



DEPARTMENT OF
NATURAL RESOURCES

OFFICE OF THE COMMISSIONER
OF PUBLIC LANDS

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December 21, 2021

Kim Kratz, Assistant Regional Administrator
NOAA Fisheries Service
c/o Forrest Carpenter
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: 2021 Forest Practices HCP Annual Report, Incidental Take Permits 1573
(NOAA) and TE 121202-0 (USFWS)

Dear Assistant Regional Administrator Kratz and State Supervisor Thompson:

Enclosed, please find the 2021 Annual Report for the *Forest Practices Habitat Conservation Plan* (Forest Practices HCP). The annual report covers the period from July 2020 through June 2021. This report fulfills the State's obligation to "submit periodic reports to the federal Services describing actions taken by the State to implement the Forest Practices HCP" per Section 9.1 of the Implementing Agreement.

Report highlights:

Forest Practices Board (Board)

The Board remained focused on developing the essential elements needed for a permanent water typing system rule to define the division between streams that provide fish habitat and those that do not. A sub-committee of Board members continued to meet to help address specific difficult questions and gather required data related to the water typing system rulemaking. In addition, the Board worked towards initiating the rulemaking process related to riparian buffers on Type Np streams.

Adaptive Management Program (AMP)

- AMP received the results of a performance-based audit that was conducted by the State Auditor's Office. The report contained 11 recommendations for improving efficiency and effectiveness of the AMP process. The Board approved a recommendation work plan based on State Auditor's Office recommendations, in May 2021.
- AMP completed three Master Project Schedule research projects during the reporting period. Three final reports were undergoing Independent Scientific Peer Review at the end of the reporting period.
- There have been 55 projects completed since the AMP began in 2001, and there are 18 ongoing projects.

Letter to NOAA and USFWS

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December 21, 2021

Road Maintenance and Abandonment Plans

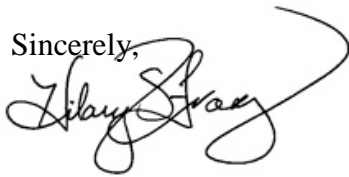
Since 2001, 30,782 miles of forest roads were improved to meet forest practices standards, and 8,468 fish passage barriers have been eliminated, opening up 5,184 miles of fish habitat.

There are many other accomplishments described in the 2021 Forest Practices HCP Annual Report. The report can be accessed through 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 charlene.rodgers@dnr.wa.gov.

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

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

Sincerely,



Hilary S. Franz

Commissioner of Public Lands

cc: 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
Alex Smith, Deputy for Forest Resilience, Regulation and Aquatics
Joseph Shramek, Forest Regulation Division Manager

Forest Practices Habitat Conservation Plan

July 1, 2020-June 30, 2021

Annual Report

Washington State Department of Natural Resources

Forest Practices Program, Forest Regulation Division

Charlene Rodgers



Acknowledgements

On behalf of the State of Washington, this report was prepared by the Washington State Department of Natural Resources – Forest Practices Program.

Executive Sponsorship

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DNR Review and Assistance

Forest Regulation Division

Communications and Outreach Program

Other Contributors

Chris Conklin 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

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1. Introduction to Forest Practices HCP 2021 Annual Report

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In 2005, the State of Washington 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, Washington state through the Forest Practices Program submits to the Services an annual report describing implementation activities.

2021 Annual Report Highlights

COVID-19 Impacts

The activities covered in this report were significantly affected by the COVID-19 pandemic. A pandemic response was initiated by the Washington State Department of Natural Resources (DNR) in March 2020 and continued throughout the reporting period to provide for the safety of DNR employees; other Timber, Fish, and Wildlife (TFW) partners; and the public. The protocols were instituted to ensure that safety measures were implemented in all instances of face-to-face contact.

DNR staff generally worked from home during this reporting period, except for Division and Region staff who were deemed "essential" to conduct field reviews and work with the timber industry and other FPA applicants. Meetings were held remotely (including the Forest Practices Board and its committees), and specific safety protocols were followed whenever people needed to work in the field in close proximity with others. In instances where stakeholders were unable to participate in field reviews because of safety, DNR implemented virtual meetings, and provided additional emails, phone calls and virtual meetings to accomplish needed stakeholder review. These practices contributed to a stellar safety record, and DNR is grateful to everyone involved in the implementation of the Forest Practices HCP for their diligence in acting to keep others safe and healthy.

Fiscal Impacts

The work performed during this period was also affected by Washington State Legislature decisions in early 2020 that resulted in a one-time \$4.0 million funding shortage for the Forest Practices Program. This necessitated spending reductions, mostly during the period covered in this report, within both the Adaptive Management Program (AMP) and within the operational forest practices programs. These actions were initiated in March 2020 and lasted through the end of June 2021.

Impacts included:

- A reduction of about \$1.9 million within the AMP. It was accomplished primarily through deliberate delays in research projects and in hiring delays for Cooperative, Monitoring, Evaluation, and Research Committee (CMER) staff scientists who normally play roles in developing and carrying out the research. In total, the research project budget originally approved by the Board for the 2019-21 biennium was reduced by about 31 percent.
- A reduction of about \$2.1 million within the other parts of the forest practices operating programs. This was accomplished mainly through a managed freeze on hiring and a freeze on nonessential expenses. Over the course of the reporting period, this meant that the program deliberately operated with 10 to 15 percent fewer employees than normal.

The Forest Practices Program successfully navigated through these fiscal challenges, and the Legislature's FY 2022-23 operating budget closed the one-time funding gap.

Additionally, Governor Jay Inslee instituted staff furloughs in anticipation of state budget deficiencies from a COVID-19-related economic slowdown. That caused all state agencies to impose mandatory furlough days for staff: Within DNR, four days were taken in July 2020 and up to four more were taken from August to November 2020.

Highlights of the Forest Practices HCP implementation from July 1, 2020, through June 30, 2021, include:

Forest Practices Board

The Board remained focused on developing the essential elements needed for a permanent water typing system rule to define the regulatory division between streams that provide fish habitat and those that do not (the "F/N break"). A sub-committee of Board members continued to meet to help address specific questions and gather required data related to the water typing system rulemaking. See [Appendix 3](#) for background information and discussion on the work accomplished toward completion of the permanent water typing system rule. In addition, the Board worked towards initiating the rulemaking process related to riparian buffers on Type Np streams.

In January 2021, the Board received the results of a performance audit of the AMP that was conducted by the State Auditor's Office (SAO) at the Board's request. The report contained 11 recommendations within the Board's purview. The Board approved an SAO Recommendation

Work Plan in May 2021 and Board, TFW Policy Committee, and Board staff (DNR) began working to implement the plan.

Adaptive Management Program (AMP)

- The AMP completed three Master Project Schedule research projects during the reporting period:
 - *Eastside Modeling Evaluation Project*
 - *Wetland Intrinsic Potential Tool*
 - *Environmental DNA (eDNA) Pilot Project*
- At the end of the period, three final reports were undergoing Independent Scientific Peer Review.
- Since the AMP began in 2001, 55 projects have been completed; also, 18 projects were ongoing as of the end of the reporting period.

Forest Practices Operations

- Forest Practices Operations staff processed 4,297 Forest Practices Applications/Notifications (FPAs) which included approvals, disapprovals, renewals, and withdrawn FPAs.
- Forest practices civil engineers provided professional advice and reviews related to 108 hydraulic projects, such as forest road bridge designs and installation.
- Forest Practices Program geologists provided professional analysis and advice to DNR Region regulatory foresters for 791 pre-approval harvest and/or road construction FPAs with unstable landforms. This effort included 1,133 office reviews, 694 field reviews, and participation at 48 interdisciplinary team meetings. The Science Team also performed 65 pre-application reviews that include both office and field review of unstable landforms. In this reporting period, the Science Team performed 19 landslide event assessments.
- Eight program guidance documents were issued for forest practices staff and the public:
 - Forest Practices Program Policy and Procedure
 - Policy: [PO19-100 Forest Practices Application/Notification Processing Timelines](#)
 - Procedure: [PR19-100-001 Forest Practices Application/Notification Processing Timelines](#)
 - Guidance Memoranda
 - [45-Day Replacement Fee Grace Period for the Same FPA/N Proposal](#)
 - [2021 Fish Survey Season-Water Level and Streamflow Forecast](#)
 - [DNR Forest Practices Q & A: Precommercial Thinning and Forest Health Biomass Removal](#)
 - [DNR Forest Practices Voluntary Pre-Application Reviews for Potentially Unstable Landforms – Frequently Asked Questions](#)
 - External Website Information Posting
 - [Attachment A - Forest Practices Application/Notification Submittal and Processing Frequently Asked Questions](#)

- [Forest Practices Application and Notification \(FPA/N\) Processing Timelines \(Power Point presentation\)](#)
- Washington Department of Fish and Wildlife (WDFW) reported:
 - Biologists reviewed 1,802 Forest Practices Hydraulic Permits, and consulted on 167 pre-application site visits, accounting for 3055 hours of work.
 - Biologists reviewed and participated in more than 3,400 water-typing-related opportunities, which accounted for 4,248 work hours.
 - Biologists 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 1,070 work hours.

Small Forest Landowner Office

- During this reporting period, regulation assistance foresters addressed 627 requests for assistance.
- Twenty-one Forestry Riparian Easement Program easements were purchased, and 18 new applications were received during the reporting period. Since the program started in 2001, the state has purchased 435 conservation easements. As of June 30, 2021, 110 easement applications were on the FREP funding waiting list.
- Under the Family Forest Fish Passage Program (FFFPP), eight fish passage barriers were corrected, making 98 miles of upstream habitat accessible to fish. Since the program's inception in 2003, 424 barriers to fish passage have been eliminated, making approximately 1,099 miles of fish habitat accessible. As of June 30, 2021, 1,273 eligible projects were on the waiting list for FFFPP funding.

20-Acre Exempt Riparian Forestland

- The small forest landowner “20-acre exempt rule” riparian management zone (RMZ) buffers along fish-bearing waters were applied in 122 approved FPAs. These accounted for 3.5 percent of all approved applications during the reporting period.
 - Upon initial submittal, two FPAs using the “20-acre exemption” were located within the mapped Bull Trout Populations of Concern Areas. Both proposals were changed to alternate plans with wider, more protective RMZ buffers than the 20-acre exempt rules would have required and subsequently the Bull Trout Populations of Concern Areas delineation no longer applied.
- Of the 846 watershed administrative units (WAUs) in the state, 255 (30 percent) 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, 246 have the potential of less than 1 percent cumulative reduction in function. All nine 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 percent permit threshold.

Alternate Plans

- There were 133 alternate plan proposals received (41 large forest landowner and 92 small forest landowner), and 114 (85.7 percent) were approved as part of an FPA during the reporting period. One of the approved FPAs was a small forest landowner long-term FPA.

Rivers and Habitat Open Space Program

- Two easements were purchased: a 41-acre easement located within a channel migration zone and a 30-acre easement with habitat for the northern spotted owl and marbled murrelet.
- Since the program began in 2001, 23 easement areas have been purchased, encompassing approximately 1,146 acres in channel migration zones and 144 acres of critical habitats for state-listed threatened and endangered species.

Enforcement

- There were 12,440 active (non-expired) FPAs at the end of the reporting period. During this reporting period, DNR issued 51 Notices to Comply and 12 Stop Work Orders. Of these enforcement actions, 54 were for violations of the forest practices rules.
- No civil penalties nor Notices of Intent to Disapprove were issued.

Compliance Monitoring Program

- The Compliance Monitoring Program collected data for the first year of the routine two-year (2020-21) biennial data collection process.

Training, Information, Education

- The Forest Practices Training Program was impacted by the COVID-19 pandemic and stay-at-home orders.
- Program staff were involved in planning and conducting statewide forest practices training, but it was scaled back and modified because of the COVID-19 pandemic. Delivered training was limited to teaching cadre participation in the 50-student Western Contract Loggers Association training, the 60-student refresher on current water type rules training and as well as creating and delivering program-specific training on complex alternate plans.
- The program completed the development of a new Alternate Plan training for program staff and implemented the training for forest practices region staff.

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

- Five RMAPs with approved extensions were completed during the reporting period.
- Thirty-three RMAPs with extensions had remaining work to be completed by October 31, 2021.
- In calendar year 2020, 1,110 miles of forest roads were improved and 168 fish passage barriers were corrected.

- The DNR database indicates 147 fish barriers remain to be corrected, prior to October 31, 2021. Following approval of landowner’s original RMAP inventories of fish passage barriers to be corrected, some landowners identified additional fish passage barriers indicating 595¹ fish barriers. See Chapter 11 for more detail.
- Since 2001, 30,782 miles of forest roads on large landowner properties have been improved to meet forest practices standards, and 8,468 fish passage barriers have been eliminated from those same properties, opening up 5,184 miles of fish habitat.

Cultural Resources

- During this reporting period, 17 FPAs required a landowner/tribal meeting. All 17 meetings occurred.

Information Technology

- In this reporting period, 4,297 FPAs were received or renewed and entered into the Forest Practices Application Review System (FPARS). As of June 30, 2021, 1,116 reviewers had opted-in and were subscribed to receive email notification of FPAs.
- During this reporting period, 587 Informal Conference Notes, 10 Notices of Conversion to Non-forest Use, 51 Notices to Comply, and 12 Stop Work Orders were entered into the Forest Practices Enforcement Tracking System.
- DNR processed 702 concurred Water Typing Modification Forms, resulting in updates to approximately 561 stream miles. These updates included water type upgrades to approximately 10 miles of stream and water type downgrades to approximately 24 miles of stream. The remaining 527 miles of stream were edited as either a change of location or verification of existing water type. As of June 2021, seven concurred Water Type Modification Forms were backlogged and yet to be entered into the database.
- DNR submitted a legislative funding proposal during the 2021 legislative session for funding to develop a modern forest practices application and information system (called “fpOnline”) The legislature and Governor approved the proposal and provided partial funding available starting July 2022. The Legislature also directed DNR to submit a report by December 2021 with recommendations for how the forest industry might help pay for the system, including through increased FPA application fees.

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.

¹ The total numbers of fish passage barriers identified from landowner annual reports may have included new discoveries, life of pipe calls, former barriers on downgraded streams, and other factors that were not a part of the RMAP or RMAP extension program. After comparison to the RMAP database, DNR believes this may have inflated the total number of barriers identified in this chapter from the landowner annual reports. Based on the RMAP database we believe a more accurate number of barriers left to be fixed under RMAP obligation is approximately 147 statewide.

2. Forest Practices Board

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

2.1 Forest Practices Board Rule Making Activity (July 1, 2020 – June 30, 2021)

Expedited rule making completed

The Board adopted an expedited rule in February 2021, making corrections to current rules related to typographical errors, outdated references to Washington statutes, and minor clarifications to the Small Forest Landowner Forestry Riparian Easement Program rule in Chapter 222-21 WAC.

Pilot Rule Making

Eastside Type N Riparian Effectiveness

The Board, based on a recommendation from TFW Policy, adopted a pilot rule allowing an eastside type N riparian effectiveness study to test the effects of timber harvests with buffers and without buffers along sections of Type Np streams that go dry seasonally. One study sites was suitable for testing the effect of clear-cutting along a seasonally dry stream segment. This segment of stream, however, extended into the final 500 feet of the Np stream intersection of a Type F stream, where the Forest Practices rules require a continuous buffer be retained. A pilot rule approval was necessary to not adhere to WAC 222-30-022 (2)(b)(ii)(C)(III). In February 2021, the Board approved a pilot rule to authorize a single forest landowner to conduct a harvest within the 500 feet of the Type Np stream upstream of a Type F stream.

2.2 Forest Practices Board Manual Activity (July 1, 2020 – June 30, 2021)

The Board did not consider nor approve any Board Manual changes during this reporting period.

2.3 Anticipated Forest Practices Board Direction

Anticipated Rule Making Activity

Permanent Water Typing System

The Board's primary focus continued to be the development of a permanent water typing system rule. The Board's Water Typing Rule Committee (Board Committee) continued to oversee the work to determine the metrics for the anadromous fish floor (AFF) and the work to gather additional fish distribution data for inclusion in the eastern Washington spatial analysis of the Potential Habitat Break (PHB) options. The Board received reports at each meeting about the Board Committee's work to provide recommendations on these two rule elements.

In August 2020, a contract was awarded to Terrainworks, Inc. to perform a GIS based spatial analysis of the AFF proposals. The contractor worked with a project team, formed by the Board Committee, to develop hydrographic stream networks that are used to compare known anadromous fish locations and natural barriers with the Board's accepted AFF alternatives (A-Westside tribes, B-eastside tribes, and C-landowners). The spatial analysis contract expired in June 2021, and the AFF project team is now working to develop recommendations for

appropriate AFF metrics to submit to the Board Committee for consideration. Final recommendations are expected to be provided to the Board in 2022.

The Board Committee's technical workgroup was tasked with assessing additional eastern Washington fish distribution data (needed for a statewide PHB spatial analysis). The technical workgroup recommended that the Board accept a subset of the CMER data from fish distribution studies conducted between 2001 and 2005. The Board accepted this recommendation at its May 2021 meeting in addition to fish data submitted by eastern Washington tribes. This new data will be combined with the existing western Washington data for DNR to perform the statewide PHB spatial analysis.

See [Appendix 3](#) for historical information.

Western Washington Type Np riparian management zones

Phase 1 of the *Type N Experimental Buffer Treatment Project on Hard Rock Lithologies* ("Hard Rock") study demonstrated a temperature increase in Type Np (non-fish perennial) waters flowing through the current Type Np RMZ buffers. The purpose of the Type Np workgroup formed to address the research findings (and convened in July 2019) was to develop proposed RMZ buffer prescriptions for Type Np streams in western Washington for TFW Policy's consideration. The Type Np workgroup continued to meet through the month of May 2021. It developed eight prescriptions, including an assessment of the level of effectiveness of each prescription at meeting resource objectives identified in the Board-approved [Schedule L-1 of the Forests and Fish Report for consideration](#). The Type Np workgroup provided these recommendations to TFW Policy for its consideration. At the end of the reporting period, TFW Policy was working on developing its recommendation to the Board for potential changes to rules for Type Np RMZs in western Washington.

The Washington State Department of Ecology (Ecology) provides Clean Water Act assurances to forest landowners whose forest-related activities are subject to the Forest Practices Act and rules. Those assurances are predicated on the development and maintenance of clean water, as measured in part by water temperatures. In December 2019, Ecology extended the assurances based on an assumption that the Board would initiate a Type Np RMZ rule making for western Washington by the end of calendar year 2021. The Board agreed to a Policy proposal to wait to take action based on the results of the *Hard Rock study* until the results of five other on-going AMP Type Np Water studies, including the *Type N Experimental Buffer Treatment in Soft Rock Lithology* study, were provided in order to have pertinent information representing all stream lithologies in western Washington when considering potential rule changes. Four of the six studies had been completed and accepted by the Board by the end of the reporting period, with the remaining two expected to come to the Board for action in mid-2022, along with a recommendation from Policy about alternatives that could include creation of a new rule or revision of an existing one.

Anticipated Board Manual Revisions

Board Manual Section 12, Guidance for Application of Forest Chemicals

During the 2019 session, the Legislature passed Substitute Senate Bill 5597, which created the [Aerial Application of Herbicides in Forestlands workgroup](#). The workgroup recommended updates to Board Manual Section 12 to incorporate best management practices regarding site signage, equipment use, weather conditions, neighbor outreach, and information on alternatives to using herbicides. Work on Board Manual Section 12 is expected to begin in July 2021, using funding that the Legislature allocated for this purpose for the 2021-23 biennium.

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

When the Board adopts a permanent water typing system rule and associated guidance, Board Manual Section 13 will be removed. The new field protocol – a fish habitat assessment methodology that will be used to delineate fish habitat using certain specific stream characteristics – will reside in Board Manual Section 23.

Board Manual Section 22, Guidelines for Adaptive Management Program

The 2021 SAO performance audit of the AMP indicated that Board Manual Section 22 needs clarifications to make it consistent with the rule. Work was initiated to accomplish this, with an objective of seeking the Board's approval for an update in early 2022.

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

Work on Board Manual Section 23 will resume when the Board receives and takes action on additional rule elements and recommendations (see part 2.3). 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).

- Part 1 will feature guidance to determine the extent of fish habitat through the application of the Fish Habitat Assessment Methodology, including guidance for measuring Potential Habitat Breaks (PHB); guidance for conducting protocol electrofishing surveys; and guidance for delineating the boundary of off-channel habitat.
- 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 begin when the TFW Policy Committee completes the revised method for determining the uppermost point of perennial flow.

3. Adaptive Management Program

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

Adaptive Management Program Efficiency and Effectiveness Improvement

Improving the efficiency and effectiveness of the Adaptive Management Program (AMP) remains an ongoing priority for the Board. DNR hired the Center for Conservation Peacebuilding (CPeace) during the previous reporting period. CPeace conducted 139 individual interviews with caucus members between November 2019 and May 2020 to help determine ways to make AMP more effective and efficient. CPeace then documented the participants' perspectives in its June 2020 report, *People, Timber, Forests, Fish and Wildlife Assessment Report 2020*.

CPeace trained AMP participants in two weeklong training sessions in April and May 2021. Participants included the members of the TFW Policy Committee, the CMER Committee, DNR staff, and stakeholder representatives. These events helped educate participants about how to more effectively work together and discuss next steps for improving the effectiveness of the AMP.

During the reporting period, the Board received the results of a performance-based audit of the AMP that the State Auditor's Office completed at the request of the Board. The [audit report](#) was completed in January 2021 and included 11 recommendations for improving the AMP performance. The Board asked staff to provide recommendations for relative priorities and, if needed funding to act upon the recommendations. The recommendations were be separated into three categories:

1. Recommendations to be considered and acted upon by caucus principals that may be aided by third-party neutral assistance, focusing on conflict transformation (recommendations 1, 2).
2. Recommendations involving changes to AMP processes to be evaluated mainly through the appropriate AMP committees and brought to the Board with recommendations for action (recommendations 5, 6).
3. Recommendations that are administrative in nature to be evaluated primarily by the Board and AMP staff and brought to the Board for decision and action (recommendations 3, 4, 7, 8, 9, 10, 11).

The Board accepted the [recommended plan of action](#) at its May 2021 meeting, and work commenced at the Board, TFW Policy Committee, and staff levels.

3.1 Cooperative Monitoring, Evaluation, and Research Committee (CMER) Work Plan and Projects

The [CMER Work Plan](#) presents an integrated strategy for conducting research and monitoring to provide scientific information to support the AMP. The overarching purpose of the CMER Work Plan is to inform CMER participants, TFW Policy Committee constituents, the Board, and interested members of the public about CMER research and monitoring activities. It describes AMP projects that have been completed, are ongoing, or are to be initiated. The number of

projects described in the CMER Work Plan may not be consistent with the actual number of projects the AMP is working on. 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 CMER Work Plan that are more accurately described as separate projects for the purposes of this report.

In May 2021, the Board adopted a Master Project Schedule that prioritizes and describes the CMER research projects selected for funding. For the ongoing projects in FY 2022 and FY 2023, there are:

- two in the Stream Typing Rule Group,
- eight in the Type N Riparian Prescriptions Rule Group,
- three in the Type F Prescriptions Rule Group,
- two in the Unstable Slopes Rule Group,
- one in the Roads Rule Group, and,
- two 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.

CMER completed and approved three projects during the reporting period:

- *Eastside Modeling Evaluation Project (EMEP)*: The purpose of this project was to model how current riparian stands in eastern Washington might respond to the Washington forest practices rules eastside riparian prescriptions over time. The EMEP evaluated riparian stand conditions using survey data from the previously completed Phase 1 of the Eastern Washington Riparian Assessment Project. The assessment project data were used to inform Forest Vegetation Simulator modeling as the basis for evaluating:
 - 1) current riparian stand conditions;
 - 2) trajectory of riparian stand conditions;
 - 3) eligibility of stands for timber harvest; and
 - 4) trajectory of managed stand conditions.

The EMEP is part of an ongoing program that the Scientific Advisory Group Eastside has implemented to validate the Eastern Washington Type F riparian prescriptions. EMEP's findings report – including answers to six questions that form the basis of TFW Policy Committee's adaptive management recommendations - indicates limited benefits to forest health and reduction of wildfire risk in inner zones under the WACs. The greatest factor limiting benefits are rules that limit the opportunity to treat inner zones. Despite having demonstrable forest health concerns, the majority of inner zones cannot be treated, leading to further increases in susceptibility to insects and disease, and increased wildfire risk. Where treatment is possible in inner zones under the Forest Practices Rules, the study findings show that the level of treatment has a limited but insignificant benefit to growth and limited benefit to insect and disease susceptibility among mixed conifer sites.

TFW Policy Committee approved the final report in March 2021 with the recommendation of no further action to be taken at this time.

- *Wetland Intrinsic Potential Tool (WIP)*: This project consists of two phases. Phase I developed a beta wetland intrinsic potential identification model that interfaces as an ArcMap tool. It was completed in FY 18. The University of Washington was hired to calibrate (Phase II) the wetland identification model (deliverable of Phase I), which predicts the probability of wetlands by type on forestlands of western Washington. Topographic and hydrology features associated with known wetlands are used to train the model. These features generally are used to indicate areas where water will concentrate and produce wetlands. When trained using a data set from the Puyallup watershed, the WIP model provided a high level of efficiency in identifying wetlands, even under canopy cover (97 percent overall accuracy, 16 percent error of omission). The model's performance decreased only slightly when tested against a data set for an adjacent watershed (an untrained model comparison in the Mashel watershed). This would be dependent on the areas sharing similar climatic and geologic traits. For example, the authors found that model performance decreased further when tested against data sets from two watersheds (in the Puget Lowlands, and Olympic Peninsula) that were not in the immediate geographic proximity of the Puyallup watershed, where the model was initially developed. Thus, some regional refinement of the model will be needed to support region wide use of the WIP Tool. This would require field data be found or collected and used to develop additional models across the region. TFW Policy Committee approved the [Phase II final report](#) in June 2021 with the recommendation that no further action be taken at this time.
- *Environmental DNA (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. This is an exploratory study opportunistically pursued under a cost-share agreement with the USDA Forest Service Pacific Northwest Research Station to add sites from Washington to an eDNA study being conducted in Oregon. The Washington sites were chosen to test the eDNA sampling methodology where electrofishing survey work had been previously scheduled by industrial landowners. CMER joined the Forest Service and industrial landowners in this study primarily to evaluate the use of the methods to evaluate in general how eDNA sampling can contribute to the demarcation of fish and non-fish habitat, and to inform CMER on how to best incorporate eDNA sampling in future studies (e.g., PHB validation, Default Physical Habitat).

The study found that the last-fish boundary matches between approaches in a quarter of the streams. In more than half of the streams trout DNA is detected further upstream with

eDNA than trout have been detected with electrofishing. However, variability exists in where and when positive trout eDNA detections align with confirmed trout presence through electrofishing. The reasons for that variability are not clear.

As an opportunistic exploratory study, neither the methods nor the final report was submitted to the independent peer review process. This study raised a number of concerns regarding the specific methods employed, and the lessons learned will be applied in future CMER-developed studies. The [final report](#) was developed by the principal investigator and approved by CMER and TFW Policy Committee. The recommendation from TFW Policy Committee was no further action be taken at this time.

Independent Scientific Peer Review

As described below, three final reports were going through independent scientific peer review as the reporting period concluded and will be ready for CMER review and approval in FY 2022:

- *Extended Type N Experimental Buffer Treatment Project on Hard Rock Lithologies (Phase II)*: 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, large woody debris, riparian shade, litterfall, stream discharge, and detritus and macroinvertebrate export. Authors received peer-review and CMER approval for all chapters of the final report except the executive summary. Authors were waiting on peer-review approval on the executive summary at the end of the reporting period.
- *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. CMER approved the draft report in January 2020. This approved document was forwarded to peer review in February 2020. Peer reviewers approved individual chapters throughout spring 2021. The authors have submitted several chapters to CMER for final approval, with the remainder of the chapters and executive summary to be submitted in August 2021. The Soft Rock Extended Monitoring Data will be analyzed in fall 2021.
- *Riparian Characteristics and Shade Response Study*: This study will estimate how stream shade responds to a range of riparian harvest treatments within and among environments common to commercial forestlands covered under the Forest Practices HCP. This study will estimate stream shade response to different riparian buffer configurations through two factors: stream-adjacent no-harvest zone width and adjacent-stand harvest intensity. The study design was approved to send to peer review in March 2021. An associate editor and reviewers are currently reviewing the study design at the end of the reporting period.

Ongoing projects

In addition to the completed projects and those currently in peer review listed, progress is being made on an additional 14 projects. Of these projects, two are extensive, eight are effectiveness, and four are rule tool type projects. Two are in the Wetland Protection Rule Group, four are in the Type N Riparian Prescriptions Rule Group, three are in the Type F Riparian Prescriptions Rule Group, two are in the Stream Typing Rule Group, two are in the Unstable Slopes Rule Group, and one is in the Roads Rule Group. One of the Type N Riparian Effectiveness Projects (Headwater Stream Buffer Pilot Project) is described in Section 3.2 *TFW Policy Committee Activity*; therefore, only 13 projects are described below.

- *Westside Type F Riparian Prescription Effectiveness Monitoring Projects*: The purpose of these projects is to determine how stand conditions respond over time to the Westside Type F riparian prescriptions and to evaluate the effectiveness of the prescriptions in meeting Forest Practices HCP resource objectives and performance targets. The Phase I exploratory project used an after-impact-only approach that focused on assessing riparian stand conditions and selected riparian functions across a range of prescription variants and site conditions. The Riparian Science Advisory Group is currently reviewing a draft exploratory report. The Phase II experimental project will focus on the response of riparian stands, riparian inputs (such as heat energy and large wood), channel habitat, and aquatic biota to answer the critical questions regarding effects of the harvest prescriptions on habitat conditions. Work on the study design will begin after the exploratory report is completed.
- *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 stream temperature and discharge in eastern Washington. This project uses a blocked multiple before-after/control impact design with reaches nested within Type Np basins. Each of the five treatment basins for the study are paired with a reference basin. Two years of pre-harvest data has been collected at three of the basin pairs. At these three basins, one has been harvest, harvest initiated at one in June 2021, and harvest is anticipated to begin at one in September 2021. The first year of pre-harvest data collection began spring 2021 at the remaining two basin pairs.
- *Extended Type N Experimental Buffer Treatment Project on Hard Rock Lithologies (Phase III)*: Preliminary results from Phase II suggest significant declines in coastal tailed frog populations seven and eight years after harvest that were not apparent in the initial post-harvest period, Phase I. Future monitoring will allow identification of longer-term effects of harvest on coastal tailed frog populations and other stream-associated amphibians, including torrent and giant salamanders. Work has begun on this project with funds being approved at the end of the reporting period.

- *Eastside Timber Habitat Evaluation Project*: The purpose of this project is to develop a framework for applying riparian harvest rules along Type S and Type F streams in eastern Washington based on the Forest Practices HCP functional objectives and performance targets. This project will examine and develop alternatives to the current Timber Habitat Type system using primarily GIS analysis of existing geospatial datasets. TFW Policy Committee approved the scoping document in June 2021 and Scientific Advisory Group Eastside was directed to move forward with developing a study design for Alternative 2 from the scoping document.
- *Extensive Riparian Status and Trends Monitoring – Vegetation, Type F/N Westside and Eastside Projects* (This is tracked as two projects; one in the Type F rule group and one in the Type N rule group): The Type F/N eastside and westside studies will be performed concurrently. These projects will assess riparian conditions in Type N, F, and S (Shorelines of the State waters) stream reaches across Forest Practices HCP lands in the state to estimate conditions statewide. The sampling method is yet to be determined. Two pilot studies have been completed to determine if remote sensing can be used in conjunction with traditional fieldwork to accomplish the purposes for extensive status and trend vegetation analysis. The Precision Forestry Cooperative at the University of Washington completed the first pilot study in 2017 and the second in 2020. Based on this previous work, Riparian Scientific Advisory Group and CMER developed and approved a status and trends strategy and presented it to TFW Policy Committee. Further work and implementation on this project is pending the results and prioritization rankings from an extensive monitoring workgroup formed by TFW Policy Committee.
- *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 Wetland Scientific Advisory Group (under CMER) continued scoping this project at the time the reporting period ended.
- *Road Prescription-Scale Effectiveness Monitoring*: This project monitors reductions in surface erosion and sediment production from site-specific measures. Monitoring is accomplished through empirical sampling of road surface erosion, sediment production, sediment delivery and hydrologic connectivity. The project also uses physical modeling to quantify the interactions of previously elements with each other as well as with rainfall and traffic. All 78 sites have been constructed. There are 39 in each of the two lithologies with overlapping ranges of rainfall typical of forestland in Western Washington. Sites were selected that occur on fine-grained sedimentary lithologies and on volcanic lithologies. The second year of data collection concluded in May 2021. Data collection, maintenance, and improvements to site functionality are ongoing.
- *Deep-Seated Landslide Mapping and Classification Projects*: These projects will provide a classification of deep-seated landslides 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 is developing a study design based on the TFW Policy Committee-approved scoping document for the Landslide Mapping and Classification Project under the Deep-Seated Landslide Research Strategy.

- *Unstable Slope Criteria Project: An Evaluation of Hillslopes Regulated under Washington Forest Practices Rules:* This project will evaluate the degree to which the landforms described in the unstable slopes rules identify potentially unstable areas with a high probability of endangering public resources. This project contains five related studies:
 - Compare/Contrast Landslide Hazard Zonation Mass Wasting Map Units with rule-identified landforms Regional Assessment of Missing rule identified landforms by Qualified Experts
 - Object-Based Landform Mapping with High-Resolution Topography
 - Empirical Evaluation of Shallow Landslide Susceptibility and Frequency by Landform
 - Empirical Evaluation of Shallow Landslide Runout
 - Models to Identify Landscapes/Landslides Most Susceptible to Management.The Object-Based Landform Mapping with High-Resolution Topography study has been implemented and a final report is being developed.
- *Water Temperature and Amphibian Use in Type Np Waters with Discontinuous Surface Flow Project:* This project seeks to evaluate the influence of discontinuous surface flow in Type Np waters on stream temperature and amphibian use. This project will inform the effectiveness of forest practices rules for riparian buffer placement on Type Np waters, including insights on buffer placement to maximize resource protection to meet water quality standards and ensure the long-term viability of covered species. The Landscape and Wildlife Advisory Group continued work on a scoping document for this project.
- *Forested Wetland Effectiveness Project:* 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 Before-After, Control-Impact 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 Wetlands Scientific Advisory Group continued work on the implementation plan ahead of field data collection set to begin in spring 2022.
- *Water Typing Projects:* The current water typing strategy includes two active projects: *Evaluation of Physical Features that Define Fish Habitat in Forested Landscapes Across*

Washington State (PHB) and Default Physical Criteria Assessment Project: The PHB project, also known as “the validation study,” which will 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 Default Physical Criteria Assessment project 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 Instream Scientific Advisory Group is currently working on the study designs for these projects. The implementation planning and data collection effort for both of these projects will be merged and tentatively set to begin in FY 23.

3.2 Timber, Fish, Wildlife (TFW) Policy Committee Activity

General TFW Policy Committee Activity

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

Technical Small Forest Landowner Workgroup

In 2015, the Board requested that the TFW Policy Committee determine: 1) if the western Washington low-impact alternate harvest template proposal met the rule-defined criteria of an alternate plan template and, 2) to review existing draft alternate plan templates to determine if any could be fully developed and brought to the Board for approval. In December 2019, TFW Policy Committee, by consensus, found that the western Washington low-impact harvest proposal did not meet the criteria of an alternate plan template.

TFW Policy Committee in February 2020 formed two workgroups to explore opportunities for additional small forest landowner alternate plan templates or alternate harvest prescriptions:

- The first workgroup was to determine if there were any site-specific conditions where a 75-foot or 50-foot buffer would be acceptable as an alternate plan template prescription for Type F streams and if any, site-specific conditions where a 25-foot buffer would be acceptable as a prescription for Type Np stream buffers.
- The second workgroup was to determine if two experimental alternative harvest prescriptions for conifer thinning and conifer restoration could be developed and brought to the Board for consideration.

During the reporting period, the first workgroup completed its review without reaching consensus on any potential alternate plan template prescriptions for 75’, 50’ or 25-foot buffers. As a result, the small forest landowner caucus invoked the dispute resolution process due to the lack of progress by the first workgroup. The process was concluded without a consensus recommendation and the TFW Policy Committee received the report from the Stage 2 mediator finding that the recommendations for each caucus will be presented in the form of minority/majority reports to the Board. However, TFW Policy Committee agreed to wait for the

CMER's review for adequacy of the scientific justification² supporting the western Washington low-impact alternate harvest template proposal before finalizing the minority/majority reports to submit to the Board.

The second Workgroup completed its work and submitted recommendations for conifer thinning and conifer restoration prescriptions and an alternative harvest prescription monitoring and evaluation strategy for TFW Policy Committee to consider. TFW Policy Committee accepted the workgroup report and agreed to delay discussions on the recommendations until after the completion of dispute resolution for the 75', 50' and 25-foot buffers. This work is expected to take place during the next reporting period.

Budget Workgroup

This standing budget workgroup prioritizes the TFW Policy Committee's future work as it relates to recommendations to the Board regarding the AMP's Master Project Schedule. The TFW Policy Committee, with input from CMER, used criteria it developed when reviewing the draft 2021-23 biennial budget and Master Project Schedule during its March and April 2020 meetings to prepare the budget recommendations. Due to an unexpected budget shortfall, the previously approved 2019-21 biennium AMP biennial budget needed to be reduced by \$1.9 million, mostly during this reporting period. The recommendations of the budget workgroup were approved at the TFW Policy Committee and Board meetings in May 2021, updating the previously approved budget for the 2019-21 biennium and accepting the 2021-23 biennium master project schedule and budget recommendation.

Extensive Monitoring Workgroup

Riparian Scientific Advisory Group and CMER developed and approved a status and trends strategy. It was presented to the TFW Policy Committee at the March 2020 meeting. The TFW Policy Committee formed a workgroup to prioritize the recommendations from the strategy and determined that an extensive monitoring workshop should be held to help inform future status and trends AMP research. The workshop was held remotely on January 29, 2021. Further work and implementation of status and trends research is pending the recommendations from this workgroup.

Type Np Workgroup

The technical Type Np workgroup completed its final report including potential RMZ buffer prescriptions for TFW Policy Committee consideration for Type Np streams in western

² In July 2020, TFW Policy Committee voted to transmit the SFL Template Proposal Initiation Scientific Justification, the Cramer Fish Sciences review, and the Independent Scientific Peer Review documentation as supporting materials to CMER for responding to the six questions for completed outside science. The CMER workgroup has developed several documents in support of this effort, including the Six Questions Document. Additional work is anticipated through summer 2021.

Washington. The TFW Policy Committee is considering the report findings, including 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 workgroup studied findings from the final reports of several Type N AMP studies: *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 developed a set of proposed Type Np RMZ buffer prescriptions to meet resource protection, feasibility, and economic objectives, and delivered its final report in May 2021. TFW Policy Committee accepted the final report and is developing recommendations for presentation to the Board.

Headwater Stream Buffer Pilot Project

This proposed scientific study involves examining the feasibility of using solar path analyses to define where along a stream forest buffers are most helpful for providing shade to streams. The Washington Forest Protection Association submitted a proposal initiation document requesting approval of its study design to the Adaptive Management Program administrator. The administrator reviewed and made a recommendation to the Board to accept the study design and adopt a pilot rule to allow application of the study with industrial landowners paying to implement the study. The administrator provided recommendations to TFW Policy Committee in May 2020. TFW Policy Committee 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.

Eastside Forest Health Strategy Workgroup

In May 2021, the TFW Policy committee formed a workgroup to discuss development of an eastside forest health strategy. This workgroup is made up of TFW Policy Committee and CMER members. At the end of the reporting period, the workgroup was discussing completed AMP eastside projects, where research gaps exist, and how to proceed with eastside forest health research.

3.3 Clean Water Act Assurances

CMER and TFW continue to work to address the Clean Water Act Assurances and meet the new deadline of December 2021. Please see Appendix 3 for the [assurances history](#) and [Appendix 1](#) for the 2021 update to the Board.

3.4 Electrofishing Associated with AMP Research

Both the National Marine Fisheries Service and U.S. Fish and Wildlife Service Incidental Take Permits cover electrofishing conducted for research and monitoring by the Adaptive Management Program. No electrofishing surveys were conducted between July 1, 2020, and June 30, 2021, as part of the Adaptive Management Program's research and monitoring.

4. Forest Practices Operations

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

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

There were approximately 94 full-time equivalent positions statewide in Forest Practices Operations. Of the 94 positions, 63 were field positions. However, due to the budget shortfall the program implemented in this fiscal year, approximately 11 field positions (20 percent) were held vacant when vacancies occurred. This approach was applied across the program statewide to effectively manage the one-time budget shortfall, described in the introduction section of this report without having to lay off staff.

4.1 Forest Practices Application/Notification Workload

Two uncharacteristic circumstances affected Forest Practices Operations staff's work accomplishments in this reporting period:

1. The worldwide COVID-19 pandemic protocol restrictions, which constrained the work environment to ensure the safety of staff and those they interact with, and radically changed operational business practices from an in-person format to a telework and virtual interaction environment, and
2. A one-time \$2.1 million funding reduction within operations that needed to be achieved mostly within this reporting period, coupled with imposition of up to eight furlough days, which reduced the time available to complete work.

Despite these unplanned challenges, the Forest Practices Operations staff processed 4,297 FPA/Ns during this reporting period, as compared to 4,096 in the prior reporting period. Table 1 describes the nature of the FPAs by decision type and DNR region.

Table 1: Fiscal Year FPA Totals by Decision Type (FY 2021)

Region	Approved	Closed/Withdrawn	Disapproved	Renewed	Total by Region
Northeast	662	23	18	56	799
Northwest	444	44	10	27	565
Olympic	418	14	4	50	536
Pacific Cascade	1,233	36	7	98	1,456
South Puget Sound	561	58	12	43	722
Southeast	189	9	2	12	219

Total by Decision	3,507	184	53	286	4,297
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Closed means the applicant withdrew the FPA/N.

Including FPAs approved during the reporting period, there were 12,440 active (not yet expired) approved and renewed FPAs statewide at the end of the reporting period. This figure was 2,861 (29 percent) more active FPAs than during the prior reporting period.

4.2 Priority Project Work

Active Haul Route Deliverable Review

Forest Practices Operations staff completed a review of implementation of the active haul route region deliverable³ in May 2021. This review examined DNR region implementation of the active timber and gravel haul route (forest roads) deliverable with the following goals:

- (a) To investigate region implementation of the deliverable,
- (b) To determine the appropriateness of the deliverable target numbers assigned by each region, and
- (c) To determine if the region-collected data for this deliverable would be useful for determining potential recommendations for changes to the forest practices rules, Board Manual, or *Forest Practices Illustrated* to provide public resource and public safety improvements and requirements.

The review was intended to determine how well practices aligned with guidance, and whether additional training for staff and stakeholders or clarification in FPA instructions and/or guidance was needed. In response to the findings, the Program modified the deliverable to emphasize the use and effectiveness of best management practices that minimize sediment delivery to live water, and identification of fish passage barriers on small forestland ownerships.

Forest Practices Engineering Reviews

Forest Practices Program civil engineers provided professional analysis and advice to DNR region regulatory foresters with review of 108 harvest and/or road construction FPAs involving hydraulic projects. This effort included activities such as pre-approval reviews, review of the hydraulic project design paperwork, participation on interdisciplinary teams, and post-installation field compliance review.

Forest Practices Science Team Reviews

Forest Practices Program geologists make up the Science Team. They provided professional analysis and advice to DNR region regulatory foresters for 791 pre-approval harvest and/or road construction FPAs with unstable landforms. This effort included 1,133 office reviews, 694 field

³ The purpose of this deliverable is for forest practices staff to routinely evaluate whether operators are following forest practices rules and best management practices during active forest road use, particularly with respect to preventing sediment from reaching watercourses and waterbodies.

reviews, and participation at 48 interdisciplinary team meetings. The Science Team also performed 65 pre-application reviews that include both office and field review of unstable landforms. In this reporting period, the Science Team performed 19 landslide event assessments.

4.3 Forest Practices Program Guidance

DNR Forest Practices created eight guidance documents during this reporting period. Table 2 provides a summary.

Table 2: Summary of Written Guidance Issued to DNR Forest Practices Staff July 1, 2020 – June 30, 2021

Date	Reason for guidance	Accomplishment
05/12/2020	Procedure PR 19-100-001 implementing PO19-100	<u>Procedure: PR19-100-001 Forest Practices Application/Notification Processing Timelines</u> This procedure applies to all regional forest practices staff who receive, evaluate, and make decisions on FPAs to approve, disapprove, or approve with conditions.
06/01/2020	Question and Answer (Q & A)	<u>Guidance Memorandum: DNR Forest Practices Q & A: Precommercial Thinning and Forest Health Biomass Removal</u> Information to assist the public in determining whether an FPA is required.
06/01/2020	Frequently Asked Questions (FAQ)	<u>Guidance Memorandum: DNR Forest Practices Voluntary Pre-Application Reviews for Potentially Unstable Landforms – Frequently Asked Questions</u> The goal is to ensure that an FPA is complete and improve the quality of the supporting documentation.
06/01/2020	FAQ	<u>Attachment A - Forest Practices Application/Notification Submittal and Processing Frequently asked Questions</u> Decision timelines for FPAs depend on the classification of the proposed forest practice.
06/01/2020	Presentation	<u>Forest Practices Application and Notification Processing Timelines</u> (Power Point presentation) The timelines the DNR uses in reviewing FPAs are mandated by statute and rule.
08/23/2020	Information	<u>Guidance Memorandum: 45-Day Replacement Fee Grace Period for the Same FPA/N Proposal</u> This memo replaces a prior expired memo to continue the standard practice to apply fees from a disapproved or withdrawn FPA or refund under limited circumstances within 45 days.

10/09/2020	Policy Establishing Date of Receipt	Policy: <i>PO19-100 Forest Practices Application/Notification Processing Timelines</i> Date of receipt is the day an FPA is received in the appropriate DNR region office, regardless of completeness [Revised Code of Washington (RCW) 76.09.050(1) and RCW 76.09.050(3)].
02/05/2021	Waterflow Memorandum	Guidance Memorandum: <i>2021 Fish Survey Season-Water Level and Streamflow Forecast</i> : Forecast for statewide water abundance for the 2021 fish survey season to focus appropriate attention on potential drought conditions when scheduling and conducting fish surveys.

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

Forest Practices Hydraulic Projects

WDFW’s goal is to review all FPAs containing Forest Practices Hydraulic Projects 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 an individual 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 waters that require WDFW review and comment.

From July 1, 2020, through June 30, 2021, WDFW biologists reviewed 1,802 FPHPs, including 587 concurrence-required project reviews and 849 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 167 pre-application site visits. This accounted for roughly 3,055 hours of staff time spent on FPHPs.

Water Typing/Resource Identification and Wildlife Reviews

WDFW biologists reviewed and participated in more than 3,407 water-typing-related opportunities during 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 interdisciplinary teams for various forest practices water-typing-related issues, reviewing FPAs for correct water typing, reviewing road maintenance and abandonment plans, and providing technical assistance on alternate plans. This accounted for approximately 4,248 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 1,070 work hours.

5. Small Forest Landowner Office

Appendix: Background on Small Forest Landowner Office

5.1 Forestry Riparian Easement Program (FREP)

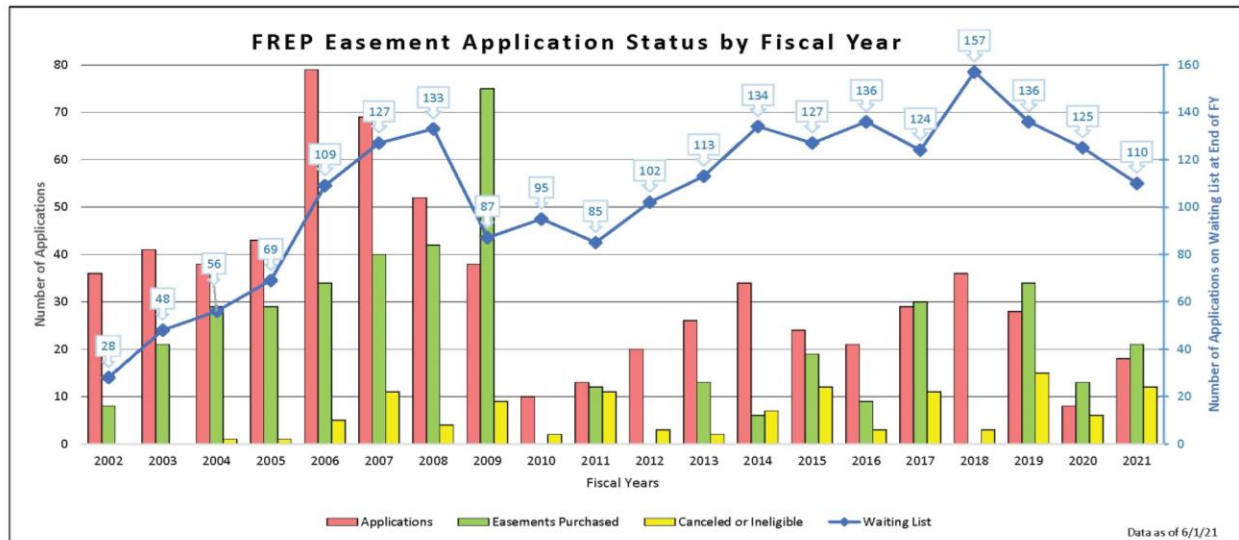
During the reporting period, 21 easements were purchased and the backlog was reduced by 18 percent to 110 applications (Table 3). New applications increased from eight applications last year to 18 applications this year. The number of new applications was well below the average number of 30 applications per year dating back to 2001. This may be a result of the COVID-19 pandemic, although timber market prices were high during this period.

The 2021 FREP budget included \$6.0 million appropriated for the FY 2021-23 biennium, and \$600,000 reappropriated from the FY 2019-21 biennium. While past appropriated funding for FREP has not been sufficient to eliminate the backlog of eligible applications, the 2021 legislative FREP appropriations increased significantly from previous years.

Table 3: Forestry Riparian Easement Program Activity by Fiscal Year

State of Washington
Dept. of Natural Resources

Forest Practices Division
Small Forest Landowner Office

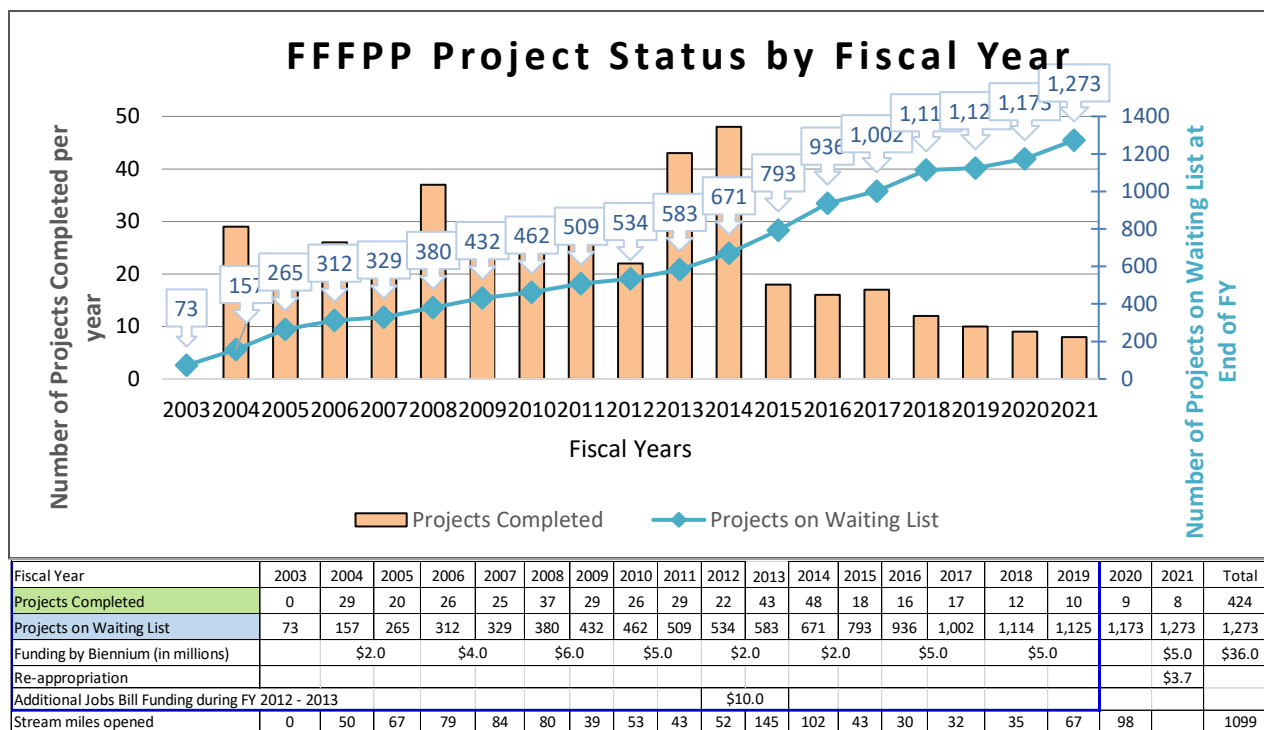


Fiscal Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Applications	36	41	38	43	79	69	52	38	10	13	20	26	34	24	21	29	36	28	8	18	663
Easements Purchased	8	21	29	29	34	40	42	75	0	12	0	13	6	19	9	30	0	34	13	21	435
Canceled or Ineligible	0	0	1	1	5	11	4	9	2	11	3	2	7	12	3	11	3	15	6	12	118
Waiting List	28	48	56	69	109	127	133	87	95	85	102	113	134	127	136	124	157	136	125	110	
Funding by Biennium (in millions)		\$1.2		\$3.3		\$8.0		\$9.9		\$0.9		\$1.0		\$2.0		\$3.5		\$3.5		\$3.5	\$33.3

5.2 Family Forest Fish Passage Program (FFFPP)

During FY 2021, the FFFPP completed eight fish passage barrier removal projects that opened approximately 98 miles of upstream fish habitat. The backlog of FFFPPs rose from 1,173 reported in the 2020 Annual Report to 1,273 by June 30, 2021 (Table 4).

Table 4: Family Forest Fish Passage Program Accomplishments since 2003



5.3 Long-Term Forest Practices Applications

As of June 30, 2021, DNR’s Forest Practices Application Review System database reported 286 approved Long-Term Forest Practices Applications for small forest landowners. This was an increase of 12 during this reporting period (4.4 percent).

5.4 Regulation Assistance for Small Forest Landowners

The SFLO continued to have a single regulation assistance forester funded during the reporting period, and additional funding was explicitly provided during the 2021 supplemental legislative session to fund a second regulation assistance forester. This position was filled in March 2021 and was funded until June 30, 2021.

Regulation assistance foresters consult and provide 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 to such activities as 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, regulation

assistance foresters lead voluntary forest road surveys to assess the condition of small forest landowner roads and discuss landowners' road construction and maintenance obligations under forest practices rules and Clean Water Act requirements.

During this reporting period, DNR received 627 requests for assistance. Requests were primarily for assistance on alternate plans, long-term applications, information regarding the 20-acre exempt rule, and other forest-practices-related questions.

Voluntary Small Forest Landowner Roads Assessments: These assessments, requested by small forest landowners, are intended to help determine if forest roads owned by small forest landowners comply with applicable forest practices rules. Initially, 156 landowners volunteered to have their roads assessed, though 16 landowners were removed from the list due to the absence of forestland on their property or because of the COVID-19 pandemic. For the remaining 140 landowners, 121 road assessments were completed (86 percent) by the end of the reporting period. These encompassed 7,486 miles of forest roads located in almost every county with forestland in Washington state. The distribution of landowner acreage for the completed road assessments is shown in Table 5.

Table 5: SFLO Acreage Distribution of Road Assessments:

Acreage	Number
0 ac - 6 ac	1
7 ac - 20 ac	29
21-39	19
40-100	31
>100	41
TOTAL	121

DNR and Washington Department of Ecology staff determined that a sample size of 200 road assessments would be adequate to determine whether small forest landowners are complying with the applicable forest practices road rules. Findings to date:

- Most road segments assessed were frequently used by the landowner and were maintained using best management practices.
- Several segments contained fish crossing structures where the landowner was active in the Family Forest Fish Passage Program (or the regulation assistance forester informed the landowner about the program).
- To date, no forest practices rule violations have been identified.
- Of the 1,141 road segments assessed, 12 segments (1.0 percent) were found to have low delivery potential, with the remaining 1,129 road segments showing no delivery or de

minimis delivery potential. Of the 12 road segments with low delivery potential, the landowners were taking active steps to mitigate the potential delivery.

Initial observations of the road assessments completed to date indicate that small forest landowners are complying with forest practices rules.

5.5 Small Forest Landowner Office Outreach

The Small Forest Landowner Office conducts 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. Due to the COVID-19 restrictions, small forest landowner outreach involving face-to-face contact was minimized during this reporting period. SFLO staff participated in two Washington State University Extension-sponsored Virtual Winter School Sessions and participated on the teacher's cadre for the Forest Practices Alternate Plan training sessions (see chapter 10 for more information) conducted via Zoom.

The SFLO now has a growing list of more than 6,000 subscribers to the Small Forest Landowner News. 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 4,297 FPAs processed throughout the reporting period, 3,507 were approved, and of those, 122 were approved non-conversion⁴ FPAs that used the 20-acre exempt RMZ forest practices rules adjacent to fish-bearing streams. This number was 56 percent higher than the value from the prior reporting period (78).

Please see annual and cumulative 20-acre exempt FPA maps at:

[Appendix 2b and 2c: Maps of 20-acre exempt FPAs](#)

Table 6: 20-Acre Exempt Forest Practices Applications (July 2020 – June 2021)

20-Acre Exempt Forest Practices Applications with Specific Characteristics	Number
Number of 20-Acre Exempt applications	141
Number of 20-Acre Exempt non-conversion applications with fish-bearing water	122
Number of 20-Acre Exempt applications with non-fish-bearing water only	13
Number of 20-acre Exempt applications that were conversions with fish-bearing water	6
Number of 20-Acre Exempt applications that were not conversions	135
Number of 20-Acre Exempt applications that used 20-acre exempt forest practices rules in Bull Trout Populations of Concern Areas	0

The 20-acre exempt non-conversion applications along fish-bearing waters comprised approximately 3.5 percent of all approved applications submitted during FY 2021.

6.2 Type Np Water Leave Tree Requirement

There were 13 Forest Practices Applications associated with 20-acre exempt parcels that had Type Np waters (Table 6). Eight applications were conditioned according to the Np guidance memo (see [Appendix 3](#) for explanation) or did not propose harvest within 29 feet of an Np water. Five approved FPAs (38.5 percent) did not include the leave tree requirements language provided in [WAC 222-30-023\(3\)](#). To address this shortcoming, the Forest Practices Program produced a draft reference document that will help ensure consistent use of correct conditioning language for 20-acre exempt FPAs with Np streams; the reference document had not yet been finalized as of the end of the reporting period.

⁴ The 20-acre exempt conversion FPAs are not included in the calculation because the Incidental Take Permits do not cover 20-acre exempt FPA/Ns that are conversions.

6.3 Potential Large Woody Debris (LWD) Reduction in Function

[Appendix 2a: Potential Reduction in Function by WAU](#)

There are 846 WAUs in Washington state, of which 255 (30 percent) have had 20-acre exempt FPAs approved (Table 7). The estimated percent of loss of potential large woody debris recruitment in each watershed administrative unit (WAU) containing one or more 20-acre exempt FPAs over the elapsed 15-year period of the Incidental Take Permits can be found in [Appendix 2a](#).

Table 7: Potential Large Woody Debris Reduction in Function Data (July 2020 – June 2021)

WAU Reduction in Function Information	Number
Percent of WAUs with potential large woody debris recruitment reduction	30%
Number of WAUs with less than 1 percent potential reduction in function	246
Number of WAUs with 1 percent or greater reduction in function	9
Maximum percent potential loss of function in any individual WAU	2.375%

Currently, the state believes that all but nine WAUs affected by 20-acre exempt applications have less than 1 percent potential cumulative reduction in function relative to standard forest practices prescriptions. The nine noteworthy WAUs are: Diobsud Creek (2.097 percent), Many Creeks (1.55 percent), Muck Creek (2.375 percent), Smith Point (2.099 percent), Upper Little Pend Oreille River (1.192 percent), Copper Creek (1.197 percent), Wanacut (2.049 percent), Trout Creek (2.049 percent) and Friday Creek (1.095 percent); all are assessed to have less than 3 percent potential cumulative reduction in function. None of the nine WAUs with potential reduction in function more than 1 percent is near the 10 percent threshold ([explained in Appendix 3](#)) established in 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 Water Resource Inventory Area total stream length threshold.

6.5 Bull Trout Populations of Concern Areas

Upon initial submittal, two FPAs (2817922 and 2817976) proposed use of the 20-acre exempt RMZ provision and were situated within Bull Trout Populations of Concern Areas. Both proposals were ultimately changed to alternate plans that provided a wider, more protective RMZ than the 20-acre exempt rules would have provided, and the FPAs were approved.

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

In FY 21, landowners submitted 133 FPAs with alternate plans (Table 8). Small forest landowner FPAs accounted for 69 percent of the total submissions. Of these FPAs, 114 were approved; excluding those that were in review, this amounted to 86 percent of the applications. FPA/Ns with alternate plans accounted for 3.3 percent (114/3,507) of all FPA/Ns approved during this timeframe.

Table 8: Forest Practices Applications with Alternate Plans (July 1, 2020 to June 30, 2021)

Landowner Type	Status of Forest Practices Applications with Alternate Plans				Total
	Approved	Disapproved	In Review	Withdrawn*	
Small	**78	1	6	7	92
Large	36	1	2	2	41
Total	114	2	8	9	133

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

**This data value includes one long-term application.

Alternate Plan Review

During the current reporting period, forest practices operations staff developed a new curriculum and provided program staff with mandatory alternate plan training. This delivered upon a recommendation that emerged following an FY 2019 review of the implementation of alternate plan guidance and trainings conducted between 2015 and 2018.

7.2 Rivers and Habitat Open Space Program (RHOSP)

DNR received six RHOSP applications for the 2019-21 biennium funding cycle, which had \$1 million allocated for process and purchase of the conservation easements (Table 9). Two easements were purchased during the reporting period. One 41-acre easement was within a channel migration zone and one 30-acre easement was habitat for the northern spotted owl and marbled murrelet. These are both state-listed endangered species.

Table 9: 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	\$1,000,000	2	41	30
Total	\$10,200,000	\$7,500,000	23	1,146.5	144

*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 52 field staff statewide who completed compliance visits and enforced the Forest Practices Act and Rules.

8.1 Stop Work Orders and Notices to Comply

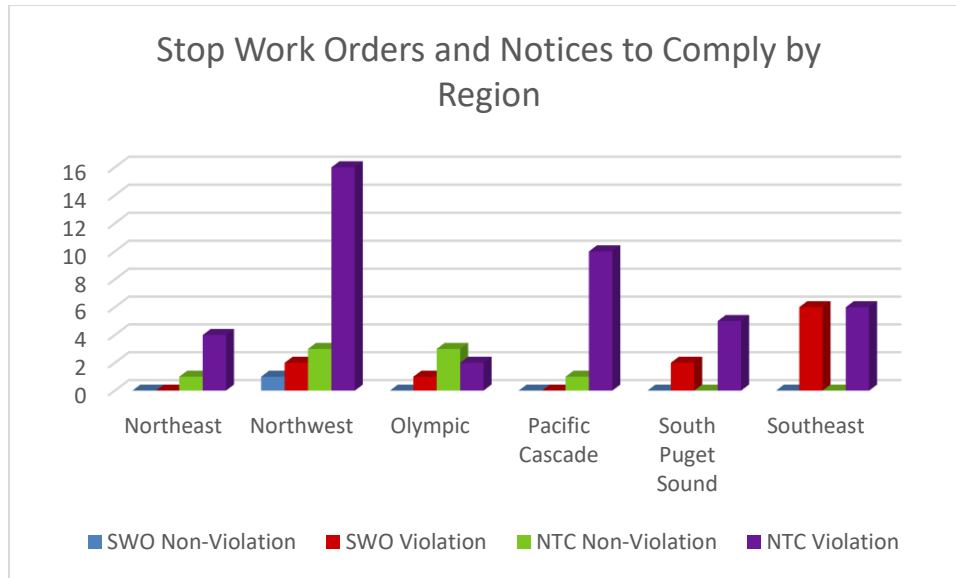
Table 10 and Figure 1 shows 63 stop work orders and notices to comply enforcement actions were issued during the reporting period, compared to an average of 116 over the past three years⁵. A combined 54 **violation** stop work orders and notices to comply were issued during this period, compared to an average of 97 over the past three years. Improved understanding of the Forest Practices Act, rules, and Board Manual requirements; training delivered to staff and stakeholders; increased applicant use of pre-application reviews; and focused compliance efforts together likely aided in the reduction of formal enforcement actions.

Table 10: Stop Work Orders and Notices to Comply by Region (FY2021)

DNR Region	Stop Work Orders		Notices to Comply		Total
	Non-Violation	Violation	Non-Violation	Violation	
Northeast	0	0	1	4	5
Northwest	1	2	3	16	22
Olympic	0	1	3	2	6
Pacific Cascade	0	0	1	10	11
South Puget Sound	0	2	0	5	7
Southeast	0	6	0	6	12
Total	1	11	8	43	63

Figure 1: Stop Work Orders and Notices to Comply by Region

⁵ A non-violation notice to comply could be issued for reasons such as requiring mitigation after an extreme weather or landslide event, or to enforce an amendment to an approved FPA. A non-violation stop work order could be issued for reasons such as an inaccuracy that was found in an active FPA/N or an inadvertent cultural resources discovery within the footprint of an active FPA/N.



8.2 Civil Penalties and Notices of Intent to Disapprove

Notices of Intent to Disapprove and civil penalties are used when multiple violations have occurred over time. No civil penalty and no Notices of Intent to Disapprove were issued during the reporting period (compared to an average of two civil penalties and two Notices of Intent to Disapprove over the past three years).

8.3 Stop Work Order and Notice to Comply Ratios

Table 11 shows percentages of stop work orders and notices to comply to total active FPA/Ns.

Table 11: Stop Work Order and Notice to Comply Ratios (FY2021)

Number of active FPAs through June 30, 2021 (See chapter 4 for information about FPAs received or renewed during Fiscal Year 2021.)	12,440 *
Number of Notice To Comply / Stop Work Orders issued for violations	54
Ratio of Notice To Comply / Stop Work Orders violations to total number of active FPAs ($54/12,440 \times 100$)	0.43%
Number of Notice To Comply / Stop Work Orders issued for non-violations	9
Ratio of Notice To Comply / Stop Work Orders non-violations to total number of active FPA/Ns ($9 / 12,440 \times 100$)	0.07 %
Total number of documents issued (violation & non-violation)	63
Ratio of all documents issued to total active FPAs ($63/12,440 \times 100$)	0.51%

*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 operates on a two-year sampling framework and provides a formal report in the latter part of each biennia.⁶ The 2020-21 Biennial Forest Practices Compliance Monitoring Report is scheduled to be published in 2022.

2020 Compliance Monitoring Results

During the 2020 field season, data were collected for all the standard sample prescriptions. Due to the COVID-19 pandemic, the traditional field sampling cycle was interrupted and no additional prescriptions (other than the standard sample prescriptions) were sampled in 2020. The CMP was unable to conduct fieldwork due to the pandemic during the spring of 2020, but was able to resume fieldwork during the summer of 2020. Trend analysis will be updated and reported in the *2020-21 Biennial Forest Practices Compliance Monitoring Report*.

9.2 Future Plans for the Compliance Monitoring Program

The Compliance Monitoring Program began work during this reporting period to develop methodology to incorporate formal review of compliance with rules pertaining to aerial herbicide applications. The intention is to complete the sample design in FY 22 and conduct the initial field pilot study in FY 23.

9.3 Compliance Monitoring Funding

DNR includes rules compliance monitoring as a core component of its biennial operating budget request to the Legislature. Since 2006, DNR has provided funding through interagency agreements to support up to one full-time staff member each from the Department of Ecology and the Department of Fish and Wildlife. Each agency determines how best to meet the identified use in the contract.

⁶ Compliance monitoring reports can be accessed through the DNR Forest Practices Program website [here](#).

10. Training/Information/Education

[Appendix: Background on Training](#)

The COVID-19 pandemic and Gov. Jay Inslee's stay-at-home order affected the Forest Practices Training Program beginning in early 2020. The program has adapted to the new work environment by focusing on virtual and web-based learning for classroom portions of training and has incorporated DNR safety protocols for essential in-person sessions.

10.1 Single-/Multiple-Day Forest Practices Program Trainings

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

The Forest Practices Training Program has been working to resume the pre-pandemic training cycle. The delivery of these trainings will occur outside of this report's reporting cycle, but the next reporting period is expected to demonstrate a return to cyclical training using distance learning methods.

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. Some workshops are internal to DNR forest practices staff, but most are typically directed toward public education.

Washington Contract Loggers Association (WCLA) Training

Total: 50

Forest Regulation Division provides two annual one-day trainings for the WCLA. The training broadly covers many aspects of forest regulation. Included in this day course are Forest Regulation Division History, Guidance on Forest Practices Application Forms, Unstable Slopes, Best Management Practices, Wetland Identification, and RMZ Management.

10.3 DNR Internal Forest Practices Program Training

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

Training provided to Forest Practices staff

Refresher Training on Current Water Type Rules:

Staff Trained: 60

This course was designed to ensure staff are aware of current water type rules and guidance and can communicate that information to landowners across the state.

Complex Alternate Plan Training:

Staff Trained: 60

This new course was developed for and provided to forest practices staff to familiarize staff with appropriate uses, requirements, and approval standards for a complex alternate plan proposal. Special emphasis was given to preparation, field review, interdisciplinary teams, riparian function, and monitoring and compliance.

Training Conducted by Region Staff

Region staff have many opportunities to provide informal training to landowners and regulation partners throughout the year. These informal sessions generally occur at TFW meetings and interdisciplinary teams, but are always present in any interaction with stakeholders. Some points of emphasis reported by the regions this year include:

Fish Passage Assessment

Hydraulic Structure Selection: Bridge vs. Culvert

Lidar for Identifying Deep-Seated Landslides

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

In accordance with [WAC 222-24-051\(8\)](#), DNR in 2016 approved fifty-eight⁷ of the original RMAP plans to have an additional five operating seasons (an extension) to complete planned work. This report summarizes the fourth full year of RMAP implementation after DNR originally approved extensions. Large landowners with extensions have one final operating season (June – October 2021) to complete unfinished work by October 31, 2021. During this reporting period, DNR roads specialists and forest practices foresters continued working with the large forest landowners that possessed the remaining 38 active RMAP plans. Landowners completed five plans during the reporting period, leaving 33 to be completed during the final operating season.

Background for Annual Landowner Accomplishment Reports/Data

When discussions ensued in 2006 between the State and the Services regarding ways to report progress on RMAPs, both parties understood the difficulties of consistently obtaining and reporting the data. Several discussions took place with RMAPs specialists present who explained what potential data collection was possible at the time. The purpose of the discussions was to determine a way to report on the State's progress regarding RMAP obligations delineated in the Forest Practices HCP. Discussions culminated with an agreement to provide data that were known to be approximations but expected to provide a relative picture of progress over time.

The information provided in this chapter is derived from data supplied by large landowners in their annual accomplishment reports. For the majority of DNR Regions, the annual exercise of totaling landowners' RMAP information has been accomplished using the paper records provided. The State acknowledges that various factors through the years of data collection have affected the accuracy of RMAP data reported in the annual reports, including:

- In the early years of RMAP implementation, some DNR staff recorded the landowner provided data using geographic information systems (GIS) and others chose other methods such as spreadsheets and Word tables.
- Throughout the life of the RMAP program, landowners, stakeholders, and DNR have experienced iterative staffing changes, and the methods used to track and report RMAP data have evolved.

⁷ DNR approved extensions to complete planned work on fifty-eight (58) of the original RMAP plans as the original RMAP implementation period approached closure in 2016; however, one of the approved extensions located in Northeast Region was never activated because the work associated with it was completed prior to the 2016 deadline.

- A DNR administrative geographic boundary change in 2013-2014 between the South Puget Sound and Pacific Cascade Regions may have produced data-reporting inconsistencies during that timeframe.
- For fish barriers, strict criteria that defined what fish barriers must be reported on, was not created and implemented at the outset of the RMAP implementation period; therefore, landowner estimates of fish barriers identified or corrected as reported in their annual reports varied throughout the span of the original and extension RMAP periods.
- For many reasons, there have been “new discoveries” of barriers following many landowners’ original RMAP barrier inventories.

All of these factors have made it challenging to report data that have not needed to be revised in subsequent annual reports. DNR continues to endeavor to provide the most accurate RMAP information it can in each Forest Practices HCP annual report.

RMAP Data Tables⁸

These tables detail the progress made by large forest landowners from July 2001 through December 2020. [Appendix 3](#) provides a description of reporting elements in the tables. DNR believes that the data included in this report provide a close approximation and an accurate relative representation of the status of the reported RMAP accomplishments based on landowner reports.

Information in this chapter is organized in the following four tables (Tables 12 through 15):

- Table 12: *2020 Statewide Road Maintenance and Abandonment Plan Accomplishment Report for Landowners With Extensions by Region*;
- Table 13: *Cumulative Statewide Road Maintenance and Abandonment Plan Accomplishment Report (2001-2020) by Region*;
- Table 14: *Statewide Cumulative Road Maintenance and Abandonment Plan Accomplishment Report by Year*; and
- Table 15: *Fish Passage Barrier Information for Large Forest Landowners*

Table 12: 2020 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	0	0	0	0	0
Northwest	3	1,976	31	72	24	200
Olympic	13	5,269	508	85	0	133

⁸ All data in this chapter are reported on a **calendar** year basis, not a fiscal year basis.

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
Pacific Cascade	16	12,648	900	633	2	140
South Puget Sound	3	2,460	7	8	2	257
Southeast	3	2,853	0	312	4	51
Statewide Totals	38	25,206	1,446	1,110	32	781

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

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.

Table 13: Cumulative Statewide Road Maintenance and Abandonment Plan Accomplishment Report (2001-2020) 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	5,926
Northwest	31	3,869	1,406	1,299	519	482	149	2,042
Olympic	38	2,216	147	411	2,247	2,081	706	1,352
Pacific Cascade	22	14,013	943	663	3,534	3,188	2,082	4,103
South Puget Sound	29	1,548	568	1,044	939	932	299	1,339
Southeast	15	2,989	616	914	989	950	1,530	4,042
Statewide Totals	224 *	30,782	3,992	4,427	9,063	8,468	5,184	18,804

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

Table 14: 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 Landowners		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	
		Cumulative	Annual		Cumulative	Annual	Cumulative	Annual		Cumulative	Annual	Cumulative	Annual
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	2,659	*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
RMAP EXTENSIONS													
2001-2017	256	13,742	*929	3,781	28,078	*384	3,901	*6	2,927	4,257	*77	7,230	*274
2001-2018	224	15,971	*2,229	6,301	28,651	*573	3,931	*30	3,154	5,024	*767	7,424	194*
2001-2019	252	17,803	*1,832	7,956	29,672	*1,021	3,960	*29	3,646	5,134	*110	8,300	876
2001-2020	341	18,804	*1,001	1,446	30,782	*1,110	3,992	*32	4,427	5,184	*50	8,468	168

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

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

Fish Passage Barriers

In addition to the fish barrier information reported in Tables 13 and 14, Table 15 displays, by DNR Region: (a) the cumulative number of fish passage barriers corrected since 2001; (b) the total corrected in calendar year 2020, (c) the percent of total corrected as of December 31, 2020; and (d) the number of barriers that remain to be corrected.

“Life of Pipe” Fish Passage Barriers

As of June 30, 2021, DNR was tracking approximately 362 determinations, made in collaboration with WDFW, Ecology and tribes, to allow some fish barrier crossings to remain in place until the end of the crossing’s functional life. These are referred to as “life of pipe” determinations. In general, corrective work associated with these life of pipe barriers has been postponed beyond October 31, 2021 for one or more of the following reasons:

- (a) To reduce multiple equipment entries across watercourses to minimize potential adverse impacts to streams, wetlands, and associated aquatic habitat and the wildlife that relies upon it;
- (b) To maintain unique upstream wetland habitats; and/or,
- (c) To reflect acknowledgement that some streams are unable or will not support healthy, robust populations of fish due to very poor quality habitat.

These culverts will be reassessed later and a decision will be made at that time to either replace the culvert in order to maintain upstream conditions or replace the culvert with a fish passable culvert.

New Discoveries of Fish Passage Barriers

Following submission and approval of their original inventories of fish passage barriers to be corrected during the original RMAP period, some landowners found and identified additional fish passage barriers; landowners continued to find and identify additional fish passage barriers throughout the original and extension RMAP periods. Many of the fish passage barriers not included in the original RMAP and approved extension inventories were found and identified following further landownership surveys, as part of later stream crossing evaluations, or were included later because a crossing that may have been fish passable in the original evaluation was later determined to no longer be fish passable.

DNR categorizes fish passage barriers found and identified after the original RMAP or extension as “new discoveries” and does not consider them additions to a landowner’s RMAP obligation. Instead, new discoveries are handled in accordance with standard forest practices regulations for fish passage barriers. When a new discovery is identified, DNR uses an interdisciplinary review process in collaboration with WDFW, Ecology and tribes to determine whether or not the landowner needs to correct the barrier, or if it is more beneficial to keep it unchanged to meet other resource needs (see “life of pipe” description above). If it is determined that a new discovery fish passage barrier should be corrected, the DNR, the interdisciplinary team, and the landowner collaborate to establish a plan and timeline for correction. Since the 2016 RMAP

extensions were granted, 86 new discoveries of fish passage barriers have been recorded in the DNR RMAP database.

Status of Fish Passage Barriers to be corrected by October 31, 2021

The total number of fish barriers remaining to be corrected as shown in Table 15 is derived from landowner annual reports, and includes:

- 362 “life of pipe” calls (described previously) (or 4.0 percent of the total number of barriers identified on RMAPs); and
- 86 discoveries of new barriers since the extensions were granted in 2016 (as described previously) (or less than 1.0 (percent) of the total number of barriers identified on RMAPs).

Therefore, 448 of the 595 barriers identified in Table 15 are not expected by DNR to be corrected by October 31, 2021. **After accounting for these, the target figure for barriers required by DNR to be corrected in the final 2021 operating season is 147.** This number amounts to 1.6 percent of the 9,063 barriers that had been identified in RMAPs (Table 15). Of the 147 barriers, as of June 30, 2021, DNR was aware of and taking appropriate action with landowners to correct 19 barriers for which it is certain that the fish passage barrier will not be fixed by the deadline, and the applicable landowners have reported that they do expect to correct the remaining 128 before the deadline.

Table 15: Fish Passage Barrier Information for Large Forest Landowners

DNR Region	Number of Fish Passage Barriers Identified*	Number of Fish Passage Barriers Corrected From 2001-2020	Number of Fish Passage Barriers Corrected in 2020	Percent of total fish passage barriers corrected as of 12/31/2020	Total number of Barriers Remaining to be Corrected**
Northeast	835	835	0	100%	0
Northwest	519	482	3	93%	37
Olympic	2,247	2,081	81	93%	166
Pacific Cascade	3,534	3,188	77	90%	346
South Puget Sound	939	932	2	99%	7
Southeast	989	950	5	96%	39
Totals	9,063	8,468	168	93%	595

*This number may fluctuate annually as water types are confirmed and/or modified (e.g., change to or from fish bearing).

** **See narrative:** DNR believes that true number of barriers that need to be corrected by October 31, 2021 is 147.

11.2 Extension of RMAP Deadline

An August 9, 2011, a Board rule change allowed landowners to request an extension of the deadline for completing the roadwork scheduled in their RMAPs until October 31, 2021. Fifty-eight (58) RMAPs were initially granted extensions. Five (5) RMAPs were completed during this reporting period leaving 33 RMAPs yet to be completed.

11.3 Washington Department of Fish and Wildlife Participation *(written by WDFW)*

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 no 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. WDFW biologists reviewed 1,802 individual FPHPs⁹, including 587 concurrence-required project reviews (including the identification of the optimal project-operating season) and 846 individual standard FPHPs (those not requiring concurrence, but pertaining to Type F and S streams), and participated in 167 pre-application reviews.

⁹ It is important to note that an individual FPA can have multiple FPHPs.

12. Cultural Resources

[Appendix: Background on Cultural Resources](#)

12.1 Landowner-Tribe Meeting Update

During this reporting period, 17 FPAs required a landowner-tribe meeting. All required meetings took place.

Washington State Department of Archaeology and Historic Preservation

The Forest Practices Program funded one FTE in the Washington State Department of Archaeology and Historic Preservation 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 2021. 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 effects 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 during the 2021 legislative session resulted in a change in protection of habitat for the species covered in the Forest Practices HCP. Four bills passed into law that affect the Forest Practices Program. Those were:

1. [E2HB 1168](#) – *Concerning long-term forest health and the reduction of wildfire dangers.* This bill outlines increasing funding for the Small Forest Landowner Office for technical assistance and support for small forest landowners. It also outlines funding an integrated small forest landowner forest health program in support of extending management and control of wildfire from homes through the wildland urban interface to small forest landowner holdings.
 - Requires DNR to develop a mapping tool within the Forest Health Assessment and Treatment Framework.
 - Specifies how DNR must coordinate with various entities in developing and implementing the framework.
 - Directs DNR to work with the Department of Commerce to implement initiatives to develop a forest health workforce, and work with the Department of Corrections to expand existing programs to provide additional wildfire, forest health, and silvicultural capacity.
 - Creates the Wildfire Response, Forest Restoration, and Community Resilience Account to fund certain wildfire preparedness, prevention, and protection activities and requires the DNR to report every two years on how those funds are used.
 - Makes changes to the government-to-government coordination role of the Commissioner of Public Lands.

2. [E2SSB 5126](#) – *Concerning the Washington climate commitment act.*

Cap-and-trade bill intended to implement a mechanism to comply with the state’s greenhouse gas emissions limits by 2030, 2040, and 2050. Environmental justice is included in the provisions for expenditure under the act, which stipulates that contracted entities must provide specific labor requirements regarding wages and benefits. It is unclear how potential water quality or sequestration agreements would comply with or be exempt from certain environmental justice provisions in the act. DNR was identified to contract with an entity that is eligible and capable of providing climate change protection to the state through the establishment and implementation of a small forest landowner workgroup. The legislative budget did not include funding for the contract, and this work will be delayed until funding is appropriated. The workgroup will research and develop recommendations to help small forest landowners participate in the carbon sequestration market.

- Requires the governor to establish a comprehensive program to implement the state’s climate commitment and convene a Climate Commitment Task Force.
- Establishes a cap-and-invest program for greenhouse gas emissions to be implemented by the Department of Ecology.
- Directs distribution of auction revenues for specified purposes including clean transportation, natural climate resiliency, clean energy transition and assistance, and energy efficiency projects.
- Convenes an Environmental Justice and Equity Advisory Panel to provide recommendations on the development and implementation of the cap-and-invest program.
- Authorizes Ecology to require persons who produce or distribute fossil fuels or other products that emit greenhouse gases in Washington to comply with air quality standards, emission standards, or emission limitations.
- Provides a definition of emission standards and emission limitations as applied to emissions that includes indirect emissions from the production or distribution of petroleum products or natural gas.

3. [E2SSB 5141](#) – *Implementing the recommendations of the environmental justice task force.*

This bill implements recommendations in the Environmental Justice Task Force Report finalized in October 2020. DNR will be required to advance environmental justice in internal processes when taking agency actions.

- Establishes environmental justice strategic plan incorporation, equitable community engagement and public participation, tribal consultation assessment, and budget and funding obligation requirements for the departments of Health, Ecology, Agriculture, Natural Resources, Commerce, and Transportation, and the Puget Sound Partnership.
- Establishes the Environmental Justice Council to adopt guidelines and provide technical assistance to support agency environmental justice obligations, and make

recommendations on existing laws and proposed legislation to further environmental justice goals.

4. [SB 5092](#) – *Making 2021-2023 fiscal operating appropriations.*

- \$407,000 of the General Fund-State appropriation for FY 22 is provided to complete development of a programmatic safe harbor agreement on forestlands for the northern spotted owl, and the associated environmental analysis and draft enrollment language for inclusion in the forest practices rules.
 - \$182,000 of the funds will go to the Washington Department of Fish and Wildlife to assist in the development of the programmatic safe harbor agreement
 - DNR must provide a report to the Legislature by December 15, 2021, on the status of the rulemaking and the resources needed to implement the rule by October 1, 2022.
- DNR, on behalf of the Board, must provide an update to the Legislature on the progress of its reports, including progress made to address recommendations from the 2021 State Auditor’s Office report on the Adaptive Management Program, by December 1, 2021, and December 1, 2022.
- DNR must provide a recommendation by December 1, 2021, for ways that the forest products industry could help cover the costs of the new forest practices online application and information system (fpOnline), and the recommendation must include proposed changes to Forest Practices Application/Notification fees.
- DNR must provide a report to the appropriate committees of the Legislature by June 30, 2022, on the status of the permanent water typing rulemaking and rulemaking regarding protection of Type N streams.

14. Information Technology Tools

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

14.1 Forest Practices Information Technology Team (FP IT Team)

The FP IT Team has seven staff positions. The team works closely with forest practices staff in the six DNR regions on technology-related matters to help provide digital tools to help staff to do their jobs efficiently and effectively. The team also provides customer support to Forest Practices Program staff, staff from other state agencies, and citizens who use Forest Practices Program IT tools. One position, a mobile application developer, was unfunded in the 2019-21 biennium and another was funded but vacant (pending recruitment) at the end of the reporting period. IT 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 (fpOnline)

DNR submitted a legislative proposal during the 2021 legislative session for funding to develop the replacement Forest Practices Program information system, fpOnline. The Legislature and governor approved the proposal, with funding starting in July 2022. The Legislature also directed DNR to provide a legislative report by December 2021 with recommendations for how the forest industry might help pay for the system, including through increased FPA/N fees.

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

The DNR Forest Practices Hydrology data layer maintained by the Forest Regulation Division does not align with the state standard, which is the National Hydrology Database (NHD). DNR requested and received an extension waiver in 2020 from the Washington State Office of the Chief Information Officer with an expectation that the program will work to adopt the NHD standard.

Over the past several years, FP IT staff have worked closely with Ecology, WDFW, and Chief Information Officer toward that goal. This collaboration resulted in the Forest Practices Program submitting an application and receiving a three-year National Environmental Exchange Network Grant from the Environmental Protection Agency.

The grant supports a pilot approach to define a detailed process and understand the effort and cost required to convert DNR Hydrography to the NHD framework. When acted on and migration to NHD has been completed, tribes, local and county governments, state agencies, forestland owners, and the public will have access to both Clean Water Act and fisheries

information, including locations of the end of fish habitat, supporting DNR in meeting its hydrology regulation responsibilities.

Training and research, preparing DNR hydrological data in the pilot areas and a comparison of DNR and NHD systems were completed during the reporting period. At the end of the period, staff were completing editing of the line work and researching to find the best approach for transferring DNR data attributes (tabular information) to NHD.

14.3 Forest Practices Information Technology Tools

Forest Practices Application Review System (FPARS)

There were 4,297 FPAs processed in FPARS and 1,116 reviewers (compared to 1,198 last fiscal year) receiving automated email notification about FPA/Ns through the opt-in notification system.

Although funding has been partially secured to develop a modern application and information system as noted in Section 14.2, during the reporting period DNR still relied upon 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.

A significant FPARS enhancement was initiated to allow collection of dates for each phase of an FPA's approval process (under review, approved, renewed, closed). Currently, FPARS can store only one date at a time. The enhancement was not finalized as of June 30, 2021.

Forest Practices Enforcement Tracking System

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

- 587 Informal Conference Notes
- 10 Notices of Conversion to Non-forestry Use
- 51 Notices to Comply
- 12 Stop Work Orders
- 0 Civil Penalties

A spatial layer was created that displays the public land survey section or FPA polygon where an enforcement action took place.

DNR Hydrography Data Layer and Water Type Modification Form Tracking Application

DNR GIS staff edited approximately 5,652 GIS stream segment updates. Updates for approximately 561 miles in the hydrography data set were based on 702 Water Type Modification Forms. These updates included stream type upgrades (e.g., a segment that was previously classified as non-fish-bearing that was changed to fish bearing) of approximately 10 miles of stream, and stream type downgrades (e.g., a segment that was previously classified as fish bearing that was changed to non-fish-bearing) of approximately 24 miles of stream. The remaining 527 miles of stream were edited as either a change of location or a verification of

existing water type. Seven modification forms were still awaiting processing as of June 2021, 15 fewer than the end of the prior reporting period.

Road Maintenance and Abandonment Plan Point Data Set

Updated datasets were posted quarterly to the Forest Practices RMAP Program stakeholder review site. DNR last published revised versions of the Forest Practices RMAP point dataset in June 2021. The Forest Practices roads specialists continued to update this information, providing barrier replacement dates and other previously missing data. WDFW displays the DNR RMAP database on its [Washington State Fish Passage map viewer](#). An interactive map that displays RMAP progress over the life of the program was updated and used in a legislative committee meeting to demonstrate the magnitude of the work that has been accomplished over time.

Forest Practices Mobile Technology

The internal program mobile technology committee started work to develop a new tool that will create pre-FPA, decision, and post-decision documentation on mobile devices. In addition, scripts that manage files in the file management system were created and/or improved. For example, new and changed FPA PDF documents are now automatically copied to the cloud storage folders each night.

Other Work

In addition to the work described above, the FP IT team also completed the following: creating FFFPP and FREP maps for legislative tours, anadromous fish floor vendor selection, SharePoint clean-up and standardization, standardization of IT system security request process, Forest Practices Enforcement Tracking system search improvement and documentation, assisting region staff with Water type modifications form updates, quarterly processing of Department of Archology and Historical Preservation data, semi-annual processing of Washington Department of Health data, annual update of the FFFPP layer, querying data for the SFLO trends report and other ad hoc data requests, creating northern spotted owl maps for a Forest Practices Board report, western gray squirrel spatial analysis with WDFW, FREP database update and simplification, and conversion of GIS data download to agency standard. The IT team also provided support and participated on the Parks, Landslide Reporting, Mobile Tech, and future RMAPs committees.

15. Forest Practices Program Budget

15.1 Introduction

The Forest Practices Program continued to provide core programs utilizing General Fund-State (GF-S), the appropriated General Fund-State (GF-S) funding for the Adaptive Management Program (AMP), the State Toxics Control Account (Toxics), the Forests and Fish Support Account (FFSA), and the Forest Practices Application Account (FPAA).

As indicated in last year's annual report, the program managed a one-time operating budget shortfall created by an unexpected fund exchange by which the Legislature reduced the appropriation from the Model Toxics Control Operating Account (MTCOA) by \$5 million and replaced it with \$5 million of increased FFSA spending authority. This fund swap created a *de facto* budget deficit 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. That represented approximately 10% of the biennial operating budget for the overall Forest Practices Program.

The spending reductions were made in both the AMP and the non-AMP forest practices sub-programs,¹⁰ mainly in the fiscal year covered in this report (state fiscal year 2021). This statewide managed approach included deliberate delays in applied CMER research and in hiring some of the scientists who help conduct that research, along with a "soft freeze" and management of vacancies across statewide Forest Practices Program operations. Restrictions were also placed on non-essential travel, purchases and contracting.

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 16).

During this reporting period, the program successfully navigated through the one-time budget deficit and continued to provide core programs utilizing the Forest Practices Application Account (FPAA) to fund the implementation of hydraulic project integration, and the FFSA to support project management and participation grants in the AMP. These foundational elements sustain the state's Forest Practices HCP and federal Clean Water Act (CWA) assurances.

¹⁰ Forest Practices functional sub-programs are described, along with their supporting funding sources, in Table 17.

Table 16: 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	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 17), with funding coming from four main sources.

Table 17: Forest Practices Program Functional Sub-Programs and Funding Sources¹¹

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 FPAs with cultural resources.	FFSA
	FPAs 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 nonprofits; & interagency agreements with departments of Ecology and Fish and Wildlife.	FFSA
Small Forest Landowner Office	SFLO Program and Operations	GF-State and MTCOA
Program Development	Forest Practices Board; Rule Making/Board Manual; Forest Practices HCP; and Clean Water Act Assurances.	MTCOA

15.3 FY2021 Biennium Operating Expenditures by Activity

The Forest Practices Program spent a total of \$17.8 million in fiscal year 2021 (Table 18). Reported expenditures exclude a federally funded grant used in Act & Rules and state capital funds spent through the Small Forest Landowner Office.

¹¹ Funding source acronyms are explained in the report narrative.

Table 18: FY2021 Forest Practices Program Expenditures by Functional Sub-Program and Funding Source (all figures reported in dollars)

Functional Sub-Program	GF-State	GF-State Proviso	FFSA	FPAA	MTCOA	TOTAL FUNDS
Forest Practices Act & Rules	7,622,600		370,434	541,638	1,808,029	10,342,701
Adaptive Management Program	273,057	1,856,999	4,645,475			6,775,531
Small Forest Landowner Office	138,265	70,243			53,672	262,180
Program Development					450,679	450,679
TOTALS	8,033,922	1,927,242	5,015,909	541,638	2,312,380	17,831,091

15.4 Full-Time Employees

The Forest Practices Program funded 123.44 FTEs and utilized 105.67 FTEs in FY2021, which translates to a 14.4% vacancy rate (Table 19). The vacancies accrued primarily in the Act & Rules and Program Development sub-programs. These vacancies reflect the effect of enacting the hiring freeze beginning in March 2020 as a part of the plan to align spending with available funding (see Section 15.1).

Overall, the *biennial* FTE utilization was 90.4%. The 9.6% variance is a direct reflection of the management of vacancies implemented in the second fiscal year. Table 19 reflects the actual FTEs utilized during this fiscal year and the biennial actual and variance.

Table 19: FY2021 Forest Practices Program Staffing by Functional Sub-Program, Showing Allotted and Utilized Full Time Equivalents

Forest Practice Program Functional Sub-Program	Allotted FY21 FTEs	Actual FTEs used in FY21	FY21 Difference		19-21 BN* FTEs	BN Actual	BD Difference
Forest Practices Act & Rules	107.41	91.66	15.75		107.09	96.93	10.16
Adaptive Management Program	7.96	7.82	0.14		7.71	7.67	0.04
Small Forest Landowner Office	3.62	2.68	0.94		3.26	2.63	0.63
Program Development	4.45	3.51	0.94		4.45	3.63	0.82
TOTALS	123.44	105.67	17.77		122.51	110.86	11.65

*BN = biennium

16. Washington Timber Harvest

16.1 Introduction

The data used in the previously reported (2018) Washington State Timber Harvest Report (actual timber harvest data by thousand board feet) is being replaced by the data in Table 20 below because actual timber harvest data is no longer available. Table 20 contains calendar year acres of proposed harvest. The data in Table 20 is reported by large forest landowner (LFLO) and small forest landowner (SFLO), by DNR Region, and by westside and eastside.

Table 20: Proposed FPA Harvest Acres per Calendar Year

North East Region	2017	2018	2019	2020
LFLO	23223	30508	28793	29558
SFLO	45038	46584	23165	28124
	68261	77091.6	51958.3	57681.5
North West Region	2017	2018	2019	2020
LFLO	17054	18925	11460	12858
SFLO	5172	4410	24153	3770
	22226	23335	35612	16628
Olympic Region	2017	2018	2019	2020
LFLO	18601	20855	24720	25766
SFLO	4956	3114	286	592
	23556	23969	25006	26357
Pacific Cascade Region	2017	2018	2019	2020
LFLO	51105	58931	52793	42979
SFLO	12004	10330	5293	6963
	63110	69262	58086	49942
South East Region	2017	2018	2019	2020
LFLO	13040	16099	12409	11509
SFLO	6306	5051	2881	3704
	19345	21150	15291	15213
South Puget Sound Region	2017	2018	2019	2020
LFLO	19433	21135	19615	24511
SFLO	8713	6158	6688	7239
	28147	27293	26303	31749
<hr/>				
STATEWIDE LFLO TOTAL	142456	166452	149791	147180
STATEWIDE SFLO TOTAL	82188	75647	62465	50391
STATEWIDE TOTAL	224644	242099	212256	197571

**Table 20 Continued: Proposed FPA
Harvest Acres per Calendar Year**

WESTSIDE				
LFLO	106194	119846	108588	106114
SFLO	30845	24012	36419	18563
TOTAL	137039	143858	145007	124676
EASTSIDE				
LFLO	36262	46607	41203	41067
SFLO	51344	51635	26046	31828
TOTAL	87606	98242	67249	72895
STATEWIDE TOTAL	224644	242099	212256	197571

These numbers came from running the date range renewed and date range received reports in Logi Ad Hoc Reporting.
Calendar year was used for the date range.

Appendices



Appendix 1: CWA 2021 Assurances Status Update




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

Memorandum

April 26, 2021

TO: Forest Practices Board

FROM: Brandon Austin, Forest Policy Lead 

SUBJECT: Clean Water Act Milestone Update

The Washington State Department of Ecology (Ecology) committed to provide the Forest Practices Board (Board) with periodic updates on progress being made to meet corrective milestones established for retaining the Clean Water Act 303(d) Assurances (Assurances) for the Forest Practices Rules (Title 222 WAC) and Programmatic Habitat Conservation Plan (HCP, 2006). The last update to the Board was in May 2019. Since that time the Director of the Department of Ecology sent the attached letter to the Forest Practices Board extending the assurances until December 2021. In addition to the expectation the rules are updated address completed science from the Cooperative Monitoring, Evaluation and Research Committee (CMER), the letter stated that continued progress on the milestones is critical, especially those research milestones that show whether the rules are achieving water quality.

Under state law (RCW 90.48.420(1)) the adoption of “forest practices rules pertaining to water quality by the forest practices board shall be accomplished after reaching agreement with the director of the department (*Ecology*) or the director's designee on the board... so that compliance with such forest practice[s] rules will achieve compliance with water pollution control laws”. This directive is integral to meeting legislative intent to use the Forest Practices Rules affecting water quality protection to satisfy requirements of section 208, 209, and 305 of the federal Clean Water Act, as regards silvicultural activities (RCW 90.48.425) and to achieve compliance with all applicable requirements of federal and state law with respect to nonpoint sources of water pollution from forest practices” (RCW 76.09.010(2)).

The Forests and Fish Report (FFR), adopted by the Board under direction of RCW 77.85, includes the goal to meet the requirements of the Clean Water Act for water quality on non-federal forest lands and using the Adaptive Management Program (AMP) to revise the rules as needed. The FFR, with this goal and the performance target of meeting the state standards, was subsequently incorporated into the HCP (Introduction and Implementation Agreement clause 10.1).

As part of the FFR, Ecology recognized the proposed rules would improve water quality protection and may meet water quality standards long term, reducing the urgency to develop TMDLs. Ecology provided assurances to landowners that the new regulations would be relied on to protect water quality for a 10-year period (until July 1, 2009) while the rules were tested. This was believed to provide adequate time to determine if the rules are effective in achieving water quality.

In 2009 Ecology completed our review of the implementation of the rules and concluded that we could not state that the rules were achieving water quality. Based on the belief the AMP was still capable of testing the rules we established these corrective milestones to serve as benchmarks that if met, would provide us with a level of confidence that the rules were working. Ecology decided to extend the Clean Water Act Assurance for an additional 10 year period, to 2019. The 2009 corrective milestones were established to create a framework for making steady progress in gathering information critical for assessing the effectiveness of the rules in protecting water quality as mandated by state law. Equally important was the intention to stimulate changes that would result in a more effective research program to test the rules consistent with adaptive management and adjust the rules in a timely fashion, through Policy and Board action.

The Assurances are based on the premise that given the mandates in state law (RCW 76.09.370(7)) Ecology and the EPA can rely on the AMP to use sound scientific principles to test the effectiveness of the FFR-based rules in meeting water quality standards, and “to make adjustments as quickly as possible to forest practices” if they are ineffective. It has been more than 20 years since the Assurances were first granted, but water quality aspects for many of the rules remain untested.

In 2019, based on the charter timeline and formation of the *Timber Fish and Wildlife Policy Technical Type N Prescriptions Workgroup*, Ecology granted an additional 2 year extension of the Assurances with the expectation a CR 101 be filed by this summer and a draft CR 102 would be available for public review by the end of the year. At the November 2020 Board meeting, DNR staff presented a work schedule that did not contain the CR 102. Ecology voted no on acceptance of this work schedule. A timeline for rule making has since been developed but does not meet the expectations stated in the 2019 Ecology memo to this Board. Ecology will need certainty the AMP can be relied on to meet the expectations previously stated, and the expectations of the legislature.

In addition this memo from the Ecology Director stated the following:

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 finally modify those rules as 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.

Enclosed are two tables showing the milestones and their current status. Points of note are highlighted in red and reflect changes since our last briefing in 2019:

- Table 1 shows the CMER Research Milestones. Scoping, study design, implement and complete (final report) are used to indicate the different steps of a CWA project and occur in different calendar years. A CWA project may have completed scoping and study design but be delayed or off-track for implementation or completion.
- Table 2 shows the non-CMER project milestones. These milestones are implemented outside of the Cooperative Monitoring, Evaluation, and Research (CMER) program and are largely within the control of the Forest Practices Operations Section of the Department of Natural Resources (DNR) or the Timber Fish and Wildlife Policy Committee (Policy).

Please contact me if you have any questions or concerns (360) 890-5882.

Enclosure

Table 1. Summary CMER Research Milestones and their current status.

<i>CMER Research Milestones</i>		
	Description of Milestone	Status as of January 2021
2009	Complete: <u>Hardwood Conversion – Temperature Case Study</u> (Completed as data report)	Completed June 2010
	Study Design: <u>Wetland Mitigation Effectiveness</u>	Completed October 2010
2010	Study Design: <u>Type N Experimental in Incompetent Lithology</u>	Completed August 2011
	Complete: <u>Mass Wasting Prescription-Scale Monitoring</u>	Completed June 2012
	Scope: <u>Mass Wasting Landscape-Scale Effectiveness</u>	Milestone Eliminated
	Scope: <u>Eastside Type N Effectiveness</u>	Completed November 2013
2011	Complete: <u>Solar Radiation/Effective Shade</u>	Completed June 2012
	Complete: <u>Bull Trout Overlay Temperature</u>	Completed May 2014
	Implement: <u>Type N Experimental in Incompetent Lithology</u>	Completed October 2017
	Study Design: <u>Mass Wasting Landscape-Scale Effectiveness</u>	Milestone Eliminated
2012	Complete: <u>Buffer Integrity-Shade Effectiveness</u>	Completed November 2018
	Literature Synthesis: <u>Forested Wetlands Literature Synthesis</u>	Completed January 2015
	Scoping: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting.</u>	Completed April 2017
	Study Design: <u>Eastside Type N Effectiveness</u>	Completed March 2018

CMER Research Milestones		
	Description of Milestone	Status as of January 2021
2013	Scoping: <u>Forested Wetlands Effectiveness Study</u>	Completed December 2016
	<u>Wetlands Program Research Strategy</u>	Completed January 2015
	Scope: <u>Road Prescription-Scale Effectiveness Monitoring</u>	Completed March 2016
	Study Design: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting.</u>	Underway Study is being designed and implemented in five projects with the first project sent to ISPR 2018, project 2 completed ISPR in 2020.
	Implement: <u>Eastside Type N Effectiveness</u>	Underway Study is in implementation with harvests planned for summer/fall 2021. Implementation through 2027. Study should be complete by 2028.
2014	Complete: <u>Type N Experimental in Basalt Lithology</u>	Completed August 2017
	Study Design: <u>Road Prescription-Scale Effectiveness Monitoring</u>	Underway February 2017 Unexpected permit delayed the start of study to Spring 2019. Additional issues were encountered with monitoring equipment. Replacement/repairs have pushed the projected completion estimated to 2029.
	Scope: <u>Type F Experimental Buffer Treatment</u>	Scoping Completed December 2015 Study was originally expected to proceed to implementation without a pilot study phase. It was later determined that a pilot study was needed. Since, a pilot study has been completed. Scoping for the full study has been completed. Completion of study scheduled for 2028.

CMER Research Milestones		
	Description of Milestone	Status as of January 2021
	Implementation: <u>Examine the effectiveness of the RILs in representing slopes at risk of mass wasting</u>	Earlier Stage Underway Complete project 2 with final report in 2021. Complete work projects 3 & 4 with final reports in 2025. Complete project 5 in 2026 with final report in 2027.
	Study Design: <u>Forested Wetlands Effectiveness Study</u>	Complete Study design approved by CMER December 2019 and presented to Policy in August 2020. Implementation expected to start spring 2022.
2015	Complete: <u>First Cycle of Extensive Temperature Monitoring</u>	Completed April 2019.
	Scope: <u>Watershed Scale Assess. of Cumulative Effects</u>	Off Track Project intended to follow other effectiveness monitoring studies which are behind schedule. Funding to begin in 2029.
	Scope: <u>Amphibians in Intermittent Streams (Phase III - renamed: Water Temperature and Amphibian Use in Type Np Waters with Discontinuous Surface Flow Project)</u>	Off Track Project is being re-scoped, expected in 2021.
2017	Study design: <u>Watershed Scale Assess. of Cumulative Effects</u>	Off Track Discussed above for 2015 scoping. Study design expected 2029.
	Study Design: <u>Amphibians in Intermittent Streams (Phase III)</u>	Off Track Scoping scheduled for 2021. Study design expected in 2028.
2018	Complete: <u>Roads Sub-basin Effectiveness</u>	Not Progressing Project to be re-scoped in 2029 with completion in 2032.

CMER Research Milestones		
Description of Milestone		Status as of January 2021
	Implement: <u>Watershed Scale Assess. of Cumulative Effects</u>	Off Track Discussed above for 2015 scoping. Implementation scheduled to start 2030.
	Complete: <u>Type N Experimental in Incompetent Lithology</u>	On Track Report is currently in ISPR with an expected completion summer 2021.
2019	Complete: <u>Eastside Type N Effectiveness</u>	Earlier Stage Underway Discussed for 2013 implementation. Projected completion in 2028.

Table 2. Summary Non-CMER Project Milestones and their current status.

<i>Non-CMER Project Milestones</i>		
	Summarized Description of Milestone	Status as of January 2021¹
2009	July 2009: CMER budget and work plan will reflect CWA priorities.	Completed October 2010
	September 2009: Identify a strategy to secure stable, adequate, long-term funding for the AMP.	Completed October 2010 <i>AMP funding was believed to be secured through the FFSA but came in under expectations for the 2019/21 biennium and additional cuts due to expected revenue shortfalls.</i>
	October 2009: Complete Charter for the Compliance Monitoring Stakeholder Guidance Committee.	Completed December 2009
	December 2009: Initiate a process for flagging CMER projects that are having trouble with their design or implementation.	Completed November 2010 <i>Process not being used in Policy or CMER.</i>
	December 2009: Compliance Monitoring Program to develop plans and timelines for assessing compliance with rule elements such as water typing, shade, wetlands, haul roads and channel migration zones.	Completed March 2010
	December 2009: Evaluate the existing process for resolving field disputes and identify improvements that can be made within existing statutory authorities and review times.	Completed November 2010
	December 2009: Complete training sessions on the AMP protocols and standards for CMER, and Policy and offer to provide this training to the Board. Identify and implement changes to improve performance or clarity at the soonest practical time.	Completed May 2016
2010	January 2010: Ensure opportunities during regional RMAP annual reviews to obtain input from Ecology, WDFW, and tribes on road work priorities.	Completed September 2011
	February 2010: Develop a prioritization strategy for water type modification review.	Completed March 2013

Non-CMER Project Milestones		
	Summarized Description of Milestone	Status as of January 2021¹
	March 2010: Establish online guidance that clarifies existing policies and procedures pertaining to water typing.	Completed March 2013
	June 2010: Review existing procedures and recommended any improvements needed to effectively track compliance at the individual landowner level.	Completed November 2010
	June 2010: Establish a framework for certification and refresher courses for all participants responsible for regulatory or CMP assessments.	Completed September 2013
	July 2010: Assess primary issues associated with riparian noncompliance (using the CMP data) and formulate a program of training, guidance, and enforcement believed capable of substantially increasing the compliance rate.	Completed August 2012
	July 2010: Ecology in Partnership with DNR and in Consultation with the SFL advisory committee will develop a plan for evaluating the risk posed by SFL roads for the delivery of sediment to waters of the state.	Completed December 2018
	July 2010: Develop a strategy to examine the effectiveness of the Type N rules in protecting water quality at the soonest possible time that includes: a) Rank and fund Type N studies as highest priorities for research, b) <u>Resolve issue with identifying the uppermost point of perennial flow by July 2012</u> , and c) Complete a comprehensive literature review examining effect of buffering headwater streams by September 2012.	Not Progressing Part 'b' to be addressed after water typing system rule and Board Manual work is completed.
	October 2010: Conduct an initial assessment of trends in compliance and enforcement actions taken at the individual landowner level.	Completed November 2010
	October 2010: Design a sampling plan to gather baseline information sufficient to reasonably assess the success of alternate plan process.	Completed December 2014
	December 2010: Initiate process of obtaining an independent review of the Adaptive Management Program.	Completed Draft State Auditor Office report presented to the Board February 2021

Non-CMER Project Milestones		
	Summarized Description of Milestone	Status as of January 2021¹
2011	December 2011: Complete an evaluation of the relative success of the water type change review strategy.	Completed March 2013
	December 2011: Provide more complete summary information on progress of industrial landowner RMAPs.	Completed September 2011
2012	October 2012: Reassess if the procedures being used to track enforcement actions at the individual land owner level provides sufficient information to potentially remove assurances or otherwise take corrective action.	Completed June 2012
	Initiate a program to assess compliance with the Unstable Slopes rules.	Completed October 2017
2013	November 2013: Prepare a summary report that assesses the progress of SFLs in bringing their roads into compliance with road best management practices, and any general risk to water quality posed by relying on the checklist RMAP process for SFLs.	Off Track State, Tribal, and Small Landowner caucus staff cooperatively developed a plan to conduct online and field surveys to inform the condition of SFL roads. Implementation began in 2019. Due to the Covid 19 Pandemic the field survey is about 50% complete. Completion expected in 2021.

Status terminology:

“Completed” - milestone has been satisfied (includes those both on schedule and late).

“On Track” - work is occurring that appears likely to satisfy milestone on schedule.

“Underway” - work towards milestone is actively proceeding, but likely off schedule.

“Earlier Stage Underway” – project initiated, but is at an earlier stage (off schedule) than the listed milestone.

“Not Progressing” - no work has begun, or work initiated has effectively stopped.

“Off Track” - 1) No work has begun and inadequate time remains, 2) key stakeholders are not interested in completing the milestone, or 3) attempt at solution was inadequate and no further effort at developing an acceptable solution is planned.



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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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: FPAs Associated with 20-Acre Exempt Parcels

Appendix 2a: 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	0.086
Acme	0.129
Alder	0.049
Anderson Creek	0.098
Antonie Creek	0.022
Bangor-Port Gamble	0.712
Bear River	0.094
Beaver Creek	0.029
Bellingham Bay	0.128
Birch Bay	0.162
Black River	0.099
Blanchard Creek	0.037
Bogachiel	0.053
Bremer	0.040
Bunker Creek	0.449
California/Lower Rock	0.055
Camano Island	0.327
Camas Valley	0.039
Carbon	0.121
Carpenter	0.315
Cathlapotl	0.423
Cedar Creek	0.152
Cedar Creek/Chelatchie Creek	0.842
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	0.704
Cloquallum	0.131
Coal Creek	0.558
Columbia River/Rock Creek	0.018
Colvos Passage/Carr Inlet	0.606
Conboy	0.042
Connelly	0.148
Copper Creek	1.197
Corkindale	0.163
Cottonwood Creek	0.067
Cowlitz River/Mill Creek	0.177
Damfino	0.218
Davis Creek	0.153
Day Creek	0.259
Deadman Creek	0.035
Deadman Creek/Peone Creek	0.235
Delameter	0.150
Delezene Creek	0.165
Deming	0.063
Diobsud Creek	2.097
Discovery Bay	0.053
Dragoon Creek	0.115
Drayton	0.780
Dungeness Valley	0.031
Dyes Inlet	0.548
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	0.082
Everett	0.040
Ferndale	0.428

French-Boulder	0.098
Friday Creek	1.095
Garrard Creek	0.046
Germany	0.119
Gibson Creek	0.203
Gilligan	0.191
Grays Bay	0.050
Great Bend	0.052
Haller Creek	0.170
Hamilton Creek	0.044
Hansen Creek	0.503
Harmony	0.373
Harris Creek	0.183
Harstine Island	0.280
Hoko	0.004
Hope Creek	0.204
Horseshoe Falls	0.855
Huckleberry Creek	0.023
Hutchinson Creek	0.149
Independence Creek	0.227
Jim Creek	0.048
Johns River	0.058
Jordan	0.067
Jordan Boulder	0.102
Key Peninsula	0.404
Kiona Creek	0.152
Lacamas	0.287
Lacamas Lake	0.429
Lake Crescent	0.209
Lake Merwin	0.440
Lake Whatcom	0.146
Lakes	0.028
Liberty Miller - Appletree	0.651
Lilliwaup	0.025
Lincoln Creek	0.090
Little Boulder Creek	0.177
Little Deep Creek	0.040
Little Spokane/Deer Creek	0.092
Little Washougal	0.328

Little White Salmon River	0.017
Long Beach	0.135
Lopez Island	0.044
Lost Creek	0.517
Lower Chehalis/Elizabeth Creek	0.175
Lower Coweeman	0.359
Lower Cowlitz	0.654
Lower Deschutes	0.126
Lower Dosewllips	0.262
Lower Green Duwamish	0.006
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	0.070
Lower Newaukum	0.815
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 Skookumchuck	0.010
Lower Skokomish	0.162
Lower Snoqualmie River/Cherry Creek	0.137
Lower Stilloquamish River	0.026
Lower Willapa	0.334
Lower Wind	0.104
Lower Wishkah	0.042
Lynch Cove	0.272
Magee Creek	0.125
Many Creeks	1.554
Mashel	0.036
Mason	0.189
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	0.066
Mitchel	0.039
Mortan	0.085
Moran Creek	0.076
Mox Chehalis	0.159
Mt Zion	0.034
Muck Creek	2.375
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	0.341
Onion Creek	0.150
Ostrander	0.430
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 Mountain	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	0.086

Salt Creek	0.355
Salzer Creek	0.155
Samish Bay	0.087
Samish River	0.267
Sammamish River	0.039
San Juan	0.032
Satsop	0.165
Scatter Creek	0.076
Sekiu	0.022
Sequim Bay	0.297
Siebert McDonald	0.085
Silver Lake	0.297
Skookum	0.015
Smith Creek	0.049
Smith Point	2.099
Sol Duc Lowland	0.072
Sol Duc Valley	0.042
South Fork Chehalis	0.009
South Fork Newaukum	0.044
South Fork Skokomish	0.252
South Fork Skykomish River	0.052
South Fork Willapa	0.085
South Sinclair Inlet	0.099
Spring Creek	0.071
Squalicum Creek	0.472
St. Peter-Lambert	0.078
Stahley Mountain	0.214
Stensgar Creek	0.037
Stillaguamish Flats	0.121
Stillman Creek	0.007
Stillwater	0.044
Sultan River	0.037
Sumas River	0.205
Sutherland Aldwell	0.319
Tacoma Creek	0.114
Tanwax Creek	0.541
Tenmile Creek	0.074
Thompson Creek	0.097
Toandos Peninsula	0.076

Toutle River	0.293
Trout Creek	2.049
Tululip Creek	0.584
Upper Chehalis/Cedar Creek	0.047
Upper Chehalis/Rock Creek	0.099
Upper Coweeman	0.069
Upper Little Pend Oreille River	1.192
Upper North Fork Stillaguamish	0.095
Vancouver	0.751
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/Middle Fork Hoquiam	0.073
West Fork Wasougal	0.186
West Kitsap	0.027
West Prong	0.053
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	0.100
Wynochee River System	0.059
Yacolt	0.856
Yelm Creek	0.911
Young Cove	0.223

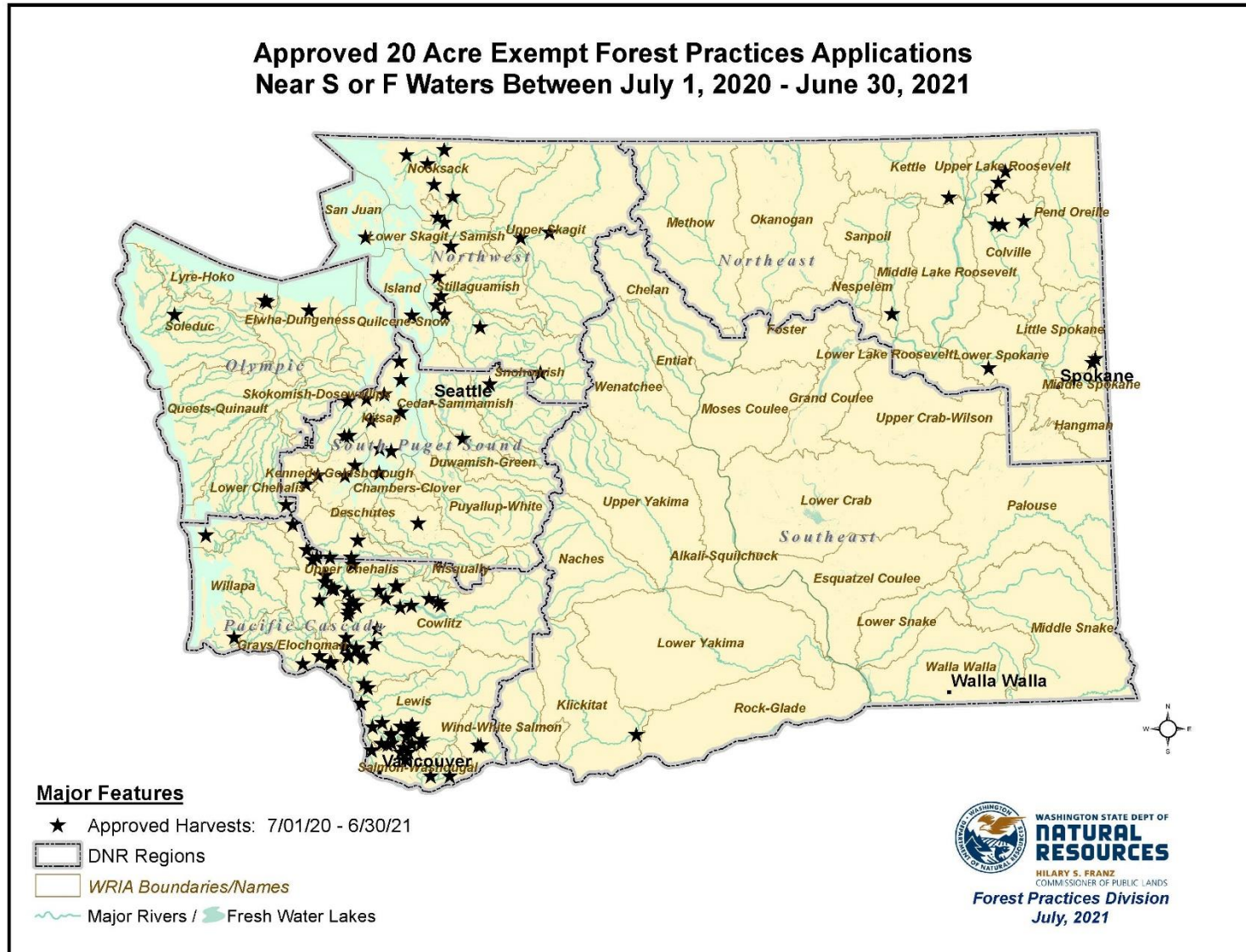
NOTE: Table includes a 2016 recalculation of fish-bearing stream length by WAU on Forest Practices HCP-covered lands to align report calculations with current GIS data.

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 FPA(s) over the elapsed 15-year period of the Incidental Take Permits. There are

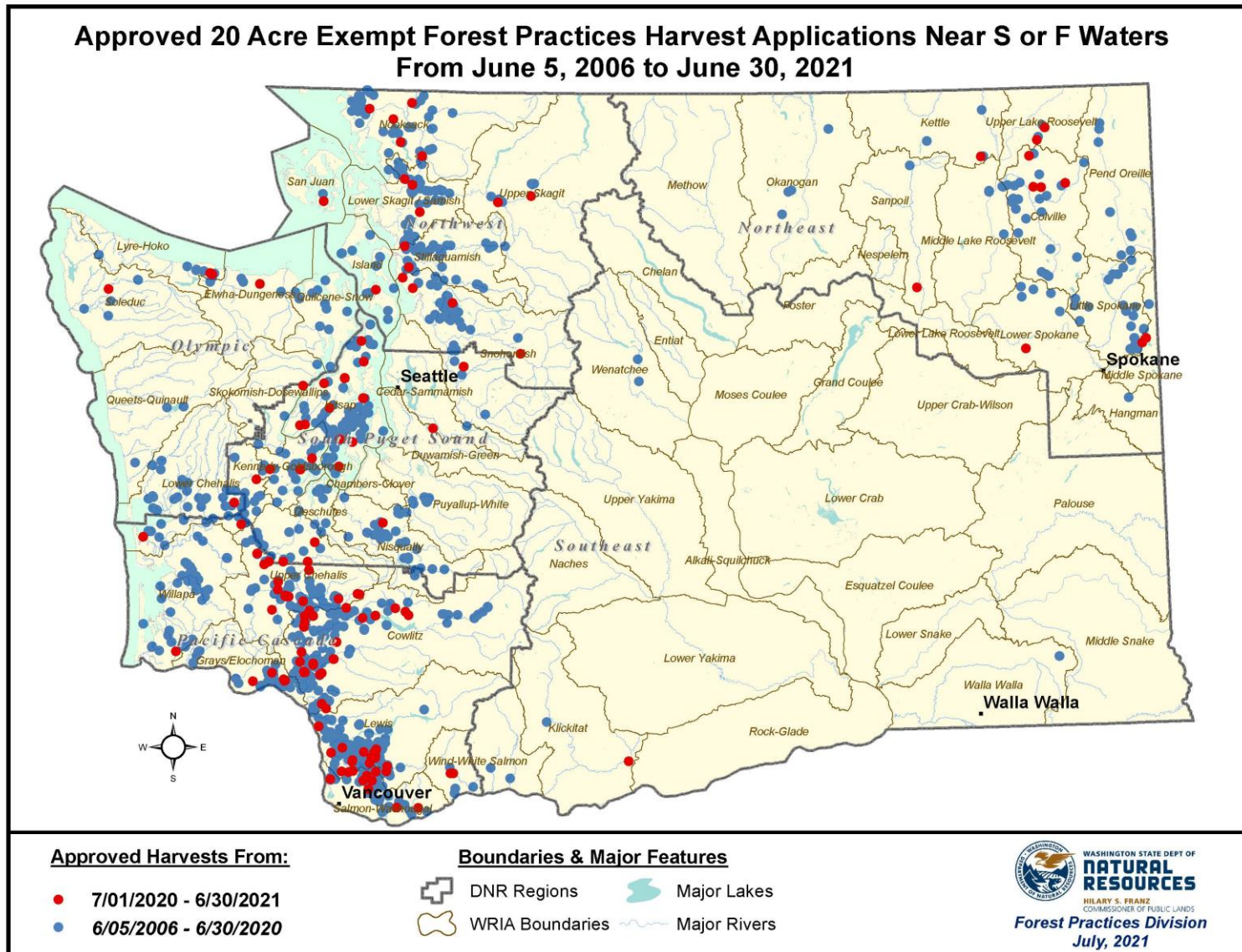
846 WAUs in the state, of which 255 have had approved 20-acre exempt FPAs since the 2006 issuance of the forest practices HCP Incidental Take Permits. Currently, in-office calculations indicate that all but nine WAUs affected by 20-Acre Exempt applications have less than 1 percent potential cumulative reduction in function relative to standard Forest Practices prescriptions. The nine WAUs Diobsud Creek (2.097 percent), Many Creeks (1.55 percent), Muck Creek (2.375 percent), Smith Point (2.099 percent), Upper Little Pend Oreille River (1.192 percent), Copper Creek (1.197 percent), Wanacut (2.049 percent), Trout Creek (2.049 percent) and Friday Creek (1.095 percent) all have less than 3 percent potential cumulative reduction in function. None of the nine WAUs with potential reduction in function over 1 percent is near the 10 percent threshold ([explained in Appendix 3](#)) established in the Incidental Take Permits. There are 121 WAUs indicating a potential of reduction in function between 0.1 and 0.9 percent, and the remaining 125 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.

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Appendix 2b: Approved 20-Acre Exempt FPAs near S or F Waters 7/1/20 – 6/30/21



Appendix 2c: Approved 20-Acre Exempt FPAs near S or F Waters 6/5/06 – 6/30/21



Appendix 3: 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 (FPAs).

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) list¹². The CWA requires each state to develop and adopt water quality standards that are approved by the Environmental Protection Agency. 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 Forest Practices Board's (Board) 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.

¹² The term "303(d) list" is a state's list of impaired and threatened waters. States are required to submit their list for EPA approval every two years. For each water on the list, the state identifies the pollutant causing the impairment, when known.

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, upon the urging of representatives from National Marine Fisheries Service and the Environmental Protection Agency, TFW agreed to tackle the immense task of negotiating and developing a rule package solution for the three concerns. TFW invited federal agencies and county representatives to join with traditional TFW caucuses – state agencies, tribes, forest landowners, and conservationists – to negotiate a rule package. The federal caucus was invited to the table to ensure the final product would reflect federal Endangered Species Act and Clean Water Act requirements, 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.

All forest stakeholders were looking to TFW to resolve forestry impacts on water quality, water typing, and threatened and endangered salmonid 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.

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 report 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.

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

The Washington State Legislature incorporated the Forests and Fish Report recommendations into the 1999 Salmon Recovery Act, directing the Board to adopt permanent forest practices rules that reflected the recommendations in the report 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](#) 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 ESA for aquatic and riparian dependent species was obtaining Incidental Take Permits 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 and National Marine Fisheries Service (collectively, the Services) in 2005. An Incidental Take Permit assures landowners and the state that as long as they follow the protection measures and Forest Practices Program as described in the Forest Practices 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 permits put Washington state forest practices into compliance with the ESA for those

species covered by the Forest Practices HCP. The Forest Practices 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, the Washington Department of Fish and Wildlife, and the Washington Department of Ecology – work together to ensure implementation of the Forest Practices HCP. DNR provides the majority of staff positions that oversee implementation of the Forest Practices HCP under the authority given to 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)
- Writing portions of and editing the required annual and 5-year reports to the Services

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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 can only be amended 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, 2021, was:

- Stephen Bernath, Commissioner of Public Lands Designee, Chair
- Ben Serr, Department of Commerce designee
- Rich Doenges, Department of Ecology designee
- Kelly McLain, Department of Agriculture designee
- Jeff Davis, Department of Fish and Wildlife designee
- Vickie Raines, Grays Harbor County Commissioner
- Wayne Thompson, timber products union representative
- Bob Guenther, general public member and small forest landowner
- Carmen Smith, general public member and independent logging contractor
- Cody Desautel, 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 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 interdisciplinary 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. Washington Administrative Code ([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 WDFW, Departments of Agriculture and Ecology, 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 section to the Board for approval. Board-approved final draft sections are then placed in the Board Manual.

Permanent Water Typing System Rule Adoption Process

In 2013, in response to concerns about the continued use of electrofishing under the interim water typing rule, the Board 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 a permanent rule was 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 Type 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 its recommendations on the development of each element of the Type F matrix in November 2016.

The Board accepted several of the TFW Policy Committee's 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 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 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 new rule. The Board requested the AMP Administrator 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 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 (AFF). The Board agreed and requested DNR to include the three PHB and two AFF 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 and small business economic analysis) 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 AMP Administrator 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 be easily analyzed to identify PHBs as well as identify stream reaches of distinct gradients. Ultimately, the pilot study found that the methodology is suitable 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 rule. As a result, the Board established a Water Typing Rule Board Committee (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 recommendations to include an AFF component for the new 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 AFF workgroup's efforts and the assessment of options to gather additional stream data for inclusion in the eastern Washington spatial analysis of the PHB options¹³.

The goal of the AFF is to establish a floor below which all downstream waters will be considered habitat used by anadromous fish. However, TFW Policy Committee acknowledged that there would be exceptions where certain streams will still be eligible for a full protocol survey (electrofishing sampling) under FHAM. The Board also requested that DNR revise the existing preliminary PHB spatial analysis for western and eastern Washington with the incorporation of

¹³ The Board approved three PHB options (A-Westside tribes, B-eastside tribes, and C-landowners) for analysis in February 2018.

the methodology to determine the width component PHB 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 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 Board 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 AFF workgroup 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 from the AMP budget for GIS support work to support the AFF workgroup. The funding was to be used to contract for spatial analysis services to assist the AFF workgroup.

In May 2020, the Board acknowledged that DNR would advertise the AFF GIS spatial analysis 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.

An AFF GIS spatial contract was awarded to Terrainworks, Inc. in August 2020. The contractor has been working with an AFF project team, formed by the Board Committee, to develop hydrographic stream networks that are used to compare known anadromous fish locations and natural barriers with the Board's accepted AFF alternatives (A-Westside tribes, B-eastside tribes, and C-landowners). After the contract expires in June 2021, the AFF project team will begin developing recommendations for appropriate AFF metrics to submit to the Board Committee. Final recommendations are anticipated to be provided to the Board in November 2021. TFW Policy Committee's technical workgroup tasked with assessing additional eastern Washington fish distribution data (needed for a statewide PHB spatial analysis) recommended that the Board accept a subset of the CMER Committee data from fish distribution studies conducted between 2001 and 2005. The Board accepted this recommendation at its May 2021 meeting, in addition to fish data submitted by eastern Washington tribes. This new data will be combined with the existing western Washington data for DNR to perform the statewide PHB spatial analysis.

Adaptive Management Program

The [Forests and Fish Report](#) included provisions for a science-based adaptive management program, which looks at effectiveness of the forest practices prescriptions in meeting resource objectives, the validity of the resource objectives for achieving the overall goals, and basic scientific uncertainties in the ecological interactions among managed forests, in-stream functions, and fish habitat. In concert with Forests and Fish Report 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 served as the foundation for the Adaptive Management Program, and more specifically guides the development of research and monitoring projects.

The AMP's purpose 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 that 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, Cooperative Monitoring and Research Committee (a science committee), and an AMP Administrator who oversees the program, determines applicability of proposals 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 was established to ensure the rigor and integrity of adaptive management research and monitoring projects and reports.

CMER

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 comprises 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.

TFW policy Committee

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 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 (including WDFW and Ecology as one vote), and federal agencies.

AMP Administrator

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.

ISPR

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.

Funding

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

CMER

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. 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](#) 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.

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 its 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](#) and incorporated into the Forest Practices HCP. 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 reprioritized in 2010 to focus on CWA assurances, reprioritized in the Master Project Schedule (MPS) proposed in the 2012 Forest Practices 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 AMP with a tool to evaluate its progress, which meets requirements of the 2012 Forest Practices HCP Settlement Agreement.

Clean Water Act Assurances

Upon the completion of the [Forests and Fish Report](#) in 1999, Ecology (with EPA's approval) agreed to provide CWA assurances to the state of Washington for 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 CWA assurances and produced a report that concluded that while much had been accomplished, work remained to be done. In particular, AMP 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 CWA assurances. Ecology conditionally extended CWA 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 but has been updated (and enclosed above) in 2021.

Ecology submitted a letter to the Board in December 2019 regarding the expiration of the 10-year CWA Assurances Extension Period (2009-2019). 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 Services 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.”

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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, the Forest Practices Program develops internal guidance when necessary to provide 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.

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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 SFLO within DNR to provide technical assistance to small forest landowners.

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 SFLO focuses on several efforts, including small forest landowner assistance through the Forestry Riparian Easement Program (FREP), the Family Forest Fish Passage Program (FFFPP), 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 (RHOSP). For more information, see the RHOSP section below.

Small Forest Landowner Advisory Committee

The Small Forest Landowner Advisory Committee was established in [RCW 76.13](#) to assist the SFLO in developing policy and recommending rules to the Board. The Small Forest Landowner Advisory Committee consists of seven members, including a representative from Ecology, WDFW, and a tribal representative. Four additional committee members are small forest landowners 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 forest landowner appointees to serve five-year terms and the other two small forest landowner appointees to serve four-year terms. The Small

Forest Landowner 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 the Washington State

Recreation and Conservation Office (RCO), and one small forest landowner/member from 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:

- DNR’s SFLO is the main point of contact for program information, assisting landowners, providing outreach, and coordinating additional funding sources.
- WDFW 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 an FPA 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 foresters assist 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 foresters also perform non-regulatory 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. This position was filled in March 2021 and was funded until June 30, 2021.

Small Forest Landowner Outreach

The SFLO 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 SFLO 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, resulting in a checklist that 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 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. One of the CWA milestones (established by Ecology for the State to maintain CWA assurances) 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 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 online and the SFLO manager documents all of the survey results.

On-Site Road Assessments

Qualified DNR staff (regulation assistance foresters) 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 CWA, as well as to educate landowners about their forest roads.

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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](#). 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. Permit conditions specify:

- Leave trees to be left along Type Np (non-fish-bearing, perennial) waters for riparian function.
- The establishment of eligibility criteria for coverage of 20-acre exempt parcels under the Incidental Take Permits. (The permits will not cover 20-acre parcels that do not meet the eligibility criteria.)
- The definition of coverage thresholds for 20-acre exempt parcels in watershed administrative units (WAUs) and water resource inventory areas (WRIAs).

- Certain spawning and rearing habitat of bull trout (also known as “Bull Trout Populations of Concern Areas”) 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 WRIAs. 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 WRIAs 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](#) 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 Indices 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 Incidental Take Permits.

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 2a 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 FPAs 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 WAU to determine when the 15 percent threshold might be reached for the WRIA. DNR will then inform landowners who apply for an FPA 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 RMZ rules on their 20-Acre Exempt forest practice.

Bull Trout Population of Concern Areas

The U.S. Fish and Wildlife Service 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.

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Alternate Plans and Riparian and Habitat 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 threatened or endangered species. 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 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.

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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 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 landowners comply 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 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, Stop Work Orders, civil penalties, and Notices of Intent to Disapprove. 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, results-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 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 Notices of Intent to Disapprove 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, Notice to Comply, or Stop Work Order?
- 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?

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Compliance Monitoring Program

The 1999 [Forests and Fish Report](#) 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 CMP 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 CMP 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 on-site 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 CMP manager administers the program. 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 DNR, WDFW, and Ecology, 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 CMP 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 CMP currently evaluates compliance with those rules considered to have the greatest impact on the protection of aquatic and riparian species and their habitat.

The CMP 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 RMZs, 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 CMP 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 CMP 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 differ 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 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 CMP 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 who 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 CMP 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 2012-13 biennium sample saw a modest improvement in confidence but the implementation cost was too high to sustain.

2014 – The CMP 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 makes results more precise 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 the Cooperative Monitoring Evaluation and Research Committee could engage.

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 CMP analyzed previous biennia data using the cluster analysis method and presented the results in the 2014-15 biennium Compliance Monitoring Report.

2016 – The CMP 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 CMP 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 peer review were incorporated into the 2016-17 CMP biennial report, and subsequent compliance monitoring reports.

2017 – It was determined that an interim annual report would no longer be provided by the CMP because it was no longer needed.

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 DFC1 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.

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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 use all necessary enforcement tools to protect, correct, and recover environmental damage.

Additionally, the following course objectives serve as a common theme throughout:

- Ensure compliance with the Forests and Fish rules and CWA assurances
- SEPA: Evaluate all Class IV FPAs to assure adequate environmental review and protection; assist local government agencies in transition to accept implementation of Class IV-General FPAs

- Respond to any complaint or concern from the public with a proper investigation
- Ensure public safety and protection of public resources
- Understand the specific roles as a program team member

Brief Adjudicative Proceedings

This course is designed to give forest practices staff the ability to identify why and when DNR uses Brief Adjudicative Proceedings. Students will demonstrate how and when DNR responds to these requests and identify the role of the Attorney General's Office. Additionally, this course demonstrates the DNR regions' 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. Some workshops are internal to DNR forest practices staff, but they usually are directed toward public education.

Compliance Monitoring

The CMP 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). 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, 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 and small forest landowners 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 inform field practitioners about recent research findings.

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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-cast¹⁴ 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
- 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 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 3 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.

Data Tables – Tables 12, 13, 14, and 15 in RMAP Chapter 11

¹⁴ Extra material (dirt and debris) generated from clearing for a road. The debris can be put to the side.

Data Precision

The RMAP data identified in Tables 12-15 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 has 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
- 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 or 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. 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 are properly 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 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 WDFW 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, 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.

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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 FPAs 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 Forest Practices 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 the 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 FPA/N review, technical expertise during DNR’s interdisciplinary team reviews, water typing, and wetland typing. Tribal members participate with other agencies and organizations that work with DNR to draft forest practices rules and Board Manual sections. 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 have 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
- 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)

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Information Technology-Based Tools

Information technology-based tools provide significant support for the administration of the Forest Practices Program, and 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), FPRAM, 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 Regulation Division works closely with DNR Information Technology Division to develop and maintain these information technology tools.

Forest Practices Application Review System

FPARS streamlines the processing of FPAs and provides the public with the ability to review proposed forest practices activities. It makes use of the Internet, document imaging and management technology, interactive GIS technology, and the Oracle database system to collect FPA/N information, and distribute it for regulatory and public review. FPARS also supports archiving FPAs and risk assessments of proposed forest practices activities.

Forest Practices Enforcement Tracking System

The FPETS provides the ability for region-based Forest Practices staff and Forest Regulation 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.

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.

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 WTMFs. 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 FPA areas, water type changes, RMAP projects, parcel information, and habitat and slope stability information.

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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
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
NMFS	National Marine Fisheries Service
RCO	Washington State Recreation and Conservation Office
Round Table	TFW Cultural Resources Round Table
SAO	State Auditor's Office
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

Technical Terms

AFF	Anadromous Fish Floor
BACI	Before-after-control-input
CI	Confidence interval
CMZ	Channel Migration Zone
DFC	Desired future condition
DNA	Deoxyribonucleic acid
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 (GF-S)	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
Forest Practices HCP	Forest Practices Habitat Conservation Plan
FPAMT	Forest Practices Application and Mapping Tool
FPA/N	Forest Practices Application/Notification
FPARS	Forest Practices Application Review System
FPETS	Forest Practices Enforcement Tracking System
fpOnline	Forest Practices Online Project
FPRAM	Forest Practices Risk Assessment Mapping
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

NOID	Notice of Intent to Disapprove
NTC	Notice to Comply
RHOSP	Rivers and Habitat Open Space Program
RMAP	Road Maintenance and Abandonment Plan
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