system rule. The primary focus was to gain clarity, expand policy and technical understanding, and obtain additional data to compare Board-selected alternatives¹ of proposed potential habitat breaks (PHB) and anadromous fish floors (AFF). The PHBs are the primary geomorphic features to be used in the fish habitat assessment methodology (FHAM) to be included in the proposed rule. This methodology is a central component of the permanent water typing system, to determine the break between fish and non-fish waters. The AFF will establish the upstream point below which all downstream waters will be presumed to have anadromous fish.

To assist the efficiency of moving forward, the Board formed a committee of members to address specific difficult questions related to the water typing system rulemaking. In fiscal year (FY) 2020, the committee (1) addressed and provided for the Board a fuller understanding of the three PHB options along with their analyses being performed by DNR as a part of the cost-benefit analysis required through rulemaking and (2) formed and guided an “AFF Workgroup” that would seek to review the current AFF alternatives and try to provide a recommendation for a single AFF. See [Appendix 4](#) for background information and discussion on the work accomplished toward completion of the permanent water typing system rule.

Adaptive Management Program (AMP)

- The AMP completed five Master Project Schedule (MPS) research projects during the reporting period:
 - *Westside Type N Buffer Characteristics, Integrity, and Function Project*
 - *Type N Experimental Buffer Treatment Amphibian Genetics Project*

¹ The Board approved three PHP options (A, B, and C) for analysis in February 2018. Three AFF options were accepted, A-westside tribes, B-eastside tribes, C-industrial landowners.

- *Riparian Hardwood Conversion Study*
- *Eastside Type F Riparian Effectiveness monitoring-Temperature, Type F/S Westside*
- *Extensive Riparian Status and Trend Monitoring*
- At the end of the period, three final reports were undergoing Independent Scientific Peer Review (ISPR).
- There have been 56 projects completed since the AMP began in 2001, and there are 20 ongoing projects.
- AMP was using electrofishing in the conduct of one ongoing MPS research project: *Eastside Type N Riparian Effectiveness Project*.

Forest Practices Operations

- Forest Practices Operations staff processed 3,793 Forest Practices Applications/ Notifications (FPA/Ns) and 753 water type modification forms (WTMFs).
- Four operational program guidance documents were issued for forest practices staff:
 - *Process for Evaluating Fish Passage of Water Crossing Structures on Active FPAs, Haul Routes, FPA/N Work, and Compliance*
 - *Forest Practice's Program Guidance About Type 2 Waters (1/23/20)*
 - *Q&A Pre-commercial Thinning*
 - *DNR Forest Practices Voluntary Pre-Application Guidance*
- Five policy and procedure guidance documents were produced.
- Forest Practices Operations staff completed an internal review of approved FPA/Ns that contained alternate plans to determine how well program guidance had been implemented. The review team provided recommendations for the alternate plan process, which included training for forest practices staff.
- Washington Department of Fish and Wildlife (WDFW) reported for the first three quarters of the year (July 1, 2019 – March 31, 2020) that biologists reviewed 1,259 Forest Practices Hydraulic Permits, and consulted on 140 pre-application site visits. Biologists also reviewed and participated in more than 2,666 water-typing-related opportunities, which accounted for 2,904 work hours.

Small Forest Landowner Office

- There were 13 easements purchased and 2 additional eligible applications added under the Forest Riparian Easement Program (FREP). Since the conservation easement program started in 2001, the State has purchased 414 conservation easements. As of June 30, 2020, there were 125 easement applications on the FREP funding waiting list.
- Under the Family Forest Fish Passage Program (FFFPP), 19 fish passage barriers were corrected this year, making 67 miles of upstream habitat accessible to fish. Since the program's inception in 2003, 416 barriers to fish passage have been eliminated, making approximately 1,101 miles of fish habitat accessible. As of June 30, 2020, there were 1,195 eligible projects on the waiting list for FFFPP funding.

20-acre Exempt Riparian Forestland

- Seventy-eight FPAs used the small forest landowner 20-acre exempt rule (non-conversion FPAs) along fish-bearing waters. This amounts to approximately 2.4 percent (78 out of 3,310 FPAs) of all approved applications during the 2020 reporting period.
- Of the 846 watershed administrative units (WAUs) in the state, 240 (28%) have a possible reduction in potential recruitment of large woody debris resulting from non-conversion FPAs with fish bearing waters using the 20-acre exempt rule. Of these, 233 currently have the potential of less than 1 percent cumulative reduction in function. All seven WAUs with more than 1 percent potential reduction in function show less than 3 percent cumulative potential reduction of riparian function in the WAU and, therefore, do not approach the 10% permit threshold.
- No FPA associated with 20-acre exempt parcels was located within the bull trout areas of concern.

Alternate Plans

- There were 83 (42 large forest landowner and 41 small forest landowner) alternate plan proposals processed and 73 of those approved as part of an FPA during the reporting period. The 73 approved FPAs represents 2.2 percent (73/3310) of total approved FPAs during the reporting period. Two of the approved FPAs were small forest landowner long-term forest practices applications.
- Forest Practices Operations staff completed an internal review of approved FPA/Ns that contained alternate plans to determine how well program guidance had been implemented. The review team provided recommendations for the alternate plan process, which included training for forest practices staff.

Rivers and Habitat Open Space Program (R&HOSP)

- Applications were solicited, received and evaluated for the FY 19-21, one million dollar biennium allotment. Two conservation easement acquisitions are planned in the latter half of the biennium. The priority applications include one channel migration zone conservation easement and one critical habitat conservation easement.
- Since the 2001 R&HOSP easement program began, 21 easement areas have been purchased, encompassing approximately 1,106 acres of conservation easements in channel migration zones and 114 acres of conservation easements on critical habitats of state-listed threatened and endangered species.

Enforcement

- There were 9,579 active (non-expired) FPAs at the end of the reporting period. During this reporting period, DNR issued 107 Notices to Comply (NTC) and 17 Stop Work Orders (SWO). Of these enforcement actions, 85 were for violations of the Forest Practices rules and 22 were for non violations.
- No civil penalties nor Notices of Intent to Disapprove were issued during this reporting period.

Compliance Monitoring Program (CMP)

- The Compliance Monitoring Program completed data collection for the 2018-19 biennial report, which will be published in late summer or early fall 2020.
- Noteworthy summary statistics for the 2018-19 period include:
 - All riparian prescription compliance percentages were between 92 and 100 percent for the biennium.
 - The roads compliance rate was 98 percent and the haul route compliance rate was 97 percent.
 - Observed water typing accuracy increased from 91 percent accuracy in the 2016-2017 data collection period to 96 percent accuracy in the 2018-19 data collection period.
 - An unstable slopes emphasis study was conducted. The study showed that the landowner complied with the FPA/N 98 percent of the time.
 - Statistically significant trends of yearly increasing prescription compliance rates were observed for Desired Future Condition 1 (DFC1), Desired Future Condition 2 (DFC2), No Inner Zone Harvest (NIZH), and Ns (non-fish seasonal). No downward compliance rate trends were observed.

Training, Information, Education

- The Forest Practices Training program was impacted by the COVID-19 pandemic in the second half of the year. Training sessions were canceled due to the stay-at-home order.
- Training topics completed before then and number of students in each were Unstable Slopes – 56 students; Channel Migration Zone – 49 students; Wetlands Training – 25 students; and Washington Contract Loggers Association – 50 students.
- As an outcome from the program review highlighted previously, the program started developing a new Alternate Plan training for forest practices region staff that is anticipated to be initially offered in fall 2020.

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

- Five RMAPs were completed during the reporting period.
- Forty-three RMAPs have approved extensions to complete remaining RMAP work by October 31, 2021.
- In calendar year 2019, 1,021 miles of forest road were improved.
- During the first three quarters of the reporting period (July 2019 – March 2020), WDFW biologists reviewed 1,259 Forest Practices Hydraulic Projects (FPHPs), which included 294 concurrence-required project reviews and 825 standard FPHPs. WDFW also participated with DNR in 140 pre-application reviews.
- Since 2001, 29,765 miles of forest roads were improved to meet forest practices standards, and 8,300 fish passage barriers have been eliminated, opening up 5,134 miles of fish habitat.

Cultural Resources

- During this reporting period, 26 FPAs required a landowner/tribal meeting. All required meetings occurred.

Information Technology

- In this reporting period, 3,793 FPA/Ns were received or renewed and entered into the Forest Practices Application Review System (FPARS). As of June 30, 2020, 1,198 reviewers were subscribed to receive email notification of FPA/Ns.
- During this reporting period, 663 Informal Conference Notes, 6 Notices of Conversion to Non-forest Use, 107 NTCs, and 17 SWOs were entered into the Forest Practices Enforcement Tracking System.
- Staff processed 753 concurred WTMFs, resulting in updates to approximately 499 stream miles. These updates included stream type upgrades to approximately 20 miles of stream and stream type downgrades to approximately 45 miles of stream. The remaining 434 miles of stream were edited as either a change of location or verification of existing water type. As of June 2020, the backlog of concurred WTMFs that had not yet been entered was 22.
- Changes made to FPARS (a 20-year-old system) standardized the receipt of FPAs and created efficiencies in identifying the type of notification.

Budget

- 2019-2021 Biennium Operating Budget Allocation (with Personal Consumption Expenditure Conversion to 2005 dollars) is \$28,873,851, which exceeds the \$22.7 million minimum required funding level under the 2012 Settlement Agreement for the Forest Practices HCP.

2. Forest Practices Board

[Appendix: Background on Forest Practices Board](#)

2.1 Forest Practices Board Rule Making Activity (July 1, 2019 – June 30, 2020)

Water Typing System

During the reporting period, the primary focus of the Forest Practices Board (Board) was the development of a permanent water typing system rule. The Board created and amended no rules during this reporting period.

The Board established a Water Typing System Rule Board Committee (Board Committee) to address outstanding stakeholder concerns regarding elements of the proposed rule and to coordinate the technical work needed to analyze the permanent water typing system rule. The committee's focus was to oversee the work to gather additional water-typing data for eastern Washington and to determine the metrics for the anadromous fish floor (AFF). The following describes the process to finalize specific rule elements and concepts.

In August 2019, the Board acknowledged the Timber, Fish, and Wildlife (TFW) Policy Committee's recommendation to include in the proposed rule an anadromous fish floor component in the water typing system rule and to not propose new rule language addressing functioning water crossing structures as they relate to changes in water typing. It was determined that there was no need for new rule language for functioning water crossing structures because forest practices staff and WDFW biologists already address the structural integrity of a pipe when considering pipe replacements. The Board Committee continued to oversee the anadromous fish floor work group's efforts and the assessment of options to gather additional stream data for inclusion in the eastern Washington spatial analysis of the Potential Habitat Break (PHB) options².

The intent with respect to the AFF is to establish a floor below which all downstream waters will be considered habitat used by anadromous fish. It was, however, acknowledged that there would be exceptions where certain streams will still be eligible for a full protocol survey (electrofishing sampling) under the Fish Habitat Assessment Methodology (FHAM). In these instances, with tribal concurrence, streams could be electrofished under the FHAM protocol. The Board also requested that DNR revise the existing preliminary PHB spatial analysis for western and eastern Washington with the incorporation of the methodology to determine the width component Potential Habitat Break using tributary junctions for option B and using additional stream data for eastern Washington (if available).

In November 2019, the Board requested that the Cooperative, Monitoring, Evaluation, and Research Committee (CMER) develop study designs to enhance the water typing system rule. The first, a PHB validation study is meant to enhance the application of FHAM, which is the field protocol to determine the extent of fish habitat in a stream. Two additional studies were requested to prepare for an eventual map-based stream typing system to determine the extent of

² The Board approved three PHB options (A, B, and C) for analysis in February 2018.

fish habitat, the first is a model to determine fish habitat using Light Detection and Ranging (LiDAR) and the second the physical stream characteristics present at the end of fish habitat. The Board also requested CMER to determine if the map-based model study could be combined with the physical characteristics study for efficiencies. Additionally in November, the Board requested that the Committee (based on the Committee's recommendation to the Board) establish a collaborative workgroup to explore options for gathering additional eastside water type data and approved the anadromous fish floor work group charter. Additionally, the Board extended the committee's approved work timeline because of the progress they had made in facilitating discussions and overseeing technical work.

In February 2020, the Board approved funding up to \$75,000 (to come from the AMP's available budget) for GIS support work to support the anadromous fish floor work group. The funding was to be used to contract for spatial analysis services to assist the anadromous fish floor work group.

In May 2020, the Board acknowledged that DNR would advertise the anadromous fish floor contract as a competitive contract. It was anticipated that the contract would begin in August 2020 and run through mid-2021. The Board Committee reported on the quality assurance/quality control work being done by the eastern Washington fish data group to screen potential stream data for consideration.

See [Appendix 4](#) for historical information.

2.2 Forest Practices Board Manual Activity (July 1, 2019 – June 30, 2020)

The Board did not take formal action to amend the Board Manual during this reporting period. Board manual discussions and development of technical guidance for the water typing system rule was paused until the Board makes a decision whether to modify the details of the three PHB alternatives it provided to DNR to analyze in February 2019 to inform the Board's water typing rulemaking.

2.3 Anticipated Forest Practices Board Direction

Anticipated Rule Making Activity

Water Typing System

The Board has postponed adoption of a permanent water typing system rule to provide the time needed to address outstanding concerns and complete the technical work. The Board will continue to refine elements needed for a permanent rule into the next reporting period.

Western Washington Type Np riparian management zones

The Board, in May 2019, accepted as complete the findings of the CMER committee for the *Type N Experimental Buffer Treatment Project on Hard Rock Lithologies* study; and accepted the TFW Policy Committee's recommendation to form a Policy Type Np (non-fish perennial) Workgroup. This workgroup, convened in July 2019, is reviewing the findings of the AMP Type N (non-fish) studies to assist TFW Policy Committee in developing recommendations to bring to the Board for potential changes to rules for existing Type Np riparian management zones (RMZs). Specifically, the workgroup will develop one or more prescriptions for application in

western Washington and estimate the level of effectiveness of each prescription at meeting resource objectives identified in the Board-approved [Schedule L1 of the Forests and Fish Report](#). Work is dependent on the completion of the ongoing additional Type N CMER studies.

Anticipated Board Manual Revisions

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

This section of the manual will be removed when the Board adopts a permanent water typing system rule and associated guidance. The new field protocol – a fish habitat assessment methodology to be used to delineate fish habitat using specific stream characteristics – will reside in Section 23 of the manual.

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

When approved by the Board, Section 23 will be a two-part section providing guidance for identifying the water type break between Type F and N waters (Part 1) and guidance for identifying the break between Type Np and Ns (non-fish seasonal) waters (Part 2). Development of Part 1 is occurring concurrently with the development of the permanent water typing system rule. Part 1 will feature guidance to determine the extent of fish habitat through the application of the FHAM, including guidance for measuring PHBs; guidance for conducting protocol electrofishing surveys; and guidance for delineating the boundary of off-channel habitat.

When Section 23 Part 1 guidance has been completed, DNR will shift to developing Section 23 Part 2. Section 23 Part 2 will provide guidance for locating the division between Type Np and Ns waters – the delineation known as the “uppermost point of perennial flow.” The development of Part 2 will resume when TFW Policy Committee has completed the revised method for determining the uppermost point of perennial flow.

3. Adaptive Management Program

[Appendix: Background on Adaptive Management Program](#)

AMP Efficiency and Effectiveness Improvement

Improvement in Adaptive Management Program (AMP) efficiency and effectiveness remains an ongoing priority for the Board. During the reporting period, the Center for Conservation Peacebuilding (CPeace) was hired by DNR and conducted 139 individual interviews with caucus members between November 2019 and May 2020 to help determine avenues for increased efficiency and effectiveness.

Potential steps toward improvement were seen as some Timber, Fish, and Wildlife (TFW) Principals renewed commitments of engagement in TFW. The event was well received by those who attended. CPeace’s written recommendations include the need to circle back to those individuals who made commitments in June 2019 and define a plan for how to improve engagement. CPeace continued their work towards facilitating a capacity-building event that would include the members of both the TFW Policy and CMER research committees. This capacity building event would provide members with a learning opportunity on how to more effectively work together. Between November 2019 and May 2020, CPeace interviewed 139 people relevant to TFW, the Forest and Fish Report (FFR), the Forest Practices HCP and AMP. The perspectives of these participants was documented in their June 2020 report entitled People, Timber, Forests, Fish and Wildlife Assessment Report 2020. At that point, due to the AMP budget shortage and the COVID-19 pandemic, recommendations and additional work from CPeace were paused pending future funding availability.

During the reporting period, AMP also received the results of a fiscal audit conducted by an external auditor contracted by DNR. The AMP received very favorable results from the fiscal audit with minimal recommendations for improvements. In addition to the fiscal audit, AMP is currently undergoing a performance-based audit. This audit is being conducted by the State Auditor’s Office at the request of the Board and is expected to be completed by the end of 2020.

3.1 CMER Work Plan and Projects

The 2019-2021 Biennium CMER Work Plan can be accessed at:

https://www.dnr.wa.gov/publications/fp_cmer_2019_2021_workplan_20190119.pdf. It describes 104 AMP projects but, in fact, the AMP has 112 projects. This discrepancy is due to new projects proposed after the Work Plan was approved or phases of projects that are lumped as one project in the Work Plan but are more accurately described as separate projects for the purposes of this report.

Since AMP began in 2001, 56 projects have been completed, 20 projects are ongoing, and 36 projects have yet to be initiated (i.e., will be developed in the future). The most recent updated CMER Work Plan was presented to the TFW Policy Committee in April 2019 (and to the Board in August 2019). In May 2020, the Board adopted a Master Project Schedule (MPS) that

describes the CMER research projects selected for funding. For the ongoing projects in FY 2020 and FY 2021, there are:

- four in the Stream Typing Rule Group,
- six in the Type N Riparian Prescriptions Rule Group,
- four in the Type F (fish-bearing) Prescriptions Rule Group,
- two in the Unstable Slopes Rule Group,
- one in the Roads Rule Group, and,
- three in the Wetlands Protection Rule Group.

Ongoing projects include projects that are in the initial stages of scoping or study design development with no official funding approved at this time. They also include active projects with no allocated funding beyond CMER staff time.

Five projects were completed during the reporting period and are described below:

- *Westside Type N Buffer Characteristics, Integrity, and Function Project:* This report presents the 10-year post-harvest results from the Westside Type N Buffer Characteristics, Integrity, and Function (BCIF) study conducted by Washington's CMER Committee. The study documents the magnitude of change in stand structure, tree mortality, wood recruitment, shade, wood cover and soil disturbance when the riparian prescriptions for Westside Type Np (perennial non-fish-bearing) streams were applied in an operational setting.

Treatment sites were randomly selected from approved FPAs. Three components (treatments) of the Westside Type Np Riparian Prescriptions were evaluated: unbuffered clear-cut harvest to the channel edge (CC treatment), 50-foot-wide no cut buffers (BUF treatment), and 56-foot-radius no-cut buffers around the perennial initiation points (PIP treatment). Unharvested second-growth reference (REF) reaches were located in proximity of the treatment sites. Statistical tests were done to compare the CC, BUF, and REF results.

Results from the study indicate that the BUF and PIP treatments more effectively provided shade and wood recruitment after harvest than the unbuffered CC treatment. Although there was, an incremental loss of shade and wood recruitment potential associated with harvest of the adjacent stand beyond the buffer, 50-foot RMZ buffers provided the majority of the shade and wood recruitment potential found in unharvested second-growth reference sites. Clear-cut harvest to the edge of the stream resulted in greater initial disturbance during harvest, substantial input of logging slash, and initial loss of canopy shade compared to reaches where buffers were provided. In addition, almost no additional post-harvest wood input occurred in the CC treatment during the first 10 years after harvest, but shade from growth of streamside herbs, shrubs, and

saplings increased over time. It is predicted that clear-cut harvest on a typical rotation schedule of 40-50 years will result in a continuous cycle of disturbance and rapid changes in stand structure and shade and long-term reductions in large wood loading due to lack of input from large trees. More shade and wood recruitment potential would be provided by wider buffers or by variable-width buffers that leave additional trees in areas where benefits to shade and potential wood recruitment would be greatest.

This extended 10-year post-harvest report augments earlier findings presented in the Westside Type N BCIF Study 5-year post-harvest report (Schuett-Hames et al. 2012). The final report was delivered to TFW Policy Committee in January 2020. The official title is “Changes in Stand Structure, Buffer Tree Mortality and Riparian-Associated Functions 10 Years after Timber Harvest Adjacent to Non-Fish-Bearing Perennial Streams in Western Washington.”

- *Type N Experimental Buffer Treatment Amphibian Genetics Project:* The objective of the related Type N Experimental Buffer Treatment Project in Hard Rock Lithologies (Hard Rock Study) was to evaluate the effectiveness of the current Westside RMZ prescriptions for Type N Waters in maintaining key aquatic conditions and processes affected by Forest Practices. With the amphibian genetic component of this study, CMER evaluated whether the riparian buffer prescription for Type N Waters met the goals to support the long-term viability of stream-associated amphibians. Pre-harvest amphibian genetic data was collected from 2006-09. Timber harvests were applied from 2008-09. Post-harvest amphibian genetic data was collected two years post-harvest and seven and eight years following harvest in 2015-16.

Potential effects of disturbance on genetic diversity and genetic structure include direct loss of genetic diversity through population reductions and alteration of genetic connectivity by either facilitating or reducing dispersal. These impacts can interact with each other to further exacerbate disturbance impacts. The forest practices-designated amphibian included in this component of the larger study was the coastal tailed frog. This study also evaluated the response of two species of giant salamanders (coastal and Cope’s).

Study results did not indicate a strong shift in genetic diversity metrics due to treatment, suggesting that treatments did not cause severe declines for the three species tested in the timeframe included in the current study. Overall, there is confidence (>95%) that a severe immediate decline in genetic diversity did not occur in the treatment sites. There was evidence of a pre- to post-harvest difference for tests of recent reductions in population size (i.e., bottleneck tests) for coastal tailed frogs and Cope’s giant salamander. However, there was no clear pattern by treatment on bottleneck status. There were no observed

treatment effects for coastal giant salamander for the genetic diversity metrics, allelic number, observed heterozygosity, or bottleneck tests.

- *Riparian Hardwood Conversion Study*: The Hardwood Conversion Study evaluated the effectiveness of hardwood conversions conducted in riparian areas of western Washington. Monitoring took place at eight study sites to evaluate the effectiveness and operational and economic feasibility of hardwood conversion treatments in reestablishing conifers in hardwood-dominated riparian stands. Data about tree regeneration and residual stand conditions were collected at each site four and 10 years post-harvest.

Harvest and regeneration prescriptions were left to the discretion of landowners within the following constraints: no harvest within 25 feet of the edge of bank-full or Channel Migration Zone (CMZ); retain residual conifers in the core and inner zones; and, where reforestation was required, after harvesting, the goal was to successfully re-establish conifer, and that conifer be on track to dominate the converted Riparian Management Zone. As a result, landowners employed different strategies in terms of buffer retention, vegetation and predator control, and seedling selection.

The study results indicate that the highest survival 10 years after planting was associated with planting Sitka spruce, high planting densities, and control of competing vegetation. Competing vegetation, which increased in height and cover after harvest, appeared to be the biggest challenge to successful regeneration of planted conifer seedlings.

This study provided valuable insights into the economic feasibility of hardwood conversion activities, and it could serve as a pilot study for helping to design a more rigorous hardwood conversion project. The economic results suggest that hardwood conversions are economically feasible when there was sufficient harvest volume to make conversion profitable. Results also suggest that harvest and regeneration costs were generally similar between conversion and upland areas and an increase investment in site preparation, planting, and post-planting vegetation appears to result in increased seedling survival while still allowing profitable conversion.

- *Eastside Type F Riparian Effectiveness Monitoring (Bull Trout Overlay (BTO) add-on)*: The BTO Add-On study used 17 sites from the Eastside Riparian Shade/Temperature study. Potential sites were non-randomly selected from previously established sites that were utilized within the initial study; as this portion was an additional objective (add-on) to an on-going study. Since the sites were already constrained to those that were previously established and there were only a select number of sites that met the selection criteria, a random selection was not possible. Study sites were adjacent to Type F streams with continuous flowing water less than 15 feet in bankfull width and the majority of the sites were located in northeastern Washington State. Post-harvest surveys were completed at each site one to two years and five years post-harvest.

The report compares response of riparian stands, tree fall and wood input in RMZ buffers following harvest under two variations of the eastern Washington riparian prescriptions for fish-bearing streams in the Mixed Conifer Timber Habitat Type (2,500 to 5,000 feet elevation). The All Available Shade (AAS) rule requires retention of all inner zone trees that provide shade, while the standard rule (SR) prescription has a lower shade requirement that typically allows greater inner zone harvest. Both prescriptions have an unharvested core zone within 30 feet of the stream, but differ in leave tree requirements within the inner zone, 30 to 75 feet from the stream, due to differences in shade requirements.

The SR treatment resulted in the greatest change in stand structure, tree mortality, and wood recruitment from fallen trees compared to the unharvested reference sites. The responses to the AAS treatment were intermediate, but more similar to the reference sites than to the SR treatment. The SR responses, including change in stand structure, tree mortality, and wood recruitment from tree fall were significantly different from both the AAS and reference treatments, but there were no significant differences in the AAS and reference responses.

The results of this study, combined with the results from the associated Eastside Bull Trout Overlay Temperature and Solar Radiation/Effective Shade studies, enhanced the scientific understanding of the response in stand structure, buffer tree mortality, wood recruitment, and shade and stream temperature response to the tested eastern Washington Type F prescriptions. This information reduces scientific uncertainty related to attaining resource objectives for Heat/water temperature and Large Woody Debris (LWD)/Organic inputs, and have increased our understanding of buffer tree mortality and post-harvest stand trajectory following harvest.

- *Extensive Riparian Status and Trends Monitoring – Temperature, Type F/S Westside:* This study was initiated to provide data needed to evaluate landscape-scale effects of implementing the forest practices riparian prescriptions and to evaluate progress toward meeting Clean Water Act requirements and riparian resource objectives. The study used a probability-based (random) sampling design to sample stream temperature and canopy closure on Type F/S (fish bearing) and Type Np streams on land regulated under the forest practices rules in western Washington.

Stream temperature and canopy closure was monitored over the summer of 2008 and 2009. Because only about half of the sites were monitored in 2008 due to delays in acquiring permission to access the sites, the statistics presented were based on the 2009 sample year (July-August). The study does not provide trend data that can be used to infer how temperatures have changed over time. The study also does not evaluate the effectiveness of specific forest practices rules.

The study showed a strong correlation between stream and air temperature for both Type F/S and Np streams. The 2009 sampling season was much warmer than the 2008 and this was reflected in higher stream temperature in 2009 than 2008. This will make long-term effects of forest harvest on stream temperature difficult to distinguish from natural variability or climate change. The study also showed that there was little change in stream temperature from the upstream reach to the downstream reach. There was significant positive correlations between stream temperature and stream width, stream depth, catchment area, and distance to divide (estimated horizontal distance between sample reach and drainage divide associated with the main channel head) in the Type F/S sites but no correlation in the Type Np sites. Similarly, there were significant negative correlations with canopy closure, stream gradient, total LWD, and catchment slope in Type F/S sites but no correlation in the Np sites. Elevation was not correlated with stream temperature.

Independent Scientific Peer Review

As described below, three final reports were going through Independent Scientific Peer Review (ISPR) as the reporting period concluded:

- *Extended Type N Experimental Buffer Treatment Project on Hard Rock Lithologies*: This extended monitoring study assesses the effects of three riparian buffer strategies (compared to unharvested reference basins) 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. CMER approved the draft report in September 2019. This approved document was forwarded to ISPR in October 2019. Authors received comments from ISPR in April and May 2020 and currently are continuing to address those comments.
- *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 lithologies (largely marine sedimentary). Two years of pre-harvest data and two years of post-harvest data were collected. The draft report was approved by CMER in January 2020. This approved document was forwarded to ISPR in February 2020 where it is still being reviewed.
- *Eastside Modeling Evaluation Project (EMEP)*: This project uses the riparian stand data collected from Phase I of the Eastern Washington Riparian Assessment Project to model current riparian stand conditions to estimate the extent to which current riparian stands achieve the three [Forests and Fish Report](#) (U.S. Fish and Wildlife Service et.al., 1999) eastside riparian objectives. This final report was in ISPR at the time the Forest Practices HCP Annual report period ended.

Ongoing projects

In addition to the completed projects and those currently in ISPR listed above, progress was being made on an additional 17 projects. Of these projects, one is extensive, eight are effectiveness, and eight are rule tool type projects. Two are in the Wetland Protection Rule Group, five are in the Type N Riparian Prescriptions Rule Group, three are in the Type F Riparian Prescriptions Rule Group, four are in the Stream Typing Rule Group, two are in the Unstable Slopes Rule Group, and one is in the Roads Rule Group.

- *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 Schedule L-1 performance goals, resource objectives and performance targets. Data was collected and analyzed at the 110 sites for the exploratory phase of this project. A final draft exploratory report was being reviewed within the CMER process as the reporting period ended.
- *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 achieve performance targets and water quality standards, particularly as they apply to sediment and stream temperature in eastern Washington. Ongoing site maintenance, trail clearing, and equipment installation at new sites continues through summer 2020. The large woody debris, shade, channel profile, and spring benthic surveys were also completed.
- *Eastside Timber Habitat Evaluation Project (ETHEP)*: The objective of this project is to determine if the eastside Timber Habitat Types that were developed during the negotiations for the Forests and Fish Report (U.S. Fish and Wildlife Service et.al., 1999) rule package accurately represent the actual habitat types on the ground. The Scientific Advisory Group, Eastside (SAGE) has drafted the scoping document for this project with it in review as the reporting period ended.
- *Extensive Riparian Status and Trends Monitoring – Vegetation, Type F/N Westside and Eastside Projects (2 projects, one in the Type F rule group and one in the Type N rule group)*: A literature synthesis was completed in June 2015 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 could be used in place of traditional fieldwork. The pilot project was started in November 2015 on Westside sites and the final report was approved by CMER in September 2018. The forest inventory models that were developed in the Mashel watershed for this study were next tested using forest inventory plots established in the Olympic Experimental State Forest. Fieldwork, data processing, and modeling by the University of Washington is complete. The Riparian Extensive Model Transferability Findings Report was approved by CMER and presented to Policy. The report was pending a Policy decision on next steps at the time the reporting period ended.
- *Wetland Intrinsic Potential Tool*: This project consists of two phases. Phase I developed a beta wetland intrinsic potential identification model that interfaces as an ArcMap tool and was completed in FY 18. The University of Washington was hired to implement Phase II,

which began calibration of the wetland identification model (deliverable of Phase I), which predicts the probability of wetlands by type on forestlands of western Washington. A draft report for Phase II was in review with the Wetlands Science Advisory Group (WetSAG) at the end of the reporting period.

- *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 WetSAG (under CMER) continued scoping this project at the time the reporting period ended.
- *Road Prescription-Scale Effectiveness Monitoring*: This project will inform surface erosion sediment reductions from site-specific measures by empirical sampling of effectiveness of road maintenance, road surface erosion, sediment production, sediment delivery, and hydrologic connectivity, coupled with detailed physical modeling. During summer 2019, 77 sites were completed. In mid-October 2019, data collection began at all sites and continued through April 2020. During late spring and early summer 2020, maintenance work began on all sites and data analyses from the collection period continues.
- *Riparian Characteristics and Shade Response*: This project will quantify how stream shade responds to a continuum of buffer management treatments of varying intensity across a range of stand types common to forestlands covered under the Forest Practices HCP. A Riparian Scientific Advisory Group (RSAG) workgroup continues work on resolving issues with the study plan document raised by CMER members during the review process at the end of the reporting period.
- *Landslide Mapping & Classification Project*: This project will provide a classification of Deep-Seated Landslides (DSLs) inferred to represent a range of landslide attributes, possible trigger mechanisms, and activity levels that may provide empirical inference, and will aid future work to quantify potential susceptibility to natural and forest practices triggers. This effort will provide the framework needed to pursue additional related projects as described in the Deep-Seated Landslide Research Strategy. The Upslope Processes Scientific Advisory Group (UPSAG) delivered a draft scoping document for CMER review.
- *Unstable Slope Criteria Project: An Evaluation of Hillslopes Regulated under Washington Forest Practices Rules*: This project will evaluate the accuracy and lack of bias of the criteria for identifying unstable landforms in predicting areas with a high risk of instability. At the end of the reporting period, CMER staff was working on implementation of the object-based landform mapping portion of this project.
- *Wood Recruitment Volume and Source Distances from Riparian Buffers Project*: This project would reduce scientific uncertainty and risk for the Forest Practices HCP riparian strategy by obtaining data on the relationship between buffer width and wood recruitment volume and source distance in forest stands. These stands are those typical of lands managed under the Forest Practices HCP. RSAG was working on a charter for this project at the end of the reporting period.

- *Amphibians in Intermittent Streams Project*: This project will inform the Overall Performance Goals from Schedule L-1 to meet or exceed water quality standards and to support the long-term viability of other covered species, which includes forest practices designated stream-associated amphibians, by evaluating water temperature and amphibian use of intermittent stream reaches of Type Np waters. The Landscape and Wildlife Advisory Group (LWAG) created a charter for this project that was approved by CMER in January 2020. At the end of the reporting period, LWAG had started work on a scoping document.
- *Forested Wetland Effectiveness Project (FWEP)*: This project includes two stages: 1) A chronosequence study designed to evaluate how forested wetland hydrology and ecology change over half a timber rotation cycle, using a space-for-time approach; 2) A BACI study that will prescribe manipulative forest harvest treatments and measure how forested wetlands' ecological and hydrologic functions change in real time following harvest. At the end of the reporting period, the study design had been approved by CMER. The WetSAG and CMER staff continue to work on drafting an implementation plan for this project.
- *Environmental DNA (deoxyribonucleic acid) (eDNA) Pilot Project*: This project investigated the upper end of fish distributions in streams by comparing traditional electrofishing techniques to eDNA detection. The project assessed how accurately eDNA identified the upper boundary of end of fish distributions as compared with the use of electrofishing. ISAG reviewed the draft report and is currently working with the Principal Investigator to address comments and concerns from the reviewers.
- At the Nov. 5, 2019, Board meeting, the Board passed a motion for CMER to draft a Water Typing Strategy. One of the charges was combining similar projects, if possible, to save costs and gain efficiencies. The following three projects are being considered for merger into one Water Typing Project:
 1. *Evaluation of Physical Features that Define Fish Habitat in Forested Landscapes Across Washington State (PHB)*: Also known as “the validation study,” the purpose of this Board-initiated study is to determine which combinations of gradient, channel width, barriers to migration, and other physical habitat and geomorphic conditions would provide the most accurate definitions for potential habitat breaks. The draft study design was reviewed and approved at ISPR. It is pending additional movement until the Instream Scientific Advisory Group (ISAG) is able to review and comment on the document.
 2. *Light Detection and Ranging (LiDAR)-Based Water Typing Model*: This Board-directed project will compare a LiDAR-based implementation of the existing Westside model and the improved Fransen et al. model in the Mashel watershed. The existing 2005 Eastside model in the Darland Mountain watershed will also be compared against the original 10-meter United States Geological Survey (USGS) Digital Elevation Model (DEM) and potential opportunities to improve the model with high-resolution topographic information will be identified. A draft LiDAR

Model study design was developed and is currently pending additional movement until ISAG is able to review and comment on the document.

3. Default Physical Criteria Assessment Project: This Board-initiated study seeks to assess the accuracy of the current default physical criteria defined in rule for presumption of fish use, and to improve upon the limited research describing the physical characteristics at the upstream extent of fish distribution. The ISAG was provided with the draft contracted study design for review, which is pending.

3.2 TFW Policy Committee Activity

General Policy Activity

The TFW Policy Committee has worked on several priorities this fiscal year. The major topics are summarized below.

Technical Small Forest Landowner (SFL) Workgroup

The Board in 2015 provided expectations to the TFW Policy committee to determine if the western Washington low-impact harvest proposal met the rule-defined criteria of an alternate plan template and to review existing draft templates to determine if any could be fully developed and brought to the Board for approval. Two workgroups were formed in February 2020 and were active at the end of the reporting period. The purpose of the first workgroup is to identify what site-specific conditions a 75-foot or 50-foot buffer would be acceptable as a prescription for Type F streams and under what, if any, site-specific conditions a 25-foot buffer would be acceptable as a prescription for Type Np streams. The purpose of the second workgroup is to determine if the experimental alternative harvest prescriptions for conifer thinning and conifer restoration can be developed and brought to the Board for consideration.

Budget Workgroup

A standing budget workgroup was created to prioritize the TFW Policy Committee's future work as it related to recommendations to the Board about the Adaptive Management Program's MPS. The TFW Policy Committee, with input from CMER, used criteria it developed when reviewing the draft FY 2020/21 budget and MPS during their March and April meetings to prepare the budget recommendations. Due to an unexpected loss in revenue, the program needed to find 1.91 million dollars in cost savings within the biennium. The recommendations of the budget workgroup were approved at the TFW Policy Committee and Board meetings in May 2020, updating the previously approved budget for the 2019-21 biennium.

Extended Monitoring Workgroup

Acting on a request from the Board, another workgroup was formed to develop a systematic approach for considering and prioritizing funding recommendations for extended monitoring of CMER research projects. This workgroup developed recommendations for determining when a project nearing completion should be extended beyond the scope of the initial study design. A memo was adopted at both CMER and TFW Policy Committee with steps that must be followed

for consideration to be given by Policy to approving recommendations for additional funding for a project already on the MPS.

Type Np Workgroup

A technical Type Np Workgroup was formed to propose RMZ buffer prescriptions for Type Np streams in western Washington. TFW Policy Committee would consider the proposed prescriptions with the objective of developing a recommendation to the Board, if appropriate, for changing existing rule requirements pertaining to Type Np waters. The work group has studied findings from several Type N AMP studies' final reports: *Buffer Integrity Shade Effectiveness; Buffer Characteristics, Integrity and Function; Type N Experimental Buffer Treatment in Hard Rock;* and *Type N Experimental Buffer Treatment in Soft Rock*. The Workgroup is developing a set of proposed Type Np RMZ buffer prescriptions to meet a suite of resource protection, feasibility, and economic objectives utilizing relevant information.

Headwater Stream Buffer Pilot Project

This scientific study is examining the feasibility of using solar path analyses to define where along a stream buffers are needed to protect stream shade. The Washington Forest Protection Association (WFPA) submitted a proposal initiation document to the AMPA to address this need and will be paying to implement the study. The AMPA provided recommendations to Policy in May 2020. Policy accepted the recommendations and asked CMER to provide a technical review of the document. The CMER review was ongoing at the time the report period ended.

3.3 Clean Water Act (CWA) Assurances

Washington State's CWA Assurances were due to expire December 31, 2019, but Ecology, in agreement with the Environmental Protection Agency (EPA), extended the assurances until December 31, 2021. Work continues at CMER and TFW to address the CWA Assurances and meet the new deadline. Please see Appendix 4 for [CWA assurances history](#) and [Appendix 1](#) for the CWA Assurances 2-year Extension letter to the Board.

3.4 Electrofishing Associated with AMP Research

Both the National Marine Fisheries Service's and U.S. Fish and Wildlife Service's Incidental Take Permits cover electrofishing conducted for research and monitoring by the Adaptive Management Program. One CMER research project active during the reporting period included use of this technique to complete a protocol survey to determine stream type. Electrofishing for Cutthroat and Rainbow trout was conducted for the "*Eastside Type N Riparian Effectiveness Project*" on the North Fork Coxit Creek, a tributary to Coxit Creek in Okanogan County. One rainbow trout was detected and 2,079 feet of stream was electro-fished. Additional details can be found in [Appendix 2](#).

4. Forest Practices Operations

[Appendix: Background on Forest Practices Operations](#)

Forest Practices Operations has three overarching functions: Forest Practices Application/Notification (FPA/N) processing, FPA/N compliance, and FPA/N enforcement. This section focuses on topics that have had the largest impact on workload during this reporting period.

There were approximately 94 full-time equivalent (FTE) positions statewide in Forest Practices Operations. Of the 94 positions, 64 were field positions. FTE staffing numbers did not change from the FY 2019 reporting period.

4.1 Forest Practices Application/Notification Workload

Forest Practices Operations staff processed 3,793 FPA/Ns during this reporting period. This number is 10.3% less than that for the prior reporting (FY 2019 was 4228 FPA/Ns) period. Table 1 describes the nature of the FPA/Ns by decision category and DNR Region. Excluding renewals, 93% of the FPA/Ns were approved and 7% were not.

Table 1: Fiscal Year FPA/N Totals by Decision Type (FY 2020)

Region	Approved	Closed/Withdrawn	Disapproved	Renewed	Total by Region
Northeast	646	36	16	55	753
Northwest	391	25	8	19	443
Olympic	422	26	1	35	484
Pacific Cascade	1,146	43	5	76	1,270
South Puget Sound	533	56	10	53	652
Southeast	172	12	6	1	191
Total by Decision	3,310	198	46	239	3,793

Closed means the applicant withdrew the FPA/N.

Including FPA/Ns that were approved during the reporting period, there were 9,579 active ³(not yet expired) approved and renewed FPA/Ns statewide at the end of the reporting period. This figure was 29 percent lower than the inventory that existed at the end of the prior reporting period. This indicates that more previously approved FPA/Ns had work completed on the ground

³ Most FPA/Ns authorize work to be completed over a three-year period; therefore, not all are completed in the year approved. The result is an inventory of active FPA/Ns that is greater than the number approved over the course of a given year.

(or simply expired) than were replaced by new ones approved during the current reporting period.

4.2 Priority Project Work

Beginning in the winter of 2018, Forest Practices Operations staff began a review of approved FPA/Ns that contained alternate plans. The purpose was to determine how well practice aligned with program guidance, and whether additional training for staff and stakeholders or clarification in FPA/N instructions and/or guidance was needed. This review encompassed a random selection of 10 percent of the inactive FPA/Ns with alternate plans in each Region that were completed between 2007 and 2014. Selected FPA/Ns were evaluated against program guidance conveyed in a December 2014 memo, [Alternate Plan Process; Expectations for Review](#) (D. Mahan). The review was completed in fall 2019. Please see Chapter 7, Alternate Plans, for more information.

Forest Practices Engineering Reviews

Forest Practices civil engineers (2) provided valuable professional expertise that assisted DNR Region regulatory foresters with review of 128-harvest and/or road construction FPA/Ns involving hydraulic projects. This involved pre-approval reviews, review of hydraulic project designs that were a part of active FPA/N review, participation on interdisciplinary teams, and post-installation field compliance review.

4.3 Forest Practices Program Guidance

DNR Forest Practices created four operational guidance and five policy and procedure documents during this reporting period. Table 2 provides a summary.

Table 2: Summary of Written Guidance Issued to DNR Forest Practices Staff

Date	Summary	Operational Guidance Documents
07/09/2019	Provides guidance to FP regulatory staff to implement rules that maintain on-going fish passage at stream crossings.	Guidance Memorandum: <i>Process for Evaluating Fish Passage of Water Crossing Structures on Active FPAs, Haul routes, FPA/N Work, and Compliance</i> . Provides process for evaluating fish passage of water crossing structures on active FPA/Ns, haul routes, RMAP work report approval, and active enforcement action(s) using a step-wise flowchart.
01/23/2020	Forest Practices Division Manager Email regarding interpretation of one part of the current water typing rule – WAC 222-16-031 .	Clarification Email; <i>Forest Practices Program Guidance about Type 2 Waters</i> DNR Forest Practices program staff will not concur with water type modification requests that involve Type 2 waters, and should discourage landowners from conducting surveys of such waters for seeking a change in water type classification.

06/01/2020	DNR Forest Practices Q & A: Pre-commercial Thinning and Forest Health Biomass Removal	Q & A: <i>Pre-commercial Thinning</i> . This information will assist you to determine whether you need to submit a Forest Practices Application to the DNR to conduct a pre-commercial thinning and/or forest health thinning activity.
06/01/2020	DNR Forest Practices Voluntary Pre-Application Reviews for Potentially Unstable Landforms Frequently Asked Questions	<i>DNR Forest Practices Voluntary Pre-Application Guidance</i> . Before submitting a Forest Practices Application (FPA), proponents may request a meeting with DNR Forest Practices staff to go over various aspects of their FPA concerning potentially unstable landforms.
Date	Summary	Policy and Procedure Documents
06/01/2020	Forest Practices Program official date of receipt message for submitted FPA/N.	Date of Receipt Introductory Message. RCW 76.09.050 mandates that the date of receipt is the day an FPA/N is received, regardless of completeness. This date of receipt begins the official review period for DNR classification and approval purposes.
06/01/2020	Date of receipt is the day an FPA/N is received at the appropriate DNR region office either by mail or in person.	Attachment A Forest Practices Application/Notification Submittal and Processing Timeline-Frequently Asked Questions: (RCW 76.09.050 , RCW 43.21B.001 , and WAC 222-16-010). Decision timelines for FPA/Ns are dependent on the classification of the proposed forest practice.
06/01/2020	The tables provide an overview of substantial information for each FPA/N type.	Attachment B Forest Practices Application/Notification Submittal and Processing Timeline Substantial Information by FPA/N Type: DNR will disapprove FPA/Ns that are missing substantial information as incomplete. These tables show only the information DNR considers substantial on the FPA/N form.
06/01/2020	For use in office to establish completion.	Office Checklist FPA/N external form.
06/01/2020	For use in office to establish completion.	Office Checklist (rev.) FPA/N internal form.

4.4 Washington Department of Fish and Wildlife (WDFW) contribution to Forest Practices Operations

Forest Practices Hydraulic Projects (FPHP)

WDFW’s goal is to review all FPAs containing FPHPs to help ensure accurate implementation of fish protection standards and that 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 Shorelines of the State (Type S) and F streams that require WDFW review and comment. At the time of this report, fourth quarter reporting had not been completed. From July 1, 2019, through March 31, 2020, WDFW biologists reviewed 1,259 FPHPs, including 294 concurrence-required project reviews and 825 standard FPHPs. WDFW encourages landowners to engage in pre-application consultation and on-site technical assistance to identify the optimal project-operating season. During this period, WDFW consulted on 140 pre-application site visits. This accounted for roughly 2,611.5 hours of staff time spent on FPHPs during the first three quarters of the reporting period.

Water Typing/Resource Identification and Wildlife Reviews

WDFW biologists reviewed and participated in more than 2,666 water-typing-related opportunities during the first three quarters of the reporting period. Those activities included review of water type modification forms or participation in field reviews as appropriate to validate the water types, participation on ID teams for various forest practices water typing related issues, reviewing FPAs for correct water typing, road maintenance and abandonment plan reviews, and providing technical assistance on alternate plans. This accounted for approximately 2,904 work hours. Biologists also reviewed and commented to the DNR regional offices and conducted field reviews on FPAs that had potential wildlife conflicts. Wildlife-related work accounted for approximately 1,000 work hours during the first three quarters of the reporting period.

5. Small Forest Landowner Office

[Appendix: Background on Small Forest Landowner Office](#)

5.1 Forestry Riparian Easement Program

The number of new applications for forestry riparian easements (FRE) was 71% lower in the most recent state fiscal year compared to the previous one (Table 3). The contributing factors could be the impact from the COVID-19 pandemic and/or 2019 log prices.

Appropriated funding for the Forestry Riparian Easement Program (FREP) has been insufficient to eliminate the backlog of eligible FRE applications, but the size of the backlog was reduced by 8% during FY 2020 to 125 as of July 1, 2020 (Table 3). In FY 2020, thirteen easements were purchased, eight new applications were received, and six applications were either cancelled or deemed ineligible.

Table 3: Forestry Riparian Easement Program Activity by Fiscal Year

State of WA, Dept. of Natural Resources
Forest Practices Division

Small Forest Landowner Office
Forestry Riparian Easement Program

Easement Application Numbers by Fiscal Year

	FY 2001-2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	Totals
Queue Balance at Start of Fiscal Year	-	95	85	102	113	134	127	136	124	157	136	-
Applications Received	406	13	20	26	34	24	21	29	36	28	8	645
Easements Purchased	278	12	0	13	6	19	9	30	0	34	13	414
Applications Ineligible / Rejected	33	11	3	2	7	12	3	11	3	15	6	106
Queue Balance at End of Fiscal Year	95	85	102	113	134	127	136	124	157	136	125	-
Conservation Acres Purchased	4,793	148	0	110	122	166	133	396	0	231	127	6,226

5.2 Family Forest Fish Passage Program (FFFPP)

During state fiscal year 2020, FFFPP expended \$3.1 million to complete 19 fish passage barrier removal projects that opened approximately 67 miles of upstream fish habitat. A net 51 eligible barriers were added to a backlog that rose to 1,195 by June 30, 2020 (Table 4). Table 4 shows the FFFPP accomplishments since its inception in 2003.

Table 4: Family Forest Fish Passage Program Accomplishments since 2003

Numbers and Costs	FY 2020	Cumulative Since 2003
Eligible Barrier Projects	70	1,611*
Eligible Barrier Projects on Waiting List	---	1,195*
Barriers Corrected	19	416
Stream Miles Made Accessible	67	1,101
Cost of Completed Projects	\$ 3.1 million	\$ 41.8 million

*This number did not increase significantly compared to previous reports as the result of a cleanup of the WDFW database and removal of a number of non-FFFPP projects from the waiting list.

5.3 Long-Term Forest Practices Applications

As of June 30, 2020, DNR's Forest Practices Application Review System database reported 274 approved Long-Term Forest Practices Applications (LTAs) for small forest landowners. This was an increase of two during this reporting period (.73 percent).

5.4 Stewardship and Technical Assistance for Small Forest Landowners

During a portion of this reporting period, DNR staffed two Stewardship and Technical Assistance Foresters (one in western Washington and one in eastern Washington) in the Small Forest Landowner Office (SFLO). On August 1, 2019, the DNR's Forest Stewardship Program moved from the Forest Practices Program to the Forest Health and Resiliency Division. Consequently, one staff position remained in the SFLO to conduct regulation assistance to small forest landowners.

In October 2019, the SFLO re-filled the one statewide Regulation Assistance Forester. This position consults and provides expert technical assistance to help small forest landowners prepare to conduct forest practices activities on their forestland. They help small forest landowners understand and apply the forest practices rules including small forest landowner alternate plan templates, 20-acre exempt harvest activities, long-term applications, low-impact harvest activities, forest road assessments and construction techniques, timber harvest techniques, and other forest practices rule-related issues. Additionally, this position performs forest road surveys to assess the condition of small forest landowner roads and discusses landowners' road construction and maintenance obligations under forest practices rules and Clean Water Act requirements.

During the 2021 supplemental legislative session, funding was specifically provided to fund an additional regulation assistance forester (DNR had requested four positions). Because the

funding provided was insufficient to pay for one-time start-up expenses (for example, a vehicle and equipment), the program anticipates filling the position in early 2021.

During this reporting period, the Regulation Assistance Forester received 242 requests for assistance from small forest landowners. Requests were primarily for assistance on alternate plans, long-term applications, information regarding the 20-acre exempt rule and other forest practices-related questions.

Currently, 137 landowners have volunteered to have their roads assessed by the Regulation Assistance Forester, with 63 (46 percent) of these road assessments completed to date. Other agencies and tribal members have been invited to attend these road assessments. However, none has attended thus far. These assessments are intended to help determine if there are problems with forest roads owned by small forestland owners complying with applicable forest practices rules.

With input from Ecology, it was determined that a sample size of 200 road assessments would be adequate to conduct a sufficient analysis to determine whether small forest landowners are complying with the applicable forest practices rules. Most road segments assessed were frequently used by the landowner and were maintained using best management practices. There were several segments that had fish crossings and the landowner was active in the Family Forest Fish Passage Program. To date, no rule violations have been identified. Of the 320 road segments assessed, six segments were found to have low delivery potential, with the remaining 314 road segments showing no delivery or de minimis delivery potential. Of the six road segments with low delivery potential, the landowner was taking active steps to mitigate the potential delivery. Thus, anecdotal observations of this roads sample indicate that small forest landowners are complying with the forest practices rules.

5.5 Small Forest Landowner Office Outreach

The Small Forest Landowner Office conducts extensive outreach and training efforts designed to educate and inform small forest landowners regarding the management of their land and the various financial assistance programs available to them. SFLO staff participated in nine Coached Planning Courses, taught at three Family Forest Owner Field Days, and provided educational expertise and promoted the SFLO programs at more than 20 venues across Washington State.

Many of the events involving hands-on learning and one-on-one site visits for small forest landowners were canceled or postponed due to the COVID-19 pandemic. Several webinars are available that help continue landowner education opportunities when site visits are not possible. However, the webinars do not provide all the information one-on-one site visits cover. Fortunately, site visits were able to resume in July following safety protocols to keep staff, and landowners safe, including follow-up phone conversation.

The SFLO now has a growing list of more than 6,000 subscribers to the Small Forest Landowner Newsletter. The newsletter is distributed three times a year. Landowners can subscribe at

www.dnr.wa.gov/sflo or request by email to sflo@dnr.wa.gov. Readers can catch up on previous Small Forest Landowner News editions at sflonews.wordpress.com.

6. 20-Acre Exempt Riparian Forestland

[Appendix: Background on 20-acre Exempt FPA Incidental Take conditions](#)

6.1 20-Acre Exempt Forest Practices Application Data

Of the 3,793 FPAs processed throughout the reporting period, 3,310 were approved, and of those, 78 were new, approved non-conversion 20-Acre Exempt applications adjacent to fish-bearing streams. This number is 36% lower than the value from the prior reporting period (123).

[Appendix 3b and 3c: Maps of 20-acre exempt FPAs](#)

Table 5: 20-Acre Exempt Forest Practices Applications (July 2019 – June 2020)

20-Acre Exempt Forest Practices Applications with Specific Characteristics	Number
Number of 20-Acre Exempt applications	90
Number of 20-Acre Exempt applications with fish-bearing water	82
Number of 20-Acre Exempt applications with non-fish water only	8
Number of 20-acre Exempt applications that were conversions with fish-bearing water	4
Number of 20-Acre Exempt applications with fish-bearing water that were not conversions	78
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 2.4 percent of all approved applications submitted during Fiscal Year 2020. Twenty-acre exempt conversion FPA/Ns are not included in the calculation because the Incidental Take Permits do not cover FPA/Ns that are conversions.

6.2 Type Np Water Leave Tree Requirement

There were 11 Forest Practices Applications associated with 20-acre exempt parcels that had Type Np waters. Eight applications were conditioned according to the Np guidance memo (see [Appendix 4](#) for explanation) or they did not propose harvest within 29 feet of the Np water. Three applications had language that provided partial information or descriptions for the leave trees but did not have the full leave tree requirements language provided in [WAC 222-30-023\(3\)](#). To address this, Forest Practices Division staff in 2019 trained Region staff on FPA conditioning language, and intends to build on this during the next reporting period by producing a reference tool that helps facilitate correct conditioning language usage for the FPA/N.

6.3 Potential Large Woody Debris (LWD) Reduction in Function

[Appendix 3a: Potential Reduction in Function by WAU](#)

Estimated percent of loss of potential large woody debris recruitment in each watershed administrative unit (WAU) containing one or more 20-acre exempt FPA/Ns over the elapsed 14-

year period of the Incidental Take Permits can be found in [Appendix 3a](#). There are 846 WAUs in Washington State, of which 240 (28%) have had 20-acre exempt FPAs approved (Table 6).

Table 6: Potential Large Woody Debris Reduction in Function Data (July 2019 – June 2020)

WAU Reduction in Function Information	Number
Percent of WAUs with potential large woody debris recruitment reduction	28%
Number of WAUs with less than 1% potential reduction in function	233
Number of WAUs with 1% or greater reduction in function	7
Maximum percent potential loss of function in any individual WAU	2.2%

Currently, in-office calculations indicate that each WAU affected by 20-Acre Exempt applications, except for seven, has less than 1 percent potential cumulative reduction in function relative to standard forest practices prescriptions. The seven WAUs are Copper Creek (1.197%), Diobsud Creek (2.097%), Muck Creek (2.187%), Smith Point (2.099%), Upper Little Pend Oreille River (1.192%), Wanacut (2.049%), and Friday Creek (1.080%). All have less than 3 percent potential cumulative reduction in function. None of the seven WAUs with potential reduction in function more than 1 percent is near the 10 percent threshold ([explained in Appendix 4](#)) established in the Incidental Take Permits.

There are 111 WAUs with a potential reduction in function between 0.1 and 0.9 percent, and the remaining 122 WAUs show a possibility of less than 0.1 percent reduction in function since the 2006 issuance of the Incidental Take Permits.

6.4 Watershed Administrative Unit and Water Resource Inventory Area Thresholds

No WAUs approached the 10 percent threshold for reduction in function. Therefore, no areas were at risk for reaching the 15 percent WRIA total stream threshold.

6.5 Bull Trout Areas of Concern

No FPAs were associated with 20-Acre Exempt parcels located in the Bull Trout Areas of Concern.

7. Alternate Plans, Rivers and Habitat Open Space Program

[Appendix: Background on Alternate Plan FPAs and Rivers and Habitat Open Space Program](#)

7.1 Alternate Plans

Table 7 shows the number and status of FPAs submitted from July 1, 2019, to June 30, 2020, that included an alternate plan:

Table 7: FY20 Forest Practices Applications with Alternate Plans

Landowner Type	Status of Forest Practices Applications with Alternate Plans				Total
	Approved	Disapproved	In Review	Closed Out*	
Small	33**	0	5***	3	41
Large	40	0	1	1	42
Total	73	0	6	4	83

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

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

***This includes 2 LTAs.

The 83 submitted alternate plan FPAs were nearly evenly divided between small and large landowner classes. Seventy-three FPAs that included an alternate plan were approved during the reporting period; excluding those that were in review, this represents 95 percent (73/77) of the applications. FPA/Ns with alternate plans accounted for 2.2 percent (73/3310) of all FPA/Ns approved during this timeframe.

Alternate Plan Review (FY 2018-2019)

Forest Practices Division Operations examined Region implementation of alternate plan programmatic guidance and trainings conducted between 2015 and 2018. The review examined data system records and documentation files for 10 percent of FPA/Ns submitted statewide. Consistent with the intent of [WAC 222-12-040](#), the review confirmed that all DNR Regions are using the alternate plan process to achieve management and economic objectives in ways that may deviate from current forest practices rules, but still achieve the equivalent level of protection as would be expected from implementing the forest practices rules.

Forty-one (41) FPA/Ns (Figures 1 and 2) with an associated alternate plan were examined. Small forest landowners submitted 27 of the reviewed applications and 14 were submitted by large forest landowners. Eighteen of the small forest landowner applications either applied a

fixed-width or overstocked stand alternate plan template (this was two-thirds of the total). Of these, 16 chose to apply the fixed-width template and the remaining two used the overstocked stand template. Fourteen landowners elected to use the optional Alternate Plan form to document their submissions, while six others described their alternate plan components in the space provided in Question 28 of the FPA.

Alternate plans in the review set were examined in two phases. First, the electronic records in the Forest Practices Application Review System (FPARS) data system were reviewed, and then the associated original documents and files at each Region office were examined. Once the reviews were complete, the review team provided recommendations for the alternate plan process, which included training for forest practices Region staff. The training is scheduled to be conducted remotely during fall/winter 2020/21.

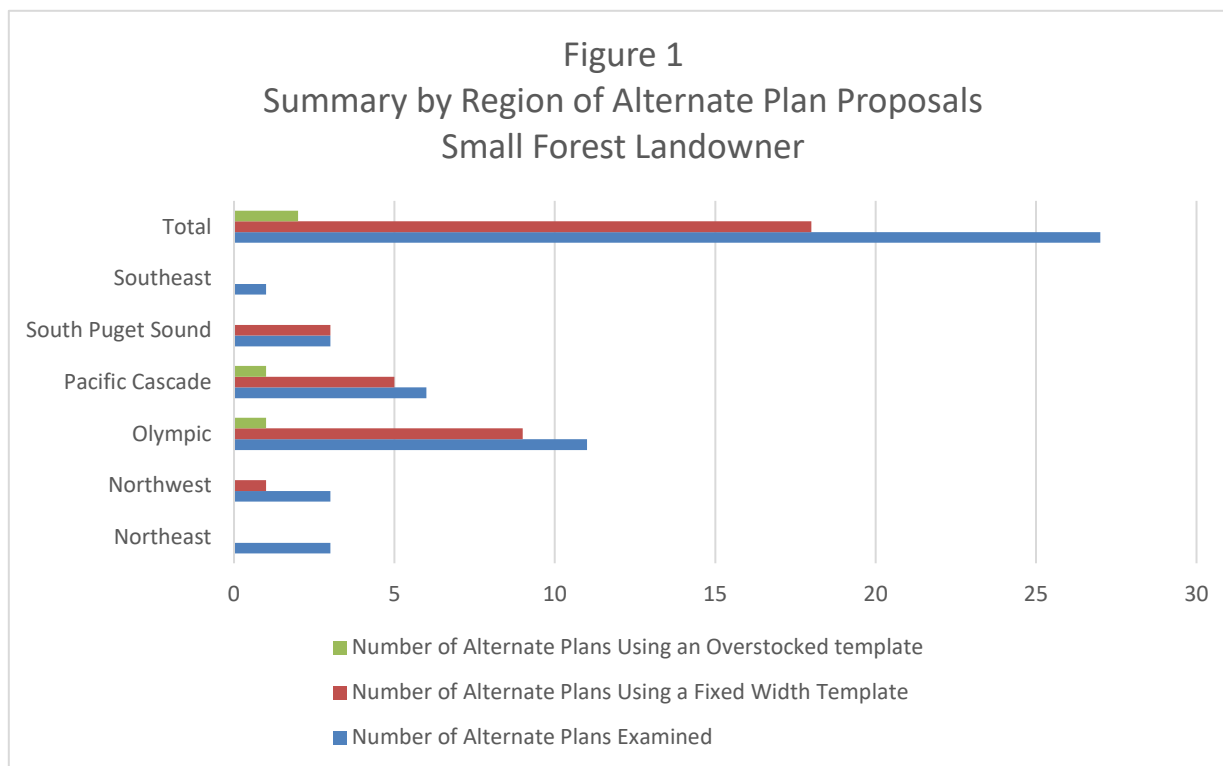
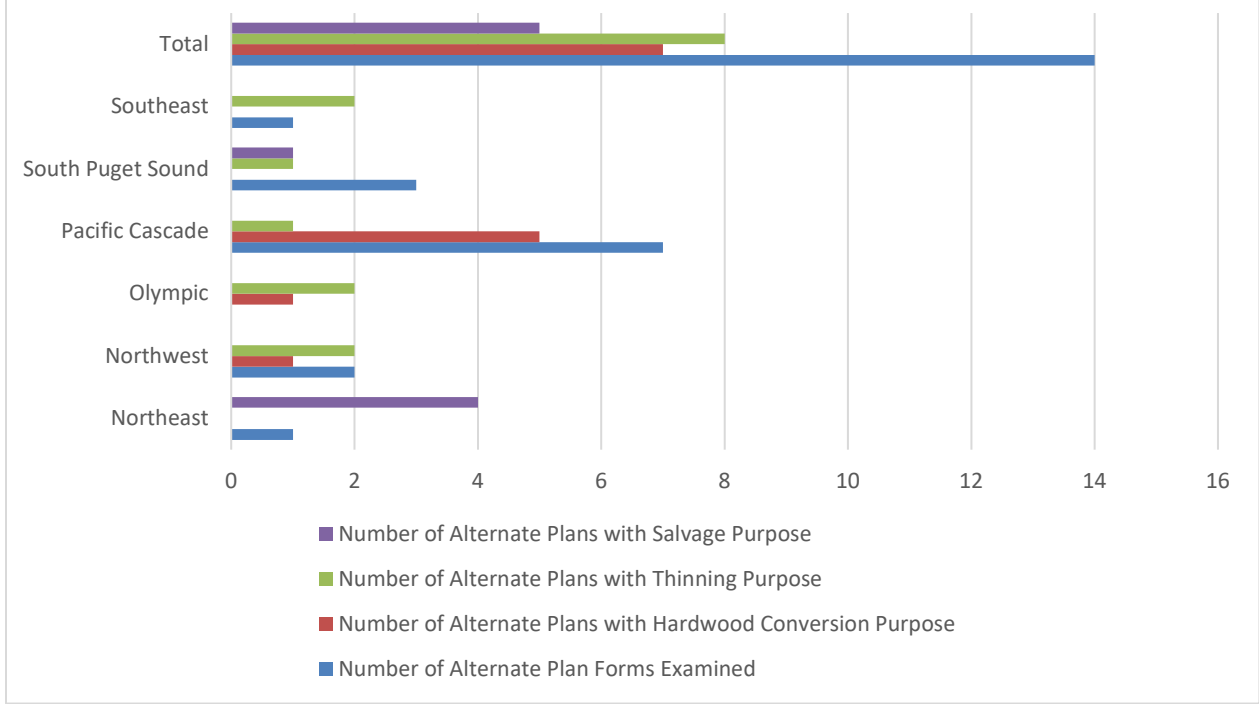


Figure 2
Summary by Region of Alternate Plan Proposals
Large Forest Landowners



7.2 Rivers and Habitat Open Space Program

During the reporting period, DNR received six applications for the 19-21 biennium funding cycle, which has \$1 million allocated for process and purchase of the conservation easements (Table 8). Easements selected from this competitive process will be acquired in state fiscal year 2021.

Table 8: Rivers and Habitat Open Space Program Budget and Acres Purchased by Biennium and Type of Easement (Reported in nominal dollars)

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	40	39
17-19	\$1,000,000	\$1,000,000	2	23.5	50
19-21	\$1,000,000	\$0	0	0	0
Total	\$9,200,000	\$6,500,000	21	1,105.5	114

*13-15 was the first biennium in which funding was allocated for Critical Habitat-State

8. Enforcement

[Appendix: Background on Enforcement](#)

During the reporting period, the DNR Forest Practices Program had approximately 64 field staff statewide who completed compliance visits and enforced the Forest Practices Act and Rules.

8.1 Stop Work Orders and Notices to Comply

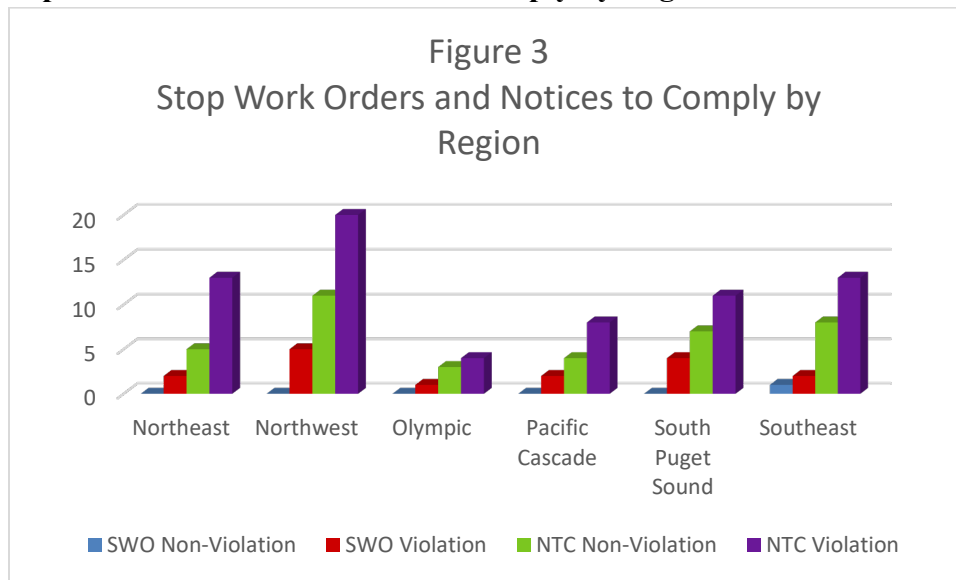
Table 9 shows stop work orders (SWO) and notices to comply (NTC) enforcement activity during the reporting period. A total of 124 SWOs and NTCs were issued during state fiscal year 2020, which is close to, but slightly higher than, the average of 119 issued over the prior three fiscal years. Among DNR Regions, Northwest Region issued the highest number and Olympic Region issued the lowest number.

There were a combined 85 violation SWOs and NTCs during this period, compared to an average of 103 over the past three years. This decrease (17%) in violations is less than the 29% reduction in active FPA/Ns during this reporting period.

Table 9: Fiscal Year Stop Work Orders and Notices to Comply by Region (FY2020)

DNR Region	Stop Work Orders		Notices to Comply		Total
	Non-Violation	Violation	Non-Violation	Violation	
Northeast	0	2	5	13	20
Northwest	0	5	11	20	36
Olympic	0	1	3	4	8
Pacific Cascade	0	2	4	8	14
South Puget Sound	0	4	7	11	22
Southeast	1	2	8	13	24
Total	1	16	38	69	124

Figure 3: Stop Work Orders and Notices to Comply by Region



8.2 Fiscal Year Civil Penalties and Notices of Intent to Disapprove

Notices of Intent to Disapprove (NOID) and civil penalties are typically used when multiple violations have occurred over time or when a violation is particularly egregious. Table 10 shows that no civil penalties or NOIDs were issued during the reporting period, compared to an annual average of three civil penalties and three NOIDs over the past three years.

Table 10: Fiscal Year Civil Penalties and Notices of Intent to Disapprove (FY2020)

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

8.3 Stop Work Order and Notice to Comply Ratios

Table 11 provides the number of active FPA/Ns and the percent of SWOs and NTCs issued on those FPA/Ns during the reporting period. The number of FPA/Ns varies from year to year and gives a partial indication of Region forest practices staff workload during the year.

This year, the number of active FPA/Ns decreased by 29%. The percent of SWOs and NTCs issued indicates the degree to which that level of enforcement was necessary during that time. The ratio of total SWOs and NTCs issued this year was 1.29%, versus 0.78% last year. The ratio of SWO and NTC violations issued this year was 0.89%, versus 0.72% last year.

Table 11: Enforcement Data Summary (FY2020)

Number of active Forest Practices Application/Notifications (FPA/Ns) through June 30, 2020 (See chapter 4 for information about FPAs received or renewed during Fiscal Year 2020.)	9,579*
Number of Notice To Comply / Stop Work Orders issued for violations	85
Ratio of Notice To Comply / Stop Work Order violations to total number of active FPA/Ns (85/9,579) × 100	0.89%
Number of Notice To Comply / Stop Work Orders issued for non-violations	39
Ratio of Notice To Comply / Stop Work Order non-violations to total number of active FPA/Ns (39/ 9,579) × 100	0.41 %
Total number of documents issued (violation & non-violation)	124
Ratio of all documents issued to total active FPA/Ns (124/9,579) × 100	1.29%

*Approved and/or Renewed FPA/Ns

9. Compliance Monitoring Program

[Appendix: Background on Compliance Monitoring Program](#)

9.1 Compliance Monitoring Program Reports and Findings

The Compliance Monitoring Program (CMP) operates on a two-year sampling window and provides a report in the latter part of each biennia.⁴ The 2018-19 Biennial Forest Practices Compliance Monitoring Report is scheduled to be published late summer/fall 2020. This section highlights some of the important findings anticipated to be included in that report.

2019 Compliance Monitoring Results

During the 2019 field season, data were collected for all the standard sample prescriptions. FPA compliance for unstable slopes was assessed in the fall of 2019. Trend analysis will be updated and reported in the *2018-2019 Biennial Forest Practices Compliance Monitoring Report*.

Riparian Prescription Compliance Monitoring Standard Sample Findings

The 2018-19 rule prescription compliance rates range from 92 to 100 percent, indicating relatively high compliance with forest practices rules. All sampled prescriptions maintain the half-width 95 percent confidence interval target of +/-6 percent.

Table 12: 2018-19 Riparian Prescription Compliance Monitoring Standard Sample Findings

Riparian Prescription type	Percent (%) Compliance	Number Observed
Statewide Type F or S No Outer Zone Harvest	98%	25
Statewide Type Np Activities	96%	38
Statewide Type Ns Activities	100%	31
Statewide Type A&B Wetlands	97%	40
Statewide Forested Wetlands	97%	19
Western WA Desired Future Condition 1	92%	18
Western WA Desired Future Condition 2	95%	12

Statewide Water Typing Findings

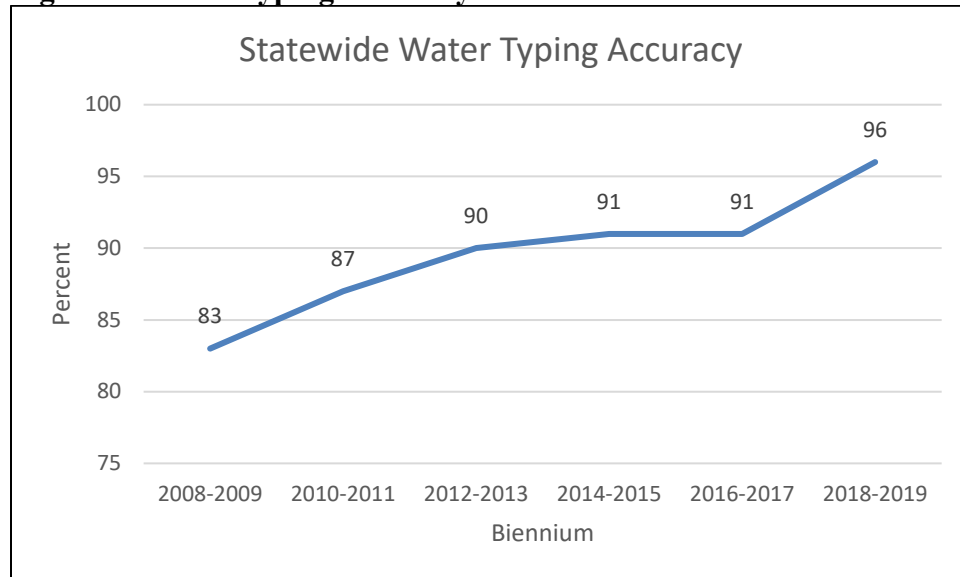
During the 2018-19 field season, the compliance monitoring field team (CMP) evaluated 175 riparian-related prescriptions involving typed water or wetlands and reported a 96 percent compliance rating.

⁴ Compliance monitoring reports can be accessed through the DNR forest practices program website [here](#).

The CMP found discrepancies in 11 (equivalent to 6 percent) typed waters or wetlands. The number of waters under-classified was 7, or 4.0 percent, of the 175 observed waters or wetlands. This means that 4 percent of the observed waters or wetlands may have received less protection than is intended by applicable forest practices rules. The number of waters or wetlands over-classified was 3, or 1.7 percent, of the 175 observations. This means that 1.7 percent of the observed waters or wetlands may have received more protection than required by the applicable forest practices rules. There was one, or 0.6 percent indeterminate water typing observation of waters or wetlands. Please see [Appendix 4](#) for additional definition description.

Observed water typing accuracy over time, as reported in the CMP biennial reports, is summarized in Figure 4. A steady increase in accuracy has been observed, beginning from 83% during the 2008-2009 biennium and increasing to 96% for the 2018-19 biennium.

Figure 4. Water Typing Accuracy Trend



Roads and Haul Routes Findings

During the 2018-19 field season, 451 of the sampled 461 rules from 53 road segments were compliant for the Roads prescription sample, resulting in a 98 percent compliance rate. For roads prescriptions, compliance with a single rule on a single FPA is the percentage of applications of that road rule that were compliant. Thus, for road rules only, compliance with a single rule can be a number between zero and one.

CMP assessed 66.8 miles of haul routes during the 2018-19 biennium. For 64.6 miles of the 66.8 miles of haul routes evaluated, no delivery or *de minimis* sediment delivery was observed, resulting in a compliance rate of 97 percent.

Unstable Slopes

The potentially unstable slopes study component was developed to evaluate compliance with forest practices rules and the FPA/N. Forest Practices Applications containing potentially unstable rule-identified landforms (RILs) were the population of FPA/Ns assessed through this study. The design objective was to evaluate how well on-ground results related to avoiding or mitigating potential adverse impacts from forest practices on RILs aligned with what was required by the subject FPA/N.

The focus of the unstable slopes study was to evaluate overall FPA/N compliance as opposed to individual rule compliance. Thus, the unstable slopes prescription was comprised of FPA/N “compliance only” questions. The focus on compliance in alignment with the FPA/N differs from typical compliance monitoring analyses that focuses on compliance with the forest practices rules, but was necessary because of the absence of rules metrics that are measurable in the field within the rule identified landform prescription type.

FPA/N compliance for unstable slopes prescriptions was assessed by a DNR qualified expert (as defined in [WAC 222-10-030\(5\)](#)) and an Ecology Licensed Engineering Geologist, who provided yes or no answers to the following questions related to FPA/N RIL compliance:

- Did the landowner identify all potentially rule-identified unstable features in/around the harvest/activity area?
- Did the landowner avoid all potentially rule-identified unstable features as identified on their FPA (Question 31)?
- Was harvest avoided within the “no-harvest” areas associated with potentially rule-identified unstable features?

For the 2019 Unstable Slopes sample, 36 FPA/Ns were selected for review from a total population of 978 FPA/Ns. The resulting sample size was 36, and 102 questions were evaluated (Table 13).

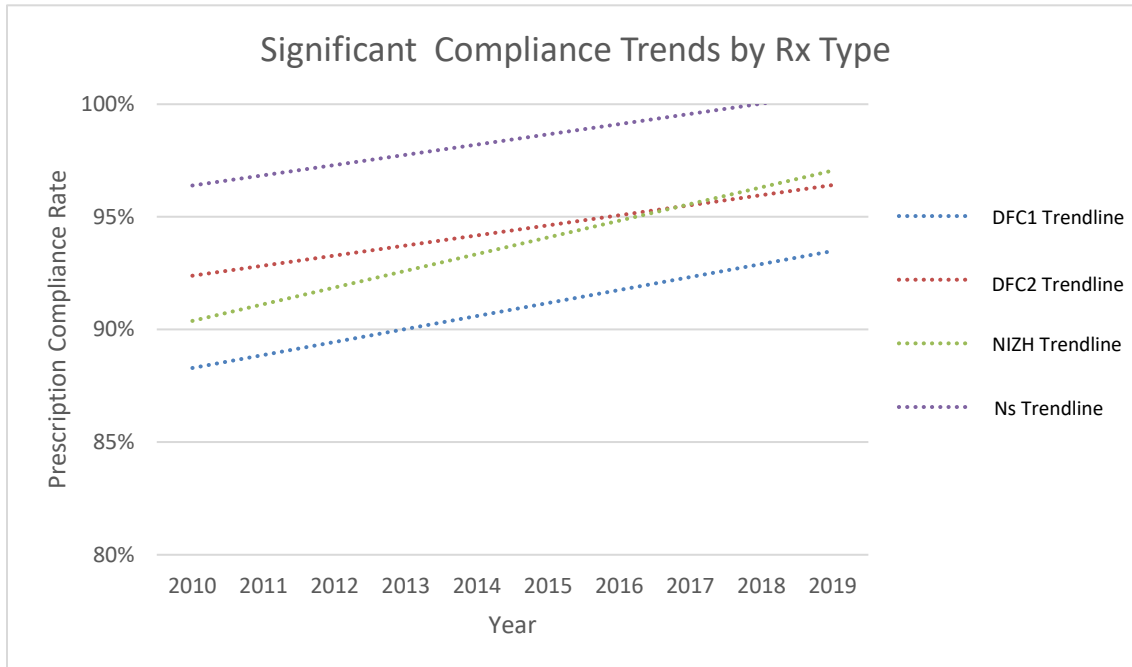
Table 13. 2019 Statewide Unstable Slopes Compliance Results

Unstable Slopes	
FPA's Sampled	36
Questions Evaluated	102
Questions ‘yes’	100
Compliant ‘yes’	98%
95% Confidence Interval	(95%, 100%)

Trend Analysis Findings

Statistically significant trends of yearly increasing prescription compliance rates were observed for Desired Future Condition option one (DFC1) (0.95%), Desired Future Condition option two (DFC2) (0.70%), No Inner Zone Harvest (NIZH) (0.92%), and Non-fish bearing seasonal streams (Ns) (0.54%) (Figure 5). No statistically significant trends were observed for Non-fish bearing perennial streams, Type A & B wetlands, Forested wetlands, and Roads. No downward trending rates were observed.

Figure 5: Compliance Trend Lines for DFC1, DFC2, NIZH, and Ns Prescription Types



9.2 Future Plans for the Compliance Monitoring Program

Forest practices hydraulic projects are scheduled to be sampled for rule compliance during the 2020 fall field season. Findings from the 2017 FPHP pilot study have been incorporated in the FPHP sample. FPHP will be sampled every other year. This will allow the program to incorporate these data into trend analysis over time.

In addition, the CMP began work during this reporting period to develop and incorporate methodology for an ongoing study to help determine the Aerial Herbicide Spray compliance rate. The intention is to complete the design and conduct the initial field pilot study when funding becomes available.

Plans for the CMP field review was, and will continue to be, impacted by the ongoing COVID-19 pandemic. The CMP is committed to ensuring the safety of staff and participants. DNR's personal protective equipment and social distancing protocol is adhered to on all site visits.

9.3 Compliance Monitoring Funding

DNR's Forest Practices Program actively seeks funding from the Legislature and support from the program's partner agencies and tribes to effectively implement the Compliance Monitoring Program. Since 2006, DNR has provided funding through interagency agreements to support at least one full-time staff member each from the Department of Ecology and the Department of Fish and Wildlife. WDFW was unable to participate in the program during state fiscal years 2017 and 2018. However, beginning in state fiscal year 2019, WDFW committed to resuming participation in compliance monitoring field data collection.

10. Training/Information/Education

[Appendix: Background on Training](#)

The COVID-19 pandemic and the Governor's stay-at-home order affected the Forest Practices Training Program beginning in early 2020. All of the formalized offerings in the spring of 2020 were canceled. The training program used the acquired time to revise and develop new and existing trainings to be better prepared for when formalized trainings are offered again. Despite the statewide pandemic closure, Forest Practices in-person core classes were offered in July – December 2019. Forest Practices core classes include Unstable Slopes, Channel Migration Zones, Wetlands, Forest Practices Enforcement (internal) and Brief Adjudicative Proceedings (internal). No Forest Practices Enforcement and Brief Adjudicative Proceedings trainings took place in FY 2020.

Scheduled training sessions are now being recorded to create webcasts, video lectures, and fully interactive online courses for future use. Media presentation (versus live instructor presentation) courses currently in production include Unstable Slopes Training and High Avalanche Hazard Awareness.

10.1 Single/Multiple Day Forest Practices Program Trainings

The program provides single-day and multiple-day training for complex subjects, which require larger blocks of time. Region staff trained during these longer forest practices training sessions share the information they learn in the class with landowners, where appropriate, and other stakeholders at region or special TFW meetings to ensure quick implementation.

Information about the number of people who attended specific training during the reporting period is as follows:

Unstable Slopes

Total: 56

Only the fall session was offered due to COVID-19 pandemic.

Channel Migration Zone Training

Total: 49

Only the fall session was offered due to COVID-19 pandemic.

Wetlands Training

Total: 25

Only the fall session was offered, due to COVID-19 pandemic.

10.2 Single/Multiple Day Workshop Classes

Workshop classes generally fall into the category of public outreach. These are partnership opportunities to educate the public about forest practices. Sometimes these workshops are internal to DNR Forest Practices Staff, but usually are directed toward public education.

Washington Contract Loggers Association (WCLA) Training

Total: 50

WCLA members attended. Only the winter course (and no spring course) was offered during this reporting period due to COVID-19 pandemic.

10.3 DNR Region Focused Training

Region-focused training constitutes short duration training prepared and offered specifically for DNR Region forest practices staff. Region forest practices staff provide other training for a broader audience across the state. These are interactions at the local level via district meetings, stakeholders at TFW meetings, and through other interactions with forest industry staff, small forest landowners, and forestry consultants. These offerings continued during the COVID-19 outbreak with use of online meeting platforms such as Skype and Zoom.

Training provided to Forest Practices staff

The forest practices training program is using the necessary pause in in-person training to focus on course development, including offering remote training. Additionally, the program focused on developing new Alternate Plan Training and Date of Receipt Training for DNR forest practices staff.

Date of Receipt Training was developed to display new programmatic guidance adopted in March 2020. This training consisted of an overview of the Date of Receipt committee's work shared at the October 2019 and March 2020 Quarterly for DNR Forest Practices staff.

Training Conducted by Region Staff

Regions were provided the Date of Receipt Training materials and subsequently shared them with Upper Columbia Basin, WFPA, the Small Forest Landowner Advisory Committee, the Snoqualmie Watershed Forum, and TFW meetings. Regions completed or sponsored Date of Receipt trainings during the reporting period trained 188 people.

11. Road Maintenance and Abandonment Planning by Large Forest Landowners

[Appendix: Background on Road Maintenance and Abandonment Plans](#)

11.1 Road Maintenance and Abandonment Plan (RMAP) Implementation

RMAP specialists continued working with the remaining 43 RMAPs with approved extensions lasting through October 2021. During the reporting period, five RMAPs were completed. This report summarizes the third full year of RMAP implementation after the original extension of 58 RMAPs in 2016.

Information is organized in the following four tables (Tables 15-18):

- *2019 Statewide Road Maintenance and Abandonment Plan Accomplishment Report for Landowners With Extensions by Region;*
- *Cumulative Statewide Road Maintenance and Abandonment Plan Accomplishment Report (2001-2019) by Region;*
- *Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report by Year;* and
- *Fish Passage Barrier Information for Large Forest Landowners*

These tables detail the progress made by forest landowners from July 2001 through December 2019.⁵ RMAP data is reported on a calendar year basis rather than a fiscal year basis. The information provided is derived from data supplied by landowners as part of their annual accomplishment report review. The reader will find no numerical changes in some reporting elements due to the completion of RMAP work in some regions. Some reporting elements reflect numerical decreases because all remaining work in a previously active RMAP process was completed or land ownership changes occurred during the reporting period. [Appendix 4](#) provides a description of reporting elements in the tables. Some of the descriptions include reasons why reporting element numbers change over the years, and provide additional in-depth information about why earlier accomplishment reports included data that differ from this report.

⁵ The RMAP data identified in Tables 15-18 are based solely on what landowners provided in their initial RMAP reports and subsequent annual reports of work completed. For many Regions, the exercise of totaling landowners' RMAP information was conducted using the annual paper reports. Some DNR Regions recorded this data through Geographic Information Systems (GIS) early in the annual RMAP reporting process and others did not. Through time, landowners and DNR experienced staff changes that affected program continuity, resulting in introduction of errors in some annual reports that were undetected until corrected years later. In addition, DNR's decision to change Region boundaries in 2013-14 contributed to reporting errors in South Puget Sound and Pacific Cascade values that have subsequently been corrected. Although DNR staff strives for accuracy in its reporting, it recognizes that the final RMAP statistics, anticipated to be reported in the 2022 Forest Practices HCP Annual Report, may include errors and may not report all of the work that has been completed.

TABLE 14: Errata for 2019 FPHCP Annual Report

Based on a thorough review of records, certain RMAP data errors reported in the 2018 and 2019 Forest Practices HCP Annual Reports have been corrected in this report. Table 14 displays where data corrections, resulting from 2018 and 2019 errors, were made in the 2020 report. All of the corrections pertain to Table 15.

Table Number	Row & Column	Prior Data Value	Corrected Data Value in 2020 Report	Comments (reason for change)
15	Olympic/ Number of Approved RMAPs	3	14	The value was transposed with Southeast in the 2019 report
15	Southeast/ Number of Approved RMAPs	15	2	The value was transposed with Olympic in the 2019 report.
15	Statewide totals/ Number of approved RMAP	47	43	A number transposition resulted in the reporting of 47 active RMAPs in the 2019 report when the correct value was 48. This brings the total number of active RMAPs to 43 in the 2020 report.

Table 15: 2019 Statewide Road Maintenance and Abandonment Plan Accomplishment Report for Landowners With Extensions by Region

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
Northeast	0	7,625	0	0	0	0
Northwest	4	1,995	88	83	13	210
Olympic	14	5,447	604	86	0	132
Pacific Cascade	20	12,740	900	632	2	149
South Puget Sound	3	2,450	63	35	12	0
Southeast	2	2,474	0	185	2	1
Statewide Totals	43	32,731	1,655	1,021	29	492

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

Note 1: The values reported in the “Number of approved RMAPs” and “Miles of forest road assessed” columns may vary from previous reports due to land ownership transfers and changes that occurred since the prior reporting period.

Note 2: *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.”

Table 16: Cumulative Statewide Road Maintenance and Abandonment Plan Accomplishment Report (2001-2019) by Region

DNR Region	Number of Approved RMAPs	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	6,147	312	96	835	835	418	5,203
Northwest	31	3,797	1,382	1,099	515	479	147	1,994
Olympic	38	2,224	147	278	2,177*	2,000*	691	1,297
Pacific Cascade	22	13,380	941	523	3,433	3,111	2,056	4,041
South Puget Sound	29	1,540	566	787	936*	930*	298	1,266
Southeast	15	2,677	612	863	989	945	1,524	4,002
Statewide Totals	224 **	29,765	3,960	3,646	8,885	8,300	5,134	17,803

* Compounding errors beginning in the 2014 HCP Report resulted in inaccurate cumulative numbers for fish barriers identified and fixed, and miles of road improved. Inaccuracies regarding fish barriers fixed and identified came from errors made in this report for the South Puget Sound region beginning during the boundary realignments in 2013-2014 between South Puget Sound and Pacific Cascade regions. Inaccuracies in this report regarding fish barriers fixed and identified for Olympic Region beginning in 2014 also resulted in reporting errors that were discovered and corrected in the 2020 report. The increase shown in 2019 for the number of fish barriers identified and fixed now accurately reflects the number of fish barriers left as of 12/31/2019. See Table 17 notes for more information on miles of road improved.

** In 2016, 58 RMAPs were granted extensions ending on October 31, 2021. Since then, no new RMAPs have been initiated so the cumulative “number of approved RMAPs” remains static. This cumulative “number of approved RMAPs” column does not include RMAP checklists from small forest landowners.

**Table 17: Statewide Cumulative Road Maintenance and Abandonment Plan
Accomplishment Report by Year**

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 / *862
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 / *569
2001-2009	126	8,804 / *176	---	16,195/ *1,176	2,621/ *190	2,305	1,569/ *121	3,141/ *324
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 (new element)	18,711/ *236	3,090/*175	2,393	2,189/ *417	4,258/*489
2001-2012	254	10,268/*572	7,568	20,026/ *1,315	3,275/*185	2,162	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/ *289	5,730/*432
2001-2015	260	12,632/*778	7,202	25,589/ *1,307	3,833/*283	2,231	3,507/ *88	6,086/*356
2001-2016	253	12,813/*181	6,421	27,694/ *2,105	3,895/*62	2,926	4,180/ *673	6,956/*870
2001-2017	256	13,742/ *929	3,781	28,078/ *384	3,901/*6	2,927	4,180/*0	7,230/*274
2001-2018	224	15,971/ *2,229	6,301	28,744****/ *573	3931/*30	3,154	5,024/ *844	7,424/194*
2001-2019	252	17,803/*1,832	7,956***	29,765/, *1,021	3,960/*29	3,646***	5,134 *110	8,300/ 876****

* Number represents the change compared to 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.

*** In 2019, only 43 RMAPs were active and submitting annual reports.

**** Compounding errors beginning in the 2014 HCP Report resulted in inaccurate cumulative numbers for fish barriers identified and fixed, and miles of road improved. Inaccuracies regarding fish barriers fixed and identified and miles of road improved came from errors made in this report for the South Puget Sound region beginning during the boundary realignments in 2013-2014 between South Puget Sound and Pacific Cascade regions. Inaccuracies in this report regarding fish barriers fixed and identified for Olympic Region beginning in 2014 also resulted in reporting errors that were discovered and corrected in the 2020 report. The increase shown in 2019 for the number of fish barriers identified and fixed now accurately reflects the number of fish barriers left as of 12/31/2019. ****The 2018 total miles of road improved is off mathematically by 93 miles. After diligent Region review of past miles of roads improved data and mathematical corrections, a way to rectify the numbers completely could not be found. The 2018 error of 93 miles will remain. All numbers occurring before and after 2018 are mathematically correct and are the best accuracy obtainable given the nature of the data (non-scientific).

Fish Passage Barriers

In addition to the fish barrier information reported in Tables 16 and 17, Table 18 displays by DNR Region the cumulative number of fish passage barriers corrected since 2001, the total corrected in calendar year 2019, and the percent of total corrected as of December 31, 2019.

As of December 31, 2019, 585 barriers were reported as remaining to be corrected over the course of the two “operating seasons” that remained prior to the October 31, 2021, deadline (Table 18).⁶ None remained within DNR’s Northeast Region, and the greatest numbers were in Pacific Cascade Region and Olympic Region.

⁶ Barrier correction work is normally carried out during the summer months because of forest practices rules that address concerns for aquatic species and water quality. Therefore, landowners had the 2020 and 2021 operating seasons remaining during which to complete their work.

Table 18: Fish Passage Barrier Information for Large Forest Landowners

DNR Region	Number of Fish Passage Barriers Identified*	Number of Fish Passage Barriers Corrected From 2001-2019	Number of Fish Passage Barriers Corrected in 2019	Percent of total fish passage barriers corrected as of 12/31/2019
Northeast	835	835	1	100%
Northwest	515	479	2	93%
Olympic	2,177**	2,000**	88	92%
Pacific Cascade	3,433	3,111	77	91%
South Puget Sound	936**	930	2	99%
Southeast	989	945	4	96%
Totals	8,885	8,300	174	93%

*This number may fluctuate annually as water types are confirmed and/or modified (for example, a barrier set in a stream whose classification changed from or to fish bearing).

** Compounding errors beginning in the 2014 HCP Report resulted in inaccurate cumulative numbers for fish barriers identified and fixed in the South Puget Sound and Olympic regions. Region boundary realignments in 2013-2014 between South Puget Sound and Pacific Cascade regions also resulted in reporting errors that were discovered and corrected in the 2020 report. Additional errors were found in this report for the cumulative number of fish barriers identified and fixed in Olympic Region beginning in 2014. The increase shown in 2019 for the number of fish barriers identified and fixed now accurately reflects the number of fish barriers left as of 12/31/2019 with RMAP obligations in South Puget Sound and Olympic Regions as well as the statewide total.

11.2 Extension of RMAP Deadline

The August 9, 2011, Forest Practices Board rule change allowed landowners to extend the deadline for completing the roadwork scheduled in their RMAPs until October 31, 2021. Fifty-eight RMAPs were initially granted extensions, and 43 RMAPs remained uncompleted as of December 31, 2019. Five RMAPs were completed during this reporting period.

11.3 Washington Department of Fish and Wildlife Participation

WDFW biologists provide an essential role in the review and implementation of RMAPs. WDFW biologists reviewed RMAPs and the associated FPHPs, 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 can longer track which FPHPs are specifically associated with RMAPs. However, most of the FPHPs pertaining to fish-bearing streams are road-related. Therefore, the numbers of FPHPs reported in Chapter 4 as having been reviewed by WDFW is thought to be a close estimate. During the first 3 quarters of this reporting period (July 2019– March 2020), WDFW biologists reviewed 1,259 individual FPHPs, including 294 concurrence-required project reviews (including the identification of the optimal project-operating season) and 825 individual standard FPHPs (those not requiring concurrence, but pertaining to Type F and S streams), and participated in 140 pre-application reviews. It is important to note that each FPA can have multiple FPHPs.

12. Cultural Resources

[Appendix: Background on Cultural Resources](#)

12.1 Landowner/Tribe Meeting Update

During this reporting period, 26 Forest Practices Applications required a landowner-tribe meeting. All required meetings took place.

Washington Department of Archaeology and Historic Preservation

The Forest Practices Program funded one FTE in the Washington Department of Archaeology and Historic Preservation (DAHP) for database administration and FPA/N review. DNR and DAHP entered into a contract through which DNR provided \$102,562 for this purpose during the 19-21 biennium.

12.2 [WAC 222-20-120](#) Updates/Process Improvements

The TFW Cultural Resources Roundtable did not meet during FY 2020. The Forest Practices Board suspended this committee in 2019. Tribes continue to work with individual landowners and State agencies to facilitate protection for cultural resources under [WAC 222-20-120](#).

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 and allowing it to set the specific standards that are the basis for the Forest Practices Program.

Each year, DNR monitors laws being considered by the Legislature for those that could affect the Forest Practices Program. No new laws were enacted during the reporting period that would result in a change in protection of habitat for the species covered in the Forest Practices HCP, or affect the Forest Practices Program.

14. Information Technology Tools

[Appendix: Background on Information Technology Tools](#)

14.1 Forest Practices Information Technology Team (FP IT Team)

The Forest Practices IT Team has seven staff positions. The team works closely with forest practices staff in the six DNR regions on forest practices information-technology-related matters to help staff have the digital tools needed to do their jobs efficiently and effectively. One position, a mobile application developer, is unfunded. Information technology skills currently found in the team include data analysis and management, business analysis, GIS analysis and programming, web and SharePoint support, and customer service.

14.2 Forest Practices IT Projects

Forest Practices Online Feasibility Study (fpOnline)

FP IT completed a feasibility study in summer 2019. The goal of the feasibility study was to validate whether the Salesforce platform recommended through previous discovery efforts could meet the needs of the Forest Practices Program. Forest practices staff determined the technology would meet the needs of the FP Program based on the outcomes and proof of concept from the feasibility study.

DNR intends to submit a legislative funding proposal for the 2021 legislative session to develop the replacement forest practices program information system. The proposal would fund and maintain a Forest Practices e-business application that features a web portal and a user-friendly system for electronically filing and reviewing FPA/Ns, including electronic signature and payment of fees. This legislative request will be built upon two extensive discovery efforts conducted in cooperation with the DNR Information Technology Division in examining existing and desired program business needs, current systems, and capabilities. This legislative request will include funding for the mobile application developer.

Intersection of National Hydrology Database (NHD) and Forest Practices Program Hydrography Database

The DNR FP HYDRO layer maintained by the Forest Practices Division is not in alignment with the state standard nor the national hydrology database framework. DNR, on the Forest Practices Program's behalf, requested and received a waiver extension in 2020 from the Washington State Office of the Chief Information Officer (OCIO) with an expectation that the program will work toward state compliance. Over the past several years, Forest Practices IT staff have worked closely with Ecology, WDFW, and OCIO. This collaboration resulted in the Forest Practices Program submitting and receiving a National Environmental Exchange Network Grant from the EPA.

The EPA-funded grant will support a pilot approach for three years to define a detailed process and describe the effort needed to convert DNR Hydrography to the NHD framework. This will enable Washington state local governments, state agencies, forestland owners, and tribes to have both Clean Water Act and fisheries information, including end of fish habitat tied to NHD and water type information, that allows DNR to meet its hydrology regulatory responsibilities. Forest Practices IT staff attended the Pacific Northwest Hydro Framework meeting and participated in the U.S. Geological Survey training webinars. The USGS training provided staff understanding of the conversion process, the order of operations, and the NHD environment. Two planning meetings between Ecology, DNR, and OCIO occurred in fall 2019. During the same period, recruitment and interviews were completed for the vacant application developer on the Forest Practices IT team, and by February 2020, this position was filled. This position is partially funded by the EPA grant and will advance the goals of the pilot.

14.3 Forest Practices Information Technology Tools

Forest Practices Application Review System (FPARS)

There were 3,793 FPAs processed in FPARS and 1,198 reviewers (compared to 1,159 last year) receiving automated email notification about FPA/Ns through the “opt-in” notification system.

As noted in Section 14.2, DNR still relies on a 20-year old FPA application review and management tool. The system is inefficient for DNR staff to use, cumbersome for forestland owners submitting FPAs, and unwieldy for concerned residents and stakeholders seeking information about the applications.

During this timeframe, changes made to FPARS created the ability to enter data into incomplete FPA records. This change created a standardized approach in receiving FPAs and created efficiencies in identifying the type of notification. For example, the reorganization of the notification email increased reviewers’ ability to identify the types of FPAs they need to review.

Forest Practices Application and Mapping Tool (FPAMT)

The FP IT team is reviewing layer symbols to make them more consistent with other forest practices mapping tools and with known standards, such as USGS topographic maps. For example, revising the symbol layers will help landowners with questions about northern spotted owl habitat.

Forest Practices Enforcement Tracking (FPETS) System

The following enforcement data were entered into FPETS during the reporting period:

- 663 Informal Conference Notes
- 6 Notices of Conversion to Non-forestry Use
- 107 Notices to Comply
- 17 Stop Work Orders
- 0 Civil Penalties

Changes made in FPETS include adding functionality to allow region staff to edit ownership, operator, or violator categories after creating the enforcement record. In addition, during this timeframe, the search function was improved.

Forest Practices Risk Assessment Mapping (FPRAM)

FPRAM layers were analyzed for consistency and layer symbols were improved. County parcels and National Agriculture Imagery Program imagery layers were updated to provide better accuracy and currency.

DNR Hydrography Data Layer and Water Type Modification Form Tracking Application (WTA)

DNR GIS staff entered approximately 4,768 GIS stream segment updates (number of segments depend on how the stream was entered into GIS). Updates representing approximately 499 miles into the hydrography data set were based on 753 Water Type Modification Forms (WTMF). These updates included stream type upgrades (e.g., a segment that was previously classified as non-fish-bearing being changed to fish bearing) of approximately 20 miles of stream and stream type downgrades (e.g., a segment that was previously classified as fish-bearing being changed to non-fish-bearing) of approximately 45 miles of stream. The remaining 434 miles of stream were edited as either a change of location or verification of existing water type. The WTMF backlog of concurred water type modifications was 22 as of June 2020, which is 10 more than last year.

Road Maintenance and Abandonment Plan Point Data Set

Updated datasets are periodically posted to the Forest Practices RMAP Program stakeholder review site. DNR last published revised versions of the Forest Practices RMAP point dataset in April 2020. The Forest Practices RMAP specialists in DNR Region offices continued to update this information, providing barrier replacement dates and other previously missing data. Updates related to fish passage barriers automatically transfer to the WDFW fish passage barrier GIS layer with each update in the database.

Forest Practices Mobile Technology

FP IT staff configured a new file management system in five of the six Regions. The system uses cloud storage to temporarily store and access FPA and enforcement documents. Those files are synced back to Region and Division file servers for permanent storage. The system greatly improved the program's ability to safely continue business when the COVID-19 pandemic stay-at-home order was issued. Microsoft Office 365 was implemented on a pilot basis for field staff, which allows them to complete documents on mobile devices and save directly to cloud storage. A system was implemented to create a set of six thematic maps for each new class III or IV harvest FPA. Those maps are moved to cloud storage so field staff have accurate up-to-date information in the field for use on smart devices.

Other Work

FP IT staff continue to support the complex statewide analysis of the impacts of the proposed permanent water typing system rule change. This spatial analysis involved calculating the change in fish habitat compared to the current interim water-typing rule for three analysis alternatives selected by the Forest Practices Board. This work supports the development of a required cost-benefit analysis, and included forest type, timber volume, and land ownership applied to the loss or gain in habitat areas.

15. Forest Practices Program Budget

15.1 Introduction

In 2019 the Governor signed the 2019-2021 biennial operating budget bill ([ESHB 1109](#)) which appropriated General Fund-State (GF-S) funding for the Adaptive Management Program (AMP). This bill made a fund swap between the Model Toxics Control Account (MTCOA) and the Forests and Fish Support Account (FFSA). Although overall funding authority was approximately what the DNR requested, an effective funding shortage resulted because this fund swap removed \$5 million of the Model Toxics Control Operating Account (MTCOA) and replaced it with \$5 million of increased FFSA spending authority. This created a budget problem because the actual funding level available in FFSA was less than the authorized increased spending authority. DNR's analysis identified a \$4.04 million budget shortfall for the statewide Forest Practices program. This represented approximately 10% of the biennial operating budget for the overall forest practices program.

Spending reductions were made in both the AMP and the non-AMP forest practices sub-programs⁷, designed to be carried out mainly in the second year of the 19-21 biennium (Table 19). A reduction of about \$1.9 million was made within the AMP, the Act & Rules budget was reduced by \$1.8 million, and approximately \$251,400 of MTCOA funds were shifted from Program Development to bolster Act & Rules (Table 19). The spending reductions in AMP can be attributed primarily to delays in applied research and in hiring scientists who help conduct that research. The reductions from other forest practices programs were to come mainly through management of vacancies that developed over the course of the biennium (expected to amount to 12-14 positions before the end of the biennium), along with smaller reductions resulting from restrictions placed on non-essential travel, purchases and contracting.

In contrast, the Small Forest Landowner Office received additional GF-S funding in the 2020 legislative session to increase the level of technical assistance provided to small forest landowners (see [ESSB 6168](#) Sec. 308(24)). This came in partial fulfillment of an agency request for funding to support an additional four positions to assist small forest owners across the state.

After accounting for the net reductions, the overall program operating budget for the 2019-21 biennium was \$36.2 million. Expressed in 2005 dollars as \$28.9 million, this exceeded the minimum \$22.7 million funding level identified in the 2012 Settlement Agreement (Table 19). During the reporting period, the program continued to provide core programs utilizing the Forest Practices Application Account (FPAA) to fund the implementation of hydraulic project integration (that is, review of hydraulic projects in fish-bearing waters submitted as a part of forest practices applications), and the FFSA to support project management and participation grants in the AMP. These foundational elements sustain the state's *Forest Practices Habitat Conservation Plan* (FP HCP) and federal Clean Water Act (CWA) assurances.

⁷ Forest Practices functional sub-programs are described, along with their supporting funding sources, in Table 20.

Table 19: 2019-2021 Biennial Forest Practices Program Operating Budget Allocation by Sub-Program, expressed in nominal dollars and as 2005 dollars.

Functional Sub-Program or Activity	GF-State	GF-State FY20 Supplemental	GF-State 2SSB 5546 Aerial Herbicide Work Group Proviso	Model Toxics Control Account (MTCOA)	GF-State Proviso for AMP	Forests & Fish Support Account (FFSA)	Forest Practices Application Account (FPAA)	Total
Forest Practices Act & Rules	15,009,900		52,000	3,022,300		4,200,100	1,521,500	23,805,800
Allotment Adjustment (FY1)				109,800		(672,500)		(562,700)
Allotment Adjustment (FY2)				141,600		(1,460,300)		(1,318,700)
Adaptive Management Program, excluding tribal participation	561,500				3,714,000	5,471,500		9,747,000
Allotment Adjustment (FY1)						(477,000)		(477,000)
Allotment Adjustment (FY2)						(1,434,100)		(1,434,100)
Tribal Participation						5,000,000		5,000,000
Allotment Adjustment (FY1)						(260,700)		(260,700)
Allotment Adjustment (FY2)						260,700		260,700
Small Forest Landowner Office	328,400	100,000		138,500				566,900
Program Development				1,090,600				1,090,600
Allotment Adjustment (FY1)				(109,800)				(109,800)
Allotment Adjustment (FY2)				(141,600)				(141,600)
Forest Practices Total	15,899,800	100,000	52,000	4,251,400	3,714,000	10,627,700	1,521,500	36,166,400
PCE Conversion (2005 dollars)	12,693,784	79,836	41,515	3,394,153	2,965,114	8,484,743	1,214,707	28,873,851

15.2 2019-2021 Biennial Funding Allocation by Functional Sub-Program or Activity

The Forest Practices Program is organized into four functional sub-programs or activities (Table 20), with funding coming from four main sources.

Table 20: Forest Practices Program Functional Sub-Programs and Funding Sources⁸

Functional Sub-Program	Activity Components	Funding Source ¹
Forest Practices Act & Rules (Operations)	Application Processing, Compliance Monitoring, Enforcement, RMAPS, IT/GIS Development & Support & Stakeholder Assistance Training	GF-State, MTCOA and FFSA
	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 & Administration Staff & Project Management Staff	GF-State and 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 and MTCOA
Program Development	Forest Practices Board; Rule Making/Board Manual; Forest Practices Habitat Conservation Plan; and Clean Water Act Assurances.	MTCOA

15.3 FY2020 Biennium Operating Expenditures by Activity

The Forest Practices Program expended a total of \$17.7 million in fiscal year 2020 (Table 21). Reported expenditures exclude a federally funded grant used in Act & Rules and state capital funds expended through the Small Forest Landowner Office.

⁸ Funding source acronyms are explained in the report narrative.

Table 21: FY 20 Forest Practices Program Expenditures by Functional Sub-Program and Funding Source (all figures reported in dollars)

Functional Sub-Program	GF-State	GF-State Proviso	GF-State al	FFSA	FPAA	MTCOA	TOTAL FUNDS
Forest Practices Act & Rules	7,352,255		11,977	1,357,700	892,401	1,426,164	11,040,497
Adaptive Management Program	289,352	1,857,000		3,934,966			6,081,318
Small Forest Landowner Office	161,391					52,504	213,895
Program Development						385,460	385,460
TOTALS	7,802,998	1,857,000	11,977	5,292,666	892,401	1,864,128	17,721,170

15.4 Full Time Employees

The Forest Practices program funded 120.7 FTEs and utilized 115.5 FTEs in FY2020, which translates to a 4.3% vacancy rate (Table 22). The vacancies accrued primarily in the Act & Rules and Program Development sub-programs, showing the effect of enacting a deliberate hiring freeze beginning in March 2020 as a part of the plan to align spending with available funding (see Section 15.1).

Table 22: FY2020 Forest Practices Program Staffing by Functional Sub-Program, Showing Allotted and Utilized Full Time Equivalents

Forest Practice Program Functional Sub-Program	Allotted FY2020 FTEs	Actual FTEs used in FY2020	Difference
Forest Practices Act & Rules	106.77	102.19	4.58
Adaptive Management Program	7.46	7.51	(0.05)
Small Forest Landowner Office	2.00	2.00	0
Program Development	4.46	3.76	0.70
TOTALS	120.69	115.46	5.23

16. Washington Timber Harvest Report

16.1 Introduction

The Washington State Timber Harvest Report is not available because the data was unavailable from the Washington State Department of Revenue (DOR). As of 2018, DOR changed the way it stores the harvest data, meaning that the previous queries used to extract the data from their databases no longer work and DOR is unable to provide data in a usable form. It may be possible for DOR to create new queries to provide DNR with the data in the future, but that potential is still being explored and would not happen before mid-2021 at the earliest.

Appendices



Appendix 1: CWA 2019 Assurances 2-year Extension



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000

711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

December 2, 2019

Forest Practices Board
PO Box 47012
Olympia, WA 98504

Re: Forests and Fish Program – End of 10 year Clean Water Act Extension Period

Dear Forest Practices Board Members:

Twenty years have passed since the adoption of the 1999 Forests and Fish Report. During the intervening years, the Department of Ecology (Ecology) with the support of the U.S. Environmental Protection Agency, has maintained the commitment to provide the Clean Water Act Assurances (Assurances) for forest practices in Washington State. The Assurances provided promised federal guarantees covering both the Clean Water Act, as well as the Endangered Species Act, to serve as a predictable and a consistent regulatory framework for the forest industry.

Ecology's original Assurances provided a Schedule M-2 of the 1999 Forests and Fish Report. The Assurances established a conditional, ten-year agreement to treat the development of traditional Clean Water Act water cleanup plans (Total Maximum Daily Loads) on Washington's forest lands as a low priority, while relying on the state's forestry rules to ensure water quality standards would be met on forest lands. Maintaining an effective Adaptive Management Program to test the forestry rules and revise them if found inadequate, was a critical condition for maintaining these Assurances.

The original 1999 Assurances established a 2009 milestone to verify that the state's forestry rules were on-track for bringing waterbodies into compliance with water quality standards. In 2009, Ecology's review of the Adaptive Management Program found that it could not demonstrate success in meeting water quality objectives. With commitments from key stakeholder groups, Ecology extended the Assurances for another ten years until 2019, in order to provide more time to verify the effectiveness of the rules or revise them as needed. The extension included key milestones to demonstrate steady incremental improvement in the program.



Key Adaptive Management Program achievements to date include:

- The establishment of long term funding for the Adaptive Management Program.
- The Type F (fish-bearing streams) buffers the effectiveness of monitoring studies conducted in eastern Washington and provides a measure of confidence that the riparian rules are meeting performance targets for thermal water quality protection for these fish-bearing waters.
- The priority Westside Type N (non-fish-bearing streams) hard rock study is complete and a package of Westside Type N studies are due for completion in 2020.

Establishing long term funding for the Adaptive Management Program and completing the above referenced studies is a major achievement since 2009. The challenge we now face is implementing the required adaptive management.

The first two years of the 2009 extension showed good progress in meeting key milestones identified, but the momentum was not sustained through the ten-year extension of the Assurances. A number of milestones established to ensure progress of the Adaptive Management Program to support certainty of meeting water quality objectives remain incomplete. Milestones associated with priority research projects delayed the completion dates for some of the milestones projected to be complete five years beyond their original target dates. Ecology has consistently raised concerns about these missed milestones to the Forest Practices Board during routine updates.

Looking specifically at the science, we have found that the Type N studies clearly show Type N riparian rules need strengthening to protect water quality. Revising the rules to meet water quality objectives was the precursor for the establishment of the Adaptive Management Program. The Timber Fish and Wildlife Policy Committee and the Forest Practices Board have recently agreed to a workgroup process aimed at developing new rule prescriptions. Ecology views this as a positive step and looks forward to the establishment of a clear timeline for such rulemaking.

With the Assurances expiring at the end of this calendar year, I have conducted an in-depth review of the Adaptive Management Program, weighed the many positive features of the program with the ongoing performance concerns and delayed progress. Based on my review, I have decided to extend the Assurances to December 31, 2021. This will provide ample time for Board Members to reach an agreement on the revision of the Type N rules, to protect temperature better.

This extension aligns with the existing Timber Fish and Wildlife Policy Technical Type N Prescriptions Workgroup charter (dated March 7, 2019). Evidence of adaptive management success would be the Board issuing a draft rule available for public comment before the end of 2021. This will require a CR101 filing in the summer of 2021, a draft CR102 developed, and distributed for public review by the end of November 2021.

The Forests Practices Boards
December 2, 2019
Page 3

At the end of 2021, I will consider another extension to the Assurances. If the Type N rules are effectively improved, we will be able to conclude that the Forests and Fish Report and the Adaptive Management Program are working to achieve water quality standards, in which case Ecology will be supportive of extending the Assurances for a longer period.

Ecology believes that, in addition to committing to rulemaking to protect water temperature on Type N streams, improvements to the Adaptive Management Program process are necessary to create a program that participants can rely on to test the effectiveness of the rules in protecting water quality and to timely modify those rules as the science dictates. Therefore, we urge the Board and the Adaptive Management Program Cooperators to identify and implement system improvements, over this two-year period, and to continue to prioritize the completion of the remaining uncompleted research milestones identified in the 2009 Assurances review.

Thank you very much for working with Ecology on protecting Washington State's waters.

Sincerely



Maia D. Bellon
Director

Enclosure

cc: Environmental Protection Agency
National Marine Fisheries Service
United States Fish and Wildlife Service
Forest Practices Board Liaisons
Timber Fish and Wildlife Policy

Appendix 2 – AMP Electrofishing

Electrofishing Conducted for Adaptive Management Research

Pre- and Post-Activities Report, FY 2020

(As required under the Incidental Take Permit for the Forest Practices HCP)

Pre-Electrofishing

1. Name of project:

Eastside Type N Riparian Effectiveness Project

Date of project implementation:

Electrofishing occurred June 17, 2020

Primary contact for project:

Teresa Miskovic, DNR Adaptive Management Project Manager, 360-902-2599,
teresa.miskovic@dnr.wa.gov

Names of watersheds where surveys will be conducted:

- North Fork Coxit Creek a tributary to Coxit Creek that is a tributary to Sinlahekin Creek in Okanogan County.

2. Estimate the number of listed fish or miles of listed-species habitat affected by electrofishing activities:

No listed fish were affected. Electrofishing occurred for Cutthroat Trout and Rainbow trout.

3. Provide names and qualifications of the staff, contractors, or cooperators who will be supervising the field work:

Dakota Vogel and Sean Olsen – Completed Smith-Root Electrofishing Principals and Safety Certification. Dakota has 10 years and Sean has 5 years of Smith-Root electrofishing experience at WestFork Environmental.

WestFork Environmental has completed over 5,000 protocol surveys in the state of Washington over the last 15 years.

4. Provide a copy of the operating protocols designed to reduce effects to listed fish while maintaining the efficiency of the surveys and monitoring (operating protocol includes guidelines by National Marine Fisheries Service (NMFS 2000) and any subsequent updates):

Sampling was conducted using standard backpack electrofishing protocols established in chapter 13 of the DNR Forest Practices Board Manual. Spatially continuous, single-pass backpack electrofishing operating protocol guidelines by USFWS and NOAA Fisheries were followed. We electrofished to determine the end of fish point on North Fork Coxit Creek for stream typing purposes. Electrofishing settings were set appropriately for the stream.

Post Electrofishing

1. Document the length of stream-survey and electrofishing activity:

2,079 feet

2. Document any listed-fish encounters:

No listed-fish were encountered. Only one fish was detected, a rainbow trout, 150mm in length.

3. Document any effects that rose to the level of incidental take (harm to habitat or listed species) including mortality:

No harm to habitat or listed species occurred.

4. List the apparent condition of all listed fish specimens encountered:

N/A

***Make sure to submit any Federal and State permits that were obtained.**



WASHINGTON STATE SCIENTIFIC COLLECTION PERMIT Washington Department of Fish and Wildlife

*Please see **SCIENTIFIC/EDUCATION COLLECTION PERMIT (SCP) INSTRUCTIONS** (separate document) for completing this application. This form must be used, typed and all sections must be completed. Incomplete applications will be returned and result in a delay in the issuance of your permit. An Annual Report must be received before a renewal permit can be issued.*

Applications and annual reports must be submitted via e-mail to scp@dfw.wa.gov.

Please allow up to **60 days** for processing. Due to the review process, SCP applications cannot be expedited.

Attach a brief Study Plan and Applicant Qualifications. **PLEASE SEE INSTRUCTIONS.**

A **\$117.00** fee is required with the application (per RCW 77.32.240).

If you have questions, please contact:

WDFW Licensing Division SCP

PO Box 43154

Olympia, WA 98504-3154

Phone: (360) 902-2464, Option 4

E-mail: scp@dfw.wa.gov

Permit Number (WDFW Use Only): **YATES 20-005**

WHO:	1. APPLICANT INFORMATION		
	Name: Jarrod Yates	Agency: West Fork Environmental, Inc.	
	Phone Number: 360.753.0485	Mailing Address: PO Box 4455	
	E-mail: jarrod@westforkenv.com	City: Tumwater	State: WA
		Zip Code: 98501	
	2. SUB-PERMIT HOLDERS		
	NAME/PHONE NUMBER:	NAME/PHONE NUMBER:	
	Erek Arnold - 360.753.0485	Sean Olsen - 360.753.0485	
	Heidy Barnett - 360.753.0485	Phil Peterson - 360.753.0485	
	Gavin Nishiyori - 360.753.0485	Dakota Vogel - 360.753.0485	
	3. THIS APPLICATION IS:		
	<input type="checkbox"/> New	<input checked="" type="checkbox"/> Renewal of last year's Permit # <u>YATES 18-366</u>	
	<input type="checkbox"/> Amendment to Permit # _____		
	4. PURPOSE OF COLLECTION OR HANDLING		
	<input type="checkbox"/> Instruction/Education Display		
	<input checked="" type="checkbox"/> Research/Scientific Investigation (includes ELECTROFISHING)		
	<input type="checkbox"/> Salvage (deceased animals only)		
	<input type="checkbox"/> Fish Rescue/Relocation		
	5. RESEARCH OBJECTIVES		
	<input type="checkbox"/> Aging	<input type="checkbox"/> Behavior	<input type="checkbox"/> Physiology
	<input type="checkbox"/> Census	<input checked="" type="checkbox"/> Presence/Absence	<input type="checkbox"/> Population Distribution
	<input type="checkbox"/> Pathology	<input type="checkbox"/> Genetic	<input checked="" type="checkbox"/> Stream Typing
	<input type="checkbox"/> Other: _____		
WHEN:	6. PERMIT TIMELINE*:		
	Project Start Date: 03/09/2020	Project End Date: 12/31/2020	

Permit Expiration Date (WDFW Use Only): **31 DECEMBER 2020**

*SCPs are valid for a maximum of 12 months.

WHAT: **7. TYPE OF ANIMALS TO BE COLLECTED OR HANDLED:**
 Wildlife Fish Aquatic Invertebrates – specify: _____ Marine Freshwater

8. SPECIFIC TYPE(S)

Wildlife <input type="checkbox"/> Non-Raptor Birds <input type="checkbox"/> Raptors <input type="checkbox"/> Mammals <input type="checkbox"/> Bats <input type="checkbox"/> Terrestrial Invertebrates <input type="checkbox"/> Reptiles/Amphibians	Fish <input type="checkbox"/> Marine Fishes <input checked="" type="checkbox"/> Freshwater Fishes	<input checked="" type="checkbox"/> State and/or Federal Threatened or Endangered Species Species Detail: <u>Bull Trout, Chinook, Coho, Steelhead</u> Proof of Federal Authorization (Permit # or BiOP): <u>TE85447A-1 and 15486-2R</u>
---	--	---

9. COLLECTION INFORMATION (Continued on page 8):

Species Requested – Both Common & Scientific names are required.	Specific Location & County Stream Section for Fish County must be included	Max # of Lethal Take or Live Permanent Removal	Max # of Non-lethal Take or Salvage
Brook Trout (<i>Salvelinus fontinalis</i>)	Adams, Douglas, Ferry, Franklin, Garfield, Grant, King, Lincoln, Pend Oreille, Skagit, Snohomish, Spokane, Stevens, and Walla Walla Counties	5	100
Brown Trout (<i>Salmo trutta</i>)	Columbia, Ferry, Pend Oreille, Stevens, and Walla Walla Counties	1	20
Bull Trout (<i>S. confluentus</i>)	Asotin, Columbia, Garfield, Ferry, Pend Oreille, Skagit, Snohomish, Stevens, Walla Walla, and Whatcom Counties	0	1
Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	Asotin, Columbia, Cowlitz, Clark, Garfield King, Pacific, Pierce, Skagit, Snohomish, Thurston, Wahkiakum, Walla Walla, and Whatcom Counties	1	10
Coho Salmon (<i>O. kisutch</i>)	Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, King, Kitsap, Lewis, Mason, Pacific, Thurston, and Wahkiakum Counties	5	100
Cutthroat Trout (<i>O. clarkia</i>)	Benton, Cowlitz, King, Klickitat, Lewis, Okanogan, Pend Oreille, Skagit, Skamania, Snohomish, Spokane, Stevens, Thurston, Whatcom, and Yakima Counties	25	500
Lamprey	Asotin, Columbia, Garfield, Pacific, Pierce, Wahkiakum, and Walla Walla Counties	1	20
Rainbow Trout (<i>O. mykiss</i>)	Asotin, Benton, Columbia, Cowlitz, Garfield, King, Klickitat, Lewis, Okanogan, Pend Oreille, Skagit, Skamania, Snohomish, Spokane, Stevens, Thurston, Walla Walla, Whatcom, and Yakima Counties	15	300
Sculpin (<i>Cottus sp.</i>)	Asotin, Clallam, Clark, Columbia, Cowlitz, Garfield, Grays Harbor, King, Kitsap, Lewis, Mason, Pacific, Pierce, Skamania, Snohomish, Thurston, Wahkiakum, and Walla Walla Counties	15	300

HOW: **10. METHODS OF COLLECTION**
 Firearms are being used for this collection.

Lethal Methods: N/A	Species: N/A
Non-lethal Methods: electrofishing	Species: all species listed
Salvage Methods: N/A	Species: N/A
Body-gripping traps: <input type="checkbox"/> Padded Foot-hold <input type="checkbox"/> Non-strangling type Foot Snare	Species: N/A
Electrofishing: <input checked="" type="checkbox"/> Backpack <input type="checkbox"/> Boat	Species: all species listed
11. MARKING	
<input type="checkbox"/> Band <input type="checkbox"/> Mark <input type="checkbox"/> Other (please describe): _____	
<input type="checkbox"/> Fit with radio/acoustic telemetry transmitters: Max # of Transmitters _____ Radio Frequencies/Tag Codes	
12. DISPOSITION OF SPECIMENS	
<input type="checkbox"/> Display Permanent – Dead	<input type="checkbox"/> Display Temporary - Dead
<input type="checkbox"/> Display Permanent – Live	<input type="checkbox"/> Display Temporary – Live
<input type="checkbox"/> Tissue sampling	
<input type="checkbox"/> Laboratory use	
<input type="checkbox"/> Live Housing Research of Laboratory use – Permanent	
<input type="checkbox"/> Live Housing Research of Laboratory use – Temporary	
<input checked="" type="checkbox"/> Immediate Release at Capture Site	
<input type="checkbox"/> Relocated to Wild (additional permits may be required; wildlife may not be captured and relocated without a permit)	
<input type="checkbox"/> Carcass disposal at site	
<input type="checkbox"/> Euthanize	
<input type="checkbox"/> Other (please describe): _____	

GENERAL PERMIT CONDITIONS:

1. A Scientific Collection Permit is non-transferable.
2. A copy of this permit must be in the possession of any person exercising the privileges authorized by this permit.
3. The Permit Holder is responsible for ensuring that all Sub-Permit Holders are qualified and experienced to conduct the specified activities, including collection by firearms and comply with all conditions of this permit. Only those Sub-Permit Holder(s) listed on the permit are authorized to engage in permitted activities.
4. Please note that compliance with Scientific Collection Permit requirements and permit conditions does not ensure compliance with federal, local, or other state laws. Collection of state or federal endangered or threatened species, state sensitive species, or state or federal candidate species is prohibited unless specifically authorized in this permit. Collection of game birds or game animals is prohibited unless specifically authorized in this permit. Collection of migratory birds, marine mammals, and any species listed under the federal Endangered Species Act may require a federal permit before collecting. For any collection/research activity of marine mammals and/or federally-protected anadromous and marine fish species, etc., contact NOAA-National Marine Fisheries Service at <http://www.nmfs.noaa.gov/endangered.htm> or 503-230-5400. For any collection/research activity of migratory birds, resident fish species (Bull Trout) and/or federally-protected wildlife, contact U.S. Fish and Wildlife Service at <http://endangered.fws.gov> or 360-753-9440.
5. This permit does not authorize collection from **non-WDFW** protected lands or waters (may include but not exclusive to: parks, reserves, refuges, natural areas, conservation areas, tribal lands, monuments, etc.). This permit does not authorize trespassing on private or restricted public lands. Additional permits issued by other state and local agencies, tribal governments, or landowners/managers may be required.
6. No collection shall occur in WDFW Marine Preserves or Conservation Areas (see <https://wdfw.wa.gov/fishing/management/mpa/marine-preserves> or <https://wdfw.wa.gov/fishing/management/mpa/conservation-areas>), or Wildlife Areas unless permission is obtained from the Area manager. Contact the appropriate WDFW Regional Office for information. Regional office information is listed at <https://wdfw.wa.gov/about/regional-offices>.

7. Specimens acquired under this permit remain the property of the state and will not be offered for sale or sold or used for commercial purposes or human consumption. Exchange or transfer of specimens, unless otherwise specified in this permit, requires prior written approval from the Director of WDFW.
8. Employees of WDFW have the right to inspect the collection activities authorized by this permit.
9. Vessels engaged in collection activities shall display a sign "RESEARCH," readable at 100 feet to unaided vision.
10. Permit Holders using unattended equipment must have attached to that equipment, a tag clearly marked with the permit number and name and current address of the Permit Holder. The address used may be that of the organization the Permit Holder represents, e.g., university, company, or corporation.
11. Permit holders may only use FDA approved fish anesthesia.
 - a) **MS-222** may not be used at times and in places where fish may be subject to "catch and keep" fisheries within 21 days;
 - b) **Clove oil** may not be used at all;
 - c) **AQUI-S®** may be used as an alternative to MS-222.
 - i. To use AQUI-S® 20E as an immediate release sedative in freshwater fish for field-based activities, permit holder must sign up to participate in USFWS-AADAP INAD 11-741 and must comply with the requirements as set forth in the INAD Study Protocol for AQUI-S® 20E (for more information about aquatic animal drugs, AQUI-S® 20E, or to apply to participate in USFWS-AADAP INAD 11-741 go to <https://www.fws.gov/fisheries/aadap/inads/AQUI-S20E-INAD-11-741.html> or contact the USFWS-AADAP INAD Administrator Bonnie Johnson at bonnie_johnson@fws.gov or 406-994-9905). Carbon dioxide can be used as a fish anesthetic as per FDA rules and requires no withdrawal time;
 - d) Carbon dioxide can be used as a fish anesthetic as per FDA rules and requires no withdrawal time;
 - e) As alternative to chemicals, electroanesthesia can be used as a fish anesthetic and requires no withdrawal time.
12. Unless otherwise specified in this permit, release of specimens is allowed only at the exact capture site immediately after capture. Release of fish and marine and freshwater invertebrates at any other site or time requires a transport, release, or planting permit. Relocating wildlife and releasing wildlife other than at the location of capture requires a special permit. The conditions of this permit may specify that no release of certain specimens is allowed. Contact WDFW Fish Program (360-902-2700) or Wildlife Program (360-902-2515) for further information.
13. Temporary holding of wildlife is permitted for identification only. Individuals must be released at site of capture, unless they exhibit evidence of disease.
14. Wildlife Salvage — Notify the WDFW immediately if any State or Federally listed Threatened or Endangered species are encountered or salvaged and any salvaged State or Federal Threatened or Endangered Species must go to a major research collection such as WSU Conner Museum, University of Puget Sound Slater Museum of natural History, or UW Seattle Burke Museum, or as directed by the WDFW.

Reporting Requirements:

Permit renewal is contingent upon submission of a complete Annual Report. Reports must be submitted to WDFW upon completion of the display, education, or research project or the expiration date of the permit, whichever comes first, and must be received no later than 60 days after the expiration of the permit. All reports submitted to WDFW shall include Permit Holder's name and permit number and all required information on the Annual Report Form.

For **anadromous fish and freshwater collections**, the report shall include the 1) Date of collection; 2) Species name (for invertebrates, to the lowest taxonomic level possible); 3) Numbers of each species encountered and/or retained; 4) Location of each sample site, including county, water body, and latitude/longitude or GPS coordinates; 5) Disposition of specimens. This information is to be recorded at each capture site and includes ALL species encountered (or impacted by the collection activity) even if not retained or meant for the study

For **marine collections**, the report shall include the 1) Date of collection; 2) Species name (to the lowest taxonomic level possible); 3) Numbers of each species encountered and/or retained; 4) Location of each sample site, including county, water body, and latitude/longitude or GPS coordinates; 5) Disposition of specimens. This information is to be recorded at each capture site and includes ALL classified and unclassified species encountered (or impacted by the collection activity) even if not retained or meant for the study.

IN ADDITION for:

- i. **Rock scallops** (*Crassodoma gigantea*) include: specific location, mortality of any rock scallop during collection, exact position and depth of specimens collected, and shell length measured from edge to edge at the widest part of the shell.
- ii. **Octopus** (*Enteroctopus dofleini*) include: specific location, individual weight, depth, and sex of octopus taken.

For **wildlife collections**, the annual report shall include all categories on the Annual Report Form including the 1) Date of collection; 2) Species name (common and scientific) with numbers collected, numbers released, and disposition of individuals; 3) Location of collection including GPS coordinates, number of accidental mortalities.

SPECIAL CONDITIONS:

Aquatic Invasive Species (AIS) Conditions:

1. To prevent the spreading of aquatic invasive species, permit holder shall follow the procedures in the attachment, WDFW Protocols For Field Work Version 3 dated February 2016 (or the latest version of this document). For additional information on aquatic invasive species, please visit the WDFW website at <https://wdfw.wa.gov/species-habitats/invasive/prevention>.
2. Permit holder is required to humanely euthanize all collected aquatic invasive species (AIS) classified as "Prohibited aquatic animal species" under WAC 220-640-040 except as noted below for transport purposes. Collection of all Prohibited level 1 species¹ must be reported immediately to WDFW with photos of the species and specimens saved until provided to WDFW or directed to dispose. All other prohibited AIS must be euthanized before being removed from the immediate vicinity of the water body where collected and then disposed of in a public landfill system or chemically preserved. Collection and disposal of all other prohibited AIS must be included in a report submitted to WDFW within 30 days using the online reporting form noted below.
3. Permit holder may transport live prohibited AIS outside the immediate vicinity of the water body where collected only under the following conditions:
 - a. Transport to nearest WDFW regional office or headquarters for purpose of identification; AND
 - b. Transported in a secure container to prevent release of either the AIS or any associated water, plant, sediment, animal, or other materials; OR
 - c. Transported as authorized by a separate WDFW AIS Permit secured prior to collection.
4. Contact information:
 WDFW Headquarters: 360-902-2700 and request Aquatic Invasive Species Unit Staff
 Online reporting form: www.wdfw.wa.gov/ais/reporting
 Toll-free: 888-933-9247

¹ Includes: Zebra mussels (*Dreissena polymorpha*), quagga mussels (*Dreissena rostriformis bugensis*), European green crab (*Carcinus maenas*), and all members of the genus Eriocheir (including Chinese mitten crabs), all members of the walking catfish family (Clariidae), all members of the snakehead family (Channidae), silver carp (*Hypophthalmichthys molitrix*), largescale silver carp (*Hypophthalmichthys harmandi*), black carp (*Mylopharyngodon piceus*), and bighead carp (*Hypophthalmichthys nobilis*).

State Threatened, Endangered, or Sensitive Species -- Federal Threatened or Endangered Species

1. ESA listed fish must not be handled if water temperatures exceed 21°C (69.8°F).
2. Each ESA listed fish that must be handled out-of-water for the purpose of recording biological information must be anesthetized. Anesthetized fish must be allowed to recover (e.g., in a recovery tank) before being released. Fish that are simply counted must remain in water but do not need to be anesthetized.
3. When using methods that capture a mix of species, ESA-listed fish must be processed first.
4. Permit holder shall apply measures that minimize risk of harm to listed and unlisted fish. These measures include but are not limited to: limitations on the duration (hourly, daily, weekly) of trapping, limits on trap holding duration of listed fish prior to release; application of procedures to allow safe holding and careful handling and release of listed fish; and allowance for free passage of listed fish when trapping facilities are not being actively operated.

Stream Typing Requirements

1. Permit holder must adhere to all of the protocols in Forest Practices Board Manual Section 13.
2. Prior consultation will occur with WDFW and affected tribes.
 - i) Once the exact location(s) of the survey(s) to be conducted is (are) known, the appropriate tribal TFW representatives, WDFW Habitat Biologists, and WDFW Fish Biologists must be contacted in advance of the surveys being done.
 - ii) For WDFW staff, this should be no less than 96 hours and must include:
 - (1) Species Requested – include common and scientific name. These are the species anticipated to be encountered or intended to be collected.
 - (2) Location and County – provide a brief location or name (such as a stream or lake, etc.) and the county or counties in which collecting will occur. Do not enter statewide.

- (a) If a stream, also provide the section
- (b) List the specific collection site(s) such as Township/Range/Section, River Mile, or GPS coordinates.
- iii) A copy of the information from part ii above shall be provided to WDFW fish biologist Bruce Baker (Bruce.Baker@dfw.wa.gov) and to WDFW Forest Habitats and Water Typing Biologist John Heimburg.
- 3. The stream typing window is from March 1, 2020 to July 15, 2020. However, April 20, 2020 to June 30, 2020 is designated as the core survey time. Surveys may not be conducted outside of the core survey time unless a written approval has been issued from WDFW.
- 4. Here is the link to WDFW Habitat Biologists and District Fish Biologists: (http://wdfw.wa.gov/about/contact/district_biologists.html).

Non Stream Typing Surveys

At least 96 hours prior to initiating any fish collection activities, the permit holder shall notify the appropriate WDFW District Fish Biologist(s) in writing of:

1. Species Requested – include common and scientific name. These are the species anticipated to be encountered or intended to be collected.
2. Location and County – provide a brief location or name (such as a stream or lake, etc.) and the county or counties in which collecting will occur. Do not enter statewide.
 - a. If a stream, also provide the section
 - b. List the specific collection site(s) such as Township/Range/Section, River Mile, or GPS coordinates.
3. Additional site-specific conditions may then be added to this permit in order to avoid compromising other aquatic monitoring and research activities as well as avoiding any undo harm to fishes and aquatic invertebrates.
4. The permit holder shall also provide a copy of this information to WDFW fish biologist Bruce Baker (Bruce.Baker@dfw.wa.gov).
Here is the link to WDFW District and Area Fish Biologists: (https://wdfw.wa.gov/sites/default/files/2020-01/wdfw_fish_district_bios.pdf).

Electrofishing Standards

Overall, electrofishing shall be conducted in a manner that minimizes stress and injury to aquatic species and assures human safety.

1. Electrofishing shall be avoided when environmental factors exist that would prevent samplers from being able to observe or detect target species.
 - a. Turbidity.
 - b. Temperature (see standard no. 3).
 - c. Flow.
2. Electrofishing is prohibited in identified bull trout habitat and salmonid spawning areas during time of spawning and incubation (when eggs are in the gravel).
3. Electrofishing is prohibited when water temperatures are below 4 degrees Celsius or above 18 degrees Celsius prior to concluding the electrofishing survey (per the NOAA guidelines at http://www.westcoast.fisheries.noaa.gov/permits/section_4d.html under "resources" "electrofishing"). The intent of this prohibition is to prevent mortality and/or disease that could be attributed to additional stresses from electrofishing placed on fish that are already stressed from elevated water temperatures.
4. Aquatic species must be removed from the electrical field immediately; avoid holding fish or other aquatic species in net when electrical current is on.
5. Electrofishing must always be conducted with at least 2 people for safety and for greater sampling efficiency. Electrically rated rubber gloves (lineman) and non-breathable waders should be worn by sampling crew. A separate hand-held net must always be positioned downstream from the anode so that fish, which are exposed to the electrical field, will not be swept away in the current without being detected.
6. Use electrofishing settings that minimize injury to aquatic species:
 - a. Use electrofishing units with straight direct current (DC) settings if possible.
 - b. If straight DC is not an option, begin by sampling with lower frequencies or pulse rates (30 Hz).
 - c. Avoid electrofishing units that cannot produce pulsed DC with frequencies less than 60 Hz.
 - d. If Duty Cycle is a programmable option on your unit, use 15%. If Pulse Width is a programmable option on your unit, use 5 milliseconds. These settings are documented to minimize injury rates and are highly effective under a wide range of conductivities.
 - e. Never use any form of alternating current (AC) output.

Stream Typing Requirements (*Heimburg Condition*)

An Annual Report must be submitted before renewal of next year's permit is granted. Under **RCW 77.15.660**, a violation of the terms or conditions of the scientific permit or any WDFW rule applicable to the issuance or use of the permit is a gross misdemeanor if the violation involves big game or big-game parts. It is also a gross misdemeanor under RCW 77.15.660 to purchase or sell big game or big-game parts that were taken or acquired with a scientific permit. Under **RCW 77.15.160**, a violation involving anything other than big game or big-game parts is an infraction.

By signing below, I, Jarrod Yates, agree to abide by the conditions set forth in the Scientific Collections Permit issued by the Washington Department of Fish and Wildlife. I agree to all the conditions outlined in **WAC 220-200-045** and **RCW 77.32.240**. I also certify that if **firearms** are being used for collection under this permit, all persons who will use firearms are legally capable of possessing firearms (per WAC 220-200-045(3)(e)).

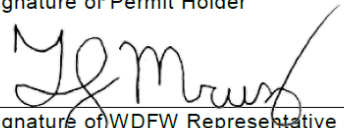
This permit is not valid until signed by the permit holder and the WDFW Representative.



Signature of Permit Holder

.....
2 March 2020

Date



Signature of WDFW Representative

2 March 2020

Date

THIS PERMIT MAY BE REVOKED OR MODIFIED AT THE DISCRETION OF THE DIRECTOR OR THE DIRECTOR'S DESIGNEE.

Appendix 3: FPAs Associated with 20-Acre Exempt Parcels

Appendix 3a: Potential Loss of LWD Recruitment

Estimated Potential Percent Loss of Large Woody Debris Recruitment Potential, by Watershed Administrative Unit (WAU)	
Watershed Administrative Unit	Percent (%) Reduction in LWD Function in WAU
Abernathy	0.068
Acme	0.105
Alder	0.049
Anderson Creek	0.098
Antonie Creek	0.022
Bangor-Port Gamble	0.676
Bear River	0.094
Beaver Creek	0.029
Bellingham Bay	0.128
Birch Bay	0.162
Black River	0.037
Blanchard Creek	0.037
Bogachiel	0.053
Bremer	0.040
Bunker Creek	0.329
California/Lower Rock	0.055
Camano Island	0.327
Camas Valley	0.039
Carbon	0.121
Carpenter	0.315
Cathlapotl	0.302
Cedar Creek	0.081
Cedar Creek/Chelatchie Creek	0.814
Chamokane	0.010
Chehalis	0.324
Chehalis Headwaters	0.023
Chehalis Slough	0.102

Chico Creek	0.111
Chimakum	0.099
Chinook	0.027
Chumstick	0.143
Church Creek	0.682
Cloquallum	0.126
Coal Creek	0.468
Columbia River/Rock Creek	0.018
Colvos Passage/Carr Inlet	0.570
Conboy	0.042
Connelly	0.148
Copper Creek	1.197
Corkindale	0.144
Cottonwood Creek	0.067
Cowlitz River/Mill Creek	0.177
Damfino	0.218
Davis Creek	0.153
Day Creek	0.259
Deadman Creek/Peone Creek	0.235
Delameter	0.065
Delezene Creek	0.153
Deming	0.063
Diobsud Creek	2.097
Discovery Bay	0.053
Dragoon Creek	0.115
Drayton	0.780
Dungeness Valley	0.031
Dyes Inlet	0.273
East Creek	0.070
East Fork Hoquiam	0.213
East Fork Humptulips	0.102
East Fork Satsop	0.006
East Stranger Creek	0.087
Electron	0.033
Elk Creek	0.017
Elk River	0.078
Everett	0.040
Ferndale	0.366
French-Boulder	0.098

Friday Creek	1.080
Garrard Ck.	0.029
Germany	0.119
Gibson Ck.	0.203
Gilligan	0.191
Grays Bay	0.050
Great Bend	0.046
Haller Creek	0.120
Hamilton Creek	0.044
Hansen Creek	0.503
Harmony	0.098
Harris Creek	0.092
Harstine Island	0.280
Hoko	0.004
Hope Creek	0.204
Horseshoe Falls	0.770
Huckleberry Creek	0.023
Hutchinson Creek	0.149
Independence Creek	0.179
Jim Creek	0.048
Johns River	0.058
Jordan	0.067
Key Peninsula	0.400
Kiona Creek	0.152
Lacamas	0.251
Lacamas Lake	0.411
Lake Crescent	0.209
Lake Merwin	0.440
Lake Whatcom	0.128
Liberty Miller - Appletree	0.614
Lilliwaup	0.025
Lincoln Creek	0.084
Little Boulder Creek	0.177
Little Deep Creek	0.040
Little Spokane/Deer Creek	0.092
Little Washougal	0.299
Little White Salmon River	0.017
Long Beach	0.135
Lost Creek	0.517

Lower Chehalis/Elizabeth Creek	0.175
Lower Coweeman	0.359
Lower Cowlitz	0.552
Lower Deschutes	0.126
Lower Dosewllips	0.185
Lower Elochoman	0.192
Lower Humptulips River	0.075
Lower Kalama	0.237
Lower Little Pend Oreille	0.074
Lower Middle Snoqualmie	0.028
Lower Naselle	0.064
Lower Newaukum	0.787
Lower North Fork Skykomish	0.214
Lower North Fork Stillaquamish	0.144
Lower Pilchuck Creek	0.288
Lower Pilchuck River	0.362
Lower Quinault River	0.173
Lower Riffe Lake	0.109
Lower Salmon Creek	0.171
Lower Skokomish	0.162
Lower Snoqualmie River/Cherry Creek	0.137
Lower Stilloquamish River	0.026
Lower Willapa	0.334
Lower Wind	0.044
Lower Wishkah	0.042
Lynch Cove	0.233
Magee Creek	0.125
Mashel	0.036
Mason	0.178
McAllister	0.484
McLane Creek	0.049
Middle Fork 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	0.159

Mt Zion	0.034
Muck Creek	2.187
Naselle Headwaters	0.039
Nemah	0.037
Nineteen Creek	0.185
Nookachamps	0.034
North Fork Granite Creek	0.034
North Fork Newaukum	0.048
North Headwaters	0.048
North-Middle Forks Deer Creek	0.095
Ohop	0.044
Olequa	0.311
Onion Creek	0.050
Ostrander	0.421
Otter Creek	0.077
Packwood Lake	0.383
Palix	0.007
Patit Creek	0.046
Pend Oreille/Cedar Creek	0.032
Pend Oreille/Deer Creek	0.031
Pilchuck Mtn.	0.013
Port Angeles	0.172
Porter Canyon	0.091
Possession Sound-N. Elliot Creek	0.120
Quilceda Creek	0.396
Quillisascut Creek	0.517
Quinault Lake	0.208
Raging River	0.041
Reese Creek	0.056
Rock Creek	0.227
Salmon Creek	0.079
Salt Creek	0.318
Salzer Creek	0.155
Samish Bay	0.087
Samish River	0.215
Sammamish River	0.039
San Juan	0.032
Satsop	0.165
Scatter Creek	0.076

Sekiu	0.022
Sequim Bay	0.297
Siebert McDonald	0.062
Silver Lake	0.226
Skookum	0.015
Smith Creek	0.049
Smith Point	2.099
Sol Duc Lowland	0.027
Sol Duc Valley	0.042
South Fork Chehalis	0.009
South Fork Skokomish	0.252
South Fork Skykomish River	0.018
South Fork Willapa	0.085
South Sinclair Inlet	0.099
Squalicum Creek	0.472
St. Peter-Lambert	0.078
Stahley Mtn.	0.214
Stensgar Creek	0.037
Stillaguamish Flats	0.096
Stillwater	0.044
Sultan River	0.037
Sumas River	0.143
Sutherland Aldwell	0.319
Tacoma Creek	0.114
Tanwax Creek	0.541
Toandos Peninsula	0.076
Toutle River	0.293
Trout Creek	0.515
Upper Chehalis/Cedar Creek	0.047
Upper Chehalis/Rock Creek	0.099
Upper Coweeman	0.069
Upper Little Pend Oreille River	1.192
Upper NF Stilly	0.095
Vancouver	0.647
Vashon Island	0.094
Vedder	0.733
Verlot	0.102
Vesta Little North	0.013
Wanacut	2.049

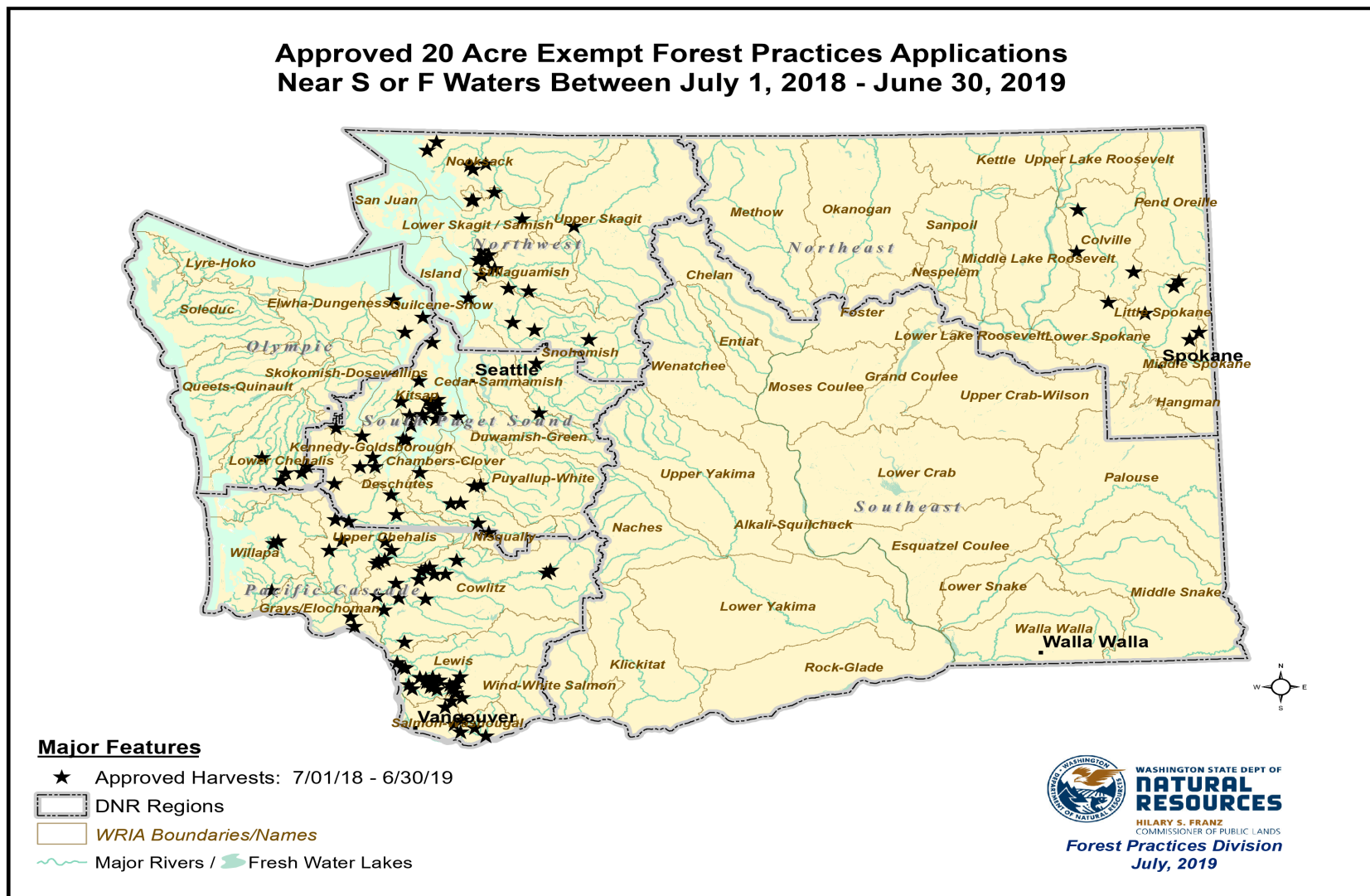
Warnick	0.084
West Branch	0.029
West Fork/Mid Fork Hoquiam	0.073
West Fork Wasougal	0.153
West Kitsap	0.025
Whidbey Island	0.522
White Salmon/Buck Creek	0.027
Wilkeson	0.032
Willapa Headwaters	0.019
Wilson Creek	0.034
Winston Creek	0.035
Wishkah Headwaters	0.076
Woodland Creek	0.671
Woods Creek	0.085
Wynochee River System	0.059
Yacolt	0.750
Yelm Creek	0.911
Young Cove	0.223

NOTE: Table includes a 2016 recalculation of fish bearing stream length by WAU on Forest Practices HCP covered lands to align report calculations with current GIS data.

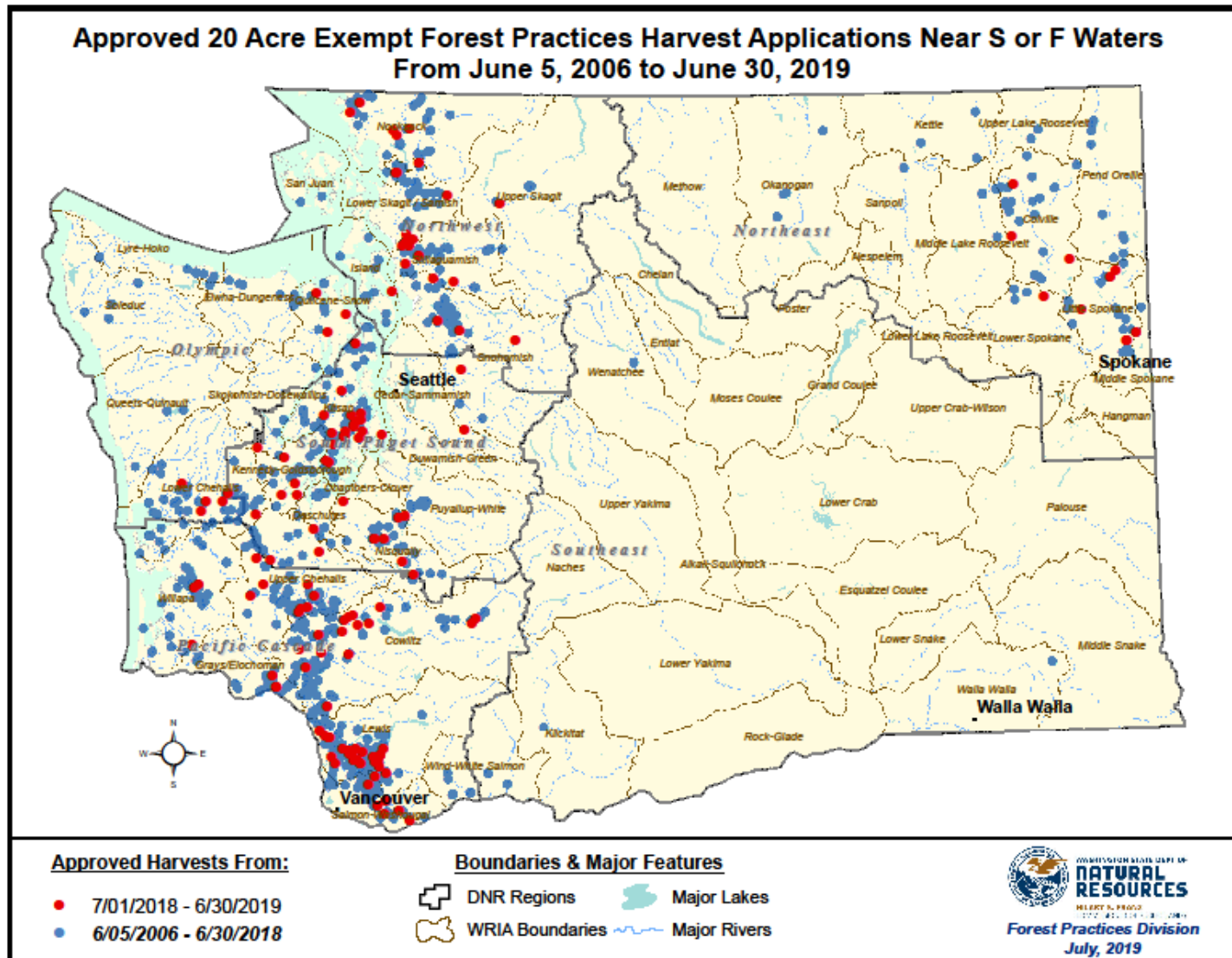
The table above shows estimated percent of loss (relative to standard Forest Practices prescriptions) of potential large woody debris recruitment in each WAU containing one or more 20-acre exempt FPAs over the elapsed fourteen-year period of the Incidental Take Permits. There are 846 WAUs in the state, of which 240 have had approved 20-acre exempt FPAs since the 2006 issuance of the Forest Practices HCP ITPs. Currently, in-office calculations indicate that each WAU affected by 20-Acre Exempt applications, except for seven, have less than 1 percent potential cumulative reduction in function relative to standard Forest Practices prescriptions. The seven WAUs: Diobsud Creek (2.097%), Muck Creek (2.187%), Smith Point (2.099%), Upper Little Pend Oreille River (1.192%), Copper Creek (1.197%), Wanacut (2.049%) and Friday Creek (1.080) all have less than 3 percent potential cumulative reduction in function. None of the seven WAUs with potential reduction in function over 1 percent are near the 10 percent threshold ([explained in Appendix 4](#)) established in the Incidental Take Permits. There are 111 WAUs indicating a potential of reduction in function between 0.1 and 0.9 percent, and the remaining 122 WAUs 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.

[Back to Body of FPHCP Annual Report](#)

Appendix #3b: Approved 20-Acre Exempt FPAs near S or F Waters 7/1/18 – 6/30/19



Appendix #3c: Approved 20-Acre Exempt FPAs near S or F Waters 6/5/06 – 6/30/19



Appendix 4: History and Background for the Forest Practices Habitat Conservation Plan Reporting Elements

Introduction to Forest Practices HCP

Washington state’s Forest Practices stakeholders (those interested in regulation of forest practices), focused on regulatory changes for habitat protection measures for aquatic resources on non-federal, non-tribal forestlands from the mid-1990s to the early 2000s. Three emerging concerns propelled the State toward change during this time: multiple listings of threatened and endangered salmonids, forest stream water quality issues, and water-typing inconsistencies that affected Forest Practices Applications.

In the mid-1990s, 660 Washington stream segments were identified as not meeting Federal Clean Water Act (CWA) water quality standards and were placed on the CWA 303(d) list. The CWA requires each state to develop and adopt water quality standards that are approved by the Environmental Protection Agency (EPA). The CWA solution for stream segments affected by non-point source pollution, such as pollution resulting from timber harvest, is the development of a “plan of control” written by state agencies. The Department of Ecology (Ecology), the state agency that protects water quality in Washington, uses forest practices rules, some of which Ecology co-adopts, as the primary tool for a “plan of control” when forest practices are a potential contributor to water pollution. Given the growing list of streams found on the 303(d) list at the time, Ecology turned toward forest practices rulemaking to address potential forestry impacts to water quality.

Concurrently, the accuracy of forest practices water type base maps used to establish fish presence and absence – for purposes of determining and implementing appropriate forest practices protection measures – was in question. In the early 1990s, biologists often reported finding fish farther upstream in some areas than the official stream typing maps recognized. In 1996, Timber, Fish, and Wildlife (TFW) – a group of forest stakeholders – developed an emergency forest practices rules recommendation to address water typing issues that resulted in the Board’s adoption of new emergency water typing rules until a more permanent solution could be implemented. These emergency rules changed the water typing definitions by modifying the gradient and width criteria for fish-bearing waters. However, revised permanent forest practices rules were still needed to improve water typing accuracy.

Ultimately, multiple listings of threatened and endangered salmonids under the Endangered Species Act (16 U.S.C. 1539) (ESA) played the heaviest role in the regulatory change efforts to protect Washington's aquatic resources. Salmon are an integral part of life in the northwestern United States, and the collective impact of losing these iconic fish led the State to prioritize development of solutions to prevent the potential loss.

In October 1996, TFW, upon the urging of representatives from National Marine Fisheries Service and the Environmental Protection Agency, agreed to tackle the immense task of negotiating and developing a rule package solution for the above, three concerns. TFW invited two new caucuses – federal agencies and county representatives – to join with traditional TFW caucuses; state agencies, tribes, forest landowners, and conservationists in negotiating a rule package. The federal caucus was invited to the table to ensure the final product would reflect federal requirements for protection for listed species and clean water and the counties were invited because of their shared management of natural resources and the potential impact on listed aquatic species and water quality.

Concurrently in 1997, Gov. Gary Locke, in consideration of the State's potential loss of salmon, formed a Joint Natural Resources Cabinet and charged it with creating a salmon recovery plan for Washington State with an initial deadline of June 1998. A "Salmon Recovery Strategy" developed by the Cabinet called for the protection of salmon habitat through forest, agriculture, and urban modules. The Joint Natural Resources Cabinet turned to TFW to develop recommendations for the forestry module portion of the state's salmon recovery plan, thereby christening the TFW negotiations the "Forestry Module."

All forest stakeholders were looking to TFW to resolve forestry impacts on water quality, water typing, and threatened and endangered salmon species through regulatory rule change. As a stopgap measure for impacts on salmon, the Board adopted an emergency rule in 1998 to protect riparian habitat temporarily until permanent rules could be developed and implemented. The emergency rule made all forest practices activities within 100 feet of a stream or river that served as habitat for a listed species subject to review under State Environmental Policy Act (SEPA).

TFW forestry module negotiations for a permanent solution to forest stakeholder concerns formally began in November 1997 and ended in September 1998. Though the TFW negotiations did not produce a final TFW consensus product, (TFW follows a consensus decision-making model), the intense work of the TFW participants laid the foundation for a framework and comprehensive set of recommendations. Five out of six TFW caucuses (after the Conservation caucus left the negotiating table) continued working and produced a five-caucus consensus product, recorded in a set of recommendations called the [Forests and Fish Report](#) (U.S. Fish and Wildlife Service et.al., 1999). The stated goals in the Forests and Fish Report (FFR) (U.S. Fish and Wildlife Service et.al., 1999) were:

- 1) “To provide compliance with the Endangered Species Act for aquatic and riparian-dependent species on non-federal forest lands;
- 2) To restore and maintain riparian habitat on non-federal forest lands to support a harvestable supply of fish;
- 3) To meet the requirements of the Clean Water Act for water quality on non-federal forestlands; and
- 4) To keep the timber industry economically viable in the State of Washington.” (U.S. Fish and Wildlife Service et.al., 1999).

The recommendations in the [Forests and Fish Report](#) (U.S. Fish and Wildlife Service et.al., 1999) applied to approximately 12.7 million acres of non-federal, non-tribal-owned forestland.

The Washington State Legislature incorporated the Forests and Fish Report (U.S. Fish and Wildlife Service et.al., 1999) recommendations into the 1999 Salmon Recovery Act, directing the Forest Practices Board (Board) to adopt permanent forest practices rules that reflected the recommendations in the Forests and Fish Report (U.S. Fish and Wildlife Service et.al., 1999) with the option of adopting emergency rules first. Subsequently, the Board adopted emergency rules in January 2000 and permanent rules in May 2001, which became effective July 1, 2001.

The [Forests and Fish Report](#) (U.S. Fish and Wildlife Service et.al., 1999) and subsequent forest practices rules developed two broad regulatory protection strategies designed to minimize and mitigate forestry-related impacts and conserve habitat for aquatic resources. The first was called the Riparian Conservation Strategy, which includes protection measures implemented in and adjacent to surface waters and wetlands, including the water typing system, riparian and wetland management zones, and channel migration and equipment limitation zones. The second strategy, the Upland Conservation Strategy, provides measures aimed at protecting aquatic resources by minimizing and mitigating upslope forest impacts, including forest road condition, stream crossings, unstable slopes, and rain-on-snow hydrology. These measures are intended to limit excess coarse and fine sediment delivery to surface waters and wetlands, to eliminate fish blockages, and to maintain hydrologic regimes.

A final step in gaining compliance with the Endangered Species Act (ESA) for aquatic and riparian dependent species, was obtaining Incidental Take Permits (ITPs) under the ESA. The State developed the [Forest Practices Habitat Conservation Plan](#) (Forest Practices HCP) as a vehicle to obtain the ITPs and submitted it to the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) (collectively, the Services) in 2005. An ITP assures landowners and the State that as long as they follow the protection measures and Forest Practices program as described in the HCP, they are protected from certain types of

liability should incidental take (defined as harass, harm pursue, hunt, shoot, wound, kill, etc.) of listed threatened or endangered species occur during a covered forest practices activity.

In 2006, the Services accepted Washington's Forest Practices HCP and under the authority of the ESA, the Services issued Incidental Take Permits (one from each agency) to Washington State. The ITPs put Washington State forest practices in a position of compliance with the Endangered Species Act for those species covered by the HCP. The HCP covers approximately 9.3 million acres of forestland (not including forestlands already covered by an aquatic species HCP) and provides coverage for 53 fish species and seven amphibian species. The implementation of the Forest Practices HCP is a partnership between the Services and Washington State, which protects public resources (specifically, aquatic and riparian-dependent species). This multi-stakeholder effort addresses the habitat needs of all covered species.

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 the 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)
- Authoring portions of and editing the required annual and 5-year reports to the Services

[Back to FPHCP Annual Report](#)

Forest Practices Board

The Forest Practices 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 non-federal 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 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, 2020, was:

- Stephen Bernath, Commissioner of Public Lands Designee, Chair
- Ben Serr, Department of Commerce
- Rich Doenges, Department of Ecology
- Kelly McLain, Department of Agriculture
- Jeff Davis, Department of Fish and Wildlife
- Vicki Raines, Grays Harbor 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

Forest Practices is a dynamic environment with continual change in knowledge and understanding of natural forest systems and science that can lead to the need to change protective measures. The Board addresses this need for change by adopting or revising rules to protect public resources while maintaining a viable timber industry. When developing proposed rules for the Board to consider, the TFW Policy Committee strives to develop rules that are implementable, repeatable, and enforceable.

In addition to adopting rules, the Board provides guidance through the 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 associated with forestlands.

The Board is also a key structural component of the Forest Practices Adaptive Management Program 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. For more information, refer to the Adaptive Management Program section below.

Since the Board's 1976 creation, there have been a few large-scale seminal rule adoption/revision packages.

- 1976 adoption of the initial forest practices rules,
- 1982 package for adoption for threatened and endangered species, reforestation, and slash disposal,
- 1988 package for riparian management zones (RMZ), alternate plans, cultural resources, and ID teams,
- 1992 package for wetlands, watershed analysis, Class IV-special forest practices, stream temperature, wildlife reserve trees and down logs, and chemicals and fertilizer use,
- 2001 package for RMZ, roads, unstable slopes and other aquatic species habitat protection measures (Forests and Fish Rules).

Forest Practices Board Manual

The Board Manual is an advisory technical supplement to the forest practices rules. [WAC 222-12-090](#) directs DNR to develop Board Manual sections, each of which provides guidance for implementing a specific rule or set of rules. DNR develops and amends sections of the Board Manual in cooperation with Departments of Fish and Wildlife, Agriculture, and Ecology, and affected tribes, and interested parties having appropriate expertise. The development or modification process typically begins with a working group identifying key elements and progressing to drafting Board manual language with DNR in the lead. A final draft of Board

Manual sections providing guidance for implementation of rules protecting aquatic resources is provided to the TFW Policy Committee for review prior to DNR presenting the manual section to the Board for approval. Board-approved final draft sections are then placed in the Board Manual.

Permanent Water Typing System Rule Process

In 2013, the Board in response to concerns about the continued use of electrofishing under the interim water typing rule, directed the TFW Policy Committee to begin the development of recommendations for a permanent water typing system rule. In 2001, both the interim water typing rule language and the rule language setting the foundation for the development of permanent water typing rules were adopted by the Board and codified into rule. Required work for developing permanent water typing rules included an evaluation of all the components in the current interim rule as well as the process in Board Manual guidance for delineating the break between Type F (fish bearing) and N (non-fish bearing) waters.

The TFW Policy Committee developed a Type F matrix as the framework for evaluating the necessary elements for a permanent rule. This matrix guided the work for the TFW Policy Committee through 2015 and 2016. Several technical presentations and field trips occurred to inform the committee in the application of the current rule, identifying fish habitat, and evaluating new procedures in electrofishing surveys. The Board requested the TFW Policy Committee present their recommendations on the development of each element of the Type F matrix in November 2016.

The Board accepted several of the TFW Policy Committee recommendations for inclusion in a new water typing system rule in November 2016. Based on the consensus recommendations for key elements to be included in the rule language, the Board requested DNR staff to file a Proposal Statement of Inquiry (CR 101) with an understanding that formal rule making would not occur until final draft language and an economic and an environmental analysis was complete. The Board directed the TFW Policy Committee to continue to work on missing key elements for the water typing system rule and bring forward recommendations at the Board's May 2017 meeting.

The TFW Policy Committee, through the results of dispute resolution, brought forward additional elements for the water typing system rule at the Board's May 2017 meeting. These elements were primarily comprised of Type F water delineation elements and included a new field protocol process – the fish habitat assessment methodology (FHAM) – for delineating fish habitat. FHAM is the central component for identifying the upper extent of fish habitat while achieving the goal to reduce electrofishing. The Board accepted the TFW Policy Committee element recommendations for inclusion in the water typing system rule. The Board requested the AMPA to convene an expert scientific panel to determine the appropriate potential habitat break (PHB) metrics to be used when implementing FHAM for the remaining element that the TFW Policy Committee was not able to address.

The expert science panel presented a report outlining possible Potential Habitat Break (PHB) metrics to consider at the February 2018 Board meeting. At that time, several stakeholders petitioned the Board to consider not one set of PHBs, but an evaluation of three sets of PHB options in addition to two alternatives to define and establish an anadromous fish floor. The Board agreed and requested DNR to include the three PHB and two anadromous fish floor alternatives in the development of the water typing system rule language; and to analyze the effects of each alternative in the subsequent economic (Cost/Benefit Analysis – CBA and Small Business Economic Analysis – SBEIS) and State Environmental Policy Act analyses.

An important step in developing a new water typing system strategy is to ensure that the rule identified PHBs serve as an appropriate metric to locate the end of fish habitat. In May 2018, the Board directed the AMPA to work with the expert science panel to determine if a validation study could be implemented to evaluate the utility of the PHB criteria used in the FHAM. To verify that the methodology for measuring PHB criteria met the objectives in the PHB validation study, a pilot study was executed in summer 2018. The results of the pilot study confirmed that the data collected could easily be analyzed to identify PHBs as well as identify stream reaches of distinct gradients. Ultimately, the pilot study found that the methodology tested is a suitable approach for surveying headwater streams and objectively identifying potential habitat breaks to define the uppermost extent of fish habitat.

Several stakeholders voiced concerns regarding the accuracy of the DNR spatial analysis to determine the effects of the application of FHAM using each PHB option for western and eastern Washington. This analysis is necessary in order to inform both the economic and environmental analyses. Additionally, the TFW Policy Committee decided not to fund the PHB validation study the Board had agreed to implement. These two issues, among concerns with rule implementation, caused the Board to postpone adopting the rule package in May 2019 as intended. The Board acknowledged the need to restore a collaborative approach to arrive at a well-vetted permanent water typing system rule. As a result, the Board established a Board committee to facilitate discussions amongst DNR and stakeholders to resolve many outstanding concerns and then bring recommendations forward to the Board for inclusion in the water typing system rule.

In August 2019, the Board acknowledged the TFW Policy Committee's recommendation to include in the proposed rule an anadromous fish floor component in the water typing system rule and to not propose new rule language addressing functioning water crossing structures as they relate to changes in water typing. It was determined that there was no need for new rule language for functioning water crossing structures because forest practices staff and WDFW biologists already address the structural integrity of a pipe when considering pipe replacements. The Board Committee continued to oversee the anadromous fish floor (AFF) work group's efforts and the

assessment of options to gather additional stream data for inclusion in the eastern Washington spatial analysis of the PHB options⁹.

The intent with respect to the AFF is to establish a floor below which all downstream waters will be considered habitat used by anadromous fish. It was, however, acknowledged that there would be exceptions where certain streams will still be eligible for a full protocol survey (electrofishing sampling) under FHAM. In these instances, with tribal concurrence, streams could be electrofished under the FHAM protocol. The Board also requested the DNR revise the existing preliminary PHB spatial analysis for western and eastern Washington with the incorporation of the methodology to determine the width component potential habitat break using tributary junctions for option B and using additional stream data for eastern Washington (if determined to be available).

In November 2019, the Board requested that the CMER develop study designs to enhance the water typing system rule. The first, a PHB validation study is meant to enhance the application of FHAM, which is the field protocol to determine the extent of fish habitat in a stream. Two additional studies were requested to prepare for an eventual map-based stream typing system to determine the extent of fish habitat, the first is a model to determine fish habitat using Light Detection and Ranging (LiDAR) and the second the physical stream characteristics present at the end of fish habitat. The Board also requested CMER to determine if the map-based model study could be combined with the physical characteristics study for efficiencies. Additionally in November, the Board requested that the Committee (based on the Committee's recommendation to the Board) establish a collaborative workgroup to explore options for gathering additional eastside water type data and approved the anadromous fish floor work group charter. Additionally, the Board extended the committee's approved work timeline because of the progress they had made in facilitating discussions and overseeing technical work.

In February 2020, the Board approved funding up to \$75,000 (to come from the AMP's available budget) for GIS support work to support the anadromous fish floor work group. The funding was to be used to contract for spatial analysis services to assist the anadromous fish floor work group.

In May 2020, the Board acknowledged that DNR would advertise the anadromous fish floor contract as a competitive contract. It was anticipated that the contract would begin in August 2020 and run through mid-2021. The Board Committee reported on the quality assurance/quality control work being done by the eastern Washington fish data group to screen potential stream data for consideration.

[Back to FPHCP Annual Report](#)

Adaptive Management Program

The [Forests and Fish Report](#) (U.S. Fish and Wildlife Service et al., 1999) included provisions for a science-based adaptive management program, which looks at effectiveness of the forest practices

⁹ The Board approved three PHB options (A, B, and C) for analysis in February 2018.

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. In concert with Forests and Fish Report (U.S. Fish and Wildlife Service et al., 1999) recommendations, the Services require the inclusion of an adaptive management strategy as an integral component of approved habitat conservation plans.

The Board, when it adopted the permanent Forests and Fish rules in 2001, incorporated an adaptive management program ([WAC 222-12-045](#)) as a formal science-based program. Schedule L-1 from the Forests and Fish Report (U.S. Fish and Wildlife Service et.al., 1999) served as the foundation for the Adaptive Management Program, and more specifically guides the development of research and monitoring projects.

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 helps to ensure that programmatic changes will occur as needed to achieve the goals of Forests and Fish as well as other Board goals; there is predictability and stability in the process of change so landowners, regulators, and public can be prepared; and there are quality controls applied to scientific study designs, project execution, and the interpreted results.

The Board governs the AMP, and directs and approves funding allocation for the implementation of the Program. AMP includes TFW Policy Committee (a policy committee), Cooperative Monitoring and Research Committee (a science committee), and an AMP Administrator who oversees the AMP, determines applicability of proposals to AMP and supports the CMER Committee. The unique model of collaborative decision-making used by TFW applies also in the AMP program itself. Additionally, an independent scientific peer review process (ISPR) was established to ensure the rigor and integrity of adaptive management research and monitoring projects and reports.

CMER is the research component of the AMP. Its purpose is to advance the science needed to support the AMP process. CMER reviews existing science and contributes original research to the program. For AMP, best available science is considered relevant science from all credible sources. CMER follows a consensus decision-making model. CMER is comprised of scientists from forest landowners, conservationists, state agencies, county governments, federal agencies, and tribal governments. The Board approves membership of voting CMER members. Potential members are those who 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 potential forest practices rule amendments and

guidance changes. The function of the TFW Policy Committee is to develop solutions to issues that arise in the Forest Practices Program. The TFW Policy Committee provides the forum for discussions and problem solving for the ongoing implementation of the Forest Practices Act and rules while following a consensus decision-making model. This includes the development of board manual sections (see above Board section for more information). These issues may be raised by science reports on rule or program effectiveness or policy questions on implementation of forest practices. Solutions may include the preparation of rule amendments and/or guidance recommendations. The TFW Policy Committee also assists the Board by providing guidance to CMER and recommendations on adaptive management issues. The committee consists of one caucus principal, or their designee, from conservationist interests, industrial private timber landowners, nonindustrial private timber landowners, western Washington tribal governments, eastern Washington tribal governments, county governments, DNR, other state natural resource 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 Administrator coordinates the flow of information between the TFW Policy Committee and CMER.

AMP contracts the Independent Scientific Peer Review Committee to perform an independent peer review of CMER and other scientific Forest Practices program work products to ensure they are scientifically sound and technically reliable.

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](#) (U.S. Fish and Wildlife Service et al., 1999). This included funding for development of an adaptive management program, a multi-landowner Forest Practices Habitat Conservation Plan, and information systems. Funds were primarily used to design and implement research and monitoring projects, workshops, and science conferences.

The federal funding early on was used for developing scientific “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 (U.S. Fish and Wildlife Service et al., 1999). 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 for Type F (fish-bearing) streams. Target verification projects were designed to confirm riparian function performance targets developed during [Forests and Fish Report](#) (U.S. Fish and Wildlife Service et al., 1999) negotiations that

authors identified as having a weak scientific foundation, such as the desired future condition basal area targets.

After the initial focus on rule tools, CMER's focus shifted from rule tools to effectiveness and extensive status and trends projects. Effectiveness monitoring evaluates forest practices prescription effectiveness in achieving resource goals and objectives at the site or landscape scale. Extensive status and trends monitoring evaluates the status and trends of resource condition indicators over time as the forest practices prescriptions are applied across Forest Practices HCP lands. 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.

Since its establishment in 2001, AMP research and monitoring efforts have led to revisions in the forest practices rules, guidance in the Board Manual, and guidance for small forest landowners.

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 Biennium CMER Work Plan, found at dnr.wa.gov/about/boards-and-councils/forest-practices-board/cooperative-monitoring-evaluation-and-research, describes CMER projects. The CMER Work Plan is updated biennially and presented to the TFW Policy Committee at their regular April meeting.

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 Project Schedule (MPS) 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.

The purpose of the MPS is 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.

Clean Water Act Assurances

Upon the completion of the [Forests and Fish Report](#) (U.S. Fish and Wildlife Service et al., 1999) in 1999, Ecology with EPA's approval, agreed to provide Clean Water Act assurances to the State of Washington for a period of 10 years. It was assumed 10 years would be sufficient time to determine if implementation of the revised rules and Forest Practices Program, including adaptive management, were effective in meeting water quality standards, or putting impaired waters on a trajectory to meeting standards. In 2009, Ecology reviewed Clean Water Act assurances and produced a report that concluded that while much had been accomplished, work remained to be done. In particular, Adaptive Management Program research and monitoring projects designed to determine if the rules were effective in meeting water quality standards were not yet complete. Consequently, Ecology was unable to provide conclusive evidence of rule effectiveness. The report contained a list of milestones for the Forest Practices Program, including the Adaptive Management Program with a schedule for individual research and monitoring projects deemed important for retaining the Clean Water Act assurances. Ecology conditionally extended Clean Water Act assurances based on satisfactory accomplishment of milestones.

Ecology transmitted the 2009 report to the Board in October of that year. Ecology committed to providing the Board periodic status updates on established milestones for retaining the CWA Assurances for the Forest Practices Program. The CWA milestone update produced annually by Ecology was not updated during the FY 2020 reporting period.

Ecology submitted a letter to the Board in December 2019 regarding the expiration of the 10-year Clean Water Act Assurances initial Extension Period. The letter provides an additional two-year extension of the Assurances period to December 31, 2021. Ecology's stated expectation is that during the next two years, the Board will be able to reach an agreement on the revision of the Type N rules to better protect water temperature.

Adaptive Management Program Websites

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

Adaptive Management Program:

dnr.wa.gov/programs-and-services/forest-practices/adaptive-management

CMER:

dnr.wa.gov/about/boards-and-councils/forest-practices-board/cooperative-monitoring-evaluation-and-research

Electrofishing Report

One of the conditions in the incidental take permits relates to electrofishing used in adaptive management research and monitoring. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service asked for an accounting of any electrofishing related to adaptive management research and monitoring. While electrofishing associated with AMP is a covered activity as per the ITPs, 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.”

[Back to FPHCP Annual Report](#)

Forest Practices Operations

Forest Practices Operations is responsible for administering and enforcing the forest practices rules on approximately 12.7 million acres of private, state, and other public forestlands. Washington’s forest practices rules protect forestland public resources and 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.

Forest Practices Operations has three overarching functions: processing/reviewing Forest Practices Application/Notifications, Forest Practices Application/Notifications compliance, and Forest Practices Application/Notifications and forest practices rules enforcement. Forest Practices Operations consists of both office and field staff. Forest Practices field forester positions are directly responsible for reviewing, complying, and enforcing Washington’s Forest Practices Act and rules on active FPA/Ns (typically valid for three years).

Program Guidance

Forest Practices program 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 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 Program develops internal guidance when necessary, which provides direction consistent with established program goals, resource protection objectives, and performance targets. Forest Practices Operations delivers the new written guidance or changes to existing guidance to region Forest Practices staff. Staff shares guidance affecting cooperating agencies, organizations, and landowners with those organizations.

[Back to FPHCP Annual Report](#)

Small Forest Landowner Office

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 as a requirement of the 1999 Salmon Recovery Act, which directed the adoption of the Forests and Fish rules. 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 navigate the regulatory system, the Legislature authorized the creation of a Small Forest Landowner Office within DNR to provide technical assistance to small forest landowners. 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 face 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, the Family Forest Fish Passage Program, and the Regulation Assistance Program, 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 (R&HOSP). For more information, see the R&HOSP section below.

Small Forest Landowner Advisory Committee

The Small Forest Landowner Advisory Committee was established in [RCW 76.13](#) to assist the small forest landowner office in developing policy and recommending rules to the Forest Practices Board. The Small Forest Landowner Advisory Committee consists of seven members, including a representative from the Washington Department of Ecology, the Washington Department of Fish and Wildlife, and a Tribal Representative. Four additional committee members are small forestland owners who are appointed by the Commissioner of Public Lands from a list of candidates submitted by the Board of Directors of the Washington Farm Forestry Association (WFFA) or its successor organization. The WFFA submits more than one candidate for each position, and the commissioner designates two of the initial small forestland owner appointees to serve five-year terms and the other two small forestland owner appointees to serve four-year terms. The Small Forest Land Owner Office reviews draft rules or rule concepts with the Small Forest Landowner Advisory Committee prior to recommending such rules to the Forest Practices Board. In the past, the Small Forest Landowner Advisory Committee played key roles in the development of the two small forest landowner alternate plan templates: the Overstocked Stand Template and the Fixed Width Buffer Template.

Forestry Riparian Easement Program

Provisions included in the 1999 Salmon Recovery Act established the Forestry Riparian Easement Program. 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 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.

Fish Passage Barriers

The Washington State Legislature established the Family Forest Fish Passage Program in 2003 ([RCW 76.13.150](#)) to provide a cost-share program to help small forest landowners 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 the state 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
- Annually rate and then rank barriers and repairs based on specific criteria explained below in “WDFW Ranking”
- 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 (see below) cooperate to manage and fund the program through a Steering Committee: The FFFPP Steering Committee comprises two members from DNR, one member from WDFW, one member from Washington State Recreation and Conservation Office (RCO), and one small forest landowner/member from the Washington Farm Forestry Association (WFFA). The Steering Committee reviews and approves yearly FFFPP projects to be undertaken, all major policies, and program implementation recommendations for the FFFPP. The Committee reviews program policies, funding decisions,

and other significant program development considerations. Responsibilities of each entity are as follows:

- The Washington State Department of Natural Resources' 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 is responsible for evaluating barriers, assessing habitat quality of streams, and ranking barriers for correction.
- The Washington State Recreation and Conservation Office administers program funding and provides information on program contracts, billing, and reimbursement.
- The Washington Farm Forestry Association 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 downstream)?
- 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?
- How cost-effective is 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.

Long Term FPAs

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 disturbances.

Regulation Assistance for Small Forest Landowners

The SFLO Regulation Assistance Forester 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 rules-related issues. The Regulation Assistance Forester also performs non-regulatory forest road surveys to assess the condition of small forest landowner roads and discusses landowner's road construction and maintenance obligations under forest practices rules and Clean Water Act requirements.

Small Forest Landowner 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.

Small Forest Landowner Road Survey and Road Assessments

In 2003, the Legislature adopted [RCW 76.09.420](#), which removed the requirement for small forest landowners to submit an RMAP for all of their forest roads and created the Checklist RMAP process for small forest landowners.

While the Checklist RMAP process minimized the financial impacts to small forest landowners, it has limited DNR's ability to report on the extent, effectiveness, and progress of small forest landowners' completion of all required forest roads work on their properties through the Checklist RMAP approach. The Checklist RMAP process lacks a mechanism to determine the scope of small forest landowner roads, and the condition of the roads or status of required upgrades. Small forest landowners submit a Checklist RMAP when they are planning to harvest or salvage timber. The Checklist RMAP is a brief assessment of certain road characteristics and is limited to the area of application, as well as the checklist may not cover the entire ownership. Many small forest landowners may only conduct a harvest once or twice during their lifetime, and information about the condition of their forest roads may be limited or unknown.

DNR, in consultation with WDFW and Ecology, is required by [RCW 76.09.420\(4\)](#) and [WAC 222-24-050](#) to monitor the extent, effectiveness, and progress of the Checklist RMAP implementation and report to the Legislature and the Forest Practices Board. Additionally, as the agency responsible for carrying out provisions of the federal CWA in Washington State, Ecology monitors water quality to determine whether activities meet the state's water quality standards. Ecology established milestones for retaining CWA Assurances for the Forest Practices Program. One of the milestones requires Ecology, in partnership with DNR, and in consultation with the Small Forest Landowner Office Advisory Committee, to develop a plan for evaluating the risk posed by small forest landowner roads for the delivery of sediment to waters of the state.

Online Road Survey

To meet this milestone, DNR, Ecology, and WFFA have:

- Developed an online roads survey in order to gain sufficient data to determine the status of forest roads on the properties of small forest landowners;
- Gained support from DNR, Ecology, WFFA and the western Washington tribes to conduct on-site road assessments when requested by small forest landowners; and,
- Developed a process in which DNR and Ecology will prepare a CWA milestone report on the status of small forest landowner compliance with the RMAP rules.

The goal of the survey and road assessments is to gain information regarding small forest landowner demographics and information regarding the condition of their roads. This survey is intended to improve our knowledge base regarding the status of small forest landowners in meeting their forest practices road maintenance requirements. The Small Forest Landowner Road Survey is posted on Survey Monkey and the SFLO Manager documents all survey results.

Qualified DNR staff are conducting a focused effort of on-site landowner road assessments:

- For DNR to assess the condition of small forest landowner roads; and
- To discuss with landowners their road construction and maintenance obligations, and provide information on financial assistance available through FFFPP as well as other cost-share and assistance programs.

This process will allow DNR to fulfill its obligation to the forest practices rules and the Clean Water Act, and educate landowners about their forest roads.

In October 2019, the SFLO hired one statewide Regulation Assistance Forester. This position consults and provides expert technical assistance to help small forest landowners prepare to conduct forest practices activities on their forestland. They help small forest landowners understand and apply the forest practices rules including small forest landowner alternate plan templates, 20-acre exempt harvest activities, long-term applications, low-impact harvest activities, forest road assessments and construction techniques, timber harvest techniques, and other forest practices rules-related issues. Additionally, this position assesses the condition of small forest landowner roads and discusses with landowners their obligations regarding road construction and maintenance under the forest practices rules and Clean Water Act with the landowners.

There are currently 137 landowners who have volunteered to have their roads assessed by the Regulation Assistance Forester, with 63 of these road assessments in 21 counties being completed to date.

[Back to FPHCP Annual Report](#)

20-Acre Exempt Forest Practices Applications

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](#) (U.S. Fish and Wildlife Service et al., 1999). 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 and Rules.

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. ITP conditions specify:

- The permits require leave trees 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 ITPs will not cover 20-acre parcels that do not meet the eligibility criteria.
- The permits define coverage thresholds for 20-acre exempt parcels in watershed administrative units (WAUs) and water resource inventory areas (WRIAs).
- 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.

Type Np Water Leave Tree Requirement

[Washington Administrative Code](#) requires trees to be left on Np (non-fish 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.” 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 (FPA/Ns) 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 1,000 feet of stream length within 29 feet of the stream. The leave trees may be arranged to accommodate the operation.”

Thresholds for Watershed Administrative Units and Water Resource Inventory Areas

In the Incidental Take Permits, the Services defined permit coverage thresholds for Watershed Administrative Units (WAUs) and Water Resource Inventory Areas (WRIAs). 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,

the Incidental Take Permits will not cover subsequent FPAs on 20-acre exempt parcels within those WAUs or WRIs unless the landowner chooses to follow standard RMZ rules. Washington State has adopted a method, approved by the Services, to estimate potential cumulative percent reduction of potential large woody debris recruitment function, by WAU, and percent cumulative stream length affected, by WRIA.

Cumulative Reduction in Function Calculation Methodology

The state uses a formula called the Equivalent Area Buffer Index (Buffer Index) to estimate the percent reduction in function, as measured by potential large woody debris that could be recruited along fish-bearing streams. A contractor developed the Buffer Index 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 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 EIS for the Forest Practices HCP provides average Buffer Indexes for western and eastern Washington. The state uses these averages each year to estimate the potential cumulative reduction in large woody debris recruitment function from 20-acre exempt FPAs submitted to DNR since the 2006 issuance of the ITPs.

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

The state calculates an estimate of potential reduction in function by watershed administrative unit annually and submits the results to the Services 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/N, not on-the-ground measurements. The state uses average Buffer Index values (found in the Final EIS ([Appendix B](#)) of the Forest Practices HCP) to calculate the annual overall possible reduction in function by WAU. The contractor obtained these average Buffer Index values 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. The 15 percent was added because the 1999 Salmon Recovery Act required 20-acre exempt landowners to protect an additional 15 percent of riparian trees above previous 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 State tracks, by FPA/N, the estimated number of feet of fish-bearing stream potentially affected by harvests throughout the year. The total number of feet of stream length on fish bearing waters in each potentially affected WAU 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 annual stream distance over which large woody debris recruitment functions are potentially reduced in function. The state then annually calculates cumulative affected stream lengths and divides them by analyzed GIS total fish-bearing stream length on all forestlands regulated by Forest Practices in each watershed administrative unit to determine total potential percent cumulative reduction in function.

Appendix 3a contains the cumulative in-office estimates of potential reduction in function by watershed administrative unit since June 2006. Please find a visual representation of the 20-acre Exempt FPAs in Appendices 2b and 2c. The two maps show: 2a) the location of the current reporting period 20-acre exempt applications, and, 2b) the location of all 20-acre exempt applications since June 2006. The reader can find maps showing 20-acre exempt forest practices applications for a previous fiscal year in previous Forest Practices HCP annual reports.

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

A total fish-bearing Forest Practices HCP covered stream baseline length was calculated, and is recalibrated periodically for all WAUs and WRIAs, 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 who apply for a Forest Practices Permit associated with a 20-acre exempt parcel that subsequent FPAs associated with 20-acre exempt parcels within the area will no longer be covered by the Incidental Take Permits, unless the landowner chooses to apply standard riparian management zone rules on their 20-Acre Exempt forest practice.

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 the Incidental Take Permits will not cover a forest practice that qualifies for and uses the 20-Acre Exempt riparian rules and falls within these bull trout areas of concern unless the forest practice is determined not to measurably diminish the level of riparian function. If, however, the landowner chooses to apply standard forests and fish riparian buffers instead of 20-acre exempt riparian buffers, the forest practice would not be eliminated from coverage. 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. Please find the process described in the 2009 Forest Practices HCP Annual Report.

[Back to Body of FPHCP Annual Report](#)

Alternate Plans and Riparian Open Space Program

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. Any rule prescription not changed as part of an alternate plan must be followed as outlined by rule.

Alternate plans are an option for all forest landowners; however, small forest landowners have exclusivity with respect to alternate plan templates. The Forest Practices Act and Rules require developing simple, easy-to-apply small forest landowner options for alternate plans or alternate harvest restriction on smaller harvest units that may have a relatively low impact on aquatic resources. These alternate plans are intended to provide flexibility to small forest landowners that will still provide protection of riparian functions based on specific field conditions or stream conditions on the landowner's property. Template prescriptions are prescriptions for common situations that are repeatedly addressed in alternate plans. Templates are therefore standardized alternate plans. Currently there are two Templates:

- Template 1: 2004. Small Forest Landowner Western Washington Thinning Strategies for Overstocked Conifer-Dominated Riparian Management Zones, and
- Template 2: 2010. Fixed Width Riparian Buffers for Small Forest Landowners in Western Washington

Rivers and Habitat Open Space Program

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 channel migration zones (CMZs) and forestland considered habitat for critical habitat for state-listed species identified as threatened or endangered. The Rivers and Habitat Open Space Program is available to all forest landowners, regardless of size. The Program promotes long-term conservation of aquatic resources and upland habitats.

Like the Forestry Riparian Easement Program (see Small Forest Landowner section), the original Riparian Open Space Program was a product of the 1999 Salmon Recovery Act and was focused strictly on CMZs. 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, as it was called at the time, to include all unconfined CMZs as well as forestland that contains habitat of state-recognized threatened or 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 bankfull 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 10 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. The program prioritizes applications for conservation easements for channel migration zones separately from applications for habitat of threatened and endangered species. Applications are prioritized based on conservation benefits and landowner management options.

[Back to Body of FPHCP Annual Report](#)

Enforcement

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.

Forest practices staff classify FPA/Ns based 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 priority for compliance inspections than a proposal that has limited road construction on gentle slopes with 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 must be carried out in compliance with the Forest Practices Act and Rules. Please find additional information on [Forest Practices classifications](#) 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 reduces the need for enforcement actions.

Compliance inspections are an important aspect 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 (section below) 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 does not comply with the forest practices rules, program staff have several enforcement options available: Notices to Comply (NTC), Stop Work Orders (SWO), civil penalties, and Notices of Intent to Disapprove (NOID). Forest Practices staff use Notices of Intent to Disapprove and civil penalties when multiple violations have occurred over time. 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.

Staff use enforcement documents for both violations and 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 that it does not pose a threat to public resources during heavy rain events.

Overall, the intent is to encourage landowners to implement the rules successfully to protect public resources.

Staff do not issue NOIDs or civil penalties often because the majority of violations do not rise to the level of repeat violation penalties. 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. Staff take a number of factors into account when determining the appropriate level of enforcement, including:

- 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 noncompliance?
- What is the extent of damage to the public resource?
- Is there a history of similar violation by the same landowner or operator?

[Back to Body of FPHCP Annual Report](#)

Compliance Monitoring Program

The 1999 [Forests and Fish Report](#) (U.S. Fish and Wildlife Service et al., 1999) first formally proposed CMP as an essential element for forest practices. Forest practices rules adopted in 2001 included the following rule related to compliance monitoring, [WAC 222-08-160\(4\)](#):

“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.”

In 2006, DNR, with input from other stakeholders, developed a compliance monitoring program design and implemented a pilot sampling effort with the funding allocated by the Legislature. 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.

Please find all completed reports on the Compliance Monitoring Program website: dnr.wa.gov/programs-and-services/forest-practices/rule-implementation.

CMP is designed to respond to evolving needs, using 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 FPA/N forms, form instructions, application review, compliance, or enforcement, and where rule clarification or Board Manual revisions are warranted.

A compliance monitoring program manager administers the CMP. One program specialist reports to the manager to help implement the program. 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.

The Compliance Monitoring Stakeholder Committee provides input to the program. The Committee is comprised of representatives from the Washington state departments of Natural Resources, Fish and Wildlife, and Ecology, and tribes and tribal organizations, the Federal

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
- Possible Compliance Monitoring Program improvements.

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 rules violations: When field reviewers encounter rule violations, the appropriate DNR regional staff is notified for further action.
- Modify water types: However, field reviewers do record observed differences between water type documentation on FPAs 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.

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, operations such as timber harvest, and forest road construction. There are, for example, many options available for harvest in riparian management zones (RMZ), such as desired future condition (DFC) Option 1, and DFC Option 2 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, 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 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](#))

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 FPAs. This led to concern regarding consistency and accuracy of water type information on FPAs 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 rules apply to forest management activities taking place adjacent to typed water.

The CMP team observes physical criteria of waters (that is, stream width, stream gradient, etc.) to estimate the number of occurrences where water types recorded on FPAs are different from what is observed on the ground. Water typing inconsistencies are categorized as either under-classified on the FPA (for example, the FPA depicts a Type Np water that is found to actually be a Type F (fish-bearing) stream); or over-classified (for example, the FPA 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). Indeterminate observations are the result of natural physical impediments such as blowdown, steep slopes, or rocked slopes, which preclude field staff from safely or adequately assessing water type, or the indicated water-typing break is physically located on another landowner's property. The compliance monitoring field team does not trespass on others' land.

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 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 FPA 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 FPAs 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 FPAs. 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 ± 6 percent confidence interval (CI) for all prescription types assessed. The ± 6 percent 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 FPA/Ns, which allows more flexibility for possible emphasis samples, or sampling upland prescriptions.
- The revised method observes the same prescriptions assessed in the 2012-13 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 presented the results in the 2014-15 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 submitted the 2014-15 biennial report, which includes current sampling and analytical methodology for Independent Scientific Peer Review. 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 2016-17 CMP biennial report, and subsequent compliance monitoring reports.

2017 – It was determined that an interim annual report will no longer be provided by the CMP.

2018 – Recommendations from Independent Scientific Peer Review were incorporated into the program’s study design and the 2016-2017 CMP biennial report. Forest practices rules compliance is calculated using a jackknifed form of the ratio estimator, and an expanded methodology appendix was developed and incorporated into the report. Jackknife analysis requires recalculation of ratio estimates leaving out one sample each time. For example, if 13 samples were used to estimate DFC 1 compliance, 13 ratio estimates would be calculated from the data, using 12 samples per estimate. The 13 estimates are then averaged to come up with a less biased estimate of DFC1 compliance. Jackknife ratio estimates can be compared to original ratio estimates to determine the sample size at which the difference between the two estimates becomes negligible. By using a jackknifed form of the ratio estimator, bias may be reduced, yielding a more accurate variance estimate.

[Back to Body of FPHCP Annual Report](#)

Training/Information/Education

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. 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.

Single/Multiple-Day Forest Practices Program Training

The program provides single-day and multiple-day training for complex subjects, which require larger blocks of time.

Unstable Slopes

The unstable slopes course objectives are 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.

Channel Migration Zone

Channel Migration Zone course objectives are to define what a forest practices channel migration zone is, field delineation, and the relationship with the forest practices rules.

Wetlands

Course objectives highlight the technical criteria for determining wetland hydrology, soils, and plants, with a focus on understanding, the forest practices wetland types and the relationship with forest practices rules.

Forest Practices Enforcement

This course provides program guidance and direction to all Forest Practices Staff to review, class, and condition FPA/Ns and comply and defend Department actions taken under [RCW 76.09](#) and [WAC 222](#). Actions taken are to implement the rules using proactive compliance and utilize all necessary enforcement tools (ICN, NTC, SWO, Civil Penalties and NOID) to protect, correct and recover environmental damage. Additionally the following course objectives serve as a common theme throughout:

- Ensure compliance with Forests and Fish and Clean Water Act assurances,
- SEPA: Evaluate all Class 4 FPAs to assure adequate environmental review and protection; assist Local Government Agencies in transition to accept implementation of Class 4 General FPAs,
- Respond to any complaint or concern from the public with a proper investigation,
- Ensure public safety and protection of public resources, and
- Understand the specific roles as a program team member.

Brief Adjudicative Proceedings (BAP)

This course is designed to give forest practices staff the ability to identify why and when DNR uses BAPs. Students will demonstrate how and when DNR responds to BAP requests and identify the role of the Attorney General's Office. Additionally this course demonstrates the DNR's region role as advocate for issuance and gives understanding of specific guidelines for Presiding Officers conduct.

Forest Practices Hydraulic Project

Course objectives are to inform forest practices staff on what to look for when accepting and approving a forest practices hydraulic permit. Additionally, the goal is to ensure that hydraulic permit implementation complies with forest practices rules, regulations, and guidance.

Single/Multiple-Day Workshop Classes

Workshop classes generally fall into the category of public outreach. These are partnership opportunities to educate the public about forest practices. Sometimes these workshops are internal to DNR Forest Practices Staff, but usually are directed toward public education.

Compliance Monitoring

The Compliance Monitoring Program provides annual training for staff from DNR, Department of Ecology, WDFW, and tribes who participate in on-site review of completed FPAs. New program participants provide additional field coaching and on-the-job training.

Washington Contract Loggers Association

DNR Forest Practices staff teach select classes to the Washington Contract Loggers Association. WCLA annually conducts a four-day training course, which includes one day of 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 FPA/N process.

DNR Region-Focused Training

Region-focused training constitutes short duration training provided specifically to region forest practices staff and training provided by region staff across the state. These are interactions at a local level via district meetings, stakeholders at TFW meetings, and other various interactions with forest industry professionals as well as small forestland owners across the state.

Training Provided to Forest Practices Staff

Short, focused training sessions are provided to forest practices staff during regularly scheduled program meetings. The meetings are held three times a year with the purpose of division and region staff sharing information and addressing program topics.

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.

[Back to FPHCP Annual Report](#)

RMAP for Large Landowners

Historically, studies have identified forest roads as sources of sediment delivery to streams and hydrology related impacts in Washington’s forests. Research has demonstrated that well-designed and properly maintained roads minimize impacts to public resources. Forest practices rules include a Road Maintenance and Abandonment Plan (RMAP) program 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. Forest landowners are responsible for maintaining all of their forest roads to the extent necessary to prevent potential or actual damage to public resources.

RMAP 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 were 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. In areas where watershed analysis has been conducted and approved, large forest landowners may elect to follow the watershed administrative unit-road maintenance plan rather than developing an RMAP under [WAC 222-24-051](#).

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. Landowners were to schedule their RMAP work to be metered throughout the time 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.

Each year on the anniversary date of the plan’s submittal, landowners report work accomplishments for the previous year, work proposed for the upcoming year, and any modifications to the plan. In an effort to minimize the economic hardship on small forest landowners, the 2003 Washington Legislature passed an RMAP bill (HB1095) that modified the definition of “small forest landowner” and clarified how the RMAP requirements applied to small forest landowners. Small forest landowners have the option to submit a “checklist” RMAP

with each FPA/N, rather than to provide a plan for their entire ownership. DNR, in consultation with WDFW and Ecology, submitted a report to the Legislature and the Forest Practices Board in December 2008 on the effectiveness of the checklist RMAP. Please find the report at the following web address: dnr.wa.gov/Publications/fp_sflo_rmap_legreport_2008.pdf.

Please see small forest landowner section above in Appendix 4 for more information on small forest landowner roads.

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

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) 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).

Data Tables – Tables 15, 16, 17, and 18 in RMAP Chapter 11

Data Precision

The RMAP data identified in Tables 15-18 are based solely on what landowners provided in their initial RMAP reports and subsequent annual reports of work completed. For many Regions, the exercise of totaling landowners' RMAP information was conducted using the annual paper reports. Some DNR Regions recorded this data through GIS early in the annual RMAP reporting process and others did not. Through time, landowners and DNR experienced staff changes that affected program continuity, resulting in introduction of errors in some annual reports that were undetected until corrected years later. In addition, DNR's decision to change Region boundaries in 2013-14 contributed to reporting errors in South Puget Sound and Pacific Cascade values that have subsequently been corrected. Although DNR staff strives for accuracy in its reporting, it recognizes that the final RMAP statistics, anticipated to be reported in the 2022 Forest Practices HCP Annual Report, may include errors and may not report all of the work that has been completed.

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 chose (in writing) to continue to follow their pre-2003 submitted RMAP, or decided to submit a plan as described in [WAC 222-24-0511\(2\)](#). 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.

In 2016, 58 RMAPs were granted extensions beyond the original due date of October 2016 to October 2021. No new RMAPs will be added because the application deadline for an extension is passed. Therefore, the cumulative number of RMAPs will no longer change. However, the cumulative number of RMAP checklists are still changing as small forest landowners submit RMAP checklists with their FPAs.

Miles of Forest Roads Assessed

Landowners arrived at these miles of forest roads assessed numbers by conducting an inventory and assessment of all forest roads contained within a specific RMAP. This number includes roads that meet forest practices rules 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 landowner’s 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 the following:

- 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 rules standards, it is captured in that year’s accomplishment report. Landowners submit accomplishment reports 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/Forest Practices forester 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 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 upstream habitat opened for fish use after the fish passage barrier has been removed or replaced. This number is an estimate because it is not always possible to measure stream length on the ground. The measurement is often 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.

[Back to Body of FPHCP Annual Report](#)

Cultural Resources

As sovereign nations, federally recognized Indian tribes in Washington State are key cooperators in the Forest Practices Program. The Services have a particular interest in tribal connections with FPA/Ns due to the Federal Government’s fiduciary relationship with federally recognized Indian tribes. As a result, the Services requested reporting of updates on tribal/landowner meetings and process improvements. The HCP reporting obligations include information concerning “*landowner/tribal meetings and process improvements pursuant to [WAC 222-20-120](#)*” in both the annual and five-year Forest Practices HCP reports. See [Table 1.1 FPHCP Reporting Elements](#), “Administrative and Regulatory Program Updates” (open the link, scroll to page 9).

The 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 TFW Policy Committee and Cooperative Monitoring, Evaluation, and Research Committee. Tribal representatives are also 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 FPA/N 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.

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/N 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, the Skagit River Cooperative, and the Upper Columbia United Tribes are signed up to review FPA/Ns on behalf of member tribes.

Process

The Forest Practices Program uses 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 Department of Archaeology and Historic Preservation;
- The 1893-1950 U.S. Geological Survey and Army Mapping Service maps for Washington state;
- Bureau of Land Management Government Land Office historical maps; and
- Tribal Cultural Resources Contacts (each tribe or tribal organization has a designated geographic area of interest for cultural resources and the name and contact information of their designated cultural resources contact).

[Back to Body of FPHCP Annual Report](#)

Information Technology-Based Tools

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, and the Water Type Application (WTA) tracking system.

There are also discrete data sets, such as the DNR Hydrography Geographic Information System (GIS) data layer that forms the basis of the water typing system used to implement the forest practices rules. Within DNR, the Forest Practices Division works closely with DNR 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 FPA/Ns 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 FPA/N information, and distribute it for regulatory and public review. FPARS also supports risk assessments of proposed forest practices activities, and archiving FPA/Ns.

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 uses the Internet, document imaging and management technology, and the Oracle database system to collect Forest Practices enforcement information.

Capturing enforcement data in a common database facilitates data streamlining and improved data accuracy by removing redundancies and enables production of automated reports 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.

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 practices activities.

The Water Type Modification Form Tracking Application (WTA)

Initiated in April 2016, WTA facilitates review and processing of Water Type Modification Forms (WTMF). WTA stores key data about each WTMF, automatically sends email notifications to all stakeholders, and captures reviewer comments and feedback.

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 (WTMF). DNR personnel, forest landowners, fish survey contractors, and others base these updates on direct observations in the field.

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.

Explorer App and Mobile Map Packages

This is a GIS app that runs on smartphones and tablets that shows field staff where they are on the ground and shows existing forest practices application areas, water type changes, RMAP projects, parcel information and habitat and slope stability information.

[Back to FPHCP Annual Report](#)

References

McDade, M.H., F.J. Swanson, W.A. McKee, J.F. Franklin and J. Van Sickle. 1990. Source distances for coarse woody debris entering small streams in western Oregon and Washington. *Can. J. For. Res.* 20:326-330.

U.S. Fish and Wildlife Service, et al. 1999. Forests and Fish Report. Available at: http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesHCP/Pages/fp_hcp.aspx

U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). 2006. Final Environmental Impact Statement – For the Proposed Issuance of Multiple Species Incidental Take Permits or 4(d) Rules for the Washington State Forest Practices Habitat Conservation Plan. Washington Department of Natural Resources, Forest Practices Program, Olympia, Washington. Available at: <http://www.dnr.wa.gov/programs-and-services/forest-practices/forest-practices-habitat-conservation-plan>

Washington State Department of Ecology. 2009. 2009 Clean Water Act Assurances Review of Washington's Forest Practices Program.

Washington DNR. 2005. Final Forest Practices Habitat Conservation Plan. Washington Department of Natural Resources, Forest Practices Program, Olympia, Washington. Available at: <http://www.dnr.wa.gov/programs-and-services/forest-practices/forest-practices-habitat-conservation-plan>

Washington Forest Practices Act. Washington State Legislature. <http://apps.leg.wa.gov/rcw/default.aspx?cite=76.09>

Washington Forest Practices Board. Washington forest practices board manual, Section 22. Washington Department of Natural Resources, Olympia, Washington. Available at: <http://www.dnr.wa.gov/about/boards-and-councils/forest-practices-board/rules-and-guidelines/forest-practices-board-manual>

Washington Forest Practices Board. Washington Forest Practices Rules. Washington Department of Natural Resources, Olympia, Washington. Available at: <http://www.dnr.wa.gov/about/boards-and-councils/forest-practices-board/rules-and-guidelines/forest-practices-rules>

List of Acronyms

Agencies and Organizations

Board	Washington Forest Practices Board
DAHP	Department of Archaeology and Historic Preservation
DNR	Washington State Department of Natural Resources
EPA	Environmental Protection Agency
NMFS	National Marine Fisheries Service
RCO	Recreation and Conservation Office
Round Table	TFW Cultural Resources Round Table
SFL	Small Forest Landowner
SFLO	Small Forest Landowner Office
TFW	Timber/Fish /Wildlife
USFWS	United States Fish and Wildlife Service
WCLA	Washington Contract Loggers Association
WDFW	Washington Department of Fish and Wildlife
WFFA	Washington Farm Forestry Association
WFPA	Washington Forest Protection Association
Ecology	Washington State Department of Ecology

Technical Terms

BACI	Before-after-control-input
CI	Confidence Interval
CMZ	Channel Migration Zone
DFC	Desired Future Condition
DNA	Deoxyribonucleic acid
EBAI	Equivalent Area Buffer Index
eDNA	Environmental deoxyribonucleic acid
FFSA	Forests and Fish Support Account
FHAM	Fish Habitat Assessment Methodology
F/N	Break between fish bearing water and non-fish bearing water
FTE	Full Time Equivalent
FY	Fiscal Year
GF-State	General Fund - State
GIS	Geographic Information System
ISAG	Instream Scientific Advisory Group
IT	Information Technology
LiDAR	Light Detection and Ranging
LTA	Long Term Application
LWD	Large Woody Debris

MPS	Master Project Schedule
NIZH	No Inner Zone Harvest
PCE	Personal Consumption Expenditure
PHB	Potential Habitat Break
PI	Proposal Initiation
RMZ	Riparian Management Zone
RSAG	Riparian Scientific Advisory Group
SAA	Stream Associated Amphibians
SAG	Scientific Advisory Group
SAGE	Scientific Advisory Group, Eastside
Toxics	State Toxics Control Account
Type F	Fish-bearing stream
Type Np	Non fish-bearing, perennial stream
Type Ns	Non fish-bearing, seasonal stream
Type S	Shorelines of the State
TWIG	Technical Writing and Initiation Group
UPSAG	Upslope Processes Scientific Advisory Group
WAU	Watershed Administrative Unit
WETSAG	Wetland Scientific Advisory Group
WRIA	Water Resource Inventory Area

Staff, Programs, Official Documents

AMP	Adaptive Management Program
AMPA	Adaptive Management Program Administrator
CMER	Cooperative Monitoring, Evaluation, and Research Committee
CMP	Compliance Monitoring Program
FFFPP	Family Forest Fish Passage Program
FPAMT	Forest Practices Application and Mapping Tool
FPA/N	Forest Practices Application/Notification
fpOnline	Forest Practices Online Project
FPARS	Forest Practices Application Review System
FPETS	Forest Practices Enforcement Tracking System
FPRAM	Forest Practices Risk Assessment Mapping
Forest Practices HCP	Forest Practices Habitat Conservation Plan
FREP	Forestry Riparian Easement Program
FFR	Forests and Fish Report
HCP	Habitat Conservation Plan
ICN	Informal Conference Note
IDT (ID Team)	Interdisciplinary Team
ISPR	Independent Scientific Peer Review

NTC	Notice to Comply
NOID	Notice of Intent to Disapprove
RMAP	Road Maintenance and Abandonment Plan
RHOSP	River and Habitat Open Space Program
SWO	Stop Work Order
WTA	Water Type Modification Form Tracking Application
WTMF	Water Type Modification Form

Regulations, Acts, Official Guidance, and Permits

Board Manual	Forest Practices Board Manual
CWA	Clean Water Act
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FPHP	Forest Practices Hydraulic Permit
IA	Implementing Agreement
ITP	Incidental Take Permit
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act
WAC	Washington Administrative Code