



**DEPARTMENT OF
NATURAL RESOURCES**

**OFFICE OF THE COMMISSIONER
OF PUBLIC LANDS**

1111 WASHINGTON ST SE
MS 47001
OLYMPIA, WA 98504-7001

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

May 1, 2023

Kim Kratz, Assistant Regional Administrator
NOAA Fisheries Service
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: 15 Year Forest Practices HCP Report, Incidental Take Permits 1573
(NOAA) and TE 121202-0 (USFWS)

Dear Assistant Regional Administrator Kratz and State Supervisor Thompson:

The 15 Year [Report](#) for the *Forest Practices Habitat Conservation Plan* (Forest Practices HCP) is now available for your review. The report emphasizes the period from July 2016 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.

Accomplishments:

Forest Practices Board (Board)

The Board remained focused on developing the essential elements needed for a permanent water typing system rule; specifically, fish habitat elements regarding anadromous fish and defining the regulatory division between streams that provide fish habitat and those that do not (the "F/N break"). A sub-committee of Board members met to help address specific issues and gather required data related to the water typing system rulemaking, and completed its work during this reporting period. See [FPHCP Annual Reports](#) for detailed 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 required along perennial non-fish-bearing streams ("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 the Board, TFW Policy Committee, and Board staff (DNR) began working to implement the plan.

Adaptive Management Program (AMP)

- Fifty-six research projects have been completed since the AMP began in 2001, and there were 18 projects underway at the end of the reporting period.

Road Maintenance and Abandonment Plans

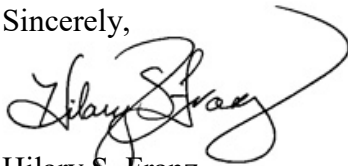
- Since the 2001 Program inception, 30,782 miles of forest roads were improved to meet forest practices standards, and 8,468 fish passage barriers were eliminated, opening up 5,184 miles of fish habitat.

There are many other accomplishments described in the 15-year 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 Tracy Hawkins, FPHCP Administrator at Tracy.Hawkins@dnr.wa.gov.

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

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

Sincerely,

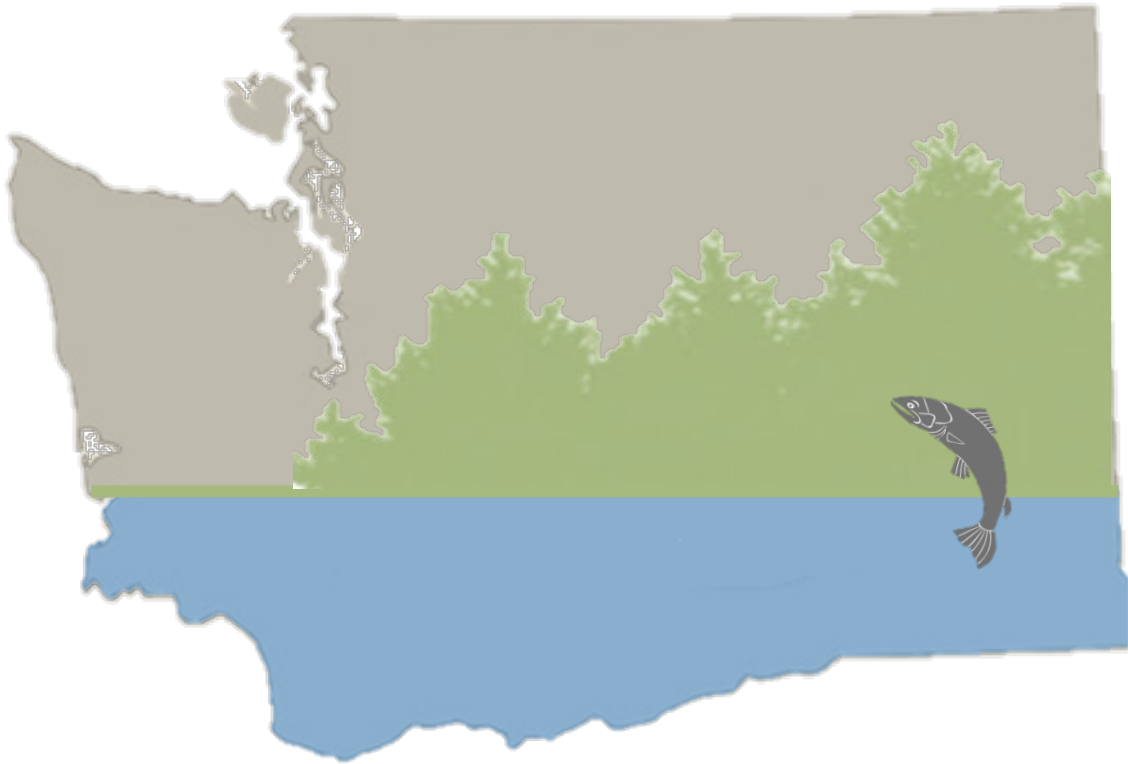


Hilary S. Franz

Commissioner of Public Lands

- c: The Honorable Jay Inslee, Washington State Governor
Washington State Forest Practices Board Members
Kelly Susewind, Director, Washington State Department of Fish and Wildlife
Laura Watson, Director, Washington State Department of Ecology
Alex Smith, Deputy Supervisor for Forest Resilience, Regulation and Aquatics
Saboor Jawad, Forest Regulation Division Manager

01/31/23



Forest Practices Habitat Conservation Plan

15 YEAR REPORT

Washington State Department of Natural Resources
Forest Practices Program, Forest Regulation Division
Tracy Hawkins

March 2023

Table of Contents

Page	Subject
1	Introduction
12	Forest Practices Board Summary
17	Permanent Water Typing System
26	Adaptive Management Program
42	Small Forest Landowners
58	Forest Practices Training Program
64	Compliance Monitoring Program
72	Road Maintenance and Abandonment Plans
81	Tribal Cultural Resources Protection
85	Forest Practices Program Budget
91	List of Acronyms

Introduction



In 2005, Washington state completed the Forest Practices Habitat Conservation Plan (Forest Practices HCP) to protect aquatic and riparian-dependent species habitat on more than 9 million acres of state and private forestlands. That is, the state and private forest landowners made a commitment to protect habitat for certain fish and amphibians that live in or depend on streams, lakes, and wetlands and the forests adjacent to them. The Forest Practices HCP was submitted to the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration, Marine Fisheries Service (NOAA Fisheries) (collectively, “the Services”). The Services accepted Washington’s Forest Practices HCP and, under the authority of the Endangered Species Act (ESA), on June 5, 2006, issued Incidental Take Permits (ITPs) to Washington state. Three state agencies — the Washington Department of Natural Resources (DNR), the Washington Department of Fish and Wildlife (WDFW), and the Washington Department of Ecology (Ecology) — work together to ensure implementation of the Forest Practices HCP.

Under the Forest Practices HCP, the state committed to submit a comprehensive report to the Services every five years¹. This is the third five-year report, and cumulatively covers the first 15 years (2006-2021) of implementation (some cumulative program data goes back further than 15 years to the beginning of the program). The intent of this review is to provide information on accomplishments, challenges, trends, and future goals for key areas of Forest Practices HCP implementation.

Accomplishments

There have been numerous accomplishments during the first 15 years of Forest Practices HCP implementation. However, the main focus of this report is on the past five years of Forest Practices HCP implementation (July 2016-June 2021) and, where appropriate, cumulative data/information for the entire 15 years (or more where total cumulative program data is

¹ The two previous five-year reports are available via these hyperlinks: [Five Year Report](#) (published in 2012) and [Ten Year Report](#) (published in 2017).

provided) of implementation is provided. For additional information on previous implementation years, see the five-year and 10-year Forest Practices HCP Reports and annual reports [here](#).

COVID-19 Response

The activities covered in this report were significantly affected by the COVID-19 pandemic beginning March 2020 through the end of this reporting period. A pandemic response was initiated by the DNR in March 2020 and continued throughout the remainder of 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 Forest Practices Application/Notification (FPA/N) applicants. Meetings were held remotely (including the 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 other virtual meetings, and provided additional emails, phone calls and other virtual meetings to accomplish needed stakeholder review. These practices contributed to a stellar safety record.

Forest Practices Board (Board)

In the past five years the Board:

- Amended Washington Administrative Code (WACs) 222-20-010 and 222-20-030, effective in April 2018, to allow for electronic submission of FPA/N signatures and electronic payments.
- Undertook several efforts to improve Adaptive Management Program (AMP) efficiency and effectiveness, including applying the Lean Process (which was a future goal stated in the 10-year Forest Practices HCP Report) on a few projects resulting in an 80% reduction in cycle time for the projects, contracting with Center for Conservation Peacebuilding which provided capacity-building events and recommendations for moving forward, a fiscal audit, and most recently the Washington State Auditor’s Office (SAO) conducted a [performance review](#) that was published in January 2021.
- Staff recommended SAO Response [Plan](#) was approved in May of 2021 and the Board directed the adaptive management program administrator (AMPA), TFW Policy Committee and Cooperative Monitoring, Evaluation, and Research Committee (CMER) co-chairs and staff to complete work to improve the AMP. The elements and challenges of the approved response [plan](#) are listed below.
- 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 (FREPE) rule in Chapter 222-21 Washington Administrative Code (WAC).

- Approved a pilot rule in February 2021 allowing an eastside Type N (non-fish) riparian effectiveness study to test the effects of timber harvests with buffers along sections of Type Np (non-fish perennial) streams that go dry seasonally.

Adaptive Management Program (AMP)

In the past five years:

- Since the AMP began in 2001, 56 projects have been completed.
- See Table 5 for a list of reports/projects that were completed during FY2017-2021.
- TFW Policy Committee and the Board continued to engage in the work needed to bring the permanent water typing system rule and the Type Np water rules to conclusion (see Permanent Water Typing System and Type Np Buffer sections below for detailed history).
- Several efforts were made to improve efficiency and effectiveness of the AMP. Please see list in Forest Practices Board above or description in AMP Efficiency and Effectiveness Improvement Efforts below for more detail.

Small Forest Landowner Office (SFLO)

- The state purchased 435 forestry riparian easements and 23 Rivers and Habitat Open Space Program easements (channel migration zone and critical habitat) protecting riparian and upland forestland since 2001, the beginning of the programs.
- The state eliminated 424 fish passage barriers on small forest landowner forest lands since 2003, the beginning of the program, making 1099 miles of habitat available.
- A [2020 Small Forest Landowner Demographic Report](#) was published. For details see the SFLO chapter below.

Training Program

Over the past five years:

- Future goals mentioned in the 10-year Forest Practices HCP [Report](#) were achieved with the addition of new classes, including forest practices hydraulic projects, avalanche hazard awareness, alternate plans, date of receipt and water typing. See Figure 4 for courses offered, and number of students trained over the past five years.
- A regular schedule of core classes was established by fiscal year (FY) 2019.
- In FY2020, COVID-19 altered the medium of trainings. Trainings were only offered virtually, and the training sessions were videotaped and available online to help expand class access for statewide stakeholder students. This also helped the state reach the goal stated in the 10-year Forest Practices HCP Report of developing online and distance learning opportunities. No in-person training occurred during this emergency teleworking time.

Compliance Monitoring Program (CMP)

Over the past five years:

- The state used results from compliance monitoring to improve Forest Practices Program processes. The Forest Practices Application form and instructions were updated for Wetland Management Zones to accurately reflect rule interpretation and the Forest Practices training program updated the Forest Practices Wetlands training materials and syllabus to more clearly present the relationship between wetlands and forest practices rules.
- The 2018-2019 bi-annual CMP [report](#) was published.
- Changes were made to monitor three areas of interest (fulfilling a CMP goal stated in the 10-year Forest Practices HCP [Report](#)).
 - 2017 - a pilot study was conducted for unstable slopes,
 - 2017 - a pilot study was conducted for forest practices hydraulic projects, and
 - 2019 - an unstable slopes rule compliance study was conducted.
- Estimated compliance rates through the years show that standard riparian and road rules compliance rates are consistently near or above the DNR's performance objective of 90% compliance (for latest information reference [Forest Practices HCP 2020 Annual Report](#)).

Road Maintenance and Abandonment Plans (RMAPs)

Over the life of the RMAPs program:

- 30,782 miles of forest roads were improved, 8,468 fish passage barriers were corrected and approximately 5,184 miles of fish habitat were made accessible.
- The RMAP program sunsets as of October 31, 2021. Any remaining work obligations as of the end of this reporting period, June 30, 2021, are to be completed by the end of October 2021. While most RMAP work has been completed, some work still remains under 33 RMAPs. Forest practices regional staff are working with those forest landowners to ensure completion of the work by the deadline of October 2021. This is a fulfillment of a goal stated in the 10-year Forest Practices HCP Report for RMAPS.

Federal Clean Water Act (CWA)

- In December 2019, Ecology extended the CWA assurances recognizing the following achievements: long term funding for AMP, effectiveness monitoring studies conducted on fish bearing streams in Eastern Washington, and a Western Washington non-fish stream hard rock study completed. The extension was conditioned with the assumption that the Board would initiate a Type Np riparian management zone rulemaking, for Western Washington, by the end of calendar year 2021.

Budget

- Operating funding allocated to the Forest Practices Program consistently exceeded the \$22.7 million funding level minimum, measured in 2005 dollars, that was established through the 2012 Settlement Agreement. A funding reduction in FY2020 of \$4 million budget gap necessitated reduced training budget and prioritizing positions being filled if the position became vacant. This strategy was implemented across the Forest Practices Program across the state to manage the budget gap and it was successful.

Challenges

Forest Practices Board

- It has been a challenge for the Board to adopt a permanent water typing system rule and associated fish habitat assessment methodology. The Board in May 2019 recognized the need for additional Board approval of additional rule elements in order to implement the rule; data supported anadromous fish floor (AFF) alternatives for analysis; and additional data and methodology to analyze the economic and environmental impacts of the Board approved potential habitat breaks (PHB) and AFF alternatives. The Board in June 2019 formed a Water Typing Rule Committee to provide oversight to AMP stakeholders and to bring recommendations to the Board for approval and inclusion in the draft rule and associated analysis. The committee provided oversight of the: AFF Workgroup in the development of anadromous fish floor (AFF) alternatives for inclusion in the rule; an Eastern Washington Workgroup in the identification of additional fish point data for inclusion in the PHB spatial analysis; and stakeholders in the development of a methodology to remotely locate the reduction in stream width PHB for the spatial analysis of PHB option C. The work of the committee, stakeholders, and workgroup occurred outside of the TFW Policy and CMER Committees and the caucus principals are also involved in the development of an AFF.
- It has also been a challenge for the Board to adopt revised riparian buffer rules on Type Np streams because of delays in the completion of the final Hard Rock Phase I and II and Soft Rock studies and the subsequent slowing of the process to develop buffer options within the TFW Policy Committee of the development of the Type Np Water buffer options through the dispute resolution process. The TFW Policy Committee development of Type Np Water buffer options resulted in dispute resolution where TFW Policy Committee prepared majority/minority reports for Board consideration and approval to be included in draft rule.

Adaptive Management Program

- Efficiency and effectiveness of AMP decision-making processes
The Board/AMP undertook several efforts to improve AMP efficiency and effectiveness, including:

- Applying the Lean Process on a few projects resulting in an 80% reduction in cycle time for the projects,
- Contracting with Center for Conservation Peacebuilding which provided capacity-building events and recommendations for moving forward,
- A fiscal audit, and
- Most recently the State Auditor’s Office (SAO) conducted a [performance review](#) that was published in January 2021.
- In May 2021 the Board approved a staff recommended SAO Response [Plan](#) and directed the AMPA, TFW Policy Committee and CMER committee co-chairs and staff to complete work to improve the AMP. The Board approved response plan will address the following AMP processes:
 - Review and make recommendations to the Board regarding the AMP decision making model. This work will require participation by caucus principals.
 - TFW Policy Committee and CMER developed recommendations for the Board to adopt decision criteria for determining actions, and a net gains model for project planning,
 - Staff developed recommendations to the Board for administrative changes in rule and Board Manual guidance, and Board AMP funding to: update dispute resolution language, triggers and processes; increase mediation funding in the Master Project Schedule; create a tracking system for the life cycle of projects including a public facing dashboard; complete biennial fiscal and performance audits of the AMP every two years; peer review of the science program every five years; update the Board Manual to add detail to support getting audits done on time and regularly, including consideration of external resources to conduct; and, onboarding and training for new members to the AMP.
- Please see AMP chapter below for detailed information on the following challenges:
 - Long-term program funding.
 - Timely project completion.
 - COVID-19 delayed progress on several projects during this reporting period.

Small Forest Landowners

- Systemic challenges exist in implementing increased number of projects and a historic lack of sufficient funds to meet the backlog of applications in the Forest Riparian Easement Program (FREP). There are 110 projects on the waiting list. Continued requests for funding, if approved would allow for more foresters and potentially an escrow specialist to move easement reimbursements faster.

- The Family Forest Fish Passage Program (FFFPP) also faces systemic challenges in implementing increased number of projects. The funding level appropriated by the legislature is one of the primary factors limiting the number of corrections accomplished.

Compliance Monitoring Program (CMP)

- Forest Practices Hydraulic Permit (FPHP): CMP has been working on developing and incorporating methodology for an ongoing study of FPHP to help determine the FPHP compliance rate. Subjectivity within FPHP rule interpretation creates a challenge for developing sound, defensible sampling methodology. To work to resolve this issue, CMP is planning to dive deeper into development of methodology for surveying FPHP in summer and fall of 2024, the next time this prescription will be sampled in the field.
- Due to the COVID-19 pandemic the CMP was not able to perform field compliance data collection on the standard samples from March until July 2020. As a result, periodic studies for FPHP and unstable slopes scheduled for 2020 and 2021 respectively, were postponed. These efforts are being rescheduled. Unstable slopes prescription was rescheduled for fall of 2023, and FPHCP was rescheduled for fall of 2024.
- In 2019, the Washington State Legislature created the Aerial Application of Herbicides in Forestlands Workgroup. The workgroup recommended several improvements to the Forest Practices Program regarding forest chemical spray applications. One of the recommendations was for DNR to incorporate herbicide applications into its larger biennial forest practices rules compliance monitoring sampling. As of 2021, funding was established based on the legislative workgroup’s recommendation to expand the CMP’s efforts to include aerial application of herbicides in their monitoring studies across the state of Washington. The pilot study and data collection are expected to commence in 2022.

Training

- The Forest Practices Training Program faced budget reductions in FY2020 that resulted in the cancellation of some in-person training sessions that would have required expenditures for travel. To address the budget constraints, some, but not all, in-person training events were converted to online formats.
- From March 2020 until March 2022, training program delivery was also constrained by pandemic response protocols. This challenge was met by reducing the types and numbers of training events, converting delivery formats to online and limiting the group size for field sessions to levels consistent with pandemic response protocols.

Road Maintenance and Abandonment Plans (RMAPS)

- DNR must ensure landowners continue to maintain the functionality of fish passage barriers and roads according to forest practices rules through time. To address this, DNR

has developed and deployed and continues to develop field tools and a framework to assess water crossings and will continue to develop additional tools where needed.

Trends and Notable Points in Implementation

The past 15 years of Forest Practices HCP implementation has revealed several trends.

Chart 1: Trends and Notable Points

Forest Practices HCP implementation has demonstrated the Board’s ability to re-direct important work addressing gaps in scientific knowledge and the flexibility to pause work, ensuring that information for rule and guidance development is appropriate. For example, the Board delayed action on the water typing system rule to address missing elements, clarify specific stream metrics, and evaluate potential anadromous fish floor alternatives needed for the rule.

The primary trend seen in the training program for the past 15 years has been resilience to negative budget impacts and staff turnover and statewide program teamwork to manage through budget constraints and COVID-19 impact challenges.

The AMP has experienced increased dispute resolution frequency. The SAO report recommended more frequent use of dispute resolution. The auditors recognized dispute resolution as a tool to break impasses and move projects forward in the AMP process. As a result of this recommendation, the number of disputes have increased significantly in the program. At the time of reporting, the TFW Policy Committee has either concluded or is in the process of concluding at least six disputes. CMER currently has concluded one outstanding dispute utilizing technical arbitration.

Recently, funding and SFLO staffing have increased, however resources and funding available over the past 15 years did not meet demand for the FREP, FFFPP, or RHOSP programs.

CMP monitoring results show that standard riparian and road rules compliance rates are consistently above or near the DNR’s stated goal of 90% compliance.

Steady, ongoing road improvements have resulted from implementation of Road Maintenance and Abandonment Plans with 30,782 miles of forest roads improved through 2020.

Steady, ongoing fish passage barrier corrections have continued, with 8,468 (93% of identified RMAP barriers) barriers corrected as of December 2020.

The Forest Practices Program’s operating budget has consistently been above the minimum required as a condition of the 2012 Settlement Agreement (\$22.7 million).

Future Forest Practices HCP Implementation Goals and Desired Outcomes

Addressing the challenges faced by the Forest Practices Program listed above will involve finding new pathways to solutions. Work and solutions will necessarily require direct involvement of the diverse set of Timber Fish and Wildlife (TFW) stakeholders that sometimes

hold opposing views on issues and approaches. For more detail on future goals, please see individual chapters below.

Some of the goals related to addressing challenges and other desired outcomes include:

- Ensure that existing forest practices rules are appropriately examined for effectiveness through the AMP and changed when appropriate.
 - Complete the Board’s rulemaking process pertaining to determining the division point between fish and non-fish habitat as a part of a permanent water typing system rule.
 - Complete the Board’s rulemaking process pertaining to riparian management zone buffer prescriptions for Type Np streams in Western Washington.
- Ensure that forest practices rules are consistently carried out on the ground through a coherent program of landowner education, regulatory rule compliance activities, and formal rules compliance monitoring.
 - Support and maintain the expansion of the SFLO regulatory assistance staff to help small forest landowners understand forest practices rules so that they prepare sound FPA/Ns to accomplish their ownership objectives.
 - Revamp the forest practices training curriculum and establish a prioritized annual forest practices training schedule: eliminate student backlogs; update existing course content; develop higher level courses on critical topics; update the *Forest Practices Illustrated* publication; and develop more online and distance learning opportunities.
- Maintain a regulatory focus on ensuring the forest roads are maintained to forest practices rule standards to keep sediment from reaching watercourses and to provide upstream passage for fish.
 - Close out the large landowner RMAP, track life-of-pipe fish passage barriers and work with landowners to formulate plans to complete any RMAP work unaccomplished by the October 31, 2021, deadline.
 - Prioritize rules compliance field visits to evaluate active haul roads, including continued fish passage under the roads.
 - The state will continue voluntary small forest landowner road assessments to determine the risk of Small Forest Landowner roads for delivery of sediment to waters of the state. For more details see SFLO chapter below.
- Help and incentivize small forest landowners to keep their lands in forest rather than convert to other land uses.
 - Acquire the waiting list of unfunded qualifying forest riparian easements by securing sufficient legislative funding to compensate all of the small forest landowners on the waiting list.

- Expand the capacity and funding of the FFFPP in order to increase the number of fish passage barrier corrections on small forest landowner properties that are completed annually.

Individual

Chapters

Forest Practices Board Summary

The Forest Practices Board sets minimum standards for forest practices through adoption of the Forest Practices Rules and approval of the Forest Practices Board Manual (Board Manual) sections providing guidance on how to implement those rules. The board also directs the Adaptive Management Program (AMP), which provides science-based information to help the Board evaluate any potential changes to the rules.

15-Year Trends

The past 15 years of Forest Practices HCP implementation has demonstrated the Board's adaptability in the face of complex issues and emerging information. The Board has periodically adjusted its work plan and the AMP Master Project Schedule (MPS) over the past several years in response to stakeholder concerns, natural disasters, scientific findings, legislative direction and legal settlements. For example, the Board delayed action on the water typing system rule to address missing elements, clarify specific stream metrics, and evaluate potential anadromous fish floor alternatives needed for the rule; and delayed action initiating the Type Np buffer rule to accommodate Cooperative Monitoring, Evaluation, and Research Committee (CMER) completion of the final Type N study reports and to allow time for a Type Np Workgroup to develop potential buffers for TFW Policy Committee consideration.

Accomplishments

Following is a brief description of the Board's actions within the past five years. Information on the Board's previous actions can be found in each Forest Practices [HCP Annual Report](#).

Electronic Signature Rule Making

The Board amended the rules (WACs 222-20-101 and 222-20-030) to allow for electronic submission of FPA/N, signatures, and electronic payments as an alternate to submitting paper applications to DNR region offices. The Board adopted the new rule in February 2018 and the rule became effective April 9, 2018.

Adaptive Management Program Improvement Review

Since 2017, the board has initiated several efforts to improve AMP efficiency and effectiveness, including use of the Lean Process, contracting with CPeace (see below for more information), a fiscal audit conducted internally by DNR, and a performance-based [audit](#) performed by the Washington State Auditor's Office (SAO). Additionally, the Board approved a staff-

[recommended plan of action](#) to address the SAO report suggestions. Please see following AMP chapter to find more detail on these various efforts.

Public Record Request Fees Rule Making

Legislation in 2017 (House Bill 1595) amended the Public Records Act by allowing agencies two options for collecting fees during a public records request. The board chose to use the statutory default fee amounts described in (RCW) 42.56.120. This rule became effective April 9, 2018.

Type Np Non-Fish Bearing Stream Pilot Rule Making

The Board, based on a recommendation from TFW Policy Committee, approved a pilot rule allowing an eastside Type N riparian effectiveness study to evaluate stream functions both with riparian buffers and without buffers along sections of Type Np streams that go dry seasonally. One of the study's sites was suitable for testing the effect of clear-cutting along a seasonally dry stream segment. This segment, however, extended into the 500 feet of Np buffer that is rule required along a stream above the intersection with a Type F stream. A pilot rule was necessary to allow the study to deviate from WAC 222-30-022 (2)(b)(ii)(C)(III) which specifies that clear-cuts "Not be located within five hundred feet of the intersection of a Type S (Shoreline of the State) or F (Fish bearing stream) Water." In February 2021, the Board approved the pilot rule to authorize a single forest landowner to harvest within the required 500 feet of the Type Np stream upstream of a Type F stream.

Clarifications Rule Making

The Board adopted an expedited rulemaking 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 FREP rule in Chapter 222-21 WAC.

Other

The Board approved a pilot rule in February 2021 allowing an eastside Type N (non-fish) riparian effectiveness study to test the effects of timber harvests with buffers along sections of Type Np streams that go dry seasonally.

List of Rule and Forest Practices Board Manual Changes

Table 1 shows rule adoptions during the reporting time frame from July 2016 to July 2021. There were no sections of the Board Manual approved during these last five years of Forest Practices HCP implementation.

**Table 1: Summary of Rules Adopted and Board Manual Sections Approved
July 1, 2016 – June 30, 2021**

State Fiscal Year (FY)	Rule or Board Manual Change	Summary
FY2018	FP Rule, Electronic signature	The Board amended the rules to allow for electronic submission of FPA/N, signatures, and electronic payments. This rule became effective April 9, 2018. A process of accepting electronic payments is under development.
FY2018	FP Rule, Public Record Request Fees	Legislation in 2017 (House Bill 1595) amended the Public Records Act by allowing agencies two options for collecting fees during a public records request. The Board chose to use the statutory default fee amounts described in RCW 42.56.120. This rule became effective April 9, 2018.
FY2021	FP Rule, Clarifications	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 FREP rule Chapter 222-21 WAC.
FY2021	FP Rule, Type Np non-fish Bearing Stream	The Board approved 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.
FY2021	FP Rule Pilot rule	The Board approved a pilot rule in February 2021 allowing an eastside Type N riparian effectiveness study to test the effects of timber harvests with buffers along sections of Type Np streams that go dry seasonally.

*Note: Alternating shaded backgrounds for legibility only.

Challenges

Permanent Water Typing System Rule

The foundational guiding documents to the current Forest Practices Rules and the implementation of the rules relating to the protection of aquatic resources are the Forests and Fish Report (FFR) and the subsequent 2006 Forest Practices HCP. At the core of both agreements is the expressed intent to develop a permanent water typing system to protect fish habitat. Developing the appropriate metrics and rule language for a permanent water typing

system was identified as a challenge in both the five-year and 10-year reports and has remained a challenge in recent years.

In May 2019 the Board paused staff development of the water typing system rulemaking packet based on the need for additional Board actions. In June 2019 the Board formed a Water Typing Rule Committee to provide oversight to AMP stakeholders and to bring recommendations to the Board for approval and inclusion in the draft rule and associated analysis. The committee was tasked with developing additional rule elements in order to implement the rule, development of data supported anadromous fish floor (AFF) alternatives for analysis and gathering additional data to incorporate into the spatial analysis to analyze the economic and environmental impacts of the Board approved potential habitat breaks (PHB) and AFF alternatives. To achieve this, the committee provided oversight of an AFF Workgroup in the development of AFF alternatives for inclusion in the rule, an Eastern Washington Workgroup in the identification of additional fish point data for inclusion in the PHB spatial analysis, and stakeholders in the development of a methodology to remotely locate the reduction in stream width PHB for the spatial analysis of PHB option C. The committee, stakeholder, and workgroup work occurred outside of the TFW Policy and CMER Committees and the caucus principals are also involved in the development of an AFF.

Type N Riparian Rules

The Board, in May 2019, approved a recommendation from the TFW Policy Committee to convene a Type Np Workgroup to address the findings of the CMER committee Phase 1 Type N Experimental Buffer Treatment Project on Hard Rock Lithologies (Hard Rock study). This CMER study found a demonstrated temperature increase in waters flowing through the current Type Np (non-fish perennial) riparian management zone (RMZ) buffers. The purpose of the Type Np workgroup was to develop proposed RMZ buffer alternatives for Type Np streams in Western Washington for TFW Policy Committee'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 Committee for its consideration. At the end of the reporting period, TFW Policy Committee was working on developing its recommendation to the Board for potential changes to rules for Type Np RMZs.

Clean Water Act Assurances

Ecology provides Clean Water Act (CWA) 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 CWA assurances on an assumption that the Board would initiate a Type Np RMZ rulemaking for Western Washington by the end of calendar year 2021.

The Board agreed to a TFW Policy Committee proposal to delay action based solely on the Hard Rock findings until the results of four other on-going AMP studies addressing Type Np Water, including the Type N Experimental Buffer Treatment in Soft Rock Lithology study were provided. These other studies would add pertinent information representing all stream lithologies in Western Washington when considering potential rule changes.

Future Direction

- **Permanent Water Typing System Rules**
Complete the Board’s rulemaking process pertaining to determining the division point between fish and non-fish habitat as a part of a permanent water typing system rule. The Board is currently waiting on recommendations from the Water Typing Rule Committee for the appropriate stream metrics necessary for an AFF. Once the Board has a recommendation for an AFF and the state re-runs spatial analyses specific to potential habitat break options, the Board will re-engage discussions to arrive on a permanent rule proposal. The goal is to have that information available in 2022.

- **Type N Waters**
 - Complete the Board’s rulemaking process pertaining to riparian management zone buffer prescriptions for Type Np streams in western Washington. The Policy Committee is on schedule to develop Type Np buffer alternatives for Board consideration in the second half of 2022.

Permanent Water Typing System

The Forests and Fish Report (FFR) stipulated that classification of streams be based upon habitat features and geomorphic parameters determined by a Geographic Information System (GIS) hydrologic model (model). When the Board adopted rules for implementing the FFR in 2001 the model was not complete. To address this, the Board adopted two administrative rules: one deemed the permanent rule (WAC 222-16-030), which described the establishment of the fish/non-fish habitat break based on a model; and a second interim rule (WAC 222-16-031), which allowed for continued use of the Board's current process to identify the fish/non-fish habitat break for water typing until the statewide water type maps were available. Work toward a permanent water typing system rule has continued over the past five years. Below is a summary of the history/status of the permanent water typing system rule.

History of the Water Typing System Rule

In 1999, the Washington state Legislature amended the Forest Practices Act 76.09 RCW to include the FFR and authorize the Board to adopt rules that follow the recommendations of the report.

Goals for Protective Measures in Forests and Fish Report

The FFR delineates the following four goals:

- 1) To provide compliance with the Endangered Species Act for aquatic and riparian-dependent species on non-federal forestlands;
- 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 Clean Water Act for water quality on non-federal forest lands; and
- 4) To keep the timber industry economically viable in the State of Washington.

The Board adopted rules consistent with the Forests and Fish Report in 2001, including the provision for an interim water typing system rule, until a permanent rule could be implemented (222-16-030 and 222-16-031 WAC). The new Forest Practices Rules pertain to protection of habitat including water quality for aquatic and riparian-dependent species.

Additionally, specific rule changes resulting from the aquatic protections in the FFR included a science-based adaptive management program. Changes to the Forest Practices Rules affecting aquatic resources, with limited exceptions, occur through the AMP, which incorporates the best available science and information in the research process.

In 2006, USFWS and NOAA issued 50-year ITPs for the Forest Practices Habitat Conservation Plan (HCP) which is based on the Washington State Forest Practices Program. The ITPs are active until 2056.

Current Permanent Water Typing System Rule Efforts

Focused efforts to adopt permanent water typing system rules have been ongoing since 2011. These efforts are described below.

The goals of the current rulemaking include:

- To better address the FFR foundational goal to restore and maintain riparian habitat for fish and other aquatic and riparian-dependent species;
- To develop a field-applied methodology to reliably identify fish habitat in an objective and repeatable manner; and
- To place all essential elements of the field methodology and any key long-standing Board guidance into the rules, where appropriate.

Necessary changes to implement a permanent water typing system rule other than changes to 222-16-030 and 222-16-031 WAC include changes to several other rules, and the Board Manual. Several rules will need to be changed to implement new permanent water typing system rules, including:

- WAC 222-12-090 Forest Practices Board Manual
- WAC 222-16-031 Interim water typing system
- WAC 222-16-030 Water typing system
- WAC 222-16-0301 Verification of fish habitat and the break between Type F and Type N Water

The Board Manual will also need to be updated. In particular, the removal of the interim water typing system rule, WAC 222-16-031, will require the removal of Board Manual section 13, Guidelines for Determining Fish Use for the Purposes of Typing Waters; and with the adoption of a permanent water typing system rule, WAC 222-16-030, will require the development of Board Manual Section 23, Guidelines for Field Protocol to Locate Mapped Division between Stream Types and Perennial Stream Identification, to include, in part:

- Field guidance to implement the fish habitat assessment methodology including
 - Procedures to identify and measure the potential habitat break points
 - Protocol electrofishing survey best management practices
- Procedures to identify off-channel habitat; and
- Procedures to identify the anadromous fish floor, if approved for inclusion by the Board

The Board is overseeing development of essential elements of the rule through the Water Typing Rule Committee. This committee was convened in June 2019 to work with stakeholders to bring recommendations for Board approval to include in the water typing system rule. The Board, by approved motion on June 4, 2019, requested the committee to:

- Review the completed initial spatial analysis of the Board-approved Potential Habitat Breaks (PHB) options and work to resolve whether the width PHB can be precisely estimated for the purposes of the required economic and environmental analyses
- Determine how the rulemaking should be applied in Eastern Washington
- Determine if and when the PHB validation study should be done and whether it should be combined with the study to determine physicals
- Determine if rule language, Board resolution, or other non-rule options would suitably encourage moving toward a Light Detection and Ranging (LiDAR) modelled map-based water typing system rule; and
- Work with stakeholders to resolve any outstanding issues regarding an anadromous fish floor.

Permanent Water Typing System Rule Efforts in Chronological Order:

November 2011

The Board passed a motion directing the TFW Policy Committee to make the completion of Clean Water Act milestones the top priority and water typing as the next highest priority. In response, the TFW Policy Committee formed a subgroup in December 2011 to develop recommendations for determining the regulatory break (point on ground delineating change in habitat between fish and non-fish habitat) between Type F and Type N water.

February 2013

TFW Policy Committee reported to the Board that stage one of the dispute resolution process was invoked within TFW Policy Committee. The dispute resolution concerns the organization and issues to resolve by the TFW Policy Committee Type Np Water Workgroup. TFW Policy Committee reached consensus to complete a charter, by the end of 2013, to initiate the processes to determine the Type F/N water break and develop recommendations for the transition from the interim water typing rule to a permanent rule.

February 2014

TFW Policy Committee reported to the Board that TFW Policy Committee was not able to achieve consensus regarding the charter for the work to develop components of the permanent water typing system rule after conducting stage one and stage two of the dispute resolution process.

In response, the Board passed a motion, which directed TFW Policy Committee to:

- Develop best practice recommendations for protocol survey electrofishing; and evaluate the current process to identify off-channel habitat under the interim water typing rule, including recommended clarifications in field implementation guidance, or rule language; and

- Directed the AMPA to scope and initiate a pilot project to re-run the hydrologic model using LiDAR data for at least two watersheds including one in Western Washington and one in Eastern Washington.

The objectives of this effort were to:

- Develop quantitative information about the footprint of the interim rule as applied; compare model-based water type designations to on-the-ground FPA and Water Type Modification Forms (WTMF);
- Investigate additional model utility including for detection of off-channel habitat (OCH) and to predict physical criteria
- Provide information to the Board to help inform the decision-making process for map-as-rule vs. guidance map with field adjustments; and
- The pilot studies were to be completed by the August 2014 Board meeting.

May 2014

The Oso landslide impacted the focus of the Board to insure resource protection regarding unstable landforms. Therefore, the Board passed a motion that re-directed the AMP to prioritize mass wasting work and complete the Type F assignments by the November 2014 meeting.

August 2015

The Board passed a motion to accept the water typing matrix (plan) to complete the evaluation of all components needed to establish a permanent water typing rule. The Board directed TFW Policy Committee to:

- Use the existing information
- Develop a method for addressing streams not on the hydrographic layer
- Make methods as accurate as possible
- Balance error
- Minimize electrofishing
- Improve the map over time
- Develop methods to locate the stream break points on the ground; and
- Ensure the methods address small forest landowners.

May 2016

TFW Policy Committee reported to the Board:

- The OCH workgroup was convened to develop the technical elements of the Proposal Initiation
- The electrofishing workgroup was convened to address technical questions
- Discussions regarding default physical criteria did not result in agreement and a proposal initiation was submitted.

August 2016

The Board accepted the TFW Policy Committee consensus recommendation to implement a proposal initiation to evaluate the default physicals criteria. The intent of the proposal was a three-phase approach using a contractor to:

- Seek the original data from Tribes, DNR and WDFW
- Verify the metadata is captured accurately and the historical background reported on the 1996 defaults is correct; and
- Evaluate how the default physical criteria are used in the current process.

November 2016

The Board accepted the TFW Policy Committee consensus recommendations for the water typing system rule and associated Board Manual guidance to:

- Maintain consensus elements of the current rule by blending WAC 222-16-030 and 222-16-031
- Retain the current definition for wetlands, fish habitat, and bankfull width; and
- Develop a Fish Habitat Assessment Methodology (FHAM) to reduce electrofishing, establish known habitat breaks limiting fish movement upstream, and achieve consistency in application. FHAM is:
 - A field protocol to conduct surveys for fish presence within defined stream segments in a manner that limits the use of electrofishing in stream segments where fish are likely to occur; and
 - Includes methods to locate the starting point for a survey to determine the upper extent of fish use within a defined stream segment.

The Board further directed TFW Policy Committee to determine if consensus could be reached for those rule elements without consensus by the December 2016 TFW Policy Committee meeting. The Board directed TFW Policy Committee to end dispute resolution and present a majority/minority report at the May 2017 Board meeting. Items in dispute within TFW Policy Committee included:

- The definition of off-channel habitat
- Acceptance of existing Type F/N breaks as the regulatory break for those approved through the water type modification review process; and
- The manner in which default physical criteria will be used to determine the Type F/N breaks.
-

The Board passed a motion to:

- Approve funding for continued development of the water typing model and evaluation of default physical criteria; and

- Direct staff to file a CR-101 Preproposal Statement of Inquiry for the Water Typing System rulemaking to notify the public of possible rulemaking.

May 2017

The Board:

- Accepted the TFW Policy Committee recommendations resulting from the stage one and two of dispute resolution process in combination with the November 2016 Board-accepted TFW Policy Committee rule and Board Manual guidance recommendations
- Assumed management of the Water Typing System rulemaking; and
- Directed the AMPA to convene an expert panel to provide PHB recommendations and to develop a PHB validation study design for presentation to the Board at their August 2017 meeting. The Board directed the expert panel to:
 - Review the FHAM listed habitat break features for combinations of primary/secondary features to determine those physical, biological and chemical elements that would individually or in combination constitute a high probability the PHB is coincident with a significant change in habitat including stream size, stream gradient, the interaction of size and gradient and the presence of barriers that limit accessibility, thus the appropriate point to initiate a protocol survey; and
 - Bring the PHB recommendations to the Board for the August 2017 meeting. The recommendations need to include the metrics to identify the PHBs and a plan for validation of the eventual rule.

The TFW Policy Committee recommendations included:

- The resolution of the definition of off-channel habitat
- Existing WTMF concurred Type F/N breaks will be retained in any new water type rule
- Default physical criteria will remain in rule for FPA purposes but not for inclusion on the DNR's hydrography map showing all of the water types, including Type F/N breaks for regulatory purposes; and
- The framework for FHAM.

August 2017

The Board received the PHB report from the expert science panel and took action to delay an approval of a PHB option until the February 2018 Board meeting based on additional data that was considered in the recommendations. To accomplish this the Board requested the AMPA to:

- Facilitate the gathering of addition Water Type Modification Form (WTMF) data in ecosystem regions across Washington
- Re-run the analysis for predicting PHBs; and
- Develop a PHB validation study design.

February 2018

The Board received the second PHB report and took action to:

- Accept separate options for evaluation of PHB criteria for inclusion in the water typing system rule from three caucuses; and
- Include an anadromous fish floor (AFF)
 - The AFF is intended to address stream and river segments where anadromous fish are known or presumed to occur and where the use of electrofishing may not be used unless certain site-specific conditions occur and an inter-disciplinary team concurs.

Staff began the stakeholder process to draft the water typing system rule and Board Manual guidance and the analysis of different PHB and anadromous fish floor alternatives for the cost/benefit and environmental analysis.

May 2018

The Board approved the PHB Validation Pilot Study plan and a timeline for completion of the water typing system rulemaking materials for Board consideration at the May 2019 meeting.

August 2018

The Board passed a motion:

- Directing staff to work with each of the PHB proponents (one-time only) to clarify each alternative, including PHBs as they relate to the anadromous fish floor; and
- Directing the AMPA to convene the authors of the January 2018 report from the science panel to update the report to reflect all perspectives and supporting science regarding tributaries.

November 2018

The Board took action to accept the draft PHB Validation Study design and directed CMER to:

- Review and comment on the study design and send comments to the AMPA for consideration; and
- Create an implementation plan that employs a phased approach to include hiring staff and site selection within FY2019.

May 2019

The Board directed staff to stop the stakeholder process to draft the water typing system rule and Board Manual guidance and the analysis of different PHB and anadromous fish floor alternatives for cost/benefit and environmental analysis.

June 2019

The Board established a Water Typing Rule Committee (Committee) to facilitate staff and policy caucuses' discussions in order to make recommendations on outstanding issues associated with the proposed rule.

November 2019

The Board approved committee recommendations and directed:

- DNR staff to redo the PHB spatial analysis using committee approved methodology to apply the width based PHBs
- CMER to develop study designs for the PHB validation, physical characteristics, and map-based LiDAR model studies
- Committee to explore whether other data were available to inform the water typing system rule development for Eastern Washington; and
- Committee oversight of the AFF workgroup and directed the committee to bring AFF recommendations to the Board.

August 2020

The Board accepted the Committee's recommendation to use the additional eastern Washington fish data identified by the eastern Washington technical group screening process.

May 2021

The Board accepted the committee recommendation adding 217 fish data points to the existing 18 fish data points to perform the eastern Washington PHB spatial analysis.

Other

Water Typing System Rule GIS Spatial Analysis

Board direction for analysis:

- Compare location of the end of fish habitat for each Board-approved PHB option to DNR concurred end of fish, Type F/N break points, located under the current interim rule
- Locate the anadromous fish floor for each Board approved alternative
- Use existing data (water type modification forms data)
- Apply to all forested eco-regions.

Board Staff Approach to Achieve Board Directed GIS Spatial Analysis:

- Delay initiating spatial analysis until Board approves AFF alternative(s) for inclusion in water typing system rule
- Create a synthetic stream network for analysis based on publicly available high-resolution LiDAR
- Use existing fish data compiled for the PHB Pilot study
- Make all data available through a DNR Box account at <https://deptofnaturalresources.box.com/s/ipylppo9111fvqqwoe4nvrjfd03skxa9>

Adaptive Management Program

The AMP is a key component of Forest Practices HCP implementation. This section of the 15-Year Forest Practices HCP report summarizes the past five years of Forest Practices HCP implementation from July 2016 to June 2021. For more detailed information regarding the AMP during the first 10 years of Forest Practices HCP implementation, see the [Forest Practices Habitat Conservation Plan 5-Year Report](#) and the [Forest Practices Habitat Conservation Plan 10-Year Report](#).

Accomplishments

Current Ongoing Projects:

Ongoing projects are in the initial stages of scoping or study design development. Some of these include active projects with no allocated funding beyond CMER staff time. In May 2021, the board adopted a Master Plan Schedule (MPS) that prioritizes and describes the CMER research projects selected for funding. Ongoing projects in FY2022 and FY2023 include:

- 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.

These 18 active research projects currently underway could lead to specific recommendations to the Forest Practices Board if the TFW Policy Committee determines that project results warrant action. Please refer to the [2021 Forest Practices HCP Annual Report](#) for a description of each of the projects.

AMP Efficiency and Effectiveness Improvement Efforts

Improvement in AMP efficiency and effectiveness remains an ongoing priority for the Board and the AMP, and several efforts have been made toward this goal during this reporting period. The improved efficiency and effectiveness efforts during the past five years are described below.

- **Lean process:** The Board directed CMER to implement piloted lean process improvement for a limited number of new projects with the intent of increasing program efficiency. As part of the lean process, small teams, referred to as Technical Writing and Initiation Groups, (TWIGs) of qualified scientists and technical personnel in the area of expertise specified were assembled in lieu of a larger group of technical personnel referred to as a scientific advisory group (SAG). The premise was that this smaller team of experts would be more effective and efficient than a SAG in developing scoping documents and study designs.

- *Eastside Type Np Riparian Effectiveness Project*: This project was initiated to determine if, and to what extent, the prescription found in the Type N Riparian Prescription Rule Group for Type N streams in eastern Washington maintain performance targets and water quality with a particular focus on effects in downstream typed waters. The project aims to examine the effect of applying the Type N rules on the Type Np and Type F waters lying downstream. The study design was developed and approved by Independent Science Peer Review (ISPR) and CMER. The project is currently in the implementation phase.
- *Unstable Slopes Criteria Project*: The initial writing team completed a best-available-science-alternatives analysis and a study design, to address the critical question of whether unstable landforms are being correctly and uniformly identified and evaluated. The project team is currently working on implementation of Project 2, Object-Based Landform Mapping with High-Resolution Topography Study. The report was scheduled to be presented to CMER in spring 2022.
- *Study Designs for Empirical Evaluation of Shallow Landslide Susceptibility and Frequency by Landform (Project 3) and the Empirical Evaluation of Shallow Landslide Runout (Project 4)*: These projects will be developed following completion of the Object-Based Landform Mapping with High-Resolution Topography Study Design. These study designs were expected to go through ISPR and CMER review in the spring of 2022.
- *Forested Wetland Effectiveness Project (FWEP)*: This project will look at the effectiveness of forest practices prescriptions to protect, maintain, and restore aquatic resources. The project team completed a study design as a part of a two-part, scientific investigation into how forested wetlands and their connected waters are affected by forest practices, as presently implemented under WAC 222. This FWEP Chronosequence study design was approved by Independent Scientific Peer Review (ISPR) and CMER and is currently being implemented. It is the predecessor study to a BACI study on how forested wetlands recover from harvest and will help inform how disturbance associated with forest harvest is affecting forested wetland hydrology, habitat, and water quality over time.
- *Default Physical Criteria (DPC) Assessment Project*: The accuracy of the current default physical criteria has not been validated, and research describing the physical characteristics at the upstream extent of fish distribution is limited. The magnitude of difference between the last fish and the default physicals is also unknown. The Instream Scientific Advisory Group (ISAG) is currently working on the PHB and DPC study designs. As part of their recommendation to the Board, ISAG will develop the LiDAR study design after the completion of the DPC and PHB study designs and development of a statewide LiDAR-derived stream network. The PHB study design is currently going through CMER review and will go through ISPR review spring 2022.

- The lean process helped reduce the cycle time for creating CMER products by 80% (from a 74-month cycle time to a 15-month cycle time). It reduced the approval steps and supported smaller teams with relevant expertise for the subject area. However, the lean process did not become integrated into the AMP because some stakeholders were not supportive of reduced opportunities for input, comment, and decision, thus the end product stalled at CMER or TFW Policy Committee, causing a delay.
- **Center for Conservation Peacebuilding (CPEACE):** CPeace was hired by DNR to help determine avenues for increased efficiency and effectiveness in AMP.
 - CPeace conducted 139 individual interviews with caucus members between November 2019 and May 2020. Upon conclusion of the interviews, potential steps toward improvement were taken as some TFW Principals renewed commitments of engagement in TFW. The event was well received by those who attended. CPeace’s resulting recommendations include the need to circle back to those individuals who made commitments in June 2019 and define a plan for how to improve engagement between forest stakeholder caucuses. The perspectives of the participants were documented in CPeace’s June 2020 report entitled People, Timber, Forests, Fish and Wildlife Assessment Report 2020.
 - CPeace also worked toward facilitating capacity-building events that would include the members of both the TFW Policy Committee and CMER research committees.
 - 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.
 - At that point, due to past AMP budget shortage and the COVID-19 pandemic, recommendations and additional work from CPeace were paused pending future funding availability.
- **Fiscal Audit:** During the reporting period, AMP received the results of a fiscal audit conducted by an external auditor contracted by DNR. The AMP received very favorable results from the fiscal audit with minimal recommendations for improvements.
- **Performance based audit:** In addition to the fiscal audit, AMP underwent a performance-based audit conducted by the Washington State Auditor’s Office at the request of the board. The audit [report](#) was completed in January 2021 and included 11 recommendations for improving AMP performance.
 - In May 2021 the board approved a staff recommended SAO Response [Plan](#) and directed the AMPA, TFW Policy Committee and CMER committee co-chairs and staff to complete work to improve the AMP. The SAO Response Plan separated the

recommendations into three categories: 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 and 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 and 6).
- 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, and 11).
- The Board adopted the [recommended plan of action](#) at its May 2021 meeting, and work commenced at the Board, TFW Policy Committee, and staff levels. Tables 2 to 4 provide a summary of the current implementation status of each recommendation.

Table 2: SAO Recommendations to be considered and acted upon by caucus principals that may be aided by third-party neutral assistance focusing on conflict transformation

Focus Area	Action Item	SAO Rec #	Status	Update
Decision making process	1) Review consensus decision making model 2) Require participation by caucus principals	1 and 2	On track to be completed during this biennium	DNR requested \$75,000 in a funding decision package for consideration in the 2022 supplemental operating budget. Request covers the cost of a facilitated caucus principals' meetings. No new funds were allocated in supplemental operating budget. Notwithstanding, two rounds of TFW Principals meetings have been held, with DNR paying for the facilitator.

Table 3: SAO Recommendations involving changes to AMP processes to be evaluated mainly through the appropriate AMP committees

Focus Area	Action Item	SAO Rec #	Status	Update
Decision making process	Adopt decision criteria for determining actions that will occur depending on project results before those results have been found.	6	On track	CMER work group was formed in October. The work group has started work and is on track to prepare an options paper in collaboration with TFW Policy

			to meet the November 2022 deadline	Workgroup on SAO Recommendations.
Decision making process	Implement a “net gains” approach to each proposal, project, and decision that benefits more than one caucus by considering packages of projects instead of individual projects.	5	On track	TFW Policy workgroup was formed and worked with AMPA on a list of six net gains options. Implementation timeline will vary based on the complexity of each option.

Table 4: SAO Recommendations that are administrative in nature to be evaluated primarily by Board and AMP staff and brought to the Board for decision and action

Focus Area	Action Item	SAO Rec #	Status	Update
Decision making process	Update language in the Board Manual to reflect WAC which says dispute resolution is required when consensus cannot be achieved within the Science or Policy committees.	3	Completed	Board Manual 22 has been updated. Board staff presented revisions to the Board in February 2022 and obtained the board’s approval
Decision making process	The Board should set a trigger for dispute resolution. It should work with the Adaptive Management Program Administrator and the chairs of the committees to determine the appropriate amount of time: 1- Identify and recommend to the Board schedule or process-based triggers for invoking dispute resolution 2- Add line item for dispute resolution in the Master Project Schedule 3- Establish on-call contracts for dispute resolution for TFW Policy Committee 4- Establish on-call contracts for a CMER technical arbitration panel 5- Establish on-call statistical assistance contract for CMER	4	2 through 5 are complete or near completion 1 is on track to be completed	Board staff are developing draft mark-up language for Board Manual Section 22. Board staff will present revisions for Board decision in August 2022
Transparency and Accountability	1- Tracking system for life cycle of projects 2- Public facing dashboard	10,11	On track Can be completed with existing resources this biennium	AMP staff have started work on a project tracking system and on introducing cost and schedule metrics for continuous monitoring of projects. DNR requested \$185,000 in a funding decision package as one-time cost for these items. The

				<p>legislature did not provide funds in the 2022 supplemental operating budget.</p> <p>The board approved the use of existing resources to accomplish these tasks at their May 2022 meeting.</p>
Transparency and accountability	Complete biennial fiscal and performance audits of the AMP every two years.	9	Planned	Board and AMP staff will develop recommendations for the board on how to get the audits done on-time and regularly. Options and staff recommendations are being developed and will be presented to the board for decision at their November 2022 meeting.
Transparency and accountability	Peer review science program every five years.	7	Planned	<p>Board staff are developing draft language requiring five- year review for part 6.1 of Board Manual section 22. Draft language will be presented for board decision in August 2022.</p> <p>AMP staff prepared a draft scope of work for the science review.</p> <p>DNR has requested \$280,000 of additional resources to conduct peer review of the science program. The legislature did not provide funding in the 2022 supplemental operating budget.</p>
Decision making process	Onboarding and training for new members.	8	Planned	<p>Board staff are working on a draft for Board Manual section 22 that would require training for new AMP participants.</p> <p>DNR has requested \$140,000 as a one-time cost of creating and implementing on-boarding training for participants in the AMP.</p> <p>The legislature did not provide funding in the 2022 supplemental operating budget.</p>

Since the AMP was created in 2001, 56 projects have been completed. Those finished in the past five years are listed in Table 5 and illustrated in Figures 1 and 2. For more information on earlier projects go to: <https://www.dnr.wa.gov/programs-and-services/forest-practices/forest-practices-habitat-conservation-plan>

Table 5: Completed Reports/Projects during Fiscal Year (2017-2021)

Year	Project Title
FY2017	<ul style="list-style-type: none"> • Extensive Riparian Status and Trends Monitoring – Temperature, Type F/N Westside • Literature Synthesis of the Effects of Forest Practices on Glacial Deep-Seated Landslides and Groundwater Recharge • Literature Synthesis of the Effects of Forest Practices on Non-Glacial Deep-Seated Landslides and Groundwater Recharge
FY2018	<ul style="list-style-type: none"> • Literature Review and Synthesis Related to the Salvage of Fire Damaged Timber • Type N Experimental Buffer Treatment in Hard Rock Lithologies (Phase I)
FY2019	<ul style="list-style-type: none"> • Small Forest Landowner (SFL) Alternate Plan Template Review • Buffer Integrity-Shade Effectiveness Project • Eastside Type F Riparian Effectiveness Monitoring (Bull Trout Overlay (BTO) add-on) • Extensive Riparian Status and Trends Monitoring – Temperature, Type F/S Westside • Westside Type N Buffer Characteristics, Integrity, and Function Project • Van Dyke’s Salamander Project • Type N Experimental Buffer Treatment Amphibian Genetics Project
FY2020	<ul style="list-style-type: none"> • Riparian Hardwood Conversion Study
FY2021	<ul style="list-style-type: none"> • Eastside Modeling Evaluation Project (EMEP) • Wetland Intrinsic Potential Tool (WIP) • Fish/Habitat Detection Using Environmental DNA (eDNA) • Type N Experimental Buffer Treatment in Soft Rock Lithologies • Type N Experimental Buffer Treatment in Hard Rock Lithologies (Phase II)

Figure 1: Completed CMER Research and Monitoring Projects

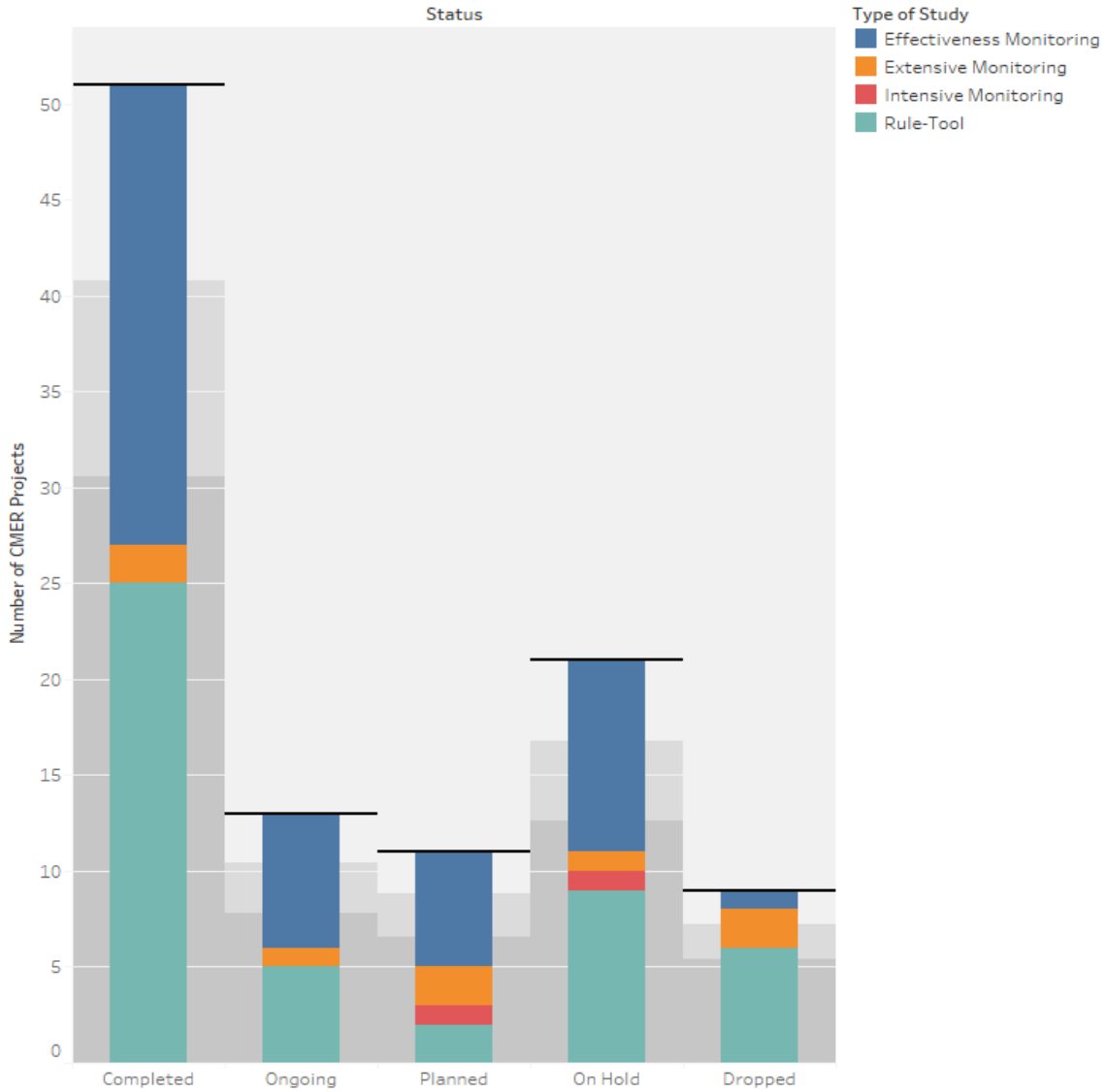
Completed CMER Projects by Rule Group



Project. Color shows details about Rule Group. Size shows distinct count of Rule Group. The marks are labeled by Project. The data is filtered on Status, which keeps Completed.

Figure 2: Projects completed 2001- 2021 Source: 2021-2023 Biennium CMER Work Plan and CMER Project Summary Sheets (2021)

Sheet 2



Count of Sheet1 for each Status. Color shows details about Type.

TFW Policy Committee Activity (2016-2021)

- Type N and Permanent Water Typing System Rules:** In FY2012, the TFW Policy Committee initiated discussions on two priority items: development of a Type N water strategy and development of a strategy for transitioning from the interim water typing system rule to a permanent water typing system rule. Throughout this five-year reporting

period, TFW Policy Committee continued to engage in the work needed to bring these two priority issues to conclusion.

- **Permanent Water Typing System Rule (See Forest Practices Board chapter for more detail):** Several criteria that would be used to identify PHB (needed as part of a FHAM to be used to help determine the F/N break) have been investigated. TFW Policy Committee completed and delivered a [work product](#) to the Board to help inform the criteria and protocols to be used to develop and implement a validation study. The validation study was initiated. A study design for PHB validation was developed by a Board-designated science panel and subsequently approved by ISPR in 2018. Based on recommendation of the Board's Water Typing Subcommittee, in November 2019 the Board recommended that CMER develop a design for a study on potential habitat breaks. ISAG has since submitted to CMER a draft study design. CMER review is expected to be completed in 2022 and the study design will be submitted to ISPR for review and approval before implementation can begin in 2023. Developing a permanent water typing system (and associated Board Manual technical guidance) remained a key focus of the Board during this reporting period. The Board's rulemaking effort is directed at addressing the Forests and Fish Report (FFR) foundational goal for protecting fish habitat. The goal is to reduce reliance on electrofishing to identify the presence of fish and establish an objective dividing point between fish and non-fish habitats. Between 2018 and October 2021, all outstanding issues other than the AFF alternative were resolved (see Board chapter for more detail).
- **Type Np Water Rules (See Forest Practices Board chapter for more detail):** A charter was developed, and a technical Type Np Workgroup formed to develop proposed RMZ buffer prescriptions for Type Np streams in Western Washington for TFW Policy Committee to consider and present in the form of draft rule to the Board. The workgroup has considered all of the findings from the Type N CMER studies as the results from the final reports have become available, including the Buffer Integrity Shade Effectiveness project, Buffer Characteristics, Integrity and Function project, Type N Experimental Buffer Treatment in Hard Rock project and the Type N Experimental Buffer Treatment in Soft Rock project. Relying on final and preliminary results from the studies listed above, the workgroup delivered its final report to TFW Policy Committee in June 2021. At its November 10, 2021, meeting, the Board voted to direct staff to prepare and file a Preproposal Statement of Inquiry (CR-101) related to buffers on Type Np streams.
- **Headwater Stream Buffer Pilot Project:** This scientific study is examining the feasibility of using solar path analyses to define where buffers are needed to protect stream shade. The Washington Forest Protection Association (WFPA) submitted a proposal initiation document requesting approval of its study design to the AMPA. The AMPA 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 AMPA provided recommendations to TFW Policy Committee in May 2020. TFW

Policy Committee accepted the recommendations and asked CMER to review the study design leading to CMER approval. CMER discussed multiple revisions to the study design.

- **Small Forest Landowner Template Subcommittee:** In 2015, the Board received a proposal titled *Alternate Harvest Prescriptions for Small Forest Landowners in Western Washington (Small Forest Landowner Alternate Plan (SFL AP) Template Proposal)*. In February 2015, the Board accepted the SFL AP Template Proposal and directed the AMPA to work with TFW Policy Committee to determine the appropriate track(s), policy or science, to review and determine if the proposed template meets the requirements of an alternate plan. The Board accepted the recommendation to address this proposal through the policy track. At their December 2019 meeting, TFW Policy Committee passed a consensus motion and recommended to the Board that “the (SFL) Alternate Plan (AP) Template proposal in whole does not meet the criteria for a template per the rule standards in WAC 222-12-0403(3) in whole but may in part be a template or other form of prescription with more site-specific criteria.”

At their August 2020 meeting, the Board accepted the TFW Policy Committee recommendation and an additional TFW Policy Committee recommendation to form a policy technical workgroup. The workgroup was tasked to evaluate under what, if any, site-specific conditions a 75-foot and 50-foot buffer, respectively, would be acceptable as a prescription for Type F streams. Additionally, under what, if any, site-specific conditions a 25-foot buffer would be acceptable as a prescription for Type Np streams. Dispute resolution was invoked in TFW Policy Committee based on the findings of this workgroup. Both the informal and formal mediation stages of dispute resolution were completed. The mediator submitted their [final report](#) to TFW Policy Committee in May 2021.

Additionally, TFW Policy Committee also could not agree on whether the proposal provided adequate scientific justification after five years of work in a TFW Policy Committee workgroup and within the full TFW Policy Committee. In September 2020, TFW Policy Committee requested CMER to review and provide answers to the six questions on the adequacy of Washington Farm Forestry Association’s (WFFA) submitted scientific justification. TFW Policy Committee received CMER review package in the form of two separate position papers. A dispute was invoked at TFW Policy Committee on whether to send products back to CMER to receive a consensus CMER product. This dispute was resolved in stage one of dispute resolution at TFW Policy Committee.

The disputing parties are currently drafting a majority/minority report on SFL Alternate Plan (AP) Template Proposal.

- **Unstable Slopes Proposal Initiation:** On February 10, 2016, the Board accepted a proposal initiation (PI) from DNR staff to address issues raised by the Conservation Caucus at the November 10, 2015, Board meeting. The specific components of the PI were focused on concerns raised from the Conservation Caucus regarding the development of Board Manual section 16, “Guidelines for Evaluating Potentially Unstable Slopes and

Landforms.” The proposal contained information required for consideration in the AMP, including recommended tasks that appeared to be necessary to address the PI components. In March 2016, the AMPA provided TFW Policy Committee with recommendations for how TFW Policy Committee could respond to the six elements of the PI. TFW Policy Committee convened an Unstable Slopes PI subgroup to deliberate the issues. Several of the tasks outlined in TFW Policy Committee’s recommended actions have been addressed and informed through three literature reviews of glacial and non-glacial deep seated landslides ([Literature Synthesis of the Effects of Forest Practices on Glacial Deep Seated Landslides and Groundwater Recharge](#), and [Literature Synthesis of the Effects of Forest Practices on Non-glacial Deep Seated Landslides and Groundwater Recharge](#)). Pursuant to the AMPA recommendations, the Upslope Process Scientific Advisory Group (UPSAG) wrote and finalized the Deep-Seated Landslide Strategy which was approved by CMER 2018. The projects that are currently in Study Design Development are: 4.5 Deep-Seated Landslide Mapping Objective and 4.6 Landslide Classification. Future projects are: 4.7 GIS Toolkit Development, 4.8 Groundwater Modeling, 4.9 Physical Modeling, and 4.10 Landslide Monitoring, and 4.4 Board Manual Revision Project (intermittent process pending direction from the Board).

- **Extensive Monitoring Workgroup:** Acting on a request from the Board, a workgroup was formed to develop a systematic approach for considering and prioritizing funding recommendations for extensive monitoring of the findings of CMER research projects. This workgroup developed recommendations for determining when to design extensive monitoring projects for CMER studies nearing completion. A memo was adopted at both CMER and TFW Policy Committee with steps that must be followed for consideration to be given by TFW Policy Committee to approving recommendations for additional funding for a project already on the Master Project Schedule (MPS).
- **Status and Trends Monitoring:** The 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 in AMP research. The workshop was held remotely on January 29, 2021. An extensive status and trends monitoring workgroup is working on a recommendation for TFW Policy Committee to consider further developing this project.
- **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. At the May 2021 TFW Policy Committee meeting, members expressed an interest to meet with other

interested TFW Policy Committee and CMER members to discuss concerns about forest health and fire in RMZ's and attempt to develop a strategy that could be handed down to Eastside Science Advisory Group (SAGE)/CMER for further development. An Eastside Forest Health Strategy workgroup was formed.

Challenges

Some challenges identified in previous reports continue to persist in the program with specific efforts under way to improve efficiency, transparency and accountability.

- **Long-term program funding**

AMP funding for FY2020-2021 was generated from General Fund-State (GF-S), and the Forest and Fish Support Account (FFSA). For this period, 27% of AMP budget was from GF-S with the remaining 73% from the FFSA. FFSA is projected to be exhausted by 2024, therefore, long-term program funding sources are being investigated.

- **Timely Project Completion**

Challenges to the ability of the CMER Committee to complete research and monitoring projects in an efficient and effective manner include the availability of study sites, human resource availability, and caucus commitment.

- **Availability of study sites:**

As previously reported, finding study sites continues to remain a challenge. Program experience shows that it usually takes at least two years to find and gain landowner permission to access study sites meeting selection criteria. This is true of both the complex experimental before-after/control-impact (BACI) studies as well as the simpler extensive status and trends studies. Of particular challenge is getting non-industrial small forest landowners interested in participating in the studies. Evaluating the effectiveness of forest practices rules regulated under the Forest Practices HCP will be difficult without the participation of this landowner group, particularly those in Eastern Washington.

- **Human resource capacity limitations:**

Lack of scientific capacity in AMP to develop and implement study designs affect the timely completion of CMER studies. The capacity of TFW Policy Committee and CMER participants remains finite. Although many projects were continued in FY2017 and significant milestones were met on others, human resource scarcity limited progress on projects. The TFW Policy Committee recognized this, and efforts were made to adjust the Master Schedule for AMP projects and review the lean process at CMER.

Progress has been made and the program now has four CMER staff scientists in addition to four project managers. The majority of staff, however, joined the program in 2021 or later. This complete staff turn-over did affect CMER projects. In the long-term, however, this is significant progress toward alleviating capacity issues in the program.

Finding research partners is a potential alternative to resolving the scientific resource capacity issue; however, deterrents to this include the research and monitoring focus and collaborative nature of the program. For example, the critical research questions and hypotheses addressed in the program are singularly focused on evaluating the forest practices rules. Many potential partners are interested in a broader set of questions and hypotheses. Finally, most potential partners are not able to commit to the lengthy timeframe necessary for collaborating within the consensus decision-making process and associated time it takes to design, implement, and complete a project within this process.

Despite these challenges, the program has managed to add new collaborators which include the University of Idaho, the University of Utah, and private consultants. Efforts continue to focus on forming new research partnerships with other entities.

- **Implementing State Auditor’s Recommendations:**

The SAO conducted a [performance review](#) that was published in January 2021. Implementing all of the SAO Audit Recommendations will improve project planning as well as increase transparency and accountability in the program. Feasibility of implementation, however, varies for each recommendation. Recommendations that are administrative in nature are possible to implement, provided there is adequate funding allocated. Recommendations that would reform the program by changing the structure and decision-making models of the program’s committees would – in most cases – require changes to relevant WACs.

- **Mediated Dispute Process:**

Even though the AMP has now established on-call contracts for resolving disputes at both TFW Policy Committee and CMER, the process of entering and exiting disputes remains cumbersome. Defining the dispute and identifying specific issues at dispute continue to be challenging and time-consuming. Dispute timelines are, therefore, affected. AMP disputes aren’t being resolved within the five-month prescribed timeline.

- **COVID-19:**

COVID-19 delayed progress on several projects during this reporting period.

Trends

Emerging trends from implementation of AMP include:

- **Shifting focus for CMER projects:**

As the AMP continues to change, the priority of projects changes. In earlier years, trends for projects usually focused on rule tools. Now the focus has shifted to effectiveness and extensive status and trends projects. Nearly half of ongoing CMER projects are effectiveness monitoring. TFW Policy Committee has recently also added extensive monitoring to the master project schedule.

Results from these types of projects will inform if forest practices rules are effectively protecting natural resources or if changes are necessary and recommendations made to the Board. Since these types of projects tend to look at treatment effects, they typically take several years to complete and identify adequate trends for analysis. Completion of projects identified in the CWA assurances have also become a top priority.

- **Increased Dispute Resolution:**

The SAO report recommended more frequent use of dispute resolution. The auditors recognized dispute resolution as a tool to break impasse and move projects forward in the AMP process. As a result of this recommendation, the number of disputes have increased significantly in the program. At the time of reporting, TFW Policy Committee has either concluded or is in the process of concluding at least six disputes. CMER concluded one dispute utilizing technical arbitration.

The implementation of all SAO recommendations is expected to reduce the number of disputes in the program. The program now has an on-call dispute contract. This means that parties can enter dispute without delay and have qualified mediators available to guide the process.

- **Clarifying CMER and TFW Policy Committee Roles:** A tendency has developed over time for TFW Policy Committee issues to be vetted at CMER. This presents a difficulty when CMER's charge is to advance science unencumbered by TFW Policy Committee to help inform Board decisions. A tendency to carry out science at TFW Policy Committee is also occasionally noticed.

Future Direction

- **Funding:** The State will work toward establishing a permanent long-term funding source for the AMP as well as work with the legislature to continue to fully fund the AMP in the near term.
- **Timely Project Completion:** The AMP is currently reforming project management processes and introducing new tools. These include the development of a public-facing dashboard providing information, data and metrics on project progress, budgets and results. Additionally, work is underway to develop collaboration spaces and project management tools that aid better planning and implementation. A budget module is also expected to aid project planning and accurate expenditure reporting. These efforts are expected to improve the timelines of implementing AMP projects while at the same time providing more transparency and ensuring accountability across the program.
- **Type N Water Rules:** The 2018 CMER Type N Experimental Buffer Treatment Project on Hard Rock Lithologies (Phase 1) (Hard Rock) study demonstrated a slight temperature increase in Type Np waters flowing through forests managed under current forest practices riparian management zone (RMZ) buffers. In May 2019, the Board accepted TFW Policy Committee's recommendation that action was warranted as a result of these findings. It

also approved TFW Policy Committee’s proposal for developing Type Np RMZ buffer alternatives for inclusion in a new or revised rule, including formation of a Technical Type Np Prescriptions Workgroup to advise and assist TFW Policy Committee in this effort. The 2019 action plan recognized that additional CMER Type Np studies needed to be completed to compliment the Hard Rock study and better inform a Type Np buffer rulemaking proposal. Since then, the additional Type N studies have also been completed and delivered to TFW Policy Committee as part of a CMER findings package.

- **Implementation of SAO recommendations:** In January 2021, SAO completed a performance audit of AMP. The audit provided 13 recommendations for improving program performance. The report referred 11 of these recommendations to the Board. In May 2021, the Board approved staff-suggested relative priorities among the recommendations in the form of a response plan (see Table 2, 3, and 4). The AMP staff are working to implement these recommendations.

Small Forest Landowners

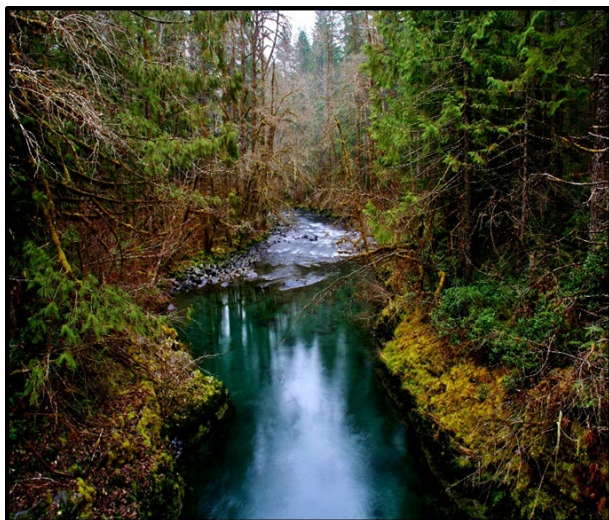


Small Forest Landowner Office

The first 15 years of Forest Practices HCP implementation, the SFLO has demonstrated many productive and successful accomplishments. These successes and accomplishments (along with the challenges and opportunities) are described in this chapter. The chapter also includes the identification of additional work and resources necessary to fulfill the SFLO legislative objectives.

Forestry Riparian Easement Program (FREP)

FREP compensates eligible small forest landowners for rule-required retention of trees in the riparian area and adjacent unstable slopes in exchange for a 50-year conservation easement on those lands containing qualifying timber.



Accomplishments in the Past five Years

Table 6 shows that at the beginning of this reporting period, there were 136 eligible small forest landowners on the FREP waiting list. These landowners had to wait five to seven years before funding was available for them to be compensated. Over the past five years, the FREP Program has been able to reduce the waiting list to 110 landowners and are continuing to try to shorten the waiting time.

Cumulative FREP Program Data since Program Initiation, 2003

Table 6 shows since 2003, FREP acquired 435 conservation easements protecting riparian areas and adjacent unstable slopes. There are currently 110 eligible landowners on the waiting list to be compensated.

Table 6: Easement Application Numbers by Fiscal Year

State of WA, Dept. of Natural Resources Forest Practices Division													Small Forest Landowner Office Forestry Riparian Easement Program
Easement Application Numbers by Fiscal Year													
	FY 2001-2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	Totals
Queue Balance at Start of Fiscal Year	-	95	85	102	113	134	127	136	124	157	136	125	-
Applications Received	406	13	20	26	34	24	21	29	36	28	8	18	663
Easements Purchased	278	12	0	13	6	19	9	30	0	34	13	21	435
Applications Ineligible / Rejected	33	11	3	2	7	12	3	11	3	15	6	12	118
Queue Balance at End of Fiscal Year	95	85	102	113	134	127	136	124	157	136	125	110	-
Conservation Acres Purchased	4,793	148	0	110	122	166	133	396	0	231	127	225	6,451

Trends since the beginning of the Program

Lack of sufficient funding has been the primary challenge for the SFLO programs. However, during the past five years, funding has improved and with that funding increase, program adjustments are being made and easements are being purchased.

Table 7 shows the FREP funding through the state Capital Budget since the beginning of the program. In 2009, when state budget cuts affected every agency as a result of the Great Recession, the average biennial funding decreased to \$1.87 million (prior to that the average had been \$6.55M). In the years 2016 to 2020, FREP average biennial funding increased to \$3.5 million.

Table 7: 2003-2022 FREP Funding Received

\$1,200,000	2002-2003 Biennium
\$3,300,000	2003-2005 Biennium
\$8,000,000	2005-2007 Biennium
\$9,900,000	2007-2009 Biennium
\$900,000	2009-2011 Biennium
\$1,000,000	2011-2013 Biennium
\$2,000,000	2013-2015 Biennium
\$3,500,000	2015-2017 Biennium
\$3,500,000	2017-2019 Biennium
\$3,500,000	2019-2021 Biennium
\$11,600,000	2021-2023 Biennium
\$48,400,000	Total

Future Goals

The future goal of the FREP program is to identify and solve systemic challenges in implementing an increased number of projects and position the program for increased legislative funding to compensate all of the small forest landowners on the waiting list for all future biennia.

Family Forest Fish Passage Program (FFFPP)



Before



After

FFFPP was established by the state Legislature in 2003, (RCW 76.13.150) and was part of the broader Forests and Fish law. This program was designed to mitigate the costs necessary to correct barriers to fish passage resulting from undersized or damaged road crossings in order to restore access to upstream habitat. FFFPP was designed as a cost-share program to reduce the regulatory and economic burdens on small forest landowners to correct fish passage barriers caused by road crossing structures installed prior to 2003.

FFFPP is a voluntary, opt-in program. SFLOs have the option to apply to the program when they submit RMAP checklists with an FPA. They can also opt in any time by contacting the SFLO. Once enrolled in FFFPP, a landowner is not obligated to correct a fish passage barrier until:

- funding is made available through the state, and
- higher priority barriers within the same watershed have been corrected (or funded).

Landowners who do not opt-in to FFFPP are obligated to correct fish passage barriers (as required by Forest Practices Rules) when they apply for an FPA and carry out approved forest practices.

Family Forest Fish Passage Accomplishments in the Past Five Years

In the past five years, funding for FFFPP has remained stable at \$5 million per biennium. This allotment has allowed the program to fix an average of 26 projects per biennium since 2016.

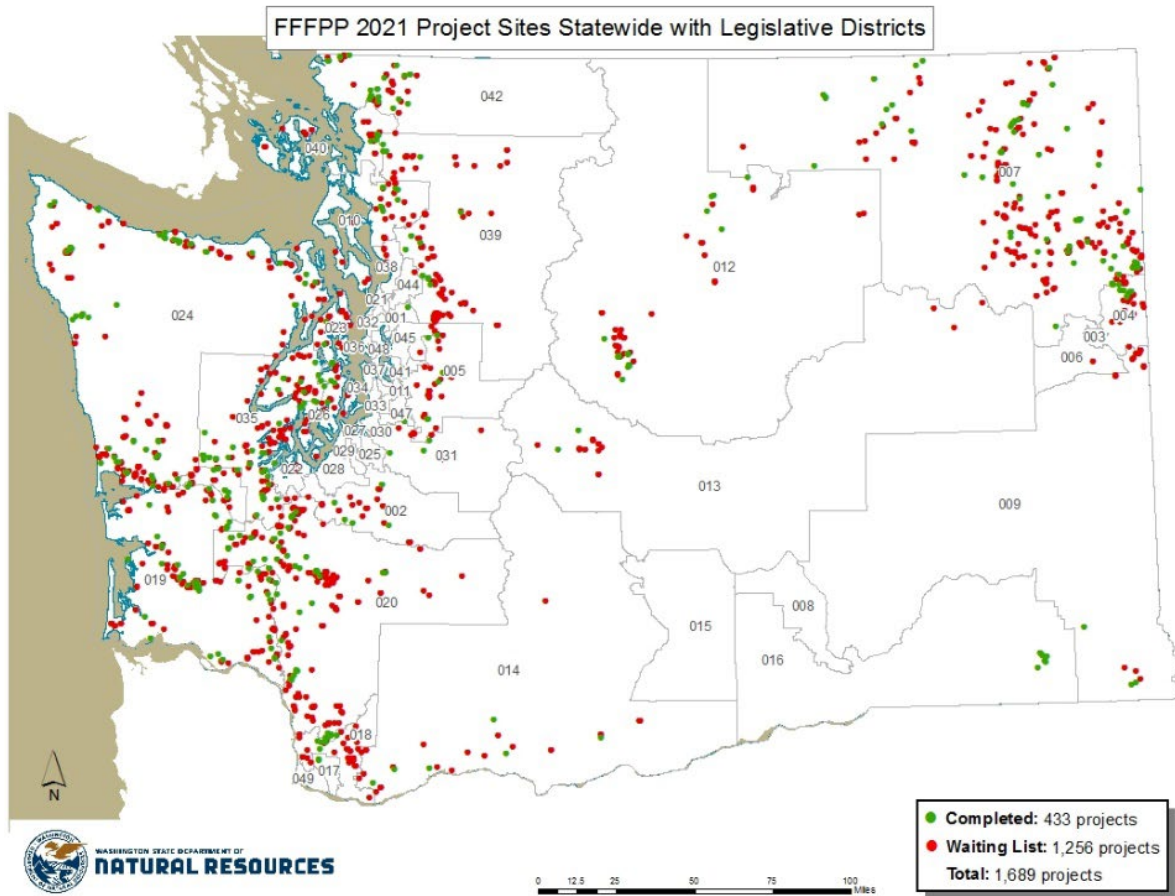
Table 8 shows as of June 30, 2021, small forest landowners had used FFFPP to correct 433 barriers that collectively restored 1,149 miles of habitat. Since 2003 FFFPP has corrected 424

barriers and restored access to 1,099 miles of habitat. On average, about 23 projects have been completed per year over the past 18 years.

Table 8: 2003-2021 FFFPP Project Summary, cumulative FREP Program Data since Program Initiation, 2003

Summary	Totals
Eligible Applications	1233
Eligible Fish Barriers	1256
Barriers Corrected - 2021	433
Miles Opened	1149
Average Cost per Site During This Time Period	\$106,236
Average Miles Per Project	2.66
Barriers Yet to Fix.	1256

Figure 3: FFFPP 2021 Project Sites Statewide with Legislative Districts



Program Trends

Table 9 shows that since 2003, funding for the FFFPP has remained somewhat stable. However, systemic challenges in implementing an increased number of projects and the funding level appropriated by the Legislature has been limiting the number of corrections accomplished. The state’s accumulated funding obligation is approximately \$186 million, based on an average cost of about \$148,000 per barrier correction project. Using an estimated average of 25 projects completed per year, it could take more than fifty years to correct the barriers that are presently awaiting funding.

Table 9: 2003-2022 Funding Received

\$2,000,000	2003-05 Biennium
\$4,000,000	2005-07 Biennium
\$6,000,000	2007-2009 Biennium
\$5,500,000	2009-2011 Biennium
\$2,000,000	2011-2013 Biennium
\$10,000,000	Jobs Bill 2012-2014
\$2,000,000	2013-2015 Biennium
\$5,000,000	2015-2017 Biennium
\$5,000,000	2017-2019 Biennium
\$5,000,000	2019-2021 Biennium
\$1,100,000	2022 (1 year)
\$47,600,000	Total

Challenges and Opportunities

Empirical data indicates that a substantial number of barriers exist today on lands owned by small forest landowners, however, currently the state does not have research data to substantiate that. In FFFPP alone, 1,256 barriers have been identified, enrolled and are awaiting funding to become available. GIS data showing the intersection of small forest landowner land parcel boundaries, the stream network and the forest road network indicates the possibility that there are many more barriers not yet identified.

In 2019, the University of Washington estimated that between 25,000 and 45,000 small forest landowners submitted FPAs during the prior ten years (9 to 17% of the total number of small forest landowners), and that the same numbers were expected during the subsequent decade. Only a portion of the small forest landowner land base is subject to the forest practices regulatory review when processing an FPA.

Some individual landowners submit multiple FPAs, and landowners who submit FPAs are likely to own relatively large parcels compared to the average, these statistics show that only a fraction of the statewide 2.88-million-acre collective small forest landowner forest base has been the subject of forest practices regulatory review that could reveal fish passage barriers or other road-related issues.

Future Goals

DNR, WDFW and the Recreation and Conservation Office will determine what is needed to expand the capacity of the FFFPP in order to increase the frequency and number of barrier repairs completed annually. The state would first ensure there is adequate agency program support, governance and staffing, and contracted services such as engineers, project sponsors,

and contractors, before securing the additional fiscal resources (from the legislature). It is expected that substantial new funding (millions of dollars per year) will be necessary for agency personnel and contracted services and for the projects themselves.

Rivers and Habitat Open Space Program (RHOSP)



RHOSP is available to eligible Washington state landowners who would like to sell a permanent forestland conservation easement to the state.

Two types of land are eligible for the program: 1) critical forestland habitat for state-listed threatened or endangered species (Critical Habitat), and 2) a specific type of river habitat called unconfined channel migration zones (CMZ), which are islands of timber within a river channel that is actively shifting.

Program Accomplishments Over the Past Five years

Over the Past five years, the RHOSP received \$1 million per biennium, and was able to purchase six permanent conservation easements for critical forestland habitat for state listed threatened and endangered species and channel migration zones. A total of 223.5 acres were purchased with this allotment.

Table 10 shows that since 2002, when funding first became available for the RHOSP, the program has protected 1,291 acres of important habitat and channel migration zones through the implementation of 23 conservation easements.

Table 10: R&HOSP Funding

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
FY 21-23**	0	0	0	0	0
Total	\$10,200,000	\$7,500,000	23	1,146.5	144

*FY13-15 was the first biennium in which funding was allocated for Critical Habitat.

** RHOSP easements will be purchased in the second half of the FY 21-23 biennium.

Program Trends

The funding for the Rivers and Habitat Open Space program has fluctuated from no funding in FY2011-13 to its highest level of funding of \$2,200,000 in FY2007-09. For the past three biennia, the allotment for the Program has remained stable at around \$1 million per biennium.

Small Forest Landowner Office Outreach Efforts



The Small Forest Landowner Office defines outreach as communication between the program and the public to establish and foster a mutual understanding, promote public involvement, and influence action with the goal of serving as a resource and focal point for small forest landowners' concerns and policies.

Accomplishments the Past five years

In the most recent 5-year timeframe, the SFLO expanded its outreach personnel by hiring a permanent community outreach and environmental education specialist. Some of the expectations for this position are to:

- Determine how the Small Forest Landowner Office influences small forest landowners and the people in Washington state,
- Develop educational materials with clear and concise messages for internal and external partners as well as the general public,
- Develop or enhance outreach and communication tools to reach the public,
- Work with partners to ensure consistent messages are being delivered to the public regarding the SFLO and DNR Forest Resiliency Division programs.

Challenges and Opportunities

One of the biggest challenges is connecting with the 218,000 small forest landowners across the state. Most of these landowners live in rural communities where there is poor access to information sharing. Additionally, the average age of small forest landowners in Washington is between 62 and 65 years. A large number of these landowners may not use or have access to the latest electronic or social media opportunities to gather information.

In 2019, the School of Environmental and Forest Sciences at the University of Washington published a report, titled “[*Washington’s Small Forest Landowners in 2020 Status, Trends, and Recommendations After 20 Years of Forests and Fish*](#)” (hereafter referred to as the UW report). The UW report includes updated small forest landowner demographic data, trend and policy analyses, and recommendations to improve mitigation measures for small forest landowners and improve retention of working forestland held by small forest landowners.

Future Goals

The UW report showed that one of the main concerns of small forest landowners is their concern about future ownership (i.e., lack of a willing heir and development concerns). The Report showed that these landowners are more likely to have their forests converted from forestry and open space land uses to agriculture, housing and development uses, depending on the land’s location.

The UW report and stakeholder groups have indicated that one of the prevailing desires of small forest landowners is education in terms of forest health and regulation. Landowner survey results included in the UW [report](#) showed that:

“...small forest landowners who are interested in learning more about the care, management, or protection of their forestlands tend to also believe that the public benefits their forests provide are important and overwhelmingly want to keep their forest land forested.”

Assistance for small forest landowners who want to learn about the care, management, or protection of their lands enables owners who are motivated to keep their lands forested into the future. Although some landowners who need assistance receive it, many who are interested have not yet received this assistance.

Timely, reliable, and consistent information data about small forest landowners and their lands is important to many entities. Stable financial support for ongoing data collection and research collaborations is needed to provide a continued source of policy relevant SFLO data and research, which requires current demographic and socioeconomic data as the basis to understand key aspects of concern about the small forest landowner population. A future goal for the SFLO is to recommend the legislature provide funding to the University of Washington every four years to update the small forest landowner forestland database, conduct relevant surveys and collect other data as needed. Funding and work needs to be timed so that the results are available to facilitate the SFLO's work and timely completion of future iterations of the [Small Forest Landowner Demographic Report](#) (next due on December 1, 2024).

Small Forest Landowner Roads Assessment Program



In 2018, DNR, Ecology, WFFA and representatives from interested Western Washington tribes collaborated to develop an online small forest landowner demographic and road survey. This included an associated road field assessment process and form to develop sufficient information to characterize the condition of small forest landowner roads and prepare the summary report to satisfy a Clean Water Act milestone.

The parties agreed to devote personnel to conduct voluntary on-site road inventories requested by small forest landowners. They also agreed to distribute information about this service through their outreach methods. DNR's Small Forest Landowner Regulation Assistance Program staff (which consisted of one field position at the time) would play a central role in conducting the voluntary road assessments, supplemented by other stakeholder groups and

from DNR forest practices foresters when appropriate and agreeable to the individual landowner.

The group established a goal to have forest roads on 200 properties assessed. Specific target numbers within the 200 would be allocated among ownership size classes proportional to the number of small forest owners in each class.

Results

The online survey and outreach to landowners was conducted in 2019, and road assessments that were requested by interested small forest landowners began at that time. As of June 30, 2021, 121 road assessments had been requested. Sixteen landowners were removed from the list due to factors such as property sale/transfer, non-forestland use, no longer interested, or safety concerns. There are now 156 landowners who volunteered to have their roads assessed and 121 had been completed to date (86%) covering 7,486 miles over almost every county in the state that contains forestland. The acreage distribution of the completed road assessments is shown in Table 11. These assessments are intended to help determine if there are concerns with forest roads owned by small forest landowners complying with applicable forest practices rules.

General observations from the regulation assistance forester who performed most of the assessments to-date are as follows:

- Roads are typically well-maintained with very low sediment delivery potential.
- In Western Washington, rock surfacing is typical; stream crossings are generally avoided, and road cross drains are typically lacking unless the roads are under professional management.
- In Eastern Washington, rock surfacing is very rare. Cross drains are also uncommon due to drier road conditions and other more suitable methods of drainage; when relief culverts are present, they are usually undersized. Overall, potential sediment delivery has been observed to be almost non-existent. This is because most roads tend to be drier in the Eastern Washington climate, stream crossings are infrequent, and under-utilized roads tend to be covered by vegetation.

Table 11: Acreage Distribution of Road Assessments

Acreage Category	Number of Assessments
0-6 acres	1
6-20 acres	29
21-39 acres	19

40-100 acres	31
>100 acres	41
TOTAL	121

Challenges and Opportunities

Currently, road assessments primarily occur during on-site meetings with a forester, requested by a small forest landowner for a different reason, such as an alternate plan.

Future Goals for the Small Forest Landowner Roads Assessment Program

The original purpose (2018) of the small forest landowner voluntary road assessment project was to help support a summary report necessary to meet the CWA milestone. At least 79 additional assessments are needed to have an adequate representation of the small forest landowner community.

Additionally, one objective is to prioritize completion of the voluntary Roads Assessment Program and collaborate with Ecology, WFFA, Tribes and others to prepare the CWA milestone summary report prior to June 30, 2023.

2016 and 2020 Small Forest Landowner Demographic Reports



RCW 76.13.110 requires the SFLO to provide a report to the Board and the Legislature every four years containing answers to questions asking for:

- Estimates of small forest landowner acreage divided into specific size class groupings
- The number of small forest landowners who own the land in each specific size class groupings

- The number of parcels of land held by small forest landowner in contiguous ownerships of 20 acres or less, including the percentage of improvements on those 20-acre parcels by improvement type
- The Watershed Administrative Units (WAU) in which a significant portion of land is owned by small forest landowners, and
- The number of Forest Practices Applications filed per year by small forest landowners.

In order to answer these legislative questions, a Washington State Forestland Database was created in 2007, using county parcel data. The dataset is used to provide a comprehensive platform to understand the spatial characteristics of all private forestland ownership in Washington state, including small forest landowners.

The 2007 Washington State Forestland Database was used to gather summary statistics for small forest landowners that were required in the 2016 Small Forest Landowner Demographic Report. In 2019, the School of Environmental and Forest Sciences within the College of the Environment at the University of Washington in Seattle updated the 2007 Washington State Forestland Database. Summary statistics for the [2020 Small Forest Landowner Demographic Report](#) were obtained from the 2019 Washington State Forestland Database.

Some results from the 2020 Forest Landowner Demographic Report show:

- Small forest landowners own approximately 2.88 million forested acres in Washington. The acreage is fairly evenly divided between the western and eastern portions of the state:
 - 1.46 million acres in Western Washington, and
 - 1.42 million acres in Eastern Washington
- The average small forest landowner is between 62 and 65 years old and has an average annual income of \$105k-\$125k.
- About 14% of small forest landowners anticipate selling some forest land in the next five years.
- About one in five small forest landowners submit a Forest Practices Application in a 20-year period (between 42,000 and 69,000).
- There are approximately 161,805 individual parcels of forestland of 20 acres or less in size statewide.

The Washington State Legislature's 2020 Engrossed Senate Bill (ESB) 5330 tasked the University of Washington School of Environmental and Forest Sciences with answering a set of questions regarding Washington's small forest landowners and their lands. Specifically, the questions address the current state, trends, regulatory impacts, state policies and programs, and provides recommendations to help encourage "continued management of nonindustrial forests for forestry uses, including traditional timber harvest uses, open space uses, or as a part of developing carbon market" (ESB 5330, p. 4).

ESB 5330 asked a specific set of questions that provided responses also useful in the broader understanding of the small forest landowner population and their lands. With these answers we seek a better understanding of how the state can engage in efficient and cost-effective actions to support small forest landowners and their stewardship of forested lands. Based on three probability-based surveys, the University of Washington provided in-depth and generalized characterizations small forest landowners and their land.

A Selection of Survey Results

- The four highest ranked aspects of forest ownership were:
 - 1) Nature and aesthetics,
 - 2) Recreation; non-timber forest products, and hunting,
 - 3) Family and privacy, and
 - 4) Income, investment, and heirs.
- Small forest landowners who have a sole focus on income and investment from their forests constitute a minority of ownerships, but they own disproportionately more of the state's small forestland.
- The most effective measures that can be taken to help reduce land conversion include additional, secure resources for outreach, education, and technical assistance for small forest landowners.
- Top concerns of small forest landowners are property taxes, wildfire, and local development.
- Small forest landowners who feel more challenged by future ownership concerns (lack of a willing heir and potential development concerns) are more likely to convert their land away from forestry and open space land uses.
- Forest Practices Rules rank as the lowest concern among small forest landowners.
- Many small forest landowners first encounter the Forest Practices Rules when they have a family or financial reason to conduct a harvest.

The University of Washington also developed an integrated Washington State Parcel and Forestland Database using the 2007 and 2019 data, and summarized changes in forested parcels by owner class, size class in acres, and land use class between 2007 and 2019.

Some of these changes were:

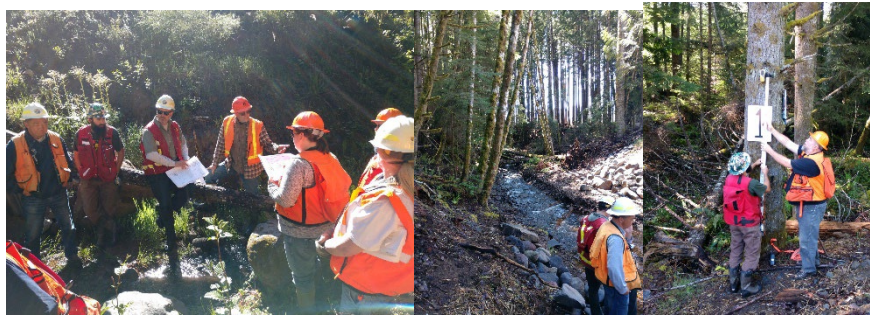
- The total estimated forest area owned by small forest landowners declined from 2.99 million acres in 2007 to 2.88 million acres in 2019 (3.7%).
- The total area of forestland in Washington state (all ownerships) was estimated to have declined by about 394,000 acres (2%) between 2007 and 2019.
- The number of small forest landowners increased from 201,000 in 2007 to 218,480 (an increase of 17,480 and 8.5%) in 2019. Numbers increased across all acreage size classes, with the largest increase observed in the 20–100-acre class.

The University of Washington then offered a more detailed synthesis of several recommendations. These recommendations are put in terms of the actions that may help keep small forest landowner lands in forestry or open space uses. Those recommendations were:

- Secure funding for the DNR's Small Forest Landowner Office and other services for small forest landowners,
- Promote the Designated Forest Land Tax Program,
- Fund the Family Forest Fish Passage Program,
- Support information needs for better small forest landowner policies and programs,
- Fund the Forest Riparian Easement Program,
- Pilot a Reverse-Auction Conservation Easement Program,
- Support programs for small forest landowner peer-to-peer connections,
- Set priorities for potential small forest landowner carbon payment programs,
- Support transfer of Development Rights Markets.

Forest Practices Training

Training is a key element to successful implementation of and compliance with the Forest Practices Rules. DNR conducts ongoing training to educate internal staff, forest landowners, and individuals from the TFW community on rule implementation. The Forest Practices Training Program also provides subject-based training, region staff trainings, and regular outreach opportunities to further develop awareness of scientific concepts and forestry practices that support Forest Practices Rules.



2019 Forest Practices Hydraulic Projects Training (FPHP)

Trends

The primary trends seen in the training program for the past 15 years continue to be resilience from budget cuts and staff turnover and statewide program teamwork. The first 10 years of the reporting period were impacted by budget induced periodic (and temporary) elimination of a training manager (2009-2011 and 2014-2015). However, the most recent five years was characterized by a year of budget constraints (2020) and two years of significant program impact from a global pandemic and the governor’s resultant stay-at-home order (2020-2021). These circumstances affected the number and type of trainings offered to staff and TFW partners. There is a continued focus on results from compliance monitoring and internal reviews to inform the training needs of internal staff and then pivot, where appropriate, to provide this same training to our TFW partners. The training program is continuing to move forward with adapting to on-line training formats and platforms as funding and time allows.

Accomplishments

Once the training manager position was funded and filled in 2016, a multi-year effort was initiated to reestablish core classes that are promoted and provided on a regular and predictable schedule. Additionally, there is an effort to reduce the backlog of students needing or wanting the offered trainings. The multi-year effort was completed in FY2019 when the training calendar provided all forest practices core classes.

Core classes include:

- Unstable Slopes;
- Channel Migration Zones;
- Wetlands; and
- Forest Practices Enforcement and Brief Adjudicative Proceedings.

Other classes provided annually include compliance monitoring and a training module presented in collaboration with the Washington Contract Loggers Association, Inc. (WCLA). Overall, the Forest Practices Training Program focuses on core Forest Practices Rules such as water typing, riparian management zones, wetland management zones, and unstable slopes, and forest practices hydraulic projects, as well as insight on the correct forms to use and how to fill them out, cultural resources, and small forest landowner programs.

The program also focused on adding new classes, improving class content for established classes and providing classes in a variety of mediums to increase class access for students. The training program added camera equipment and editing software to facilitate translating in-person training materials to online formats to help expand class access for statewide stakeholder students. Training sessions started being recorded in new presentation styles, including but not limited to webcasts, video lecture, and fully interactive online courses, some of which include in-person field site components that provide experiential learning opportunities.

In 2019, forest practices hydraulic projects and avalanche hazard awareness training were added as new class offerings and in FY2020 and 2021, the program developed and delivered new alternate plan training, date of receipt, and water typing training for DNR forest practices staff, after which regions provided the training at TFW meetings. Date of receipt training displayed new programmatic guidance adopted in March 2020 and was offered in FY2020. Alternate plan training was provided in FY2021.

COVID-19 Pandemic

The COVID-19 pandemic and the governor's stay-at-home order affected the Forest Practices Training Program beginning March 2020. All the formalized offerings in the spring of 2020 were canceled in response to pandemic protocols. The training program used the acquired time to revise and develop new and existing trainings in preparation for when a formal schedule of trainings may be offered again. Prior to the statewide pandemic closure, Forest Practices in-person core classes were offered July – December 2019 to DNR staff. By the end of 2020 the program had adapted to the new work environment realities by focusing on virtual and web-based learning for classroom portions of training, and incorporated DNR pandemic safety protocols for essential in-person field-based sessions.

Course Participation Summary

Additional Division and Region Training

FY2017

In FY2017 the program trained a total of 548 students. In addition, Forest Practices Division and region staff provided single presentations on the following subjects: hydraulic projects, water typing and water type modification forms, Forest Practices Risk Assessment Mapping (FPRAM), the State Environmental Policy Act (SEPA), enforcement documents, bankfull width and how it relates to water typing, archaeological and historical protection, channel migration zones, compliance monitoring results, road maintenance plans, and alternate plans. Other training included informal meetings where technical or scientific information was presented to keep field practitioners informed about recent findings.

FY2018

In FY2018, the program trained a total of 241 students. In addition to these trainings, Forest Practices Division and region staff provided single presentations on the subjects of: Hydraulic Project Checklist, water typing, FPRAM, SEPA, and held informal meetings where technical or scientific information was presented to keep field practitioners informed about recent findings.

FY2019

In FY2019, the program trained a total of 351 students. In addition to these trainings, Forest Practices Division and region staff provided single presentations on the subjects of SEPA, the water type modification forms, cultural resource management, culvert removal, road maintenance plans, alternate plans, and held informal meetings where technical or scientific information is presented to keep field practitioners informed about recent findings.

FY2020 (COVID -19, Fall Only)

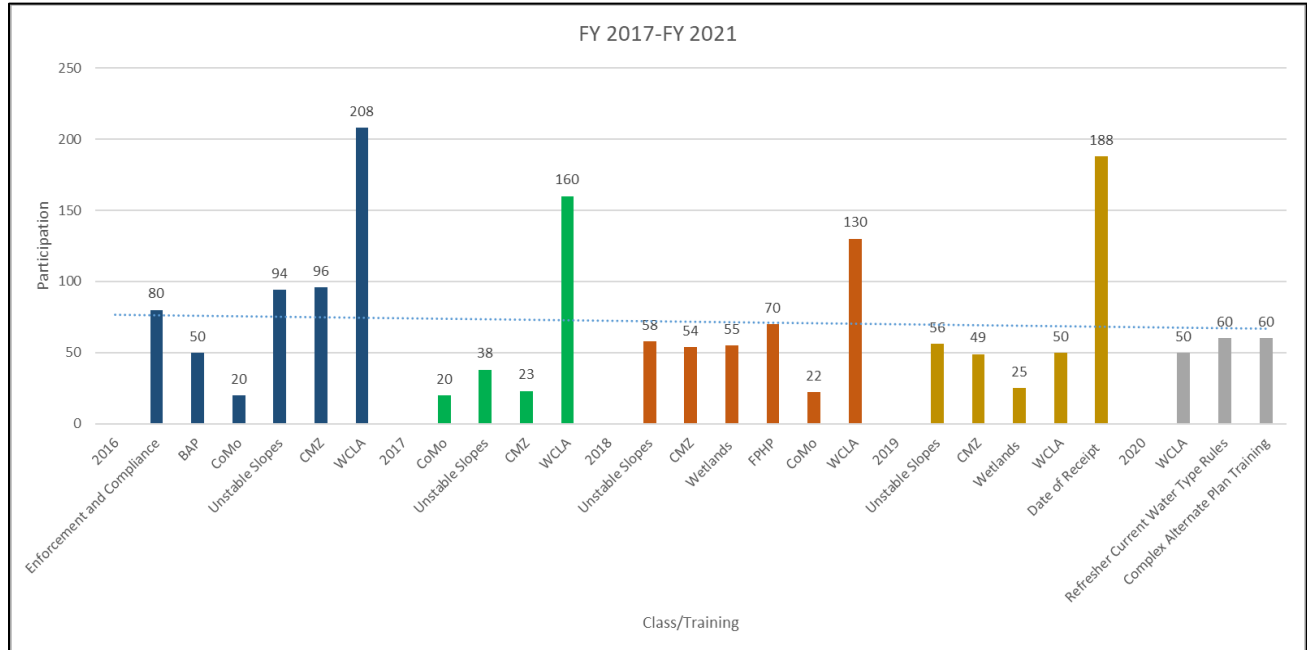
In FY 2020 the training program trained a total of 368 students. Forest Practices Division staff provided training for unstable slopes, wetlands, channel migration zones, and WCLA. Additionally, region staff provided date-of receipt trainings during the reporting period to 188 students.

FY 2021

In FY2021 the program trained a total of 170 students. Forest Practices Division and the regions provided training on complex alternate plans and the water type modification form, as well as a bi-weekly Forest Practices statute (RCW)/rule (WAC) seminar. In addition to these trainings, the regions provided presentations on the subjects of fish passage assessment, hydraulic structure selection: bridge vs. culvert, LiDAR for identifying deep-seated landslides, and water typing.

Single and multi-day training accomplished for the past five years is summarized in Figure 4 below.

Figure 4: Total number of Students/Class FY 2017-2021



2018 Wetland Training, Shelton, WA

Challenges

The Forest Practices Training Program was constrained in FY2020 by budget reductions that resulted in the cancellation of some in-person training sessions that would have required expenditures for travel. To address the budget constraints, some but not all in-person training events were converted to online formats. From March 2020 until March 2022, training program delivery was also constrained by pandemic response protocols. These challenges

were met by reducing the types and numbers of training events and converting delivery formats to online and limiting the group size for field sessions to levels consistent with pandemic response protocols.

Future Goals

- Re-establish the annual training schedule
- Update existing course content where applicable
- Eliminate student backlogs on critical courses
- Develop higher level courses on critical topics
- Develop online and distance learning opportunities
- Revise and update the Forest Practices Illustrated publication

Fire season and loss of staff in Northeast Region led the program to develop targeted training focused on eastside-specific considerations related to unstable slopes, channel migration zones, and wetlands. As the program moves out of the budget and pandemic constraints of the past few years, emphasis will be put on addressing its training backlog with new landowner and stakeholder staff.

Compliance Monitoring Program



The Compliance Monitoring Program (CMP) is a key component of Forest Practices HCP implementation. Compliance monitoring provides feedback on how well operators and landowners are following with the Forest Practices Rules when conducting forest practices activities. The information gained through the CMP (as

well as from the daily efforts of onsite region forest practices foresters) provides critical feedback to the Forest Practices Program about where to focus training efforts and where improvements may be needed in Forest Practices Application review, compliance, or enforcement and where rule clarification or Board Manual revisions might be warranted.

This report summarizes the results from the past five years (2016-2021) of compliance monitoring (See Table 12). For additional information see the five-year and 10-year Forest Practices HCP reports and each annual report at the [Forest Practices Habitat Conservation Plan](#) website.

Accomplishments

Table 12: Notable accomplishments from July 1, 2016 - June 30, 2021, include:

Year	Accomplishment
2017	<ul style="list-style-type: none"> Conducted a pilot study for unstable slopes. Conducted the first Eastern Washington Inner Zone Harvest analysis. CMP submitted the 2014-2015 CMP biennial report, for independent ISPR of the University of Washington and the Cooperative Monitoring, Evaluation and Research Committee*. Conducted Forest Practices Hydraulic Project pilot study
2018-2019	<ul style="list-style-type: none"> The ISPR team determined that the then current statistical approach regarding the sampling procedure and construction of the ratio estimator for compliance was generally sound. The review team recommended that a more thorough Appendix A, containing the technical details of the sample selection procedure, be included in the biennial report. The review team also recommended that a “jackknifed”** form of the ratio estimator be incorporated into data analysis. By using a jackknifed form of the ratio estimator, bias may be reduced yielding a more accurate variance estimate. The jackknifed ratio estimator was incorporated into the data analysis for the 2016-17 Biennial Compliance Report, and all subsequent Compliance Monitoring biennial reports.
2019	<ul style="list-style-type: none"> An unstable slopes study was conducted. Findings from the 2017 unstable slopes pilot study were incorporated into the unstable slopes sample.

	<ul style="list-style-type: none"> ○ CMP used knowledge gained from the pilot to update compliance questions and their corresponding data collection protocols with the purpose of reducing confusion and improving data accuracy.
2020	<ul style="list-style-type: none"> ● The CMP responded to the COVID-19 pandemic by adopting safety measures to ensure data collection for the standard sample could continue in a safe and effective manner. <ul style="list-style-type: none"> ○ Due to the COVID-19 pandemic, no periodic sampling was conducted during the 2020 field season.
2021	<ul style="list-style-type: none"> ● The CMP developed a study design, and field data collection protocols for an Aerial Chemical Spray pilot study to be commenced in 2022.

* The program’s goal for submittal of the report and methodology for peer review was a strengthening of the overall statistical validity of the CMP monitoring methodology and results.

** With the jackknifed ratio estimator, the variance of the estimator is obtained directly from the sample by means of sample splitting. (Frost, Peter A. and H. Tamura. “Jackknifed Ratio Estimation in Statistical Auditing.” *Journal of Accounting Research* 20 (1982): 103-120.

Results

Prescriptions Described

Table 13 lists and briefly describes the standard riparian prescriptions sampled for compliance monitoring.

Table 13: Riparian Prescriptions with Water Type and Description

Prescription	Water Type	Brief Description of Prescription Activity
No Inner Zone Harvest RMZ (NIZH)	Fish bearing	Harvest in the outer zone only
Desired Future Condition (DFC) Option 1 Harvest (DFC1)	Fish bearing	Harvest in the outer zone and thinning from below in the inner zone
DFC Option 2 Harvest (DFC2)	Fish bearing	Harvest in the outer zone and harvest of a portion of the inner zone
Type Np	Non-fish bearing	No harvest, partial cut harvest, and/or equipment limitations in the RMZ
Type Ns	Non-fish bearing	Equipment limitations in the RMZ
Type A Wetlands	Wetland	Required leave trees in the RMZ
Type B Wetlands	Wetland	Required leave trees in the RMZ
Forested Wetlands	Wetland	Equipment limitations in the WMZ

Standard Riparian and Road Prescription Results

Table 14 provides the compliance results for the nine CMP standard rule prescriptions, arranged by reporting biennia. The estimates of compliance in Table 14 show that standard

riparian and road rules compliance rates are consistently near or above the DNR’s stated goal of 90 percent compliance.

Table 14: Prescription Compliance Rates by Reporting Biennia

Biennium	No Inner Zone	DFC Option 1	DFC Option 2	Type Ns	Type Np	A & B Wetlands	Forested Wetlands	Roads	Haul Routes
2012-2013	93%	85%	93%	100%	96%	95%	96%	99%	94%
2014-2015	94%	95%	98%	97%	94%	94%	97%	98%	90%
2016-2017	95%	92%	95%	100%	87%	92%	100%	95%	92%
2018-2019	98%	92%	95%	100%	96%	97%	97%	98%	97%
2020-2021	96%	92%	98%	96%	93%	88%	97%	99%	99%

Periodic Samples

Periodic samples are those performed recurrently on infrequently occurring Forest Practices Rule groups. Often, several years are necessary to build up a large enough sample size for study purposes. The periodic samples taken during this reporting period are described below.

- Eastern Washington inner zone harvest periodic sample
Compliance monitoring was conducted for an Eastern Washington inner zone harvest prescription. Eastern Washington inner zone harvests are similar to desired future condition harvests in Western Washington; timber harvest is permitted within the inner zone. Due to a small population size (seven), the prescription was analyzed as a census. Fifty-one rules were evaluated; 49 rules were compliant resulting in a 96% compliance rate.
- Unstable Slopes periodic sample
A subset of Forest Practices Applications containing potentially unstable rule-identified landforms (RILs) were assessed through this study. The design objective was the evaluation of how well on-ground harvest results were in alignment with the avoidance or mitigation potential of adverse impacts from forest practices on RILs in each individual subject FPA/N as required.

The focus of the unstable slopes study was to evaluate overall FPA/N compliance as opposed to individual rule compliance. Thus, the unstable slopes prescription was comprised of FPA/N compliance-only questions. The focus on compliance in alignment with the FPA/N differs from typical compliance monitoring analyses that focuses on compliance with the Forest Practices Rules. This was necessary due to the absence of

rules metrics that are measurable in the field within the rule identified landform prescription type.

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

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

For the 2019 Unstable Slopes sample, 36 FPA/Ns were selected for review from a total population of 978 FPA/Ns. The resulting sample size was 36, and 102 questions were evaluated (Table 15).

Table 15: 2019 Statewide Unstable Slopes Compliance Results

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

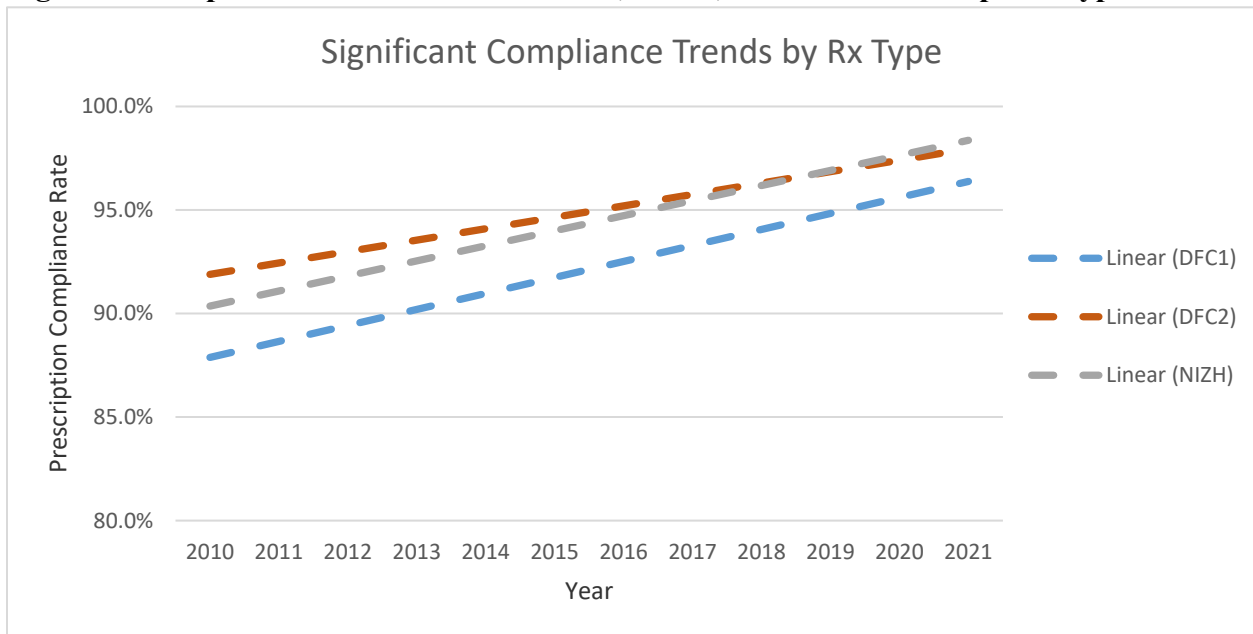
CMP plans to sample unstable slopes every other year. This will allow the program to incorporate trend analysis over time. However, due to the COVID-19 pandemic, unstable slopes were not sampled in 2021.

Trends

Trend Analysis Findings on Standard Prescriptions

Trend analysis was conducted on No Inner Zone Harvest, DFC1, DFC2, Np, Ns, A and B Wetlands, Forested Wetlands, and Road Construction and Abandonment prescription types. Statistically significant trends of yearly increasing prescription compliance rates were observed for DFC1 (0.82 %), DFC2 (0.64 %), and NIZH (0.82%) (Figure 5). No statistically significant trends were observed for non-fish bearing perennial streams, non-fish bearing seasonal streams, Type A and B wetlands, Forested wetlands, and Roads. No downward trending rates were observed.

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



Findings/Trends for Statewide Water Types

The compliance monitoring field team observes physical criteria (such as stream width, stream gradient, etc.) to determine if there appear to be differences between water types recorded on FPAs and what is observed on the ground. These observations are made on the same stream reaches and wetlands that have been randomly selected for compliance monitoring for other rules that year. The compliance monitoring field team evaluates only the stream reach or wetland within the proposed boundary shown on the FPA (not the entire stream length). This is not enough information to make a determination for all water types while implementing CMP studies, because accurate water typing can be dependent on parts of the water that are beyond FPA boundaries.

Water types recorded by the CMP are divided into waters that are underclassified, overclassified, and indeterminate. The three categories are defined as follows:

- Underclassified — Physical characteristics indicate that the water should have been typed on the FPA and protected on the ground at a higher level of the hierarchical water typing system.
- Overclassified — Physical characteristics indicate that the water should have been typed on the FPA and protected on the ground at a lower level of the hierarchical water typing continuum.
- Indeterminate — Waters for which the compliance monitoring field team determines there is not enough information to make a water typing determination.

Table 16 shows water type data collected during the 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, and 2020-2021 biennia field seasons. Inferential statistics on water typing are not calculated by the CMP.

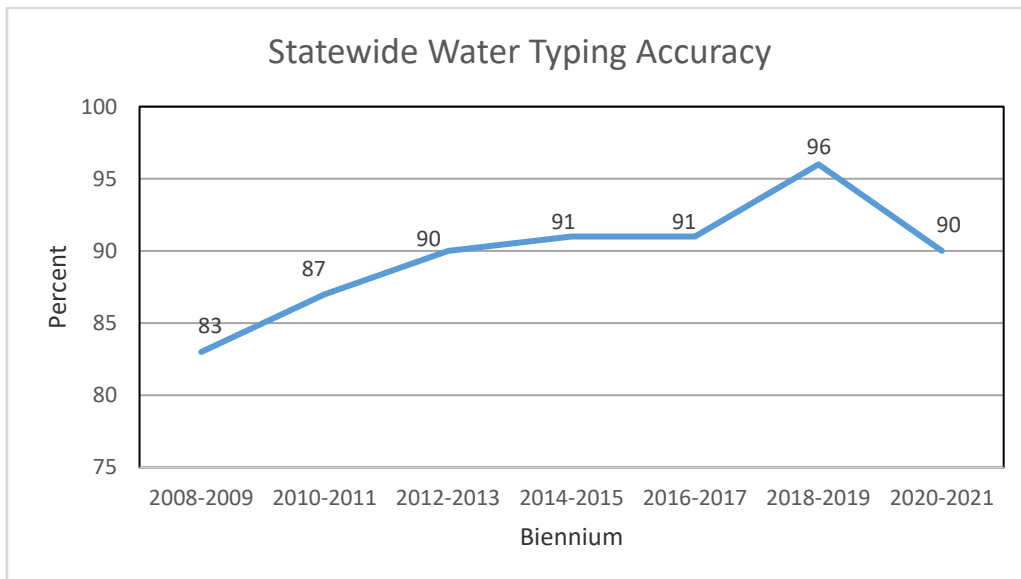
Table 16: Water Type Observations 2010-2019

Biennium	# Waters in Standard Sample	# Waters with typing discrepancies	# Waters Underclassified	# Waters Overclassified	# Waters Indeterminate
2010-2011	294	59 (20%)	37 (13%)	19	3
2012-2013	288	30 (10%)	12 (4%)	14	4
2014-2015	187	28 (15%)	11 (6%)	10	6
2016-2017	183	29 (16%)	14 (8%)	12	3
2018-2019	175	11 (6%)	7 (4%)	3	1
2020-2021	164	28 (17%)	10 (6%)	9 (5%)	9 (5%)

Based on water typing observations made by the compliance monitoring field team, there appears to be a substantial decrease in waters that were underclassified from 2010 to 2019, and a slight increase during the 2020-2021 biennium. The ratio of underclassified waters to the total number of waters evaluated in the standard sample dropped from 13% in the 2010-2011 biennium to 4% in the 2018-2019 biennium and increased to 6% in the 2020-2021 biennium.

Observed water typing accuracy over time, as reported in the CMP biennial reports, is summarized in Figure 6. A steady increase in accuracy has been observed, beginning from 83% during the 2008-2009 biennium and increasing to 96% for the 2018-19 biennium, water typing accuracy decreased slightly to 90% during the 2020-21 biennium.

Figure 6: Water Typing Accuracy Trend



Challenges

One challenge (unstable slopes emphasis sampling) mentioned in the 10-year report has been addressed. CMP is still working on the other challenge (FPHP sampling) that was also mentioned in that report.

- FPHP: The program has been working on developing and incorporating methodology for ongoing study of FPHP to help determine the FPHP compliance rate. Subjectivity within FPHP rule interpretation creates a challenge for developing sound, defensible sampling methodology.
- Due to the COVID-19 pandemic the CMP was not able to perform field compliance data collection on the standard samples from March until July 2020. As a result, periodic studies for FPHP and unstable slopes scheduled for 2020 and 2021 respectively, were postponed.
- CMP began work two years ago to develop and incorporate methodology for an ongoing study to help determine the Aerial Herbicide Spray compliance rate. The intention is to complete the design and conduct the initial field pilot study when funding becomes available. The CMP developed a pilot study design, field data collection protocols, and data collection forms for Aerial Chemical Herbicide Spray compliance in 2021, the pilot study will commence in 2022.

Future Goals

The CMP will continue to develop the program by educating and informing forest practices staff and stakeholders regarding compliance findings, challenges, and trends, giving the program the ability to iteratively revise and improve. As a result of recent findings by the CMP the Forest Practices Application form and instructions were updated for Wetland Management Zones to accurately reflect rule interpretation. Additionally, with the assistance of the Compliance Monitoring Program, the Forest Practices Training Program updated the forest practices wetlands training materials and syllabus to more clearly present the relationship between wetlands and Forest Practices Rules. Additionally, CMP will complete an aerial chemical herbicide spray pilot study.

Road Maintenance and Abandonment Plans

Road Maintenance and abandonment Plan (RMAP) rules (WAC 222-24) originally required completion of obligations by October 31, 2016. In 2011, a new rule was approved by the Forest Practices Board that allowed landowners to apply for extensions for their RMAP work and complete the work by October 31, 2021. As the 2016 deadline approached and in accordance with WAC 222-24-051(8), DNR approved 58 RMAP plans to have an additional five operating seasons (an extension). Forest landowners with extensions had a final program operating season (June – October 2021) to complete extension obligations after which they will submit their final reports regarding work completed. Table 17 provides cumulative RMAP data for large forest landowners.

Accomplishments

Forest Road Improvements

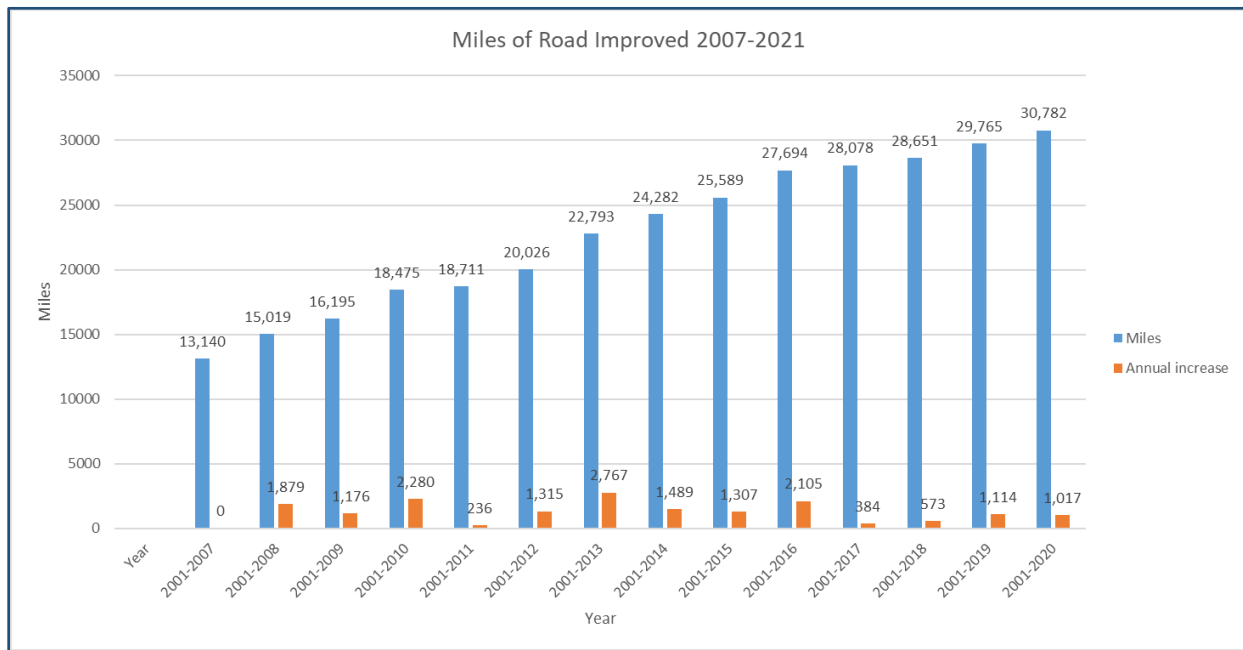
Table 17. RMAP Accomplishments for Large Forest Landowners

RMAP Accomplishments for Large Forest Landowners	2001-2016	2001-2017	2001-2018	2001-2019	2001-2020
Miles of Road Improved	27,694	28,078	28,651	29,765	30,782
Miles of Road Abandoned	3,895	3,901	3,931	3,960	3,992
Miles of Orphaned Roads	2,926	2,927	3,415	3,646	4,427
Number of Fish Passage Barriers Corrected	6,956	7,230	7,424	8,300	8,468
Approximate Miles of Fish Habitat Opened	4,180	4,257	5,024	5,134	5,184

From Landowner Annual Accomplishment Reports.

Figure 7 shows the total miles of road improved with the annual rate of increase.

Figure 7. Miles of Forest Road Improvements from 2007-2021



Source: Annual HCP report

Approximately 30,782 miles of forest roads have been improved through the RMAP Program as of 2020. The average annual increase in miles of road improved is 1,357 miles. The lowest annual increase is 236 miles (CY2011) and the greatest annual increase is 2,767 miles (CY2013)². The large road improvement increase accomplished between 2015 and 2016 reflects the close out of many RMAPs in time for the original RMAP deadline of October 31, 2016. Forest road improvements have annual variability and can be influenced by, among other things, weather variability, harvest locations, and economic trends. Between 2019 and 2021, the COVID-19 pandemic affected RMAP completion work for many months.

Fish Passage Culvert Replacement

A major key to restoring fish populations is removing barriers to fish passage. A single structure, such as an undersized culvert that blocks fish travel upstream can hinder fish from reaching historically used habitat. To help protect fish, RMAP requirements along with forest practices road rules and best management practices support this effort. The project below is located on the Wynoochee Unit in DNR’s Olympic Region.

² As described in the 2012 FPHCP Report under the table in that report showing the road miles:

*Beginning with the 2011 RMAP reporting cycle (January 1, 2011 to December 31, 2011), landowners provided the new data element — “miles of forest road identified needing improvement” — this has been incorporated in the 2012 *Forest Practices HCP Annual Report* and has replaced the road miles that were initially reported in the 2009 *Forest Practices HCP Annual Report*. Miles of forest road identified needing improvement only captured information submitted by landowners who accomplishment reporting date is January 1, 2012 through April 15, 2012 for this reporting year. Totals for this column were completed in 2013 HCP Annual Report due to large landowners reporting cycle.



Source: Olympic Region



Source: Olympic Region

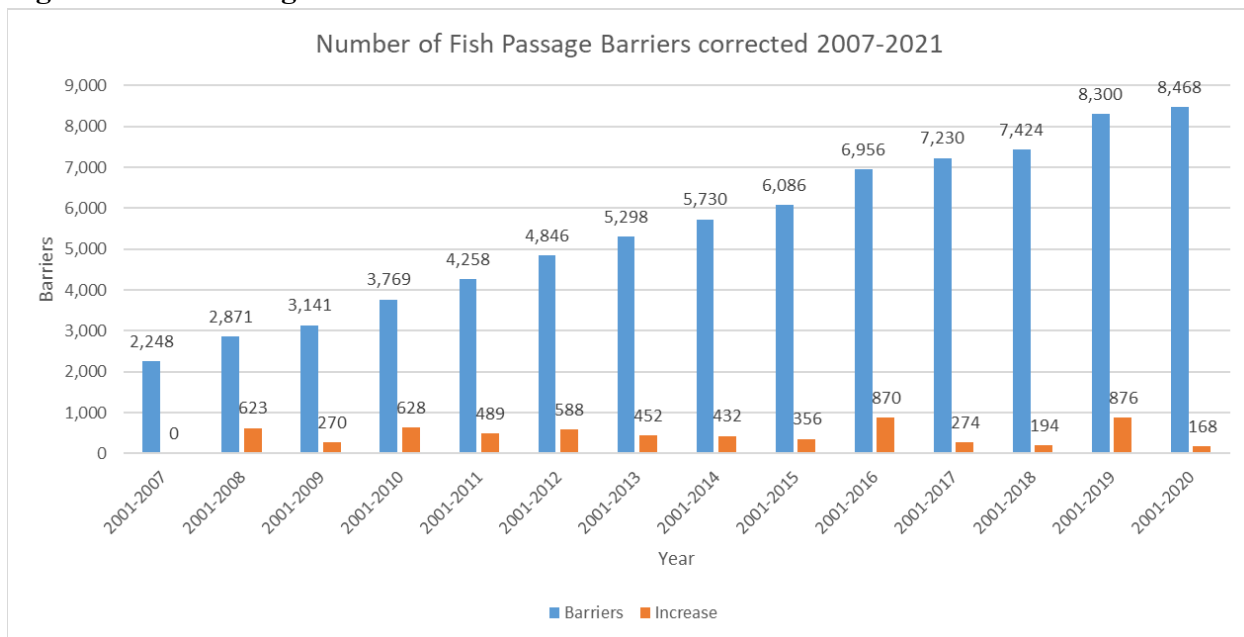


This photo is from the Crescent Unit in Olympic Region and shows bank stabilization efforts on a large fish barrier removal.

❖❖❖ **9,063 fish passage barriers have been identified as of 2020. Of these, 8,468 (93%) barriers have been corrected, opening 5,184 miles of fish habitat.**

Figure 8 shows the total number of fish passage barriers corrected with the annual rate of increase.

Figure 8. Fish Passage Barrier Corrections from 2007-2021



Source: Annual HCP reports

Approximately 8,468 fish passage barriers have been corrected through RMAPs as of 2020. The average annual increase in number of fish passage barriers corrected is 478. The lowest annual increase is 168 barriers (CY2020) and the greatest annual increase is 876 (CY2019). The large barrier correction increases accomplished between 2015 and 2016 reflects the completion of RMAPs work to meet the original RMAP deadline of October 31, 2016. The large barrier correction increase of 876 in 2019 does not represent actual number of barriers fixed that year because it includes a correction to account for a compounding numbers error that began in the 2014 annual Forest Practices HCP Report. The compounded numbers errors caused cumulative inaccuracies in numbers for fish barriers identified and fixed over several reporting years. This correction resulted in an inflated number of barriers fixed for 2019 in order to provide the accurate total.

Life-of-Pipe Fish Passage Barriers

As of June 30, 2021, DNR was tracking approximately 362 life-of-pipe 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. Corrective work associated with these life of pipe barriers has been postponed beyond October 31, 2021, for one or more of the following reasons:

- To reduce multiple equipment entries across watercourses as a means to minimize potential adverse impacts to streams, wetlands, and associated aquatic habitat and the wildlife that rely upon these habitats,

- To maintain unique upstream wetland habitats,
- To reflect acknowledgement that some streams are unable to or will not support healthy, robust populations of fish due to very poor-quality habitat; and/or
- Because materials needed to correct the fish passage barrier were unavailable as a result of pandemic-based supply chain shortages, and
- These culverts will be reassessed later, and a decision will be made at that time to either replace the water crossing structure with similar dimensions in order to maintain upstream conditions or replace the structure with a fish passable water crossing structure.

Challenges

Completion of RMAPs

DNR roads specialists and forest practices foresters will continue to work with forest landowners to close out any remaining approved RMAP obligations prior to the program conclusion date of October 31, 2021. There were 33 RMAPs remaining to be completed during the final program operating season (spring-fall 2021).

Data Challenges through the Years

Reported annual and five-year RMAP data provides a picture of progress over time including a progression to standardize RMAP data collection over the 20 years of RMAP implementation. RMAP information delivered in both reports is derived from data supplied by large landowners in their annual accomplishment reports. The state acknowledges that various factors through the years of data collection impacted the accuracy of RMAP data including:

- Differing methods of tracking and reporting of data.
- 2013-2014 DNR administrative boundary change between the South Puget Sound and Pacific Cascade Regions.
- Fish passage barriers inaccurately identified due to protocol surveys not being completed; after a protocol survey the stream was downgraded to a non-fish stream.
- The Forest Practices Rules in relation to RMAP work were silent on the terminology landowners used in their annual reports. Because both the rule and Board Manual were silent on what and how landowners should report each landowner reported as they chose, causing inconsistency. Additionally, early in the development of RMAP reporting, inconsistent terminology was used, specifically defining what fish barriers are to be reported; and,
- Discoveries of “new barriers” after landowners had finalized original RMAP barrier inventories.

Fish Barrier Data Challenges: 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 identified additional fish passage barriers on their roads. Many of the fish passage barriers not included in the original RMAP

and approved extension inventories were identified following further landownership surveys, sales and transfers of property between ownerships, 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.

Fish passage barriers discovered near the RMAP original deadline in 2016 and the extension deadline in 2021 have been treated by DNR as “new discoveries” and were not treated as additions to a landowner’s RMAP obligations, unless landowners chose to incorporate and complete the work. Instead, new discoveries are handled in accordance with standard Forest Practices Rules for fish passage barriers. When a new discovery is identified, DNR uses an interdisciplinary team (IDT) 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 is derived from landowner annual reports, and includes:

- 362 life-of-pipe calls (described previously) (or 4% of the total number of barriers identified in original RMAP inventories); and
- 86 discoveries of new barriers since the extensions were granted in 2016 (as described previously) (or less than 1% of the total number of barriers identified on extension RMAP inventories).

Therefore, 448 of the 595 current known fish passage barriers 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% of the 9,063 barriers that had been identified in the original RMAP obligations. 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.

The ability of fish to traverse potential barriers to travel upstream changes over the lifespan of a culvert or other fish passage structure due to many factors such as natural stream and sediment deposition processes, deterioration of the materials from which culverts are manufactured, high mainline road use over a culvert or other fish passage structure. To address these changes, DNR is developing field tools and a framework to assess water crossings and has deployed some of these tools and will deploy more July 2021. These tools include use of Level A assessments per WDFW guidance and the use of ArcGIS Explorer’s Survey 123 to

record information. These tools will assist DNR with conducting regular, periodic assessments of the condition and function of forest roads and existing fish passage water crossing structures. This will aid in the conversations forest practices staff will have with landowners to determine next steps in regard to maintenance or replacement when water crossing structures are not compliant with current forest practices rules. When a water crossing structure is found to be out of compliance with forest practices rules standards, DNR works with the landowner, and in most cases in collaboration with the Departments of Ecology and Fish and Wildlife and tribes, to determine a reasonable plan for improvement to minimize resource damage.

As the RMAP program has evolved, the accuracy for this reporting element of Forest Practices HCP implementation has continued to improve. DNR road specialists worked with landowners to ensure accurate data reporting while recognizing that landowners have different resources and methods of tracking work completed. Because many types of road improvements take place routinely and frequently, and because landowner reporting methods and capabilities vary, tracking this metric is challenging. Many inconsistencies in how road improvement miles were measured prior to 2011 are now resolved and imprecise data was corrected through outreach to landowners. The definition used at the time of the 10-year summary for road improvement evolved; it currently includes actions taken to correct fish passage, prevent or eliminate the delivery of sediment to typed water, and repair roads or disconnect road ditch lines that intercept ground water or deliver surface water to typed waters. This more clearly described definition facilitates better data collection and reporting.

Future Goals

Moving forward, forest practices program's road specialists and forest practices foresters will continue to work with the approved 33 landowner RMAPs committed to completing the work in the final operating season. Any RMAPS that have been extended, but have not been completed by October 31, 2021, will be reviewed for appropriate compliance action.

Tribal Cultural Resources Protection



Pictograph known as “She Who Watches”, Tsagaglallal, located on basalt outcrop overlooking the Columbia River.

The Forest Practices HCP reporting requirements include reporting on the implementation of [WAC 222-20-120](#) Notice of forest practices that may contain cultural resources to affected Indian tribes. This rule requires DNR to notify all affected tribes of Forest Practices Applications in geographic areas of interest, including those areas which may contain cultural resources. The tribes may then require landowners to contact the tribe(s) to determine if a landowner–tribe meeting is needed.

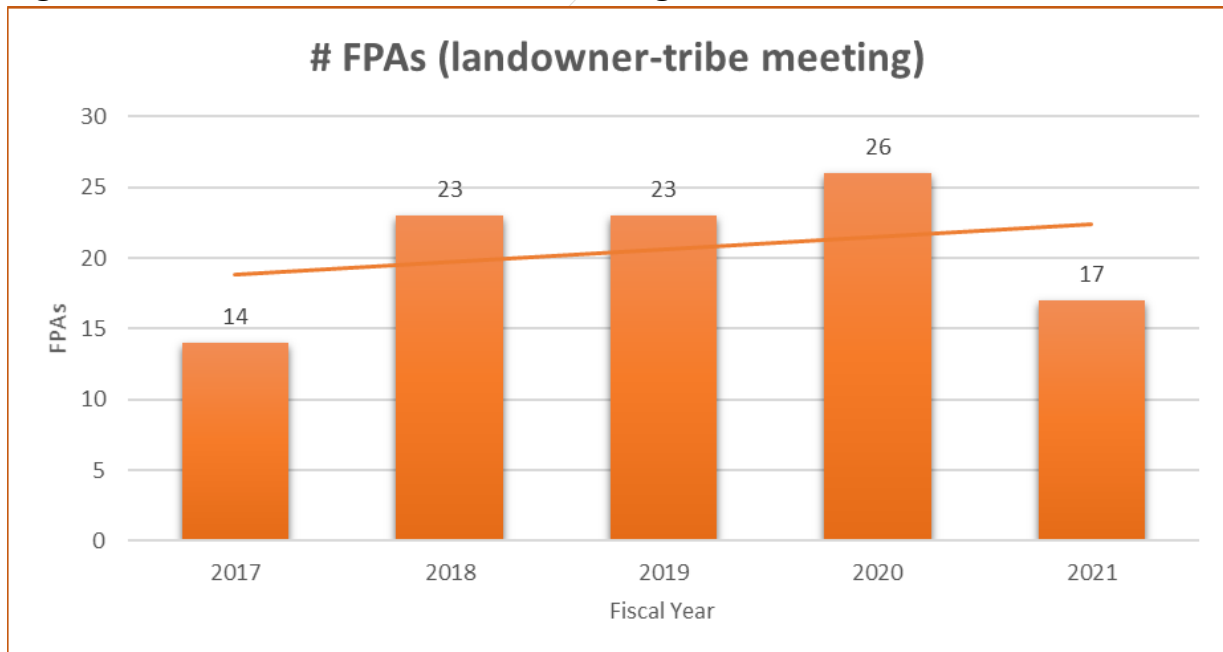
Under the authority of the Forest Practices Act, chapter [76.09 RCW](#), the Forest Practices Board rules promote cooperative relationships and agreements with Indian tribes ([RCW 76.09.010](#), [\(WAC 222-12-010\)](#)), and direct DNR forest practices staff to consult and cooperate with affected tribes when developing and implementing many parts of the Forest Practices Program. Tribes are members of the Adaptive Management Program’s TFW Policy Committee and Cooperative Monitoring, Evaluation and Research Committee and DNR’s Small Forest Landowner Advisory Committee. Additionally, tribal representatives work with DNR Board staff and other agencies and organizations to draft Forest Practices Rules and Board Manual guidelines; DNR forest practices foresters during FPA review (including alternate plans), to provide technical onsite expertise in DNR’s interdisciplinary team reviews of FPAs and to find

concurrency of water and wetland typing. Tribes also work with those landowners who are interested in pre-application planning of their forest practices activities.

During this reporting period, 103 Forest Practices Applications required a landowner-tribe meeting. Figure 9 below depicts the annual number of meetings held by fiscal year.



Figure 9: Number of Landowner Tribal Meetings



The program continues to assist Washington Department of Archeology and Historic Preservation (DAHP) in updating their archaeological and historic sites database. This cultural resources data is used by the Forest Practices Program to appropriately classify FPAs involving cultural resources. On a daily basis, the Forest Practices Program utilizes the information which is placed in the Forest Practices Risk Assessment Mapping Tool (FPRAM). The number of landowner-tribal meetings is consistently averaging 20 meetings a year.

A total of \$578,470 in funding has been provided to DAHP through an interagency agreement with DNR that funds one full time position at DAHP, which assists with the review of FPA’s for cultural resources. (Table 18).

Table 18: Funding provided to DAHP

Fiscal Year	DNR Provided Funding (dollars)
2017	\$187,722
2018	\$187,722
2019	\$187,722
2020	\$102,562
2021	\$102,562
Total	\$578,470

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

The TFW Cultural Resources Roundtable (Roundtable) did not meet during FY2017-2021. 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.

Forest Practices Program Budget

Over the past 15 years the Forest Practices Program funding patterns fluctuated, yet exceeded the \$22.7 million funding level minimum, measured in 2005 dollars, as identified in the 2012 Settlement Agreement.

The Forest Practices Program continued to provide core programs utilizing five funding sources: General Fund-State (GF-S), the appropriated General Fund-State (GF-S) funding for the AMP, the State Toxics Control Account (Toxics), the Forest and Fish Support Account (FFSA), and the Forest Practices Application Account (FPAA). These funding sources sustain the state's Forest Practices HCP and federal Clean Water Act assurances.

2017-2021 Funding Highlights

2015-2017 Biennial Budget Highlights

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

2017-2019 Biennial Budget Highlights

In 2017 the Governor and Washington State Legislature passed the 2017-2019 biennial operating budget bill which mandated a fund shift for the Forest Practices Program and appropriated GF-S funding for the AMP. This enacted budget included a funding shift from Toxics to replace 23 percent of the GF-S appropriation for the Forest Practices Program. Another fund shift of \$1.5 million in GF-S proviso for the AMP was replaced by the equivalent amount from the FFSA in this budget package.

2019-2021 Biennial Budget Highlights

In 2019 the Governor signed the 2019-2021 biennial operating budget bill ([ESHB 1109](#)) which appropriated GF-S funding for the AMP. This bill made a fund swap between the Model Toxics Control Account (MTCOA) and the FFSA and resulted in a gap. DNR's analysis identified a \$4.04 million budget shortfall for the statewide Forest Practices Program. This represented approximately 10% of the biennial operating budget for the overall program.

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

Operating Budget Supports Four Functional Areas

Approximately two-thirds of the Forest Practices Program operating budget has been allocated to the six DNR administrative regions. This is where field work occurs in the form of assistance, enforcement and compliance of the forest practices rules. The remaining one-third of the operating budget has been allocated to the Forest Practices Division.

The operating budget has four functional areas: 1) Forest Practices Act and rule implementation; 2) Adaptive Management research and monitoring; 3) Small Forest Landowner Office; and 4) Program Development. Act and rule implementation is allocated approximately 60% of the program's operating budget and 40% is distributed between the three other functional areas. Table 19 provides a list of what has been funded under the four functional areas:

Table 19: Functional Activities

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

Budget Terms Defined

Only the Legislature can make appropriations in Washington State. The following tables (20-21) provide an overview of the forest practices allotments, supplemental budget, and actual expenditures over the past five years.

- Allotments are an agency's plan of estimated expenditures based on the legislature's approved allocation.
- 'Supplemental budget' denotes any legislative change to the original budget appropriations.
- 'Actual expenditures' mean authorized charges made against the appropriated budget.
- 'Appropriation' indicates legal authorization to make expenditures and incur obligations for specific purposes from a specific account over a specific time period.

Forest Practices Program

Table 20: Overview of Allotments & Full-Time Equivalents (FTEs) With Personal Consumption Expenditure (PCE) Conversion in 2005 dollars

Biennium	Activity	Total	GF-State	GF-State Proviso	Forest Practices Application (fee) Account (FPAA)	State /Model Toxics Account	Forests & Fish Support Account (timber industry B&O tax)	FTE
2015-2017	Act and Rules	19,750,900	15,250,300	317,400	993,400	2,875,000	314,800	107.81
*Includes the	Adaptive Management	14,928,800	331,000	4,780,000		158,700	9,659,200	4.25
FY17 Supplemental	Small Forest Landowner	396,100	282,500			113,600		2.00
	Program Development	891,500				891,500		4.99
	Forest Practices Total	35,967,400	15,863,800	5,097,400	993,400	4,038,800	9,974,000	119.05
PCE Conversion (2005 dollars)	PCE Total	\$29,436,689	\$12,983,361	\$4,171,849	\$813,025	\$3,305,463	\$8,162,990	
2017-2019	Act and Rules	21,404,400	13,289,400		1,500,800	6,426,200	188,000	106.12
	Adaptive Management	15,811,200	521,400	3,280,000			12,009,800	5.25
	Small Forest Landowner	421,000	300,000			121,100		2.00
	Program Development	950,600				950,600		4.52
	Forest Practices Total	38,587,200	14,110,800	3,280,000	1,500,800	7,497,800	12,197,800	117.89
PCE Conversion (2005 dollars)	PCE Total	\$31,580,804	\$11,548,659	\$2,684,440	\$1,228,295	\$6,136,401	\$9,983,008	
2019-2021	Act and Rules	21,924,400	15,009,900	52,000	1,521,500	3,273,700	2,067,300	106.77
	Adaptive Management	13,335,900	561,500	3,714,000			9,060,400	7.46
	Small Forest Landowner	566,900	328,400	100,000		138,500		2.00
	Program Development	839,200				839,200		4.46

	Forest Practices Total	36,666,400	15,899,800	3,566,000	1,521,500	4,251,400	11,127,700	120.69
PCE Conversion (2005 dollars)	PCE Total	\$31,415,988	\$12,693,784	\$3,086,464	\$1,214,707	\$3,394,153	\$11,026,881	

Forest Practices Program

Table 21: Overview of Actual Expenditures & Actual Full-Time Equivalents

Biennium	Activity	Total	GF-State	GF-State Proviso	Forest Practices Application (fee) Account (FPAA)	State/ Model Toxics Account	Forests & Fish Support Account (timber industry B&O tax)	FTE
2015-2017	Act and Rules	10,088,582	7,663,692		489,136	1,851,346	84,408	97.63
*FY17 AFRS	Adaptive Management	8,010,291	569,904	2,390,000		79,895	4,970,492	4.48
	Small Forest Landowner	420,765	307,399			113,366		3.50
	Program Development					405,591		4.22
	Forest Practices Total	18,925,229	8,540,995	2,390,000	489,136	2,450,198	5,054,900	109.83
2017-2019	Act and Rules	21,088,865	12,902,252		1,019,877	7,075,308	91,428	98.90
	Adaptive Management	13,683,164	468,232	3,280,000			9,934,932	5.45
	Small Forest Landowner	456,520	331,931			124,589		2.00
	Program Development	926,078				926,078		4.36
	Forest Practices Total	36,154,627	13,702,415	3,280,000	1,019,877	8,125,975	10,026,360	110.71
2019-2021	Act and Rules	21,383,198	14,974,855	11,977	1,434,039	3,234,193	1,728,134	96.93
	Adaptive Management	12,856,849	562,409	3,713,999			8,580,441	7.67
	Small Forest Landowner	476,075	299,656	70,243		106,176		2.63
	Program Development	836,139				836,139		3.63
	Forest Practices Total	35,552,261	15,836,920	3,796,219	1,434,039	4,176,508	10,308,575	110.86

*FY17 AFRS Reflect Actual Expenditures from July 1, 2016 through June 30, 2017.

Full Time Employees

The fluctuation between allotted and actual FTE's is a reflection of participation in the wildfire fighting program, funding shifts, hiring delays, and enacting a deliberate one-time hiring freeze (to manage the budget reduction in FY2021). The Forest Practices Program ended the 2019-2021 biennium utilizing 110.86 FTEs. Approximately 87 percent of these FTEs were for Forest Practices Act and rule implementation.

Accomplishments and Trends

In light of the budget reductions and ongoing fund exchanges among three major funding sources (GF-S, MTCOA & FFSA) in the Forest Practices Program, this statewide program has maintained operating funding levels at or above the minimum amount of \$22.7 million (as measured in 2005 dollars) that was agreed to in the 2012 Forest Practices HCP Settlement Agreement.

Challenges and Future Goals

The revenue anticipated for the Forest Practices Application Account is not performing as originally projected. Variables that account for the revenue gap are: the lower fee for small landowners, actual revenue from Class IVG applications is 50 percent less than anticipated, and the fact fees are collected on applications related to commercial harvest. This continues to be a budget challenge especially since this fund source was heavily relied on to manage the budget gap in the second fiscal year of the 2019-2021 biennium.

The ongoing GF-S proviso for AMP supports the accelerated research/monitoring projects. AMP develops a Master Project Schedule as a strategy to identify research projects and associated funding needs through 2030.

Over the past 15 years, the Forest Practices Program steadily secured funding and managed legislative mandates of several fund exchanges to implement the 50-year Forest Practices HCP commitment, which provides the State of Washington's framework in the forested environment to achieve salmonid protection and recovery through compliance with the Endangered Species Act and achieve state water quality standards under the Clean Water Act.

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
NOAA	National Oceanic and Atmospheric Agency
RCO	Recreation and Conservation Office
SFLO	Small Forest Landowner Office
SRFB	Salmon Recovery Funding Board
SAO	State Auditor's Office
USFWS	United States Fish and Wildlife Service
WCLA	Washington Contract Loggers Association
WDFW	Washington Department of Fish and Wildlife
WDOT	Washington Department of Transportation
WFFA	Washington Farm Forestry Association
WFPA	Washington Forest Protection Association

Technical Terms

AFF	Anadromous Fish Floor
BACI	Before-after-control-input
Board Manual	Forest Practices Board Manual
BTO	Bull Trout Overlay
CY	Calendar Year
DFC	Desired Future Condition
DPC	Default Physical Criteria
eDNA	Environmental deoxyribonucleic acid
FHAM	Fish Habitat Assessment Methodology
FPA/N	Forest Practices Application/Notification
FPRAM	Forest Practices Risk Assessment Mapping Tool
FTE	Full Time Equivalent
FWEP	Forested Wetland Effectiveness Project
FY	Fiscal Year
GF-S	General Fund - State
GIS	Geographic Information System
ISAG	Instream Scientific Advisory Group
ISPR	Independent Science Peer Review
LiDAR	Light Detection and Ranging

OCH	Off Channel Habitat
PHB	Potential Habitat Break
PI	Proposal Initiation
RIL	Rule Identified Landforms
RMZ	Riparian Management Zone
SAG	Scientific Advisory Group
SAGE	Scientific Advisory Group Eastside
Type F	Fish-bearing stream
Type N	Non-fish bearing stream
Type Np	Non fish-bearing, perennial stream
Type Ns	Non fish-bearing, seasonal stream
Type S	Waters of the State
UPSAG	Upslope Processes Scientific Advisory Group
WIP	Wetland Intrinsic Potential Tool
WTMF	Water Type Modification Form

Personnel, Programs, Plans and Reports

ALEA	Aquatics Land Enhancement Account
AMP	Adaptive Management Program
AMPA	Adaptive Management Program Administrator
CMER	Cooperative Monitoring, Evaluation, and Research Committee
CMP	Compliance Monitoring Program
CPeace	Center for Conservation Peace Building
ELSA	Environmental Legacy Stewardship Account
FFFPP	Family Forest Fish Passage Program
FFR	Forests and Fish Report
FFSA	Forests and Fish Support Account
FPAA	Forest Practices Application Account
FPARS	Forest Practices Application Review System
FPF	Forest Practices Forester
FPHP	Forest Practices Hydraulic Permit
FREP	Forestry Riparian Easement Program
FTE	Full-time Equivalent
GF-S	General Fund - State
HCP	Habitat Conservation Plan
IDT	Interdisciplinary Team
MPS	Master Project Schedule
MTCOA	Model Toxics Control Account
PCE	Personal Consumption Expenditure
PSM	CMER Protocols and Standards Manual

RHOSP	Rivers and Habitat Open Space Program
RMAP	Road Maintenance and Abandonment Plan
SFL	Small Forest Landowner
SFL AP	Small Forest Landowner Alternate Plan
TFW	Timber/Fish /Wildlife
Toxics	State Toxics Control Account

Regulations, Acts and Permits

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