



May 30, 2017

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U.S. Fish & Wildlife Service
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**Subject: 10-year FPHCP Report, Incidental Take Permits 1573
(NOAA) and TE 121202-0 (USFWS)**

Dear Assistant Regional Administrator Kratz and State Supervisor Rickerson:

Please find enclosed the cumulative 10-year report for the *Forest Practices Habitat Conservation Plan* (Forest Practices HCP). The 10-year report covers the period from June 2006 through June 2016. 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 adopted forest practices hydraulic project rules in 2013 that fulfilled the 1999 *Forests and Fish Report's* expressed intent to fully integrate forest hydraulic projects into the forest practices program as directed by the Washington state legislature in Senate Bill 6406.

Adaptive Management Program

- Completion of the Mass Wasting Effectiveness Monitoring Project and consensus recommendations delivered to the Board in February 2014.

Road Maintenance and Abandonment Plans

- There have been 25,589 miles of forest road on industrial forest lands brought up to the new road rule standards including the elimination of 6,086 fish passage barriers and 3,507 miles of stream habitat opened for fish.

Compliance Monitoring Program

- The 2012-2013 and 2014-2015 estimate of compliance indicates that compliance rates for standard riparian and road rules are consistently near or above the DNR's stated goal of 90 percent compliance.

Small Forest Landowner Office and Stewardship Program

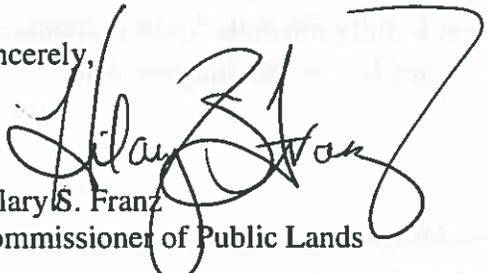
- Conservation easements protecting forest riparian easements and rivers and habitat open space easements amounting to 6,537 acres have been established since the beginning of the easement programs.
- A total of 368 fish passage barriers have been corrected on small forest landowner forest lands through the Family Forest Fish Passage Program.

The enclosed 10-year report provides additional information on accomplishments, challenges, trends, and future goals for implementation of the Forest Practices HCP. The report can be accessed from 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 contact Charlene Rodgers, DNR Forest Practices HCP Administrator, at 360-902-1409 or charlene.rodgers@dnr.wa.gov.

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

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

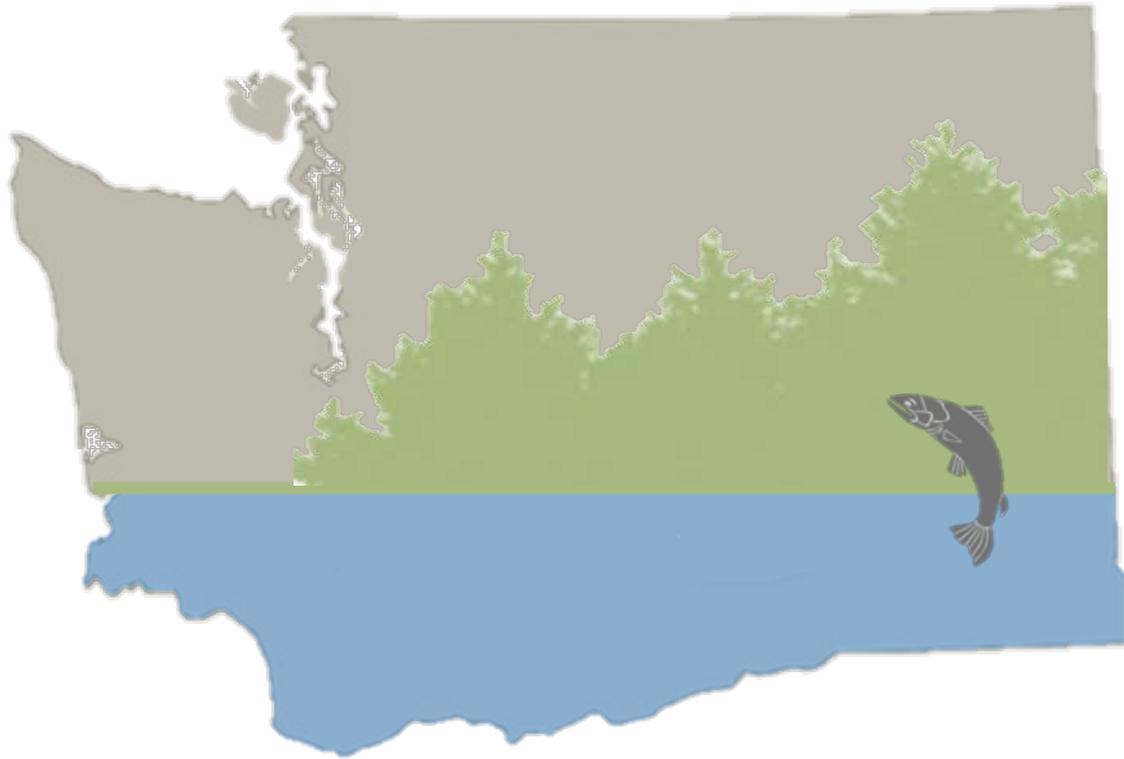
Sincerely,



Hilary S. Franz
Commissioner of Public Lands

Enclosure

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



Forest Practices Habitat Conservation Plan

10 YEAR REPORT

Washington State Department of Natural Resources
Forest Practices Program, Forest Practices Division
Charlene Rodgers

May 2017

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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 the final product (following development of the Forests and Fish Report (FFR), new forest practices rules and legislation directing the development of a habitat conservation plan) needed to solicit federal assurances for conducting forest practices activities that could put a listed fish or amphibian species at risk. The Forest Practices HCP was submitted to the U.S. Fish and Wildlife Service (USFWS) and National 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, on June 5, 2006 issued Incidental Take Permits to Washington State. Three state agencies—the Washington State Department of Natural Resources (DNR), the Washington Department of Fish and Wildlife (WDFW), and the Washington Department of Ecology (Ecology)—work together to ensure implementation of the Forest Practices HCP.

Under the Forest Practices HCP, the State committed to submit a comprehensive report to the Services every five years. This Forest Practices HCP comprehensive review is the second five-year report, and, therefore, cumulatively covers the first ten years (2006-2016) of Forest Practices HCP implementation. 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

Generally, accomplishments can be categorized into two broad categories: direct on-the-ground habitat protection measures; and administrative and process improvements that ultimately support the implementation of the rules and on-the-ground protections. During the first ten years of the Forest Practices HCP implementation, there were numerous accomplishments in

both categories. The following text outlines either cumulative numbers for the entire first ten years of HCP implementation or describes single incidences that occurred during the second five years of HCP implementation (July 2011-June 2016). Descriptions of single incidences that occurred during the first five years of HCP implementation can be reviewed in the [Forest Practices Habitat Conservation Plan 5 Year Report \(December 2012\)](#).

Habitat Protection Measures

The revised 2001 rules inspired by the FFR, codified by the Salmon Recovery Act, adopted by the Forest Practices Board (Board) and carried out by the State through the Forest Practices Program and covered under the Forest Practices HCP — protect more habitat than was protected under previous forest practices rules. This has been partially accomplished through:

- **Increased riparian management zone protection:** For example, in western Washington, previous forest practices rules on fish bearing streams allowed for a measured riparian management zone width between 25 and 100 feet. The new forest practices rules applied under the Forest Practices HCP require a minimum width on fish-bearing streams that varies between 90 and 200 feet depending on site class (a measure of potential tree height growth), with the exception of forest practices applications (FPAs) associated with 20-acre exempt landowners.
- **Roads constructed and maintained under more protective rules:** The revised 2001 rules included more protective rules affecting forest road construction and maintenance with a standard of a 100-year flood level to provide for the passage of bedload and some woody debris, and required industrial forest landowners to produce and implement Road Maintenance and Abandonment Plans (RMAPs). To implement the proposed road work under these more protective rules over 50,000 miles of forest road were assessed and 260 RMAPS developed to upgrade 25,589 miles of forest roads to current standards primarily on industrial forest land. Additionally, 6,454 fish passage barriers were eliminated and fish access to 4,351 miles of habitat opened on both industrial and non-industrial forestland.

Administrative and Process Improvements

The Board, the Adaptive Management Program (AMP) and the Forest Practices Program established processes to assure full implementation of the program and facilitate change as necessary over time to protect public resources.

Highlights of the first ten years of HCP implementation:

Forest Practices Board

Changes to rules, adopted by the Board, during the second five years included:

- The 2008 recession led to TFW Policy Committee recommending to the Board a rule adoption that provided for up to a 5-year RMAP extension (to the year 2021), for those landowners requesting the extension.
- The Board adopted forest practices hydraulic project rules in 2013 that fulfilled the FFR's expressed intent to fully integrate forest hydraulic projects into the forest practices program as directed by SB6406.
- The Board adopted rules that reflected the conditions of the 2012 Forest Practices HCP Settlement Agreement. The new rules led to the agreed upon AMP reform including: the development of a Master Project Schedule (MPS), three new voting caucuses being added to the original set of six in the TFW Policy Committee and reduced AMP dispute resolution process timelines.
- In 2015, the Board adopted rules that affirm DNR's ability to request additional information, specifically for proposed forest practices in or around potentially unstable landforms for the purpose of classing the FPA.

Adaptive Management Program

- Development and implementation of an MPS in concert with the 2012 Forest Practices HCP Settlement Agreement. The purpose of the MPS is to help the AMP forecast when projects can be implemented, sequence projects for efficiencies, keep the budget within projected revenue and complete the critical projects by 2030.
- Completion of the Mass Wasting Effectiveness Monitoring Project in 2013 and consensus recommendations delivered to the Board in February 2014.
- Cooperative Monitoring, Evaluation and Research Committee (CMER) implemented a "piloted" Lean process for five new projects with the intent of increasing efficiency in the development of the scoping and study design phases. These five projects are in various stages of completion.
- Policy and CMER continue to work toward developing consensus recommendations to the Board for a permanent water typing system rule.

Small Forest Landowner Office

- Total purchased conservation easements protecting riparian and upland forest including: forest riparian easements and rivers and habitat open space easements (channel migration zone and critical habitat) is 6,537 acres since the beginning of the easement programs.
- Eliminated 368 fish passage barriers on small forest landowner forest lands.
- The Small Forest Landowner Office (SFLO) began re-establishing technical assistance capability lost during the 2008 recession, for small forest landowners, with a portion of a full-time position dedicated to technical assistance in western Washington.
- Family Forest Fish Passage Program (FFFPP) funding allowed for an additional position to the program focused on outreach.

Training

- The FFR expressed intent of fully integrating all forest hydraulic projects into the Forest Practices Program was completed and an in-depth comprehensive experiential forest practice hydraulic project compliance training course was developed and provided to all forest practices staff in 2015. Course content was and continues to be passed to forest practices stakeholders through DNR regional TFW meetings and other means.
- The Forest Practices Illustrated publication was updated in 2007 to reflect the sweeping changes of the 2001 rules inspired by FFR and the Training Program anticipates another update to begin soon.
- A new water type-bankfull width training was developed in 2013 to explain water type determination and water type modification forms used to modify water types recorded in the forest practices GIS hydrology layer.

Compliance Monitoring Program (CMP)

- In 2014, CMP integrated a more quantitative estimate of compliance with each rule accompanied by an increase in precision associated with the overall sample estimates.
- The most recent 2014-2015 estimate of compliance indicates that standard riparian and road rules compliance rates for the most part meet or exceed the DNR's stated goal of 90 percent compliance.
- The ratio of observed underclassified waters (waters that should have been typed and protected at a higher level) to the total number of waters evaluated in the standard rule sample dropped from 37 (13%) in the 2010-2011 biennium to 11 (6%) in the 2014-2015 biennium.
- In 2016 the CMP incorporated rule and prescription compliance data into year-over-year trend analysis to discern patterns of changes in compliance rates measured over time (starting with 2010 data) Trend analysis was conducted on four stream prescriptions, two wetland prescriptions and the road construction and abandonment prescription types. Trends of annually increasing prescription compliance rates (i.e. average increase in compliance year over year) were observed on two riparian prescription types as well as the road construction and abandonment prescription type. No statistically-significant increasing or decreasing trends were observed for the remaining prescription types.

Road Maintenance and Abandonment Plans

- Significant progress was made under approved RMAPs to complete fish barrier removal and road work to reduce delivery of sediment into watercourses. Under RMAPs (which are produced almost exclusively by large forest landowners) 25,589 miles of forest roads have been improved, 6,086 (83% of fish barriers identified on industrial forest land) fish passage barriers have been corrected and approximately

3,507 miles of fish habitat has been opened. Expenditures to date to accomplish this barrier removal and road work exceeds \$300 million by private landowners and over \$76 million by the DNR State Lands.

- Number of RMAP extensions, resulting from the 2008 recession, was 58 of the total 260 RMAPS.
- Excluding RMAP extensions, the few RMAPs that are expected to be incomplete by the statutorily-required October 31, 2016 implementation deadline, will be reviewed for appropriate compliance action.

Federal Clean Water Act

- Completed 18 of 23 [Clean Water Act Milestones](#). See 2016 Forest Practices HCP Report for [Summary of CWA Assurances Milestones and Current Status](#).

Hydraulic Project Integration

- The Board adopted forest practices hydraulic rules in 2013 that fulfilled the Forest and Fish Report's expressed intent to fully integrate forest hydraulic projects into the forest practices program. Full integration occurred over time with non-fish bearing stream hydraulic projects integration taking place in 2001 and the remaining fish-bearing stream hydraulic project integration taking place in 2013. The final 2013 integration was achieved through the integration of the fish protection standards from the Hydraulic Code (Chapter 220-660 WAC administered by WDFW) into the forest practices rules (Title 222 WAC administered by DNR) and the Board's approval of a new board manual section to provide guidance for conducting road crossing activities over and within fish bearing and non-fish bearing waters

Challenges

Forest Practices Board

- Board adoption of a permanent water-typing system rule and associated fish habitat assessment methodology.

Adaptive Management Program

- Efficiency of AMP decision-making processes including:
 - Availability of study sites for AMP scientific studies, and
 - Availability and capacity of employer resources to implement AMP.

Compliance Monitoring Program

- Design and implementation of compliance monitoring for forest practices hydraulic project rules and unstable landform rules.

Small Forest Landowners

- Lack of information on small forest landowner roads hampers the State's ability to determine the effectiveness of forest practices road construction and maintenance rules on small forest landowner forestland.
- Lack of sufficient funds to meet the backlog of applications in the Forest Riparian Easement Program (FREPP), over 130.
- Lack of sufficient funding to gain a systematic inventory of fish barriers and other road issues on small private forest lands.
- Lack of sufficient funding for FFFPP, in order to reduce backlog of over 900 culverts.

Training

- The lack of consistent funding for the forest practices training program through the ten years prevented the desired level of training and the following challenges:
 - Numbers of students waiting to take specific courses has increased due to periodic lack of training staff over the 10 year period.
 - Outdated training materials due to lack of training staff.
 - Non-training staff has been overburdened with training tasks in order to maintain a level of necessary training for the purposes of protecting public resources.

Road Maintenance and Abandonment Plans

- Making sure that landowners continue to ensure the continuing functionality of fish passage barriers and roads maintained under RMAPS.

Trends and Notable Points in Implementation

The first ten years of Forest Practices HCP implementation has revealed several trends and notable points. (NOTE: The chart below has alternating color backgrounds for legibility purposes only.)

The Forest Practices Board has demonstrated flexibility needed for addressing emerging and changing priorities in a dynamic political and natural environment where such natural disasters as the 2007 Storm and 2014 SR530 landslide occur and new legal direction such as the 2012 Forest Practices HCP Settlement Agreement must be implemented.

The full integration of forest hydraulic projects into forest practices rule, as intended by the Forest and Fish Report, has been completed.

Lack of human resource capacity and incomplete Lean processes in CMER continue to effect timely completion of study designs and the review of documents.

Demand for SFLO financial assistance continues to surpass available funding for technical assistance, the Forestry Riparian Easement Program (FREP), the Family Forest Fish Passage Program (FFFPP), and the Rivers and Habitat Open Space Program (ROSP).

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

The ratio of CMP observed under-classified waters (waters that should have been typed and protected at a higher level) to the total number of waters evaluated in the standard sample dropped from 37 (13%) in the 2010-2011 biennium to 11 (6%) in the 2014-2015 biennium.

Steady, ongoing road improvements are resulting from implementation of Road Maintenance and Abandonment Plans with 25,589 miles of forest roads improved through 2015.

Steady, ongoing corrections to remove fish passage barriers continue with 6,086 (83% of barriers identified) barriers corrected through the RMAP program and 368 barriers corrected under the FFFPP program through 2015.

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 TFW stakeholders that sometimes hold opposing views on issues and approaches. Some of the goals related to addressing challenges and other desired outcomes include:

- Work with the legislature to continue full funding of the AMP through demonstration of efficient and effective use of general fund and Forest and Fish Support Account (FFSA).
- Adopt forest practices rules and approve board manual guidance implementing a permanent water-typing system rule.
- Work toward completing the Type N water strategy through recommendations to the Board for guidance on how to determine the uppermost point of perennial flow during the wet season.
- Continue to use the Lean process to improve the efficiency of CMER decision making.
- Advocate for additional funding to purchase all eligible forest riparian easements in the queue and inventory and fund the elimination of all barriers to fish passage on eligible small forest landowners' roads.
- Build on recent progress to: update existing training courses and develop new ones (for example, rule enforcement training); eliminate student backlogs on critical courses; update the *Forest Practices Illustrated* publication; and, develop online and distance learning opportunities.

- Work toward developing sampling and analytical methodologies for measuring compliance for forest practice hydraulic projects and unstable landforms.
- Work with landowners who have approved RMAP extensions to ensure implementation completion and enforce RMAP commitments that have not been fulfilled.
- State, tribes and landowners are working together to identify Forest Practices Application process improvements to identify and protect cultural resources.

Forest Practices Board Summary

The Board sets minimum standards for forest practices through promulgation of the forest practices rules and approval of board manual sections providing guidance to those conducting forest practices activities. To ensure management practices are based on the best available science, the Board also directs the AMP, which provides science-based information to assist the Board in determining if and when it is necessary or advisable to adjust aquatic-based rules.

Ten-year Trends

The past decade of Forest Practices HCP implementation has demonstrated the dynamic nature of the Board's work and its ability to address changing priorities. As scientific knowledge of natural systems evolves over time, it is essential that the development standards for public resource protection be flexible enough to adapt to emerging priorities when necessary.

Accordingly, the Board maintains a work plan, which was adjusted periodically over the last ten years in response to: natural disasters, scientific studies, changes to legislation and case law, the 2012 Forest Practices HCP Settlement Agreement for implementing commitments of the [Forests & Fish Report](#) , and the Clean Water Act (CWA) expectations for CWA assurances outlined in the [2009 Clean Water Act Assurances Review](#) of Washington's Forest Practices Program.

Challenges

Two of the guiding documents that are foundational to the current forest practices rules and the implementation of the rules relating to the protection of aquatic resources are the FFR and the subsequent 2005 Forest Practices HCP. At the core of both agreements is the expressed intent to develop a permanent water-typing system to protect fish habitat. Implementing a permanent water-typing system was identified as a challenge in the 2012 Forest Practices HCP five-year report and has remained a challenge during the subsequent five-year implementation period (see accomplishments below and the [Forest Practices Habitat Conservation Plan 5-year Report](#)).

The initial attempt to create a fish habitat model (identified at the time to be part of a permanent water typing system) proved inadequate, which prompted the Board to adopt an interim water typing system in 2001 until uncertainties could be resolved. In 2014, the Board refocused on establishing a permanent water-typing system and directed the TFW Policy Committee to develop and present recommendations to the Board for a permanent water typing system rule and associated guidance. The Board, TFW Policy Committee and CMER are

currently involved with completing the task. The outcome of the permanent water typing system effort will be reported in the next five-year report (or the 15-year cumulative report).

Accomplishments

Following is a brief description of the Board's actions within the past five years. Information on Board accomplishments during the first five years of HCP implementation is provided in the [*Forest Practices Habitat Conservation Plan 5 Year Report*](#).

Forest Practices Hydraulic Projects

The Board adopted forest practices hydraulic project rules in 2013 that fulfilled the FFR's expressed intent to fully integrate forest hydraulic projects into the forest practices program. Full integration occurred over time with non-fish bearing stream hydraulic projects integration taking place in 2001 and the remaining fish-bearing stream hydraulic project integration taking place in 2013. The final 2013 integration was achieved through the integration of the fish protection standards from the Hydraulic Code (Chapter 220-660 WAC administered by WDFW) into the forest practices rules (Title 222 WAC administered by DNR) and the Board's approval of a new board manual section to provide guidance for conducting road crossing activities over and within fish bearing and non-fish bearing waters.

2012 Forest Practices HCP Settlement Agreement

The Board adopted rule amendments and approved board manual guidance to complete implementation changes to the AMP consistent with the 2012 Forest Practices HCP Settlement Agreement that was negotiated between the State and the Conservation Caucus and the Washington Forest Protection Association. More specifically, the Board implemented the amendments that were recommended by the TFW Policy Committee. The amendments affirmed that the TFW Policy Committee would continue to function as a consensus-based body; expanded the TFW Policy Committee to nine (from six) caucuses; amended the dispute resolution process in the CMER and TFW Policy Committees with the intent to reduce process timelines; and, established the CMER MPS. The purpose of the MPS is to help the AMP forecast when projects can be implemented, sequence projects for efficiencies, keep the budget within projected revenue and complete the critical projects that are already on the MPS by 2030.

Unstable Landforms

In 2014, the Board made an intentional shift in focus from water typing to the review and evaluation of proposed protections to prevent the effects of proposed forest practices activities on and around potentially unstable slopes and landforms. This resulted in direction to DNR to convene and consult with stakeholders in the development of improvements to Board Manual Section 16 for assessing the groundwater recharge area of glacial deep-seated landslides. The Board also affirmed in rule DNR's ability to establish the form and content of an FPA,

including geologic information, when reviewing potentially unstable landforms in or around the area of an FPA.

List of Rule and Board Manual Changes

During the first ten years of Forest Practices HCP implementation, the Board addressed many issues. All combined, twenty rule-making efforts and ten board manual amendment efforts were completed during this ten-year period. The table below shows rule adoptions and sections of the board manual approved during the second five years of Forest Practices HCP implementation.

**Summary of Rules Adopted and Board Manual Sections Approved
July 1, 2011 – June 30, 2016**

State Fiscal Year (FY)	Rule or Board Manual Change	Summary
FY 2012	RMAP Extensions <i>Rule Change</i>	The 2008 recession led the Board to adopt a rule that provided for up to a 5 year RMAP implementation deadline extension to year 2021. RMAPs are forest landowner plans that specify and schedule the work necessary to improve and maintain forest roads to forest practice standards outlined in chapter 222-24 WAC.
FY 2012	Critical Habitats of the State <i>Rule Change</i>	The amendment reflects the changes made to the federal list of threatened and endangered species under the federal ESA and the corresponding changes made by the Washington Fish and Wildlife Commission. The amended rule removed the bald eagle and the peregrine falcon from the Board's critical habitats (state) list and the accompanying bald eagle site management plan options.
FY 2012	Notice to Indian Tribes <i>Rule Change</i>	Notifications of forest practice activities to affected Indian tribes was amended to clarify language and to resolve issues with the landowner-tribe meeting requirements.
FY 2012	RMZ Clumping strategy for Cultural Resources <i>Rule Change</i>	The western Washington riparian management zone clumping strategy was amended to include historic and archaeological sites as a sensitive feature.
FY 2012	Forestry Riparian Easement Program <i>Rule Change</i>	The Forestry Riparian Easement Program was reformed to incorporate changes to chapter 76.13 RCW resulting from ESHB 1509 (2011 legislation). The changes refined eligibility requirements and compensation limitations.
FY 2013	Class IV-General FPAs <i>Rule Change</i>	Eliminated inconsistencies between chapter 76.09 RCW and Title 222 WAC that had been created with past legislation and clarified that certain forest practice activities within the urban growth area should not be classified as Class IV-General applications. Small forest landowners, through an option to submit a management plan, were provided some flexibility.

State Fiscal Year (FY)	Rule or Board Manual Change	Summary
FY 2014	Forest Practices Hydraulic Projects <i>Rule Change</i>	Adopted forest practices hydraulic rules that fulfilled the Forest and Fish Report's expressed intent to fully integrate forest hydraulic projects into the forest practices program. Accomplished by integrating the fish protection standards from the Hydraulic Code (Chapter 220-660 WAC administered by WDFW) into the forest practices rules (Title 222 WAC administered by DNR). Such activities are now called Forest Practices Hydraulic Projects (FPHPs).
FY 2014	Board Manual Section 5, Guidelines for Forest Practices Hydraulic Projects	The new section provides the guidance for conducting water crossing activities (FPHP) over fish-bearing waters. Also combined the guidance for water crossing structures in non-fish waters from Board Manual Section 3 with Section 5 for consistency.
FY 2014	Board Manual Sections 3, 4, 21, and 26 (minor editorial changes)	Amendments were needed to remove the language referring applicants to obtain a Hydraulic Project Approval from WDFW in various board manual sections to align with the changes made to Board Manual Section 5.
FY 2014	Adaptive Management Program Reform <i>Rule Change</i>	Implemented changes to AMP consistent with the 2012 Forest Practices HCP Settlement Agreement. Affirmed TFW Policy Committee would continue to function as a consensus-based body; expanded the TFW Policy Committee to nine (from six) caucuses; amended the dispute resolution process in CMER and TFW Policy to reduce process timelines; and, established the CMER Master Project Schedule to help AMP forecast when projects can be implemented, sequence projects for efficiencies, keep the budget within projected revenue and complete the critical projects already on the MPS by 2030.
FY 2014	Board Manual Section 22, Guidelines for Adaptive Management Program	The amended section was the result of the 2012 Forest Practices HCP Settlement Agreement and subsequent rule changes. The guidance was expanded to describe how the TFW Policy Committee interacts as a consensus body, to add 3 new caucuses to TFW Policy Committee, and to clarify the dispute resolution process.
FY 2015	Unstable Landforms Information <i>Rule Change</i>	The Board adopted changes to WAC 222-10-030 and 222-20-010 to affirm DNR's ability to establish the form and content of an FPA, including geologic information, when reviewing potentially unstable landforms in or around the area of a forest practices application.
FY 2015/2016	Board Manual Section 16, Guidelines for Evaluating Potentially Unstable Slopes and Landforms.	Amendments were made to this section to include technical improvements for the description and identification of potentially unstable slopes: guidance for identifying and delineating the groundwater recharge area for glacial deep-seated landslides; guidance for estimating delivery potential; and expanded discussions on the use of LiDAR for detecting landslide features.

Future Direction

As mentioned, work toward adoption and subsequent implementation of a permanent water typing system remains a top priority for the Board in fulfilling State commitments to the FFR and the Forest Practices HCP. Once the Board accepts and acts upon the recommendations by the TFW Policy Committee for a permanent water typing system rule, the Board will re-evaluate its work plan and adjust it as appropriate. Future work will include:

- Type N Waters – With recommendations from TFW Policy Committee, the Board can direct DNR to complete Part 2 of Board Manual Section 23. When completed, DNR will present Part 2 of Board Manual Section 23 to the Board for their approval of guidance for both a dry and wet season methodology for locating the uppermost point of perennial flow, which is the break between Type Np and Type Ns waters.
- Unstable Slopes – The Board directed the TFW Policy Committee to complete the Adaptive Management recommendations for completing the policy and scientific tracks related to unstable slopes.
- CMER studies – The Board will review and accept the outcomes from the Type N Experimental Buffer Treatment Project in Hard Rock Lithologies.

Permanent Water Typing System

In the late 1990's water quality and the protection of aquatic species across state and private forestlands emerged as an issue of intense importance in anticipation of several salmonid species being listed under the Endangered Species Act. Following extensive negotiations, state and federal agencies and forest stakeholders drafted the FFR to document agreement on scientifically based protections for aquatic species and riparian habitat. In 1999, the legislature passed the Forest Practices Salmon Recovery Act (ESHB 2091), which directed the Board to adopt forest practices rules consistent with the management recommendations in the FFR. Provisions for protecting fish habitat were key components of the riparian strategy in the FFR and the subsequent 2005 Forest Practices HCP.

The FFR stipulated that classification of streams be based upon habitat features and geomorphic parameters determined by a GIS hydrologic model (model). One of the critical elements and challenges of a permanent water-typing rule, is the delineation of break points between Type F (fish) and Type N (non-fish) waters. The FFR set the performance target for the model at a statistical accuracy of +/- 5 percent. FFR called for the creation of model-generated water-typing maps (hydro maps) which would serve as the operational basis to determine the extent of fish habitat statewide and to establish hydro maps depicting the Type F/N water type breaks. In addition, with the adoption of the model and the accompanying hydrologic layer, FFR anticipated a limited use of electrofishing in fish habitat assessments.

In 2001, when the Board adopted rules for implementing the FFR, 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 the 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.

By early 2005, the model generated hydro maps for western Washington had been completed, however, the Board found the targeted level of accuracy for the model had not been achieved. As a result, the Board delayed adoption of the model-generated map to implement the permanent water typing system rule and maintained reliance on the interim water typing system rule including the Board's approved process to establish the fish/non-fish habitat break in Board Manual Section 13. The Board did find the new hydro maps to be an improvement over previous maps and accepted DNR's recommendation to implement the new hydro maps including DNR's process to update stream types per the Board's approved process identified in Board manual Section 13. This allowed DNR to update activity maps and incorporate new Type S, F, and N water classifications for stream typing. DNR modified the Water Type Modification Form (WTMF) to encourage better documentation of the physical features describing placement of the Type F/N break and to require additional information based on the

Board’s protocol survey requirements listed in the manual guidance for conducting protocol surveys for determining the extent of fish use.

Lacking adoption of the model-based maps and implementation of the permanent water typing system rule, the current rule for delineating fish waters relies on using default physical criteria or a protocol survey methodology to establish the Type F/N break and the ability for DNR to assemble interdisciplinary teams when needed to address requests to establish a permanent Type F/N break through a WTMF. The Board and the TFW Policy Committee have intermittently considered the question of a permanent water typing system rule for all waters including Type F and Type N waters—and the on-ground establishment of the break point between the two—since 2006.

Due to uncertainty about whether the objectives for water typing were being met under the interim rule, dispute resolution was raised and in 2013, discussions around water typing resumed in earnest. In February 2014, the Board directed the TFW Policy Committee to develop recommendations on a process for the implementation of a permanent water-typing system rule and to provide a consensus package of recommendations to the Board in November 2016. Apart from a temporary pause following the events of the 2014 SR-530 landslide, the TFW Policy Committee has made progress toward developing a set of consensus recommendations for the Board to consider.

The TFW Policy Committee developed a comprehensive approach, referred to as the Type F matrix, which established a crosswalk between the Board’s direction and actions needed to answer remaining questions. The matrix outlined next steps for implementing policy and scientific actions:

- Hydrologic model – available LiDAR data will be used to re-run the existing hydrologic model to evaluate if the targeted level of accuracy can meet objectives.
- Physicals – review the existing default physicals including the collection and review of current literature and, if needed, initiate a field study to assure application meets the objectives of default physicals.
- Evaluation of off-channel habitat – scientific groups were tasked with collecting and reviewing current literature and scientific approaches for describing the criteria for delineating off-channel habitat as it pertains to fish use.
- Delineation between Type F/N waters – actions include developing guidance regarding ‘best practices’ for protocol surveys (electrofishing) while minimizing site-specific impacts to fish and developing a methodology for establishing the regulatory break between Type F and Type N waters.

Integrating consensus recommendations with the science-based adaptive management process has been challenging. Uncertainties surrounding technical questions, disagreement among

policy makers on administrative processes and differing views of shared risk make reaching consensus on biological elements of final recommendations problematic. All stakeholders strive for a permanent rule that protects fish habitat, and disagreement persists for how fish habitat is characterized and to some degree, the scientific methodology that best captures the original intent of the FFR and Forest Practices HCP.

Adaptive Management Program

The AMP is a key component of Forest Practices HCP implementation. This section of the 10-Year Forest Practices HCP report focuses primarily on the second five years of Forest Practices HCP implementation: July 2011 to June 2016. For more detailed information regarding AMP during the first five years of Forest Practices HCP implementation see the [Forest Practices Habitat Conservation Plan 5-Year Report](#).

Cooperative Monitoring Evaluation and Research Committee Work Plan and Master Project Schedule

CMER follows a comprehensive work plan to guide its research and monitoring activities. The purpose of the CMER work plan is to present an integrated strategy for conducting research and monitoring. The work plan contains key questions and critical research and monitoring questions that are identified at the forest practices rule group level to address information gaps related to scientific uncertainty and resource risk associated with the rules. The plan is revised every two years in response to research findings of CMER or the scientific community, changing technology, changes in policy objectives and priorities, and funding.

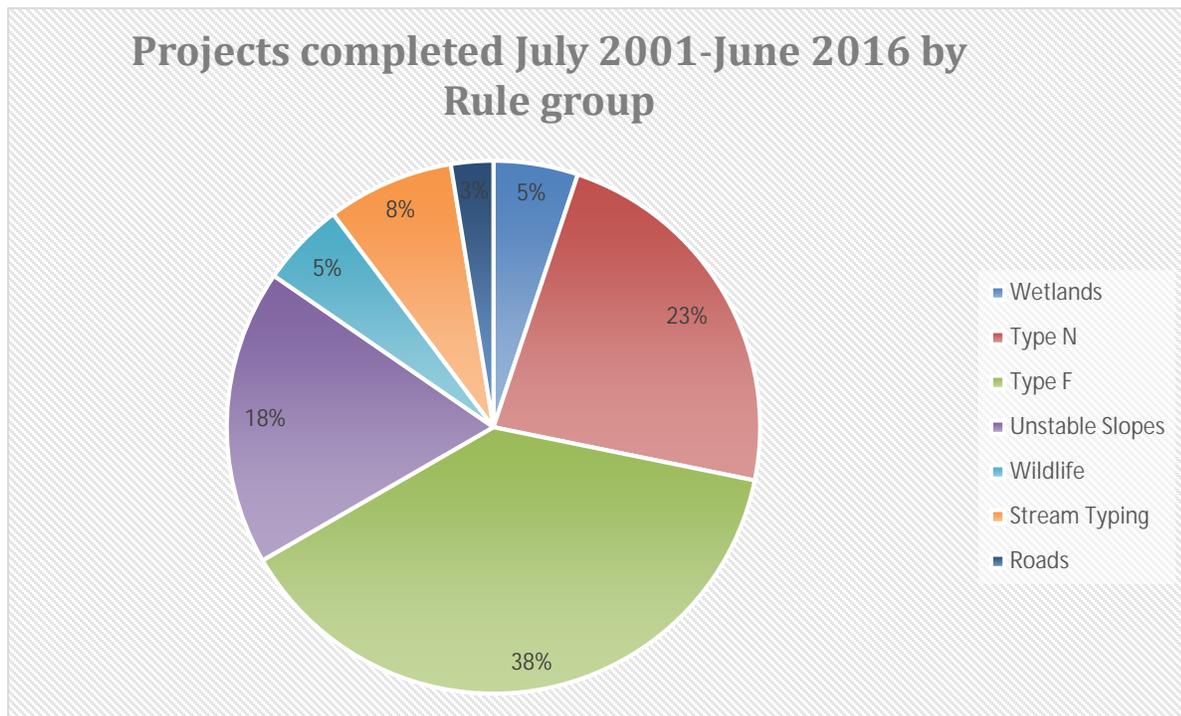
Projects in the [CMER Work Plan](#) were initially prioritized according to uncertainty and risk—uncertainty in the science behind the rules and risk to aquatic resources if the science or assumptions underlying the rules were incorrect. Projects were reprioritized by the TFW Policy Committee in 2009 according to whether or not they were answering critical questions associated with meeting the Clean Water Act requirements for HCP assurances and reprioritized again in 2014 based on the CMER Master Project Schedule that was developed as a result of the 2012 Forest Practices HCP Settlement Agreement. In the spring of 2012, the State negotiated a settlement agreement with the Conservation Caucus and the Washington Forest Protection Association concerning implementation of the Forest Practices HCP, which further affected the project priorities of CMER. This settlement agreement included a new project work schedule (CMER master project schedule) that can only be changed with consensus agreement by the full TFW Policy Committee and the Board. The purpose of the MPS is to help the AMP forecast when projects can be implemented, sequence projects for efficiencies, keep the budget within projected revenue and complete the critical projects that are already on the MPS by 2030. The agreement also resulted in three new voting caucuses being added to the original set of six in the TFW Policy Committee and reduced the dispute resolution process timelines. TFW Policy Committee developed (in FY14) and approved (in FY15) an MPS for projects identified in AMP.

Accomplishments

The following accomplishments section describes: implementation of CMER research and monitoring projects; implementation of a Lean process; and Type N and permanent water typing system efforts.

CMER Research and Monitoring Projects

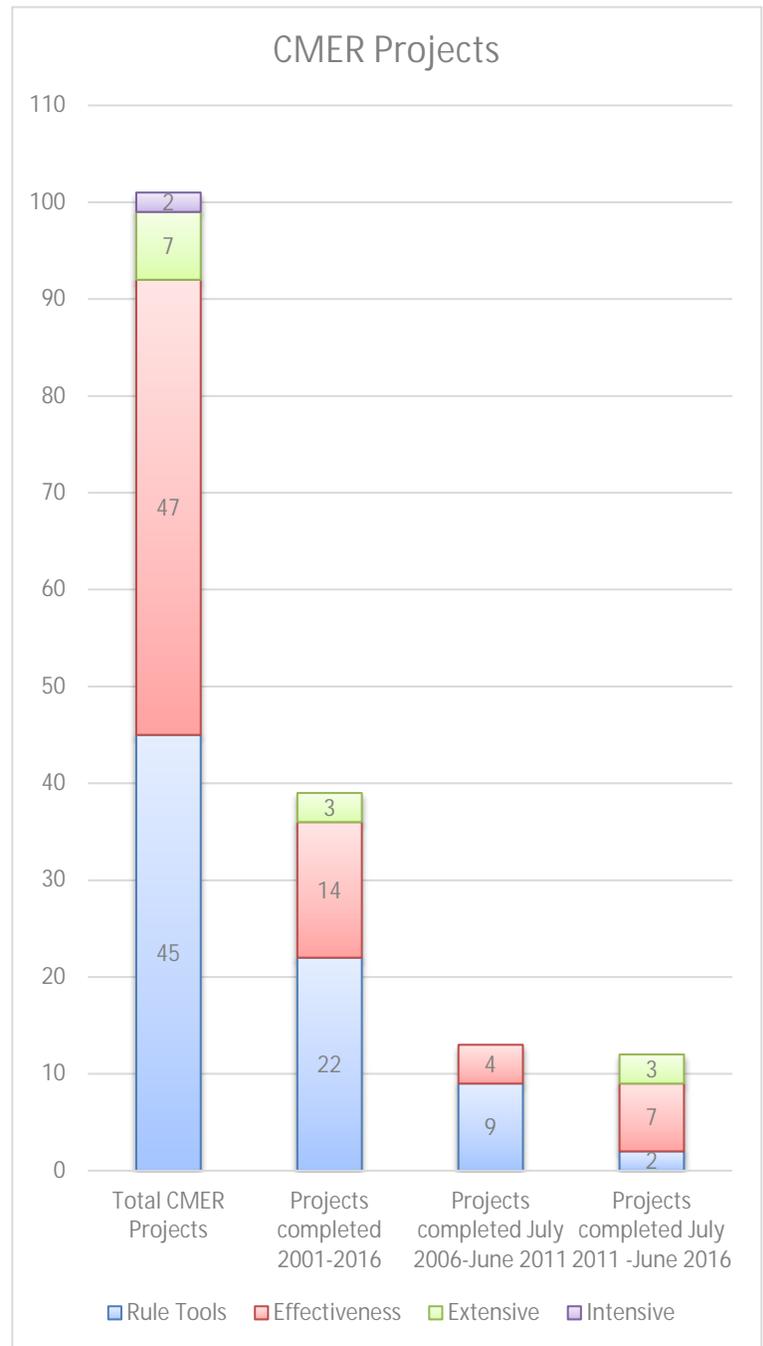
Since the beginning of AMP in 2001, 39 projects (of 101 total CMER projects) have been completed. As of June 2016, the CMER Committee has 20 active projects. Much of the program's early projects were rule tools—projects designed to develop, refine or validate tools (or methods and protocols) used to implement the forest practices rules that resulted from the [1999 Forests and Fish Report](#). In more recent years AMP has focused much of its effort on effectiveness and extensive (status and trends) monitoring projects. Effectiveness monitoring differs from the other approaches in that it is directed at prescription effectiveness, primarily at the site scale. Effectiveness monitoring projects are designed to evaluate the performance of the prescription in achieving resource goals and objectives. Extensive monitoring provides a statewide, landscape-scale assessment of the effectiveness of forest practices rules to attain specific performance targets on Forest Practices HCP lands. Extensive monitoring is designed to provide report-card-type measures of rule effectiveness (i.e., to what extent are Forest Practices HCP performance targets and resource condition objectives being achieved on a landscape scale over time). These measures can then be used to determine the degree to which progress is meeting expectations. Results from these types of studies will inform if forest



practices rules are effectively protecting natural resources or if changes are necessary and recommendations made to the Board.

Extensive monitoring projects evaluate the current status of key watershed input processes and habitat condition indicators across Forest Practices HCP lands and document trends in these indicators over time as the forest practices prescriptions are applied across the landscape. There are 14 completed effectiveness monitoring projects, with an additional nine projects close to completion. There are three completed extensive monitoring projects (Extensive Riparian Status and Trends Monitoring- Temperature, Type N Eastside Project, Extensive Riparian Status and Trends Monitoring- Temperature, Type F/S Eastside Project, and Extensive Riparian Status and Trends Monitoring- Temperature, Type F/S Westside Project) with two additional projects close to completion (Extensive Riparian Status and Trends Monitoring- Temperature, Type N Westside Project, and Extensive Riparian Status and Trends Monitoring- Vegetation, Type F/N Westside and Eastside Project). Some of the past projects successfully completed by CMER include:

- Perennial Initiation Point Study (PIP) - completed in 2004, PIP was a pilot study to evaluate field methods and inform sampling needs for a subsequent statewide field study (which has not been scoped). In 2006, the Board adopted rule changes based on the results of this study. The study results indicated that the default basin sizes available for use in determining stream perennial initiation points were too large. The Board adopted rule changes that eliminated the option to use a default basin size and to instead require landowners to locate on the ground the uppermost point of flow prior to harvesting timber. This rule change better identifies where protections are to begin for non-fish-bearing streams.



- Desired Future Conditions (DFC- riparian) Target Validation Project- completed in 2005, this project collected data on stand characteristics from a random sample of mature (140 years) unmanaged conifer-dominated riparian stands in western Washington. Samples were used to compare basal area per acre to the current DFC targets in rule and to evaluate alternative parameters for characterizing DFC. The study's findings showed that basal area per acre of mature, unmanaged conifer-dominated riparian stands is significantly greater than the basal area targets required in the rule. In 2009, the Board adopted rule changes to increase the target basal area to 325 square feet per acre for all site classes which will provide greater protection for the inner zone riparian area in western Washington Riparian Management Zones (RMZs)
- Mass Wasting Effectiveness Monitoring Project- completed in 2013, this project was designed to statistically compare landslide rates among five harvest treatments and five road treatments. The detailed data collection at individual landslides was used to help evaluate the effectiveness of specific best management practices. The project evaluated the extent of landslide occurrence within harvest units (treatments) that were characterized by stand age and the extent of harvest activity on rule-identified landforms, and from road segments defined by road condition. The study found the landslide density was higher for road landslides than for hillslope landslides.

The 20 active research projects currently underway could result in a recommendation from TFW Policy Committee to the Board for rule adjustments based on adaptive management scientific research. Current research projects could inform rule groups associated with the Type N and F water riparian prescriptions, unstable landforms, wetland protection, road prescriptions, and stream typing. The 13 research projects scheduled for completion in 2017 are expected to:

- Inform the Board if forest practices rule changes are required or, conversely, if they validate existing rules;
- Possibly bring to light potential future projects; and
- Possibly bring to light the need for future additional Board Manual guidance.

In addition to CMER projects, AMP continues to work on several priorities from the Board that include:

- Developing a research strategy for mass-wasting research,
- Developing a permanent Type F water typing rule which includes addressing physicals used in the Type F habitat break and protection of off-channel habitat, and
- Initiating a pilot project using LIDAR for hydrologic modeling.

Lean (not an acronym) Process

In FY12, TFW Policy Committee recommended that the Board direct AMP to review its methods using the Lean process. The goal was to find ways to improve program efficiency (see

challenges below). Ultimately, the program conducted an “opportunity assessment” using Lean which resulted in development of process improvements that might be successfully used. TFW Policy Committee approved AMP to pilot a Lean process at the Technical Writing and Implementation Group (TWIG) level. TWIGs are small groups made up of qualified scientists and technical personnel with area expertise which develop scoping documents and study designs for proposed CMER projects. The premise is that a smaller team with specific expertise would be more effective and efficient in developing scoping documents and study designs than would a larger group. After AMP identified all the steps and timelines involved in moving these projects through CMER, five projects were chosen for the pilot Lean effort. As of June 30, 2016, these five projects are in various stages of the Lean process.

Type N and Permanent Water Typing System

In FY12, the TFW Policy Committee initiated discussions on two priority items: development of a Type N water strategy (how to address Type N water issues); and, development of a strategy for transitioning from the interim water typing rule to a permanent water typing system (Type S and F waters) as was anticipated by the Forest and Fish Report and the Forest Practices HCP. In FY12, the TFW Policy Committee determined that developing the Type N water strategy was of the highest priority. Since 2012, while TFW Policy Committee has completed some work on the Type N water strategy, a decision was made to temporarily change focus from Type N to developing and implementing a permanent water typing system as the top priority. During FY16, TFW Policy Committee and subcommittees engaged in intense work centered on development of a permanent water typing system. The work has involved; evaluating physical characteristic default criteria for determining the Type F/N regulatory division point, evaluating off-channel habitat protection, reviewing the water typing model and developing a habitat assessment methodology which reduces protocol survey electrofishing in establishing the regulatory Type F/N break point. The Board directed TFW Policy Committee to bring back to the Board during their November 2016 meeting, the following: recommendations for water typing rules; guidance and training needs for the rules; and, future research needs. For more information on development of a permanent water typing system and its current status, see the *Permanent Water Typing System* chapter in this report.

Challenges

Many of the challenges the AMP identified in 2012 for the five-year FPHCP report still remain. Progress that has been made is discussed in the individual sections below:

Long-term program funding

Current funding of the AMP is generated from General Fund-State (GF-S) and the FFSA. For the 2017-2019 AMP budget 26% is from GF-S with the remaining 74% 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: Finding study sites is challenging. 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 small forest non-industrial 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: Few new CMER research and monitoring projects have been implemented on the ground in the last few years, in large part due to the lack of scientific capacity in the AMP to develop and implement study designs. Most participants are already heavily involved in current projects, many of which are in the latter stages of analysis or report writing. Consequently, few new research and monitoring projects are being developed and implemented in the field.

Progress has been made in this area with three new positions having been approved. The positions included: a CMER wetland scientist, a CMER staff geologist and a new project manager within AMP. Once these new positions are hired, workload will be able to shift, leading to more projects being able to be processed and moved through the CMER Committee.

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. However, the State is exploring the possibility of partnering with new collaborators as detailed in the Future Direction section below.

Caucus commitment to workload needs and collaborative process: The time commitment from the respective caucuses varies depending on work items. Given that many projects have

multiple steps, a missed step or two early in the process has led to problems with gaining consensus later in the process.

CMER Protocols and Standards Manual Updating

The CMER Protocols and Standards Manual (PSM) was designed to be a living document, changing over time as CMER processes change. The manual provides information and guidelines concerning the role, structure, governance, and activities of CMER. It is intended to be revised as the CMER program develops and changes. The manual is particularly important as a set of guidelines on review and approval procedures for study designs and reports. Many sections being updated in the document will improve procedures and processes. Updating the document has been a slow process with differing levels of involvement from the different caucuses, however having an up-to-date PSM that reflects current CMER processes and procedures will improve program efficiency and effectiveness.

Trends

Emerging trends from implementation of AMP include:

- There is a shift of focus from rule tool type projects to effectiveness and extensive status and trends.
- There has been an increase in AMP dispute resolution.
- The lack of capacity continues to effect timely completion of study designs and the review of documents.
- There is a tendency for Policy issues to be vetted at CMER.

Shifting focus for CMER projects: As the AMP continues to change, the priority of projects change. In earlier years, trends for projects usually focused on rule tools. Now the focus has shifted to effectiveness and extensive status and trends projects. Results from these types of projects will inform if forest practices rules are effectively protecting natural resources or if changes are necessary and recommendations made to the Board. 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 increase in dispute resolution is due to the changes made based on the requirements of the 2012 Forest Practices HCP Settlement Agreement which allows recommendations to be brought forward to the Board.

Capacity and availability: Another challenge that has been identified as an ongoing trend is the lack of stakeholder availability for comprehensive review of documents needed to provide for

timely progress on projects. This is due both to limited human resource capacity and prioritization among employers to make time for the review process.

Defining CMER and TFW Policy Committee Roles: A tendency has developed over time for Policy issues to be vetted at CMER. This presents a difficulty when CMER's charge is to advance science unencumbered by policy, to help inform Board decisions.

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.

Permanent Water Typing System

AMP will continue to support the TFW Policy Committee on work for a permanent water typing system rule. AMP and TFW are working to meet the Board's direction to bring recommendations for water typing rules; guidance and training needs for implementing the rules; and, future research needs to the Board. For more information on development of a permanent water typing system, see the Type N and Permanent Water Typing System paragraph above and the *Permanent Water Typing System* section (page 15) in this report.

Timely Project Completion:

- The State is investigating ways to raise the level of expertise for scientists involved with CMER so that CMER can continue to provide the Board with accurate science.
- The State is pursuing new possibilities for forming research partnerships with other entities. Communications and collaborations have begun with the Pacific Northwest Research station, National Center for Air and Stream Improvements, USGS Freshwater research, Rocky Mountain research station, Oregon State University, University of Washington, NOAA, USFWS, University of British Columbia, University of Idaho and private consultants.

CMER Protocols and Standards Manual Updating

Work will continue on the PSM to help improve CMER program efficiency and effectiveness.

Type N Water Rules

AMP and the TFW Policy Committee will continue on-going work to develop a strategy that will ensure the Type N water rules are designed and applied in a manner that effectively protects water quality. CMER currently has a number of multi-year projects that will inform this work with final reports expected in 2017 or 2018 including; Type N Experimental Buffer Treatment in Hard Rock Lithologies, Westside Type N Buffer Characteristics, Integrity, and Function (BCIF), Buffer Integrity- Shade Effectiveness (Amphibians) Project, Extensive

Riparian Status and Trends Monitoring- Temperature, Type F/N-Westside, and Extensive Riparian Status and Trends Monitoring- Vegetation, Type F/N-Westside. TFW Policy Committee will rank and fund Type N water studies as highest priorities for research and monitoring, resolving issues involving identifying the uppermost point of perennial flow, and completing a comprehensive literature review examining the effects of buffering headwater streams. The TFW Policy Committee will examine CMER effectiveness monitoring projects and determine if they are likely to provide the timely information needed to make policy determinations on Type Np water rule effectiveness.

Small Forest Landowners



Small Forest Landowner Office

Ten-year Trends

During the first ten years of Forest Practices HCP implementation, the SFLO recorded many accomplishments and successes. The successes and accomplishments of the first five years of implementation can be found in the [Forest Practices HCP 5-year Report](#). Described in this section are several successes and accomplishments during the second five years of implementation and identification of additional work and resources needed in order to fulfill the SFLO legislative objectives.



Lack of sufficient funding was clearly the primary trend and challenge overall for the SFLO program during the entire ten-year reporting period. However, the reader will note a small level of funding improvement during the second five years of implementation.

Forestry Riparian Easement Program

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 with “qualifying timber.”



FREP Successes

Since 2003, FREP has been used by DNR to acquire 337 conservation easements protecting 5,495 acres of riparian areas and adjacent unstable slopes. There are now 132 eligible landowners on the waiting list to be compensated, and this list increases every year. In 2016, SFLO hired two project FREP natural resource specialists. These positions help the program oversee the cruising contracts to value the qualifying timber for those applications on the FREP waiting list. In previous years, FREP did not have adequate staffing to mark the qualifying timber and oversee the cruises to value the easement areas. Thus the value of the qualifying timber was not determined until the application was funded (often five to eight years after the application was received). Adding this staffing capacity was an important positive step in the FREP acquisition process as the program is now able to determine the value of the qualifying timber as soon as a FREP application is received.

FREP Challenges and Opportunities

Before 2009, the year when state budget cuts affected every agency as a result of the Great Recession, SFLO programs received modest funding through the State Capital Budget. For the FREP, the average biennial funding between 2002 and 2009 was \$6.55 million. After 2009, the average biennial funding decreased to \$1.87 million. Since 2015 however, FREP funding has increased to \$3.5 million.

In 2011, the legislature directed the chair of the Board to form a group of stakeholders to investigate and recommend potential new long-term funding sources for FREP. DNR, at the request of the Board Chair, hosted a public meeting to collect ideas from interested stakeholders for possible FREP funding sources.

After careful consideration of stakeholder comments, DNR’s experience implementing the FREP over the last ten years, and the stated intent from chapter 76.13 RCW, the Board Chair recommended legislative consideration of three potential permanent long-term funding sources for FREP:

1. Continued appropriation of capital budget funding for FREP to fulfill the State’s contributions to assist small forest landowners in meeting their obligations to; the Forests and Fish Report, forest practices rules, Forest Practices HCP, and FREP as outlined in chapter 76.13.120 RCW.
2. Redirect existing funds through any one or more potential options including the FFSA and Aquatic Land Enhancement Account (ALEA).
3. Create new revenue sources to fund FREP such as real estate excise tax surcharges on transfer of development right transactions, a new state lottery, or vehicle or driver’s license “opt out” fee (similar to State Parks).

The recommendations were submitted to the legislature. To date, the legislature has elected to continue to fund FREP through appropriation of state capital funds.

Forestry Riparian Easement Program Summary

	FY 2003-2005	FY 2006 - 2011	FY 2012 - 2013	FY 2014 – 2015	FY 2016*	TOTAL
Amount Appropriated (million)	\$7.7	\$19.5	\$1	\$2	\$3.5	\$33.7
Easements Purchased	87	203	13	25	9	337
Acres Purchased	1,480	3,460	110	288	157	5,495
Total Applicants on List	56	154	95	125	132	132

*The 2016 data is for 12 months.

Family Forest Fish Passage Program

The FFFPP has provided important assistance to small forest landowners for removing fish passage barriers on their land during the entire ten years of Forest Practices HCP implementation.



Before



After

FFFPP Successes

Since the FFFPP began in 2003, the program has been used to eliminate 368 fish passage barriers that opened access to 844 miles of habitat for fish.

FFFPP Challenges and Opportunities

The three greatest challenges facing the FFFPP during the second five years of HCP implementation are the same as during the first five years of HCP implementation: adequate funding, filling data gaps in the fish barrier inventory, and implementing effective outreach to provide information about FFFPP to landowners that would benefit from the program.

Funding – Average FFFPP biennial funding between 2003 and 2009 was \$4 million. After 2009, the average biennial funding decreased to \$3 million (excluding the \$10 million allotment from the Jobs for the Environment Bill explained below). Since 2015 however, FFFPP funding has increased to \$5 million for the 2016-2017 biennium. In June 2012, FFFPP partnered with the Natural Resources Conservation Service under the Puget Sound Salmon Recovery Partnership grant to eliminate fish passage barriers through the replacement of several culverts on high priority projects in the Puget Sound. This grant funded elimination of fish passage barriers on three small forest landowner’s culvert replacement projects.

Also in 2012, an opportunity presented itself through the passage of the “Jobs for the Environment” bill, and FFFPP was allocated \$10 million dollars. That funding was used to eliminate almost 100 fish barriers during the 2012-2013 construction season.

Data gaps in fish barrier inventory – Much remains unknown about the number and condition of fish passage barriers on small private forest lands. A fundamental problem facing systematic gathering of the information is about individual landowners granting permission to governmental agencies to access their property. Available funding is another issue. Each biennium, DNR has requested funding of \$300,000 to conduct fish barrier inventories in areas where inventory information is limited, but the legislature has not acted to grant that request.

Outreach – In 2012, the FFFPP created a video to educate small forest landowners about the program. The intent of the video was to increase landowner enrollment and to potentially increase funding opportunities based on increased enrollment in the program. The video was directed specifically to non-industrial private forest landowners, other conservation professionals, as well as governmental and non-governmental representatives throughout the state of Washington.

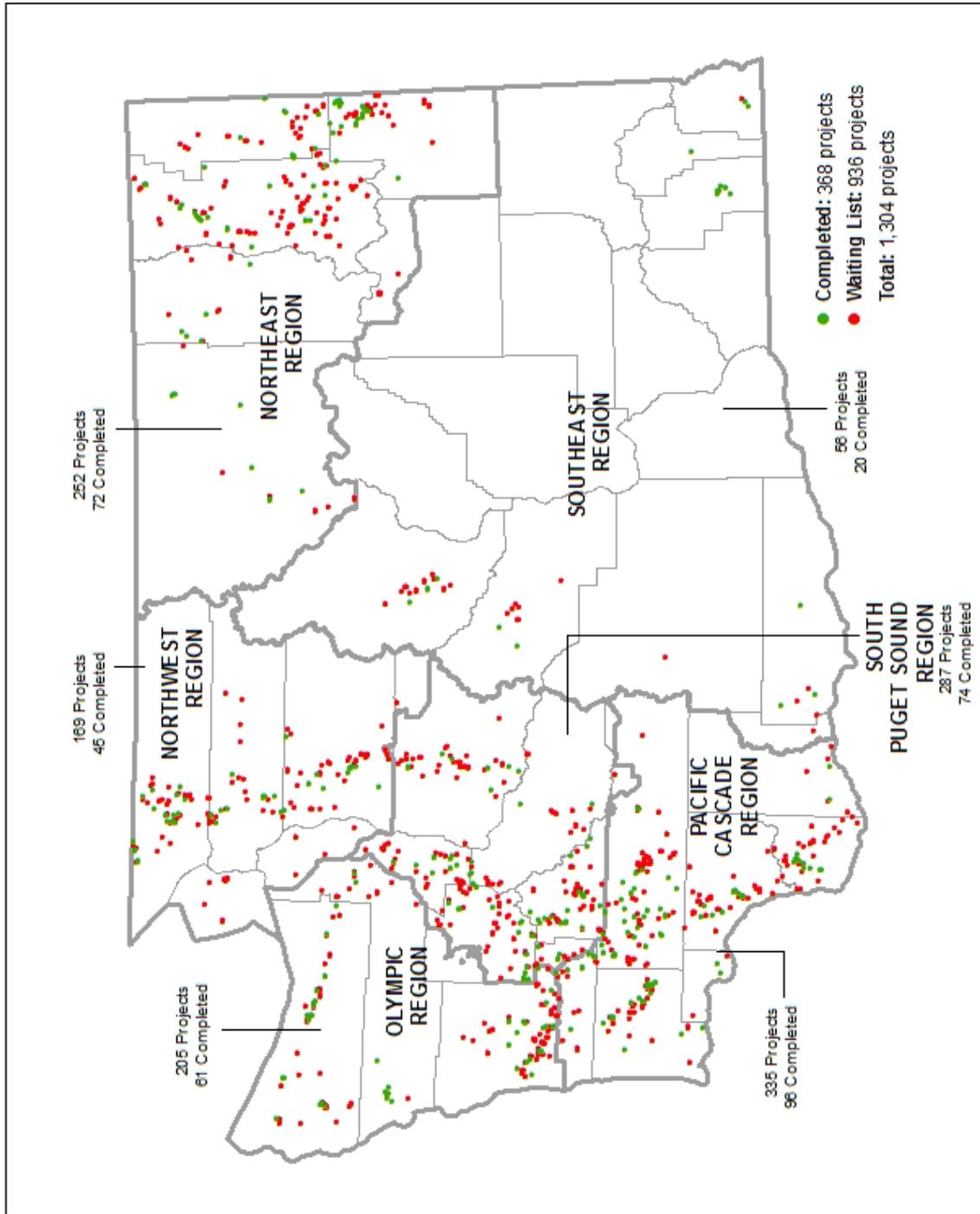
2003-2016 Summary of FFFPP Projects

Summary	Totals
Eligible Barriers on Waiting List	936
Projects Completed	368
Miles Opened	844
Average Cost per Site	\$94,560
Average Miles Opened Per Project	2.3
Dollars needed to Complete all Barriers at Approx. \$100K/project	\$92,600,000

2003-2016 FFFPP 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
\$36,500,000	Total

Family Forest Fish Passage Projects Completed 2003-2016



Rivers and Habitat Open Space Program

The Rivers and Habitat Open Space Program (formerly known as the Riparian Open Space Program) ensures the long-term conservation of aquatic resources and upland habitats by

acquiring permanent conservation easements on lands and timber within a specific type of channel migration zone (CMZ) known as an ‘unconfined channel migration zone’ and habitat of threatened and endangered species (or critical habitat).



Rivers and Habitat Open Space Successes

Since the beginning of this program conservation easement acres purchased are 1042 acres within CMZs and 25 acres of critical habitat for state threatened or endangered species were placed into permanent easements through the Rivers and Habitat Open Space Program.

Small Forest Landowner Office Outreach Efforts

The SFLO defines outreach as communication between the agencies 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. One of the challenges of the SFLO is to make contact with small forest landowners to make them aware of the SFLO’s technical, educational, and cost-share assistance programs available to them.

Successful Outreach Efforts

SFLO Survey – One method of outreach used is an online survey. The Small Forest Landowner Office’s online survey requests information about the demographics of our landowners, such as: how many acres they own, how long they have owned their property, the purpose of the use of the forest land, whether water is present on the property, and organizations that they are involved in. Almost 1,200 small forest landowners have taken this survey. To date, the survey indicates:

- Almost half of the respondents (45%) manage parcels smaller than 20 acres in size.
- Fifty-six percent have land ownership tenure of less than 20 years, with intergenerational ownerships (51+ years) comprising less than a fifth of the respondents.

- Almost three quarters of the respondents (70%) have streams, with 17 percent having more than one type of water body (stream, wetland, lake, or pond). Twenty-nine percent of landowners reported no water body present.
- Over half (57%) of the respondents manage the land for non-timber uses, with wildlife habitat (24%), aesthetics (14%) and recreation (12%) chosen most often. Length of ownership also seems to be a factor in the respondent’s primary management objective. Ownerships of 11 to 20 years are the least likely to be used for timber harvest, perhaps reflecting harvest rotation cycles and the age of the timber when the parcels were purchased.

Responses to the open-ended question for organizational involvement indicate that only 20 percent of landowners are involved in forestry groups, with almost 70 percent reporting no organization affiliation.

TELE Outreach Method – Also, in order to increase the effectiveness of outreach, staff are broadening their demographic understanding of small forest landowners through the use of a new method of outreach through the Sustaining Family Forests Initiative [Tools for Engaging Landowners Effectively](#) (TELE).

Rather than using a broad-brush approach that tries to appeal to everyone, TELE uses a methodology called targeted marketing. Targeted marketing means designing communications that bring about a specific behavior change in a selected group of people. It seeks to reach people through their preferred channels, using messages that are most likely to appeal to them based on an understanding of their specific values, preferences and other characteristics. The SFLO has developed a targeted marketing campaign for the FFFPP and will be using the plan as a model for improving outreach efforts for the FREP program as well.

Celebrating American Tree Farms 75th Anniversary

On January 21, 2016, the Commissioner of Public Lands, DNR’s SFLO, the Washington Tree Farm Program and the Washington Farm Forestry Association celebrated 75 years of sustainable forestry in Washington State at a special ceremony that took place in the State Capitol rotunda. The celebration was to honor the key role of the American Tree Farm System in nurturing sustainable forestry since the establishment of Clemons Tree Farm near Montesano in 1941 — the American Tree Farm System’s first nationally certified tree farm.

Accomplishments in the Small Forest Landowner Outreach Office

Goals For Reporting Period	Outcomes For Reporting Period
1. Presentations to groups around the state	Ongoing TFW Meetings Regular District Meetings Scheduled WFFA Meetings Annual Regional Forest Owner Field Days

	Fire Wise Workshops On-going WSU Coached Planning Courses Conservation District meetings Meetings with County Assessors
2. On-line Survey	Almost 1,200 landowners have taken the survey
3. SFLO Newsletter	4,000 subscribers
4. Brochures	Created the first FREP brochure Updated the FFFPP brochure Created the first Forest Stewardship brochure
5. SFLO Website	Complete re-design of the SFLO website
6. Fact Sheets	Created a Forest Stewardship Fact Sheet Updated the FFFPP Implementation Guidelines
7. Media Outreach	Celebration of ATF 75 th Anniversary Created FFFPP video
8. SFLO Program Mailings	The FFFPP and FREP conducted targeted outreach efforts sending postcards to selected counties across the state.

Small Forest Landowner Roads

Lack of information on small forest non-industrial landowner roads hampers DNR's ability to monitor and assess the state of forest roads on small forest private forest lands. In 2015, the Small Forest Landowner Office initiated a project called the Statewide Roads Assessment Project. The project involved developing and implementing a statewide outreach to small forest landowners to gain more knowledge of the condition of their forest roads and the potential for their roads to meet the forest practices rules and regulations. The project was implemented statewide to provide supplemental information from the small forest landowner checklist RMAP in all counties with small forestland ownerships.

The goal of the statewide project was to provide information to address the following issues:

- The statewide extent, location and condition of roads on small non-industrial forest landowner parcels.
- The landowner's understanding of the condition of their road system, their roads' potential for protecting public resources, and what, if any, RMAP requirements apply to the road/s.
- The lack of funding to provide resources to small forest landowners to ensure that compliance with WAC 222-24-0511 is met.

Of the 9,296 small private forestland owners contacted during the Statewide Roads Assessment Project, only 222, or 2 percent, provided feedback. Small forest landowners have fewer RMAP

reporting requirements than industrial forest landowners because, in an effort to minimize the economic hardship on small forest landowners, the 2003 Washington State Legislature passed an RMAP bill (HB1095) that modified RMAP requirements for small forest landowners. Small forest landowners have the option to submit a “checklist RMAP” with each Forest Practices Application or Notification covering only roads within the forest practices application, rather than providing a plan for their entire ownership (such as that required for large landowner RMAPS).

The low voluntary participation of small forest landowners in the statewide small forest landowner roads assessment, and lack of reporting requirements on the checklist RMAP filled out by small forest landowners, hamper the State’s ability to determine the effectiveness of forest practices road construction and maintenance rules on small forest landowner forestland.

2008 and 2012 Small Forest Landowner Demographic Report

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 the amount of small forest landowner acreage divided into specific size class groupings,
- The number of small forest landowners who own the land in each of the specific size class groupings,
- The number of parcels of small forest landowner land held 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 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.

A Washington State Forestland Database was created using county parcel data. The dataset was intended to provide a comprehensive platform to understand the spatial characteristics of all private forestland ownership in Washington State, including small forest landowners.

Summary statistics for small forest landowners that are required in the Small Forest Landowner Demographic Report were obtained from the Washington State Forestland Database for the 2008 and 2012 Demographic Reports.

The results of the questions listed above show that:

	Number of Small Forest Landowners	Acres Owned by Small Forest Landowners
Western Washington	160,448	1.6 million
Eastern Washington	54,857	1.67 million
TOTAL	215,305	3.27 million

Of note, out of a total of 846 watershed administrative units statewide, 382 watersheds contain a significant proportion (10 percent or greater) of small forest landowner forestlands.

Unfortunately, the Forestland Data Base has not been updated since 2007 due to lack of funds. No new data is available to provide updated statistics or identify trends from previous years. Both the 2008 and 2012 Demographic Reports reported to the legislature the need for additional funding to maintain the database and to keep the information current. The SFLO estimated that conducting the updates and analyses of this forestland database every four years (as required in RCW 76.13.110) would cost approximately \$150,000 for each round of analysis.

The SFLO has submitted grant proposals to the Natural Resources Conservation Services Regional Conservation Partnership Program (RCPP) and the USDA Forest Service Western Competitive Resource Allocation Grant Program to fund the update of the forestland database. Unfortunately, the SFLO has yet to be awarded the grant dollars requested from these entities.

The information provided in the Demographic report is vital to understanding changes in the demography of small forest landowners. Without future funding to update the Washington State Forestland Database, the Legislature and the Board will not be able to stay abreast of possible changes in demographics that could affect public resources as well as the economy of the state.

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 agency staff, forest landowners, and individuals from the Timber, Fish and Wildlife community on implementation of forest practices rules. 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.

There are four major venues in which the Forest Practices Program provides training:

- Forest Practices Program training;
- Subject-based training;
- Region staff-provided training; and
- Washington Contract Loggers Association (WCLA) training.



2015 Forest Practices Hydraulic Projects Training (FPHP)

Trends

The primary trends seen in the training program for the ten years of this reporting period are resilience and statewide program teamwork during budget shortfalls. The training program functioned under a training manager for the first four years of this reporting period (2006-2016). In 2009, economic conditions and budget shortfalls resulted in the elimination of that position. The loss of this position reduced the ability to provide a structured and regularly scheduled training program. The training manager position was re-established in 2012.

During the period between 2009 and 2012 and a subsequent staffing shortage from 2014 to 2015, training was led by DNR division and region staff to keep established classes running and to develop and provide rule mandated courses. These efforts helped to mitigate effects of budget shortfalls for only the most critical training requirements. This program-wide teamwork

exemplifies Forest Practices Program participants' commitment to continue to protect public resources even during difficult budget years.

Since the program has reestablished the training manager position, significant progress has been made in updating course content. Reviews have been conducted on the range of classes currently offered with updates and improvements being made where applicable. This process will continue as the program stabilizes.

Since January 2016 The Forest Practices Training Program has made significant strides in reducing the backlog of people waiting to take critical courses. This trend should continue over the course of the next biennium.

Accomplishments

DNR published an updated edition of *Forest Practices Illustrated* in April 2007. The booklet is a non-technical guide that uses photos and illustrations to help Washington's small forest landowners, loggers and natural resources professionals understand Washington's forest practices rules. The revised edition reflects the sweeping changes made in the state's forest practices rules in 2001 to address the protection of federally listed threatened and endangered aquatic species.

A Clean Water Act (CWA) training milestone (see [2009 Clean Water Act Assurances Review of Washington's Forest Practices Program](#)), completed in 2010, established a framework for certification and refresher courses for all participants responsible for regulatory or Compliance Monitoring Program assessments. The completed project focused on aiding in the application of rules regarding; bankfull width, CMZ boundaries, application of road rules, and wetlands.

A new Water Type – Bankfull Width training was developed in 2013. The teaching objectives included explanation of: water type determination; WAC 222-16-031 and Board Manual sections 2 and 3; and required information for completion of water type modification forms. Instructor-led field and classroom exercises were used to demonstrate the training objectives. Region staff that were trained, in turn, provided the training to their stakeholders in the region.

The Board adopted forest practices hydraulic rules in 2013 that fulfilled the FFR expressed intent to fully integrate forest hydraulic projects into the forest practices program. An in-depth comprehensive experiential new training program for forest practices hydraulic project compliance was produced and executed in 2015. These trainings were presented statewide to Forest Practices Program field and office staff. The training was designed to address both the office FPA intake processing and field compliance components related to installation, removal, and abandonment of water crossing structures. The training focused on evaluating the structures for fish passage, suitable erosion control and structural integrity.



2016 Enforcement and Compliance Training, Wenatchee WA

Challenges

Despite the accomplishments of the training program there are challenges to be addressed, some of which are largely due to the lack of having a training manager on staff.

In many cases, course content has remained virtually unchanged as parts of courses have become dated. Some presentations have been recycled beyond their effective lifespan. Additionally, new training development has been slow to be realized. There is a need for creation of completely new courses that focus more deeply on critical topics. Natural resources is a dynamic field with frequent changes. As science evolves, policy changes to meet society's values, and laws are amended, new and updated training courses are necessary for effective implementation of the new changes and ultimately for protection of Washington State's public resources.

The training program has also seen the numbers on waiting lists for training steadily rise over the last few years when a training manager was not on staff. The result is a significant backlog of both state personnel and industry personnel waiting for needed training. In particular, unstable slopes training, and channel migration zone training are in extremely high demand. These two classes remain a huge priority for the program.

The challenges previously discussed combine together to create yet another challenge which is the non-training staff time taken away from regular job duties and the stress that this challenge brings with it in an effort to support an understaffed training program. The success of staff filling in to keep critical training ongoing is a testament to their ability to adapt and overcome challenges, however, there is a tradeoff in productivity that is sometimes hard to measure, but is undeniable.

Future Direction

Since 2016 when the training manager position was refilled, the training program has been working toward addressing all of the challenges discussed above and actively looking toward the future to innovating new training techniques and broadening the audience that the State can reach.

The main goals of the program for the future are:

- Establish a regular yearly training schedule
- Update existing courses
- 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

Compliance Monitoring Program



Compliance monitoring is a key component of Forest Practices HCP implementation. Compliance monitoring provides feedback on how well operators and landowners are complying with the forest practices rules when conducting forest practices activities. The information gained through the CMP (as well as from the daily efforts of onsite region forest practices foresters) provides critical feedback to the Forest Practices Program about where to focus training efforts and where improvements may be needed in forest practices application review, compliance, or enforcement and where rule clarification or board manual revisions might be warranted.

During the first ten years of Forest Practices HCP implementation, there were numerous changes made in the CMP. As a new program, it has taken trial and error to ascertain the best methods for conducting compliance monitoring within the available budget. Because of multiple changes over time, the program cannot yet provide comparison data for a ten-year period. As a result, this report primarily focuses on results from the last five years (2011-2016) of compliance monitoring. For information regarding the first five years of Forest Practices HCP implementation please refer to the [Forest Practices Habitat Conservation Plan 5-year Report](#).

Accomplishments

Accomplishments during the five-year period, ending June 30, 2016, include the following:

- In 2014, CMP integrated a more quantitative estimate of compliance with each rule accompanied by an increase in precision associated with the overall sample estimates.
- The most recent 2014-2015 estimate of compliance indicates that standard riparian and road rules compliance rates for the most part meet or exceed the DNR's stated goal of 90 percent compliance.
- The ratio of observed underclassified waters (waters that should have been typed and protected at a higher level) to the total number of waters evaluated in the standard rule sample dropped from 37 (13%) in the 2010-2011 biennium to 11 (6%) in the 2014-2015 biennium.

- In 2016, the CMP incorporated rule and prescription compliance data into year-over-year trend analysis to discern patterns of changes in compliance rates measured over time (starting with 2010 data).
- Trend analysis was conducted on four stream prescriptions, two wetland prescriptions, and the road construction and abandonment prescription types. Trends of annually increasing prescription compliance rates (i.e. average increase in compliance year over year) were observed on two riparian prescription types as well as the road construction and abandonment prescription type. No statistically-significant increasing or decreasing trends were observed for the remaining prescription types.

Updated Sampling and Methodologies

In 2014, CMP updated sampling and analytical methodology. As part of the former study design, each FPA was evaluated as either compliant or not compliant for the prescription, based on 100 percent compliance with all rules within the prescription. The prescription compliance was the number of FPAs that were 100 percent compliant divided by the total number of FPAs containing the prescription. This is viewed as a binomial proportion, and confidence intervals were formed under this assumption. The sample sizes required for precise estimates of these proportions were costly and difficult to attain, and the pass/fail aspect of the compliance assessment did not adequately identify or explain where exactly in the forest practices rules deviation is occurring.

The 2014 update integrated a more quantitative estimate of compliance with each rule, with an increase in precision associated with the overall sample estimates. Cluster sampling continues to be the method of sampling used. Two levels of sampling units exist: the prescriptions and the rule application. The prescriptions are clusters of rule applications.

A change was made to the methodology of assessing compliance with each prescription. In the previous method, only one assessment was made for each prescription per FPA, so the FPAs were all clusters of size 0 or 1. The 0's were dropped out of the population for the prescription. The current methodology assigns multiple applications of rules to a single FPA (i.e., the number of rules under prescription A on a single FPA = 0, 1, 2... up to the total number of rules under each prescription), so that the FPAs are treated as clusters.'

The purpose of this change was to estimate the *average* compliance for a prescription or rule group among FPAs rather than the proportion of completely compliant activities among FPAs. If a single rule is of interest, the compliant proportion for that rule is a simple binomial proportion — FPAs that do not apply the rule drop out of the population. When groups of rules (or prescriptions) are of interest, all FPAs that contain at least one of the rules are part of the population (from a random sample). Multiple implementations of a rule on a single FPA are not independent, the FPA is a cluster sample, and each has a different number of rules. The

mean or average compliance and the variance of the mean are calculated according to the rules of estimation for cluster samples (Cochran 1963; Scheaffer et al. 1990).

Data collected during the 2012-2013 & 2014-2015 biennium field seasons were evaluated using the new quantitative analysis methodology developed in 2014. The compliance results for the nine standard rule prescriptions are provided in the table below.

Prescription Compliance Rates for the 2012-2013 & 2014-2015 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%

The more quantitative estimate of compliance shows that standard riparian and road rules compliance rates are consistently near or above the DNR’s stated goal of 90 percent compliance.

Trend Analysis

Following the 2014 field sample, trend analysis was incorporated into the CMP. For 2010-2015 data, rule compliance was carefully tracked to make sure that the compliance determination was consistently applied in all years. Data were converted to ensure consistent application of compliance determinations across the dataset (that is, for the 2010 – 2013 data). Where data were not collected in accordance with current field protocols, were incomplete, or unconvertible, the data were removed from the trend analysis dataset. Data for rules were combined and compared through time within each corresponding prescription type. Trends in average compliance within prescriptions and individual rule compliance are tracked to maintain consistency with current methods.

Standard Prescription Compliance Data results

Prescription Types

Over the past two biennia, from 2012 to 2015, the program has sampled the following prescriptions:

- 149 No Inner Zone Harvest prescriptions
- 53 Desired Future Condition 1 prescriptions
- 62 Desired Future Condition 2 prescriptions
- 67 Non-Fish Perennial Streams prescriptions
- 9 Non-Fish Seasonal Streams prescriptions
- 74 A & B Wetlands prescriptions
- 40 Forested Wetlands prescriptions

- 49 Road Construction and Abandonment prescriptions

The table below lists and briefly describes the various riparian prescriptions allowed by forest practices rule by water types and geographic regions. These are the prescriptions that were sampled for compliance monitoring.

Riparian prescriptions with geographic zone, Water type and Description

Prescription	Water Type	Brief Description of Prescription Activity
No Inner Zone Harvest RMZ	Fish bearing	Harvest in the outer zone only.
DFC Option 1 Harvest	Fish bearing	Harvest in the outer zone and thinning from below in the inner zone.
DFC Option 2 Harvest	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.

Riparian Rule Compliance

The compliance results for 2012-2013 and 2014–2015 are shown by prescription in the following tables. Both industrial and small forest landowners have been combined for all sampled prescriptions.

Riparian Rule Compliance Comparison between Biennia 2012-2013 & 2014-2015*

Combined Landowner groups	Compliance with rules				
	No Inner Zone	DFC Option 1	DFC Option 2	Type Ns	Type Np
# rule observations Out of Compliance	51	36	36	0	12
# rule observations Compliant	694	199	359	43	103
Prescription Sample size n	124	33	48	24	32
2012-2013 Percent Compliant	93%	85%	93%	100%	90%

# Rule Observations Out of Compliance	8	8	2	2	8
# Rule Observations Compliant	116	131	98	59	127
Prescription Sample Size n	25	20	14	35	35
2014-2015 Percent Compliant	94%	94%	98%	97%	94%

* Industrial and Small Forest Landowner data combined.

No Inner Zone Harvest, DFC1, DFC2, and Np prescriptions had observed increases in compliance rates from 2012-2013 to 2014-2015. The Ns prescription had an observed 3 percent decrease in prescription compliance rate of the same evaluation period.

Wetland Rule Compliance

Wetland Rule Compliance Comparison between Biennia 2012-2013 & 2014-2015

	Compliance with rules	
	A & B Wetlands	Forested Wetlands
Combined Landowner groups		
# rule observations Out of Compliance	12	1
# rule observations Compliant	211	27
Prescription Sample size n	39	17
2012-2013 Percent Compliant	95%	96%
# Rule Observations Out of Compliance	7	1
# Rule Observations Compliant	127	38
Prescription Sample Size n	35	23
2014-2015 Percent Compliant	94%	97%

The A & B Wetlands prescription had an observed 1 percent decrease in compliance rate from 2012-2013 to 2014-2015. The Forested Wetlands prescription had an observed 1 percent increase in compliance rate from 2012-2013 to 2014-2015.

Road Rule Compliance

The standard samples from 2012 through 2015 assessed road construction and abandonment. The results are summarized below for 2012-2013 and 2014-2015.

**Road Construction & Abandonment Compliance Comparison between
Biennia 2012-2013 & 2014-2015**

Statewide Road Construction and Abandonment		
	Status of Compliance	Road activities rule compliance
2012-2013	Percent Compliant	99%
	# Rule Observations Non-Compliant	3
	# Rule Observations Compliant	344
	# Prescriptions Sampled	36
2014-2015	Percent Compliant	98%
	# Rule Observations Non-Compliant	1.3
	# Rule Observations Compliant	81.7
	# Prescriptions Sampled	13

The Road Construction and Abandonment prescription had an overserved 1 percent decrease in compliance rate from 2012-2013 to 2014-2015.

2012-2013 Biennia Haul Route Compliance*

No Delivery	De minimis	Low	Medium	High
76% (63, 89)	18% (6.2, 29)	5.2% (0, 13)	1.2% (0, 3.2)	0%
Compliant		Non-Compliant		
94% (86, 100)		6.3% (0, 14)		

* 95% Confidence Intervals in parenthesis.

2014-2015 Biennia Haul Route Compliance*

No Delivery	De minimis	Low	Medium	High
86% (76, 95)	4.7% (0, 11)	3.9% (0, 10)	5.6% (0, 24)	0.12% (0, 2.4)
Compliant		Non-Compliant		
90% (82, 98)		9.6% (1.5, 18)		

* 95% Confidence Intervals in parenthesis.

The Haul Route prescription results show a 4 percent decrease in compliance rate from 2012-2013 to 2014-2015.

Emphasis Sample

Emphasis samples are performed periodically on forest practices rule groups that occur infrequently and when several years are necessary to build up a large enough sample size for sampling purposes.

Exempt 20-acre parcels RMZs

An emphasis sample on 20-acre exempt prescriptions was conducted in 2012. No emphasis samples were conducted in 2013, 2014 or 2015.

2012 Compliance Ratings for Statewide Emphasis Sample RMZ Exempt 20-Acre Parcels

RMZ Prescription	Forest Practices Rule Compliance Ratings					
	Compliant Ratings		Deviation Ratings			
	Exceeds	Compliant	Minor	Moderate	Major	Indeterminate
20-acre exempt Harvest (Percent)	0%	57%	14%	14%	11%	4%
20-acre exempt Harvest (Prescription Count)	0	16	4	4	3	1

The 2012 sample findings showed that 57% of the sample was assessed as compliant which was not statistically significantly different from the 2008 20-acre exempt emphasis sample findings in which 62 percent of samples were assessed as compliant. This indicates that there are no detectable changes in compliance rates between the two samples. Raising compliance rates for 20-acre exempt parcels continues to be a priority for the Forest Practices Program, and so the CMP will continue to conduct emphasis samples for the prescription.

It should be noted that the 2008 and 2012, RMZ-exempt 20-acre parcel emphasis samples evaluated samples as wholly compliant or wholly non-compliant. Individual rules were not assessed independently as part of the overall prescription compliance, as they are currently.

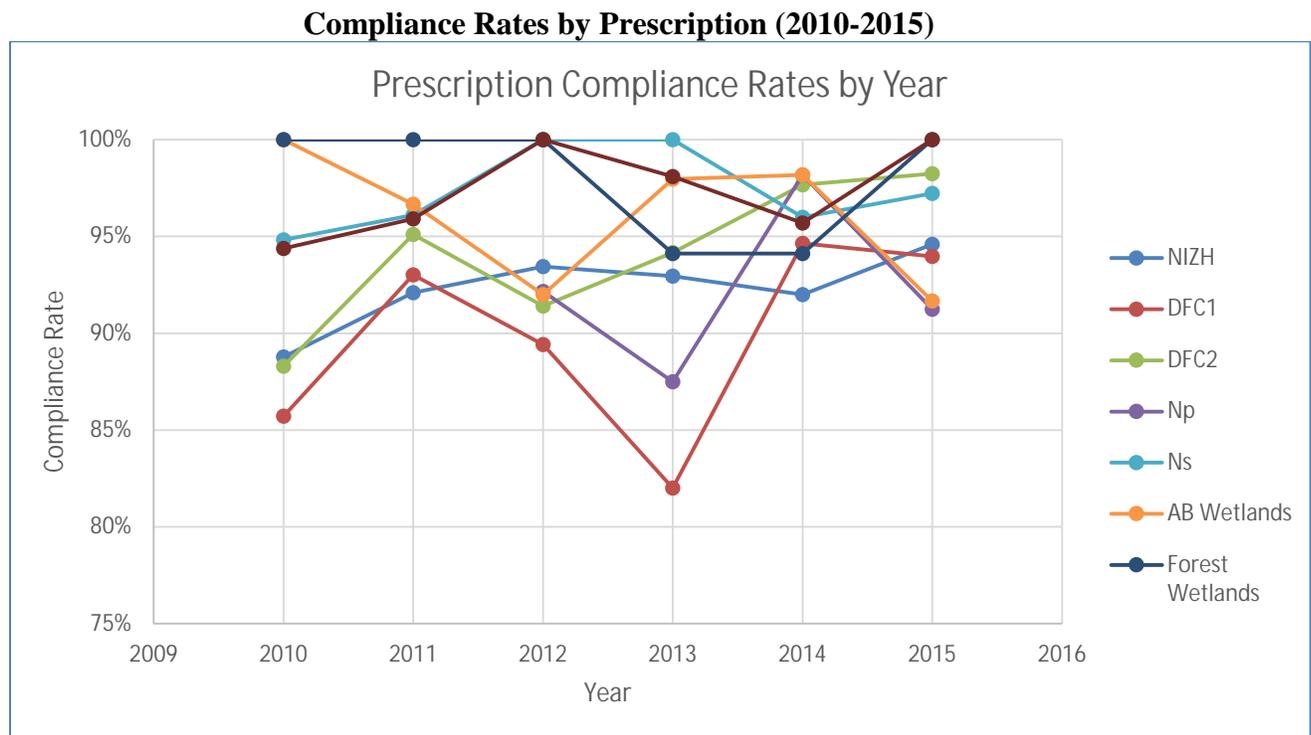
Trend Analysis Findings

Multiple univariate linear regression analysis was used to predict general trends in average compliance through time. However, because of the varying precision levels among years, the regression assumption of homogeneous variance in average compliance was not satisfied. In general, higher sample sizes as a proportion of the population result in lower variance. Because average compliance is a ratio, the standard error of the average is a function of the proportion of the population sampled in each year and the number of rules within the prescription applied on each FPA. Weighted least squares multivariate linear regression, where the average compliance is weighted by the inverse of the estimated mean standard error for each year, was employed, to correct for the nonhomogeneous variance. In this way, years with better estimates of average compliance receive more weight in the regression, which compensates statistically for unequal variance. Statistical significance was determined with $\alpha = 0.10$. The results for weighted linear regression are supplied. Residuals from regressions are tested for approximate normality using Shapiro-Wilks test with $\alpha = 0.05$. P-values for significance of regressions

were calculated, as well as 95 percent confidence intervals for linear regression coefficients for the weighted regression.

Although there is weak and varying precision within any given year for compliance with a single rule, it can still be useful to track changes through time for the forest practices rules. Statistical tests are not applied, but graphical trends are displayed for each prescription type.

Since no individual rules are measured or tracked for haul routes trend analysis was not conducted for the Haul Route prescription type.



Trend analysis was conducted on No Inner Zone Harvest, DFC1, DFC2, Np, Ns, A & B Wetlands, Forested Wetlands, and Road Construction and Abandonment prescription types. Trends of annually increasing prescription compliance rates were observed for No Inner Zone Harvest (1.0%), DFC2 (1.5%), and Road Construction and Abandonment (1.4%). These percentages represent an average increase in compliance year over year. No statistically-significant increasing or decreasing trends were observed for DFC2, Np, Ns, A & B Wetlands, or Forested Wetlands.

Findings 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); therefore, the information is not sufficiently comprehensive to determine all water types, depending on the length and location of the water within the FPA.

Water types 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.

Water type data collected during the 2010-2011, 2012-2013, & 2014-2015 biennia field seasons were tabulated and presented in the table below. Inferential statistics on water typing are not calculated by the CMP.

Biennium	# Waters in Standard Sample	# Waters with typing discrepancies	# Waters Underclassified	# Waters Overclassified	# Waters Indeterminate
2010-2011	294	59	37	19	3
2012-2013	288	30	12	14	4
2014-2015	187	28	11	10	6

Based on water typing observations made by the compliance monitoring field team there appears to be a substantial decrease in waters that were underclassified between the 2010-2011 biennium, and the 2012-2013 and 2014-2015 biennia. 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 2011-2013 biennium, and 6% in the 2014-2015 biennium.

Challenges

Numerous challenges identified in the previous five-year report have been addressed and resolved.

- After switching to a rules based reporting strategy compliance rates are consistently near or above the DNR stated goal of 90 percent compliance.
- Water typing discrepancies have decreased as a result of an emphasis on correct water type identification and training.
- Sample sizes are now calculated to meet the scope of compliance monitoring's study design and mission.
- The CMP will have the ability to track individual rules with the introduction of ongoing trend analysis along with reporting of the cause of non-compliance. This ability will allow for better identification of compliance issues over time and inform the Forest Practices Program where best to focus resources in order to lessen non-compliance.

In a dynamic program such as CMP, new challenges crop up regularly. The CMP has been tasked with developing sampling and analytical methodologies for measuring compliance with two additional prescriptions; unstable landforms, and forest practices hydraulic projects. Both of these prescriptions present unique challenges for study design and implementation.

- Unstable landforms – There are few rules related to unstable landforms that have a directly measureable element (i.e. static buffer widths, leave tree requirements, etc.). This creates a challenge for developing methodology that consistently measures and determines compliance.
- FPHP – Subjectivity within FPHP rules creates a challenge for developing sound, defensible sampling methodology.

Future Direction

The CMP has submitted the most recent biennial report (2014-2015) as well as current sampling and analytical methodology for Independent Study Peer Review. The program trusts the peer review information will strengthen the overall statistical validity of the methodology and results and add clarity to the reports produced by the program. The peer review results are expected in 2017.

The CMP will continue to improve the program by educating and informing forest practices staff and stakeholders regarding compliance findings, challenges, and trends, and then correspondingly soliciting feedback.

The program will work toward developing sampling and analytical methodologies for measuring compliance for forest practices hydraulic projects and unstable landforms.

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Scheaffer RL, Mendenhall W, Ott L. 1990. Elementary survey sampling. 4th ed. Boston: PWS-Kent.

Road Maintenance and Abandonment Plans

Forest practices rules require that landowners construct and maintain forest roads to minimize damage to public resources, such as water quality and fish habitat. A Road Maintenance and Abandonment Plan is a forest road inventory and schedule for any needed road work to ensure each forest road meets forest practices rules standards. Since 2001 all large forest landowners have submitted and have either completed or are working toward completing implementation of their RMAPs. Within each plan, road maintenance and abandonment work is prioritized as follows:

1. Remove blockages to fish passage
2. Prevent or limit sediment delivery
3. Correct drainage or unstable sidecast in areas with evidence of instability that could adversely affect public resources
4. Repair or maintain roads that run adjacent to streams
5. Minimize road interception of surface and ground water

RMAP Accomplishments for Large Forest Landowners

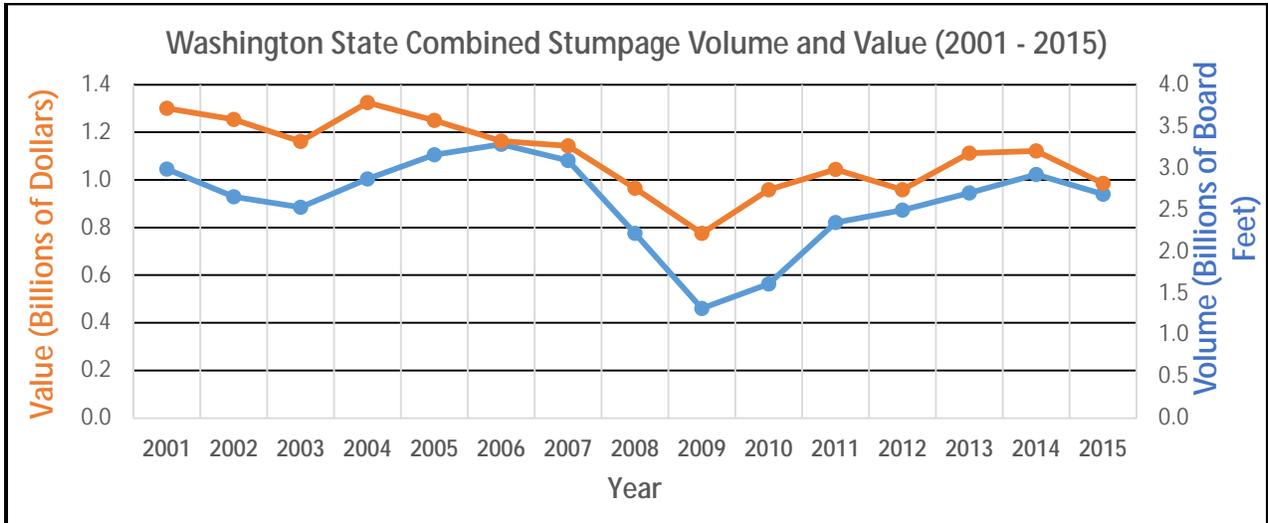
RMAP Accomplishments for Large Forest Landowners	2001-2011	2001-2012	2001-2013	2001-2014	2001-2015
Miles of Road Improved	18,738	20,026	22,793	24,282	25,589
Miles of Road Abandoned	4,671	3,276	3,416	3,550	3,833
Miles of Orphaned Roads	2,660	2,162	2,356	2,059	2,231
Number of fish passage barriers corrected	4,759	4,846	5,298	5,730	6,086
Approximate miles of fish habitat opened	2,681	2,659	3,129	3,419	3,507

From Landowner Annual Accomplishment Reports.

The majority of large forest landowners will have finished their RMAP commitments by the October 31, 2016, deadline stated in the forest practices rules. Because of the financial hardship forest landowners experienced during the Great Recession (starting in 2008), the Board provided the opportunity through rule to extend the RMAP deadline for landowners that

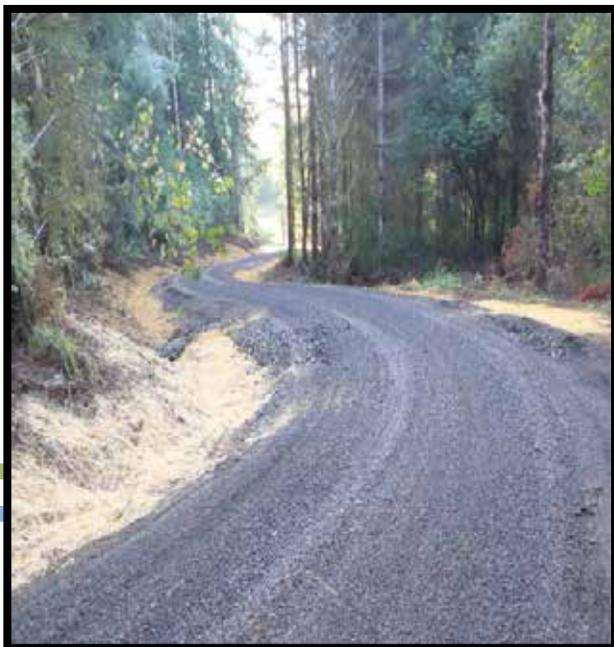
chose to apply. The new forest practices rule allowed for an extension of the deadline for up to five years, or until October 31, 2021. Fifty-eight out of 260 RMAPs have an approved extension.

Decline in Timber Volume and Value Due to 2008 Economic Downturn



From 2001 – 2015 Washington Timber Harvest Reports, DNR Publication

Approximately 25,589 miles of forest roads have been improved through RMAPs as of 2015. This reporting element while difficult to determine early on in this first ten years of Forest Practices HCP implementation, has improved in accuracy beginning in 2011. Early inconsistencies in how road improvement miles were measured were corrected through outreach to landowners and consistent data management. Concurrently, a definition of road improvement was established and 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. A clearly defined road improvement definition facilitated better data collection and reporting.



➤ Private forest road improvement project completed in DNR Olympic Region.

Adoption of Hydraulic Projects from Department of Fish and Wildlife

The Board adopted forest practices hydraulic rules in 2013 that fulfilled the FFR's expressed intent to fully integrate forest hydraulic projects into the forest practices program. Full integration occurred over time with non-fish bearing stream hydraulic projects integration taking place in 2001 and the remaining fish-bearing stream hydraulic project integration taking place in 2013. The final 2013 integration was achieved through the integration of the fish protection standards from the Hydraulic Code (Chapter 220-660 WAC administered by WDFW) into the forest practices rules (Title 222 WAC administered by DNR) and the Board's approval of a new board manual section to provide guidance for conducting road crossing activities over and within fish bearing and non-fish bearing waters.

These new rules are associated with the long established FPA permitting and approval process and became effective on December 30, 2013. In preparation for this change, the FPA and instructions were modified to collect information needed to assess hydraulic projects and training courses were developed and implemented. The first six months of this new process was focused on understanding the information provided in the new FPA, reviewing construction plans and building professional relationships with forest practices stakeholders. The FPA and instructions were modified again in May, 2014 as a result of feedback from stakeholders. The adoption of the new FPHP rules has increased the workload for RMAP specialists as they spend time assisting forest practices foresters with compliance on hydraulic projects associated with RMAPs and new road building on FPAs. WDFW staff also continue to provide technical assistance to DNR and landowners on review of and development of water crossing designs to assure fish passage.

Fish Passage Culvert Replacement

A major key to restoring fish populations is removing barriers to fish passage. A single anthropogenic structure, such as an undersized culvert that blocks fish can keep fish from reaching historically used habitat upstream. To help protect fish, RMAP requirements include removing fish barriers. The project below is located on Cusick Creek in DNR's Northeast Region. The original culverts were undersized and perched above the stream which can concentrate water in high flow periods creating a velocity barrier and an access barrier during low flows to fish. Removing the culverts and installing a bridge allows the stream to function naturally.



7,357 fish passage barriers have been identified as of 2015. Of these, 6,086 (83%) barriers have been corrected, opening 3,507 miles of fish habitat.

Challenges and future direction of RMAPs

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

Accordingly, there has been some discussion on how to proceed in ensuring the continuing functionality of barriers fixed under the RMAP rule in a way that is statistically significant and operationally feasible. We are in the process of organizing and implementing a review process for all crossings that would assess the condition and function of existing structures on a timely and regular basis. If a structure is found to be out of compliance with forest practices standards, the landowner will be directed to fix the crossing by the end of the subsequent operating season.

Moving forward, RMAP specialists will continue to work with the approved 58 landowner RMAPs extended beyond the 2016 deadline. RMAPS that have not been extended, but have not been completed by October 31, 2016, will be reviewed for appropriate compliance action.

Tribal Cultural Resources Protection



Pictograph known as "She Who Watches", Tsagaglalal, located on basalt outcrop overlooking the Columbia River.

Summarized here are process improvements completed by the State over the second five years of implementing the Forest Practices HCP's reporting requirement regarding implementation of WAC 222-20-120 *Notice of forest practices that may contain cultural resources to affected Indian tribes*. This refers to the rule required notice to landowners to contact tribe(s) when cultural resources are present within the area of their proposed forest practices activities. Upon landowner contact the tribe determines if a landowner-tribe meeting is needed. Related work for protection of cultural resources is also summarized. For a look at what occurred during the first five years of HCP implementation related to cultural resources please refer to The [Forest Practices Habitat Conservation Plan 5-year Report](#).

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 Indian tribes when developing and implementing many parts of the Forest Practices Program.

Tribes are members of the Adaptive Management Program's committees, TFW Policy Committee and Cooperative Monitoring, Evaluation and Research Committee, Timber Fish and Wildlife and DNR's Small Forest Landowner Advisory Committee. Additionally, tribal representatives work with staff from DNR's Forest Practices Program and other agencies and

organizations to draft forest practices rules and board manual guidelines, review FPAs, Notifications, and alternate plans, provide technical onsite expertise in DNR's interdisciplinary team reviews, and complete water and wetland typing.

WAC 222-20-120 Notice of forest practices that may contain cultural resources to affected Indian tribes

In 2012, the Board adopted amendments to [WAC 222-20-120](#). These rule amendments, a consensus recommendation from the Board's Timber/Fish/Wildlife Cultural Resources Roundtable, provided for clearer understanding of the required processes for implementing and complying with this rule and addressed tribal sovereignty issues in the following ways:

- The words "cultural resources" are in the rule title to call attention to the rule's requirements for applications that involve cultural resources.
- DNR notice of all FPAs to affected Indian tribes is based on the tribe's designated geographic areas of interest, rather than only those applications that a tribe might have a concern with.
- The required landowner-tribe meeting is at the tribe(s) discretion, so the meeting is not required if the tribe(s) has no cultural resources concern with the application.
- Complying with the meeting requirement includes options for Tribal verification when they decline the meeting and landowner verification of good faith but unsuccessful attempts to meet with the tribe(s). See new WAC subsections (3) (b) and (c).
- The rule no longer directs tribe(s) to determine whether the landowner-tribe agreed to plan will or will not be sent to the Department of Archaeology and Historic Preservation.

In anticipation of the new rule's emphasis on Tribes' geographic areas of interest and cultural resources contacts, DNR initiated communication with the tribes. In December 2011, the department sent a letter to each Tribal Chair/Council of the 29 federally recognized tribes in Washington, two federally recognized tribes in Oregon, three federally recognized tribes in Idaho, and five tribal organizations in Washington active in forest practices issues. The goal of the letter was to:

Confirm the tribe's/organizations preferred contact(s) for Forest Practices Board rule makings.

Confirm the tribe's/organizations geographic areas of interest for receiving proposed applications and notifications via FPARS.

Request the tribe/organization identify to DNR their preferred contact(s) when a forest practice involves a cultural resource.

The Forest Practices Program followed-up with each Tribe's and organization's FPARS contact of record. Many tribes provided updated contact information, including designating a

primary and a backup contact for cultural resources issues. This updated information was input in FPARS. Currently, all but one of the federally recognized tribes in Washington has chosen to review FPAs and Notifications.

Other work related to cultural resources

The Forest Practices Program also expanded cultural resources related information in its Forest Practices Risk Assessment Mapping Tool (FPRAM) which is used by forest practices staff to review and classify proposed forest practices. FPRAM is a GIS-based interactive mapping and reporting tool that allows staff to see the geographic relationships between environmental features and the location of proposed forest practices. Additional to the cultural resources site data from the Department of Archaeology and Historic Preservation (DAHP), the expanded cultural resources-related information is the:

- Historical Map Index 1893-1950 (historical US Geological Service and Army Mapping Service maps for Washington state);
- Government Land Office (GLO) Maps (historical maps); and
- Tribal cultural resources contacts (each Tribe's/Tribal organization's designated geographic area of interest for cultural resources and their cultural resources contact).



A variety of educational opportunities have been pursued, including:

- Improvements to the forest practices application instructions were made to better educate applicants on the types of cultural resources found in the forests and provide more website links to additional helpful information.
- Distribution of a video-taped cultural resources training session called, [*Video Presentation: Identifying and Protecting Cultural Resources on Forestlands*](#) on the DNR website (under "Related Links").
- Assisting the Washington State University Extension Service to help landowners understand cultural resources.

The program also continues to assist DAHP in updating their archaeological and historic sites database. This cultural resources data is used by the Forest Practices Program to appropriately classify FPAs and Notifications involving cultural resources. Each year specific funding has been provided to DAHP through an interagency agreement with DNR that funds one full time position at DAHP.

Forest Practices Program Budget

Over the past decade, the Forest Practices Program funding patterns fluctuated yet continued to support the program in implementing the State's Forest Practices HCP and sustaining the Clean Water Act (CWA) Assurances.

Washington State faced a severe economic recession that started in 2008 and lasted through 2015. The Forest Practices Program consistently faced General Fund State (GF-S) funding reductions during this time period because the program's primary funding sources were state accounts. As a means for coping with GF-S funding reductions, the legislature financed the statewide program in part through a combination of one-time fund shifts in the following state accounts: Forest & Fish Support Account (FFSA), Aquatics Land Enhancement Account (ALEA), and the Environmental Legacy Stewardship Account (ELSA). The exception to this funding management approach was a legislative decision to make an ongoing fund exchange by which funding from the State Toxics Control Account (Toxics) substituted for a like amount of GF-S.

The FFSA and ALEA state accounts identified above have been previously described in the [Forest Practices Habitat Conservation Plan 5 Year Report](#). ELSA is a tax imposed on the privilege of possession of hazardous substances in this state and moneys in this account supported forest practices regulation for one biennium. Toxics is a hazardous substance tax, hazardous waste cleanup and waste fee used for hazardous waste planning, management, regulation, enforcement, and technical assistance. This is the account for the on-going exchange of GF-S funding.

2011-2016 Funding Highlights

2011-2013 Biennial Budget Highlights

The Forest Practices Program confronted the 2011-2013 biennial budget with an enacted legislative reduction of \$2.4 million in operating funds. This included the legislative mandated three percent salary cut.

In 2012, the Washington State Legislature passed 2ESSB 6406 to enact the Forest Practices Application Account (FPAA). DNR was successful in establishing a new fee structure for FPA/Ns with the added responsibility for approving hydraulic projects on forest land. The FPA/N form is the means for permitting forest practices-related hydraulic work. The revenue generated from FPAs is deposited into the FPAA.

In May, 2012, the State reached a settlement agreement with the Conservation Caucus and Washington Forest Protection Association to avert litigation over the state's Forest Practices HCP. The issues addressed in this agreement clarified a minimum program funding level, committed to a schedule of science and adaptive management projects, and improved the collaborative process in evaluating science information for implementation (known as the 2012 Forest Practices HCP Settlement Agreement).

2013-2015 Biennial Budget Highlights

In 2013, the 2013-2015 biennial operating budget bill included fund shifts for the Forest Practices Program. One-time funding from the ALEA and Environment Legacy Stewardship Account (ELSA) replaced 26 percent of the GF-S appropriation for the Forest Practices Programs. Stakeholder driven and supported strategic reinvestment funding from the fund balance in the FFSA continued to support core programs in Operations and Small Forest Landowner assistance while maintaining participation grants in the AMP.

2015-2017 Biennial Budget Highlights

In 2015, the 2015-2017 biennial operating budget bill included a fund shift for the Forest Practices Program and appropriated GF-S funding for the AMP. A fund exchange from the Toxics account replaced 20 percent of the GF-S appropriation for the Forest Practices Program. This budget package included an enhancement of \$5.894 million in GF-S to support the accelerated research/monitoring projects in the AMP.

In 2016, the 2016 supplemental operating budget bill directed another fund shift for the AMP. The GF-S appropriation for the AMP was reduced by \$557,000 per fiscal year and the FFSA was increased in the second fiscal year by the same amount. The net impact of this supplemental directive was no change to the research/monitoring funding level for the AMP and a reduction to the FFSA fund balance. This same supplemental budget package included additional GF-S funding for two additional regulatory geology experts for the Forest Practices Program beginning in FY2017.

Operating Budget Supports Three Functional Areas

Approximately two-thirds of the Forest Practices Program operating budget has been allocated to the six DNR administrative regions. This is where program implementation 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 can be thought of as divided into three functional areas: 1) Forest Practices Act and rule implementation; 2) Adaptive management research and monitoring; and 3) Small Forest Landowner Office. Forest Practices Act and rule implementation is allocated approximately 60-65 percent of the program's operating budget and the remaining 40-35

percent is distributed between the two other functional areas. Following is a list of what has been funded under the three functional areas:

Table 1: Functional Activities

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

Budget Terms Defined

Only the state legislature can make appropriations in Washington State. The following tables (2-3) provide an overview of the forest practices allotments, supplemental budget, and actual expenditures over the last 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 2. Overview of Allotments & Full-Time Equivalent (FTEs)

With Personal Consumption Expenditure (PCE) Conversion in 2005 dollars

Biennium	Activity	Total	GFS/Water Quality/ALEA /ELSA/State Toxics (oil tax)	Forest Practices Application (fee) Account (FPAA)	GF-S Proviso	Forests & Fish Support Account (timber industry B&O tax)	FTE
2011-2013	Act and Rules	17,911,200	17,092,600	511,000		307,600	106.39
	Adaptive Management	8,956,100	463,900			8,492,200	3.98
	Small Forest Landowner	461,100	371,700			89,400	2.7
	Forest Practices Total	\$27,328,400	\$17,928,200	\$511,000		\$8,889,200	113.07
PCE Conversion (2005 dollars)	PCE Total	23,759,157	15,586,676	444,261		7,728,220	
2013-2015	Act and Rules	19,582,000	17,977,600	1,271,300		333,100	111.29
	Adaptive Management	11,383,300	459,600			10,923,700	4.24
	Small Forest Landowner	552,100	372,300			179,800	3.00
	Forest Practices Total	\$31,517,400	\$18,809,500	\$1,271,300		\$11,436,600	118.53
PCE Conversion (2005 dollars)	PCE Total	26,640,649	15,899,068	1,074,589		9,666,922	
2015-2017	Act and Rules	21,089,500	19,334,300	1,440,400		314,800	112.80
	Adaptive Management	14,928,800	489,600		4,780,000	9,659,200	4.25
	Small Forest Landowner	396,100	396,100				2.00
	Forest Practices Total	\$36,414,400	\$20,220,000	\$1,440,000	4,780,000	\$9,974,000	119.05
PCE Conversion (2005 dollars)	PCE Total	30,340,455	16,847,291	1,200,140	3,982,693	8,310,331	

Forest Practices Program

Table 3. Overview of Actual Expenditures & Actual Full-Time Equivalents (FTEs)

Biennium	Activity	Total	GFS/Water Quality/ALEA /ELSA/State Toxics (oil tax)	Forest Practices Application (fee) Account (FPAA)	GF-S Proviso	Forests & Fish Support Account (timber industry B&O tax)	FTE
2011-2013	Act and Rules	16,688,568	16,561,084	5,353		122,131	97.76
	Adaptive Management	8,204,945	576,609			7,628,336	2.92
	Small Forest Landowner	386,179	386,179				2.7
	Forest Practices Total	25,279,692	17,523,872	5,353		7,750,467	102.68
2013-2015	Act and Rules	17,384,998	15,653,994	1,565,011		165,993	101.24
	Adaptive Management	9,767,521	460,502			9,307,019	3.77
	Small Forest Landowner	539,432	362,067			177,366	3.00
	Forest Practices Total	27,691,951	16,476,563	1,565,011		9,650,377	108.01
2015-2017	Act and Rules	9,314,825	8,777,819	454,421		82,585	98.6
*FY16 AFRS	Adaptive Management	5,702,144	209,642		2,390,000	3,102,502	4.00
	Small Forest Landowner	143,340	143,340				2.00
	Forest Practices Total	15,160,309	9,130,801	454,421	2,390,000	3,185,087	104.60

*FY16 AFRS Reflect Actual Expenditures from July 1, 2015 through June 30, 2016.

Full Time Employees

The fluctuation between allotted and actual full time equivalent (FTEs) is a reflection of vacancies, hiring delays, participation in DNR's wildfire fighting program, and funding shifts. The Forest Practices Program ended the 2015-2017 biennium with an allotted 119 FTEs. Approximately 95 percent of these FTEs are allotted for Forest Practices Act and rule implementation.

Accomplishments

Despite the budget reductions, and ongoing fund exchanges for the GF-S previously allotted to 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.

The creation of the FPAA has funded the additional responsibilities and work associated with hydraulic projects. This has afforded statewide expertise in reducing the risk with permitting forest practices engineering related activities and in consulting with region foresters on specified culvert projects, bridge projects, and projects involving extensive fill and armoring.

Challenges

The revenue flows anticipated for the FPAA have not materialized to the levels originally projected. Revenue generated by the FPAA is connected to the number of Forest Practices Applications approved and processed across the state. The number of Forest Practices Applications processed is less than anticipated. This has been the trend for the past four years. Although the housing sector has started to recover, increased harvest activity has not matched the pace of the economic recovery. This is the main factor contributing to the on-going challenge in revenue generation for the FPAA

As successful as the Forest Practices Program was in securing an enhancement of \$5.894 million GF-S to offset the CMER research funding gap for the AMP, the program continues to manage subsequent legislative funding shifts between GF-S and FFSA. Securing stable long-term funding for scientific research in the AMP remains a priority for the Forest Practices Program.

Over the past ten years, the Forest Practices Program has consistently secured funding needed to implement the 50-year Forest Practices HCP commitment, which provides the State of Washington's framework in the forested environment to achieve aquatic species protection and recovery through compliance with the Endangered Species Act (ESA), and meet state water quality requirements 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
RCO	Recreation and Conservation Office
SFLO	Small Forest Landowner Office
SRFB	Salmon Recovery Funding Board
USFWS	United States Fish and Wildlife Service
WCLA	Washington Contract Loggers Association
WDFW	Washington Department of Fish and Wildlife
WDOT	Washington Department of Transportation
WFFA	Washington Farm Forestry Association
WFPA	Washington Forest Protection Association
Ecology	Washington State Department of Ecology

Technical Terms

CMZ	Channel Migration Zone
DFC	Desired Future Condition
GF-State	General Fund - State
GIS	Geographic Information System
FTE	Full Time Equivalent
FY	Fiscal Year
FPA/N	Forest Practices Application/Notification
FPRAM	Forest Practices Risk Assessment Mapping Tool
LGE	Local Government Entity
LHZ	Landslide Hazard Zonation
LWD	Large Woody Debris
RMZ	Riparian Management Zone
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

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
ELSA	Environmental Legacy Stewardship Account
FFFPP	Family Forest Fish Passage Program
FFR	Forest and Fish Report
FFSA	Forests and Fish Support Account
FPARS	Forest Practices Application Review System
FPAА	Forest Practices Application Account
FPF	Forest Practices Forester
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
PCE	Personal Consumption Expenditure
PSM	CMER Protocols and Standards Manual
RMAP	Road Maintenance and Abandonment Plan
ROSP	Riparian Open Space Program
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
WAC	Washington Administrative Code