

# 3. Adaptive Management Program

## 3.1 Introduction

This chapter provides a brief background on the Forest Practices Adaptive Management Program (AMP) and accomplishments to date. Those accomplishments in large part occur through the Cooperative Monitoring, Evaluation and Research Committee (CMER) projects. CMER's work plan presents an integrated strategy for conducting research and monitoring to provide scientific information to support the Adaptive Management Program. Section 3.6 lists websites that give detailed information on the work plan and projects.

Section 3.7 contains information on electro-fishing activities associated with Adaptive Management Program projects. The Services specifically requested this information through the conditions that govern the Incidental Take Permits.

## 3.2 Purpose of Adaptive Management Program

The Adaptive Management Program is intended to produce technical information and science-based recommendations to assist the Forest Practices Board (Board) in determining if and when it is necessary or advisable to adjust Forest Practices Rules and guidance in order to achieve program goals, resource objectives and performance targets identified in the Forest Practices Habitat Conservation Plan (Forest Practices HCP). As a result, a successful Adaptive Management Program is essential to ensure that the ongoing development and implementation of measures effectively conserve the habitats of species covered under the Forest Practices HCP. A full description of the program, the components, process, as well as the research and monitoring programs can be found in Chapter 4, section 4a-4 of the Forest Practices HCP.

The current Adaptive Management Program has been formally in place since the adoption of the permanent Forest Practices Rules as a result of the 2001 Forests and Fish Report. Schedule L-1 from the [Forests and Fish Report](#) (U.S. Fish and Wildlife Service, 1999) served as the foundation for the program, and more specifically guides the development of research and monitoring projects described in the fiscal year (FY) [2012 CMER Work Plan](#) (CMER 2011). Key questions — and therefore research and monitoring priorities — are likely to change over time as adaptive management proceeds, new information becomes available, and ways are found to use the information to improve forest practices. Major research priorities presented in the CMER work plan have not changed substantially at the overall program level since the most recent program prioritization in 2002. However, some reprioritization has taken place on a project level in an effort to answer questions related to Clean Water Act (CWA) assurances in a timelier manner. While at the discretion of the Board, changes to resource objectives, performance targets and research and monitoring priorities typically would be reviewed and agreed to by the Forests and Fish Policy Committee.

## 3.3 Adaptive Management Program History

Since 2001 the Forest Practices Adaptive Management Program has completed more than 30 projects. Many of these projects are posted on the program's web-page (see section 3.6). Much of the program's early work was to support rule tools designed to develop, refine or validate protocols, models and targets used to facilitate Forest Practices Rule implementation. These

projects did not necessarily result in a final project report or rule change, but did result in draft reports, Geographic Information System (GIS) products or other types of databases.

Over the last few years the Adaptive Management Program has focused much of its effort on effectiveness monitoring and extensive (status and trends) monitoring projects. The effort to more fully integrate research and monitoring across spatial and temporal scales is ongoing and will continue in FY 2012.

The Adaptive Management Program caucus representatives (tribes, state and federal government, large and small forest landowners, and conservation groups) worked together in FY 2010 and FY 2011 to seek long-term funding for the program (see section 3.5 below). Additionally, the Adaptive Management Program submitted three proposals for research and monitoring funding to the federal Environmental Protection Agency. One proposal was for partial funding of a “soft rock” Type N buffer effectiveness project, emphasizing water temperature and sediment delivery. Another proposal was for partial funding for a wetlands mitigation effectiveness study, focusing on the effectiveness of the road mitigation sequence in maintaining riparian functions. The third proposal was for funding to develop a management information database and information sharing system. The soft rock study was chosen by EPA for funding in early FY 2011 and an EPA-required Quality Assurance Project Plan was developed and approved by CMER in late FY 2011. It has not been normal practice for the Adaptive Management Program to submit proposals for funding. Developing and submitting these funding proposals was a significant accomplishment in FY 2010-11.

### **3.4 Cooperative Monitoring, Evaluation, and Research Committee**

The CMER Committee produces an annual work plan that describes the various Adaptive Management Program research and monitoring programs, associated projects and work schedule. The work plan can be found on the “Forest Practices Adaptive Management Program” web page (see section 3.6 below) under the “Files” header. The plan is intended to inform participants, the Forest Practices Board, the Forests and Fish Policy Committee and members of the public about CMER activities. The programs in the work plan originally were prioritized, based on the level of scientific uncertainty and resource risk associated with the priorities of Schedule L-1 in the Forests and Fish Report (U.S. Fish and Wildlife Service, 1999) and incorporated into the Forest Practices HCP (Washington DNR, 2005). CMER projects address the needs of higher priority programs first to ensure that the most important questions about resource protection are answered before the questions with lower scientific uncertainty or lower resource risk. Projects were re-prioritized in FY 2010 to focus on Clean Water Act assurances over the next few years. The plan is a dynamic document that is revised annually in response to research findings, changes in the Forest Practices Board and Forests and Fish Policy Committee objectives, and available funding.

CMER takes on many other ad hoc projects in addition to their ordinary course of business of developing, implementing, and reporting on research and monitoring projects and revising and improving its annual work plan every year. One project taken on in FY 2010 included development of a table that shows how the resource goals and objectives and performance targets are addressed by the studies found in the CMER work plan. The table can be found in Fiscal Year 2012 CMER Work Plan (Washington Cooperative Monitoring, Evaluation, and

Research Committee, 2011). For each project, the table displays the status, task type, goals, resource objectives, and performance targets addressed by the project. Construction of this table has allowed the committee to review all of its projects in a comprehensive way. It provides valuable information to Policy and CMER committees in their assessment of the balance of efforts being placed in answering questions related to the various resource objectives and performance targets. It also helps answer questions about the balance of types of research and monitoring undertaken, e.g., rule tools vs. monitoring. The table will be revised annually.

In the Fiscal Year 2012 CMER Work Plan, under each research and monitoring program is a new section titled “Link to Adaptive Management.” This section was added to the work plan primarily to help Forests and Fish Policy and the Forest Practices Board understand how each rule group critical question is being addressed by the projects. Knowledge gained or anticipated, identified gaps, and recommendations for addressing gaps are discussed for each critical question. The “Link to Adaptive Management” section will be updated as projects are completed. The intent is to have this section completed for every program within the work plan. However, for the Fiscal Year 2012 CMER Work Plan, the programs were prioritized for active and completed projects.

Three projects were completed, approved by the CMER Committee, and considered for action by Policy Committee in FY 2011. The projects were: Effectiveness of Riparian Management Zones in Providing Habitat for Wildlife: Re-sampling at the 10-year Post-treatment Interval; Washington Road Sub-Basin Scale Effectiveness Monitoring First Sampling Event (2006-2008) Report; and Type N Experimental Buffer Treatment Study: Baseline Measures of Genetic Diversity and Gene Flow of Three Stream-Associated Amphibians. Although the Policy Committee did not recommend changes to rules resulting from the reports, Policy is considering changes in guidance to landowners related to road maintenance and abandonment planning in the Board Manual – which the Forest Practices Board approves – based on results from the road sub-basin study.

Three other draft final reports were approved by CMER and have gone through Independent Scientific Peer Review (ISPR) in FY 2011. They are: Results of the Westside Type N Buffer Characteristics, Integrity, and Function Study; Extensive Riparian Status and Trends Monitoring Program-Stream Temperature Phase I: Eastside Type F/S Monitoring Project; and Evaluation of the Effectiveness of the Current TFW Shade Methodology for Measuring Attenuation of Solar Radiation to the Stream (Solar Study). These reports currently are being revised based on the Independent Scientific Panel reviewer comments.

Finally, a draft final report approved by the CMER Committee in FY2011 and currently in Independent Scientific Panel review is The Mass Wasting Effectiveness Monitoring Project: A Post-Mortem Examination of the Landslide Response to the December 2007 Storm in Southwestern Washington.

The status of “Active CMER Projects” can be found on the Forest Practices Adaptive Management Program web-page under the “related links” header (See section 3.6). There is also a link to final reports for completed projects under this same header. Agendas of CMER and

Forests and Fish Policy Committee meetings can be found under the “related links” header on the CMER webpage.

### **3.5 Forests and Fish Policy Committee Activity (July 1, 2010 – June 30, 2011)**

#### **General Policy Activity**

The Forests and Fish Policy Committee held a budget retreat in April 2011 and reviewed the Fiscal Year 2012 CMER Work Plan and budget. The Forest Practices Board approved the work plan and budget at the May 2011 Forest Practices Board meeting. Most of the FY 2012 research and monitoring projects have been in place for at least a year or more, with many likely to be completed by the end of FY 2012. The CMER work plan proposes implementing at least two new projects in FY 2012.

CMER completed several project reports during the 2010-2011 Forest Practices HCP reporting year, as described above. Most did not result in a Forests and Fish Policy Committee action or recommendation to the Board, primarily because they were reports about developing methods or the initial phases of multi-phase projects.

As reported in the 2009 Forest Practices HCP Annual Report, during 2008 a considerable amount of Forests and Fish Policy Committee time was devoted to developing an Adaptive Management Program Strategic Plan (Plan) (Washington DNR, 2008). The Plan has four major goals to address four main topic areas: 1) program efficiency and effectiveness; 2) caucus relationships; 3) program funding and communications; and 4) research capability and knowledge. The Policy and CMER committees worked on the goals on many fronts.

Relative to the first goal, it has been nearly twelve years since the 1999 Forests and Fish Report was completed and nearly ten years since the revised Forest Practices Rules (“rules”) based on that report were adopted. Substantial investments have been made in defining and implementing a science-based program to provide relevant and timely information to inform the adaptive management program as contemplated by the 1999 Forests and Fish Report and required by the rules. These collective efforts—organized and implemented by the CMER Committee—have attempted to address the full spectrum of information needs and priorities set forth by the Adaptive Management Program, which consists of the Forest Practices Board (Board), Policy and CMER committees, the Independent Science Panel (ISP), and the Adaptive Management Program Administrator. In the spring of 2009, Stillwater Sciences completed the first independent review of the collective contribution and progress from the various CMER research and monitoring studies. Policy and CMER committees began reviewing the report during the year in anticipation of developing a response.

Due to the recent recession and its severe negative impact on lumber and timber markets, forest landowners, working with the governor’s office, requested that the Policy Committee consider a schedule adjustment to the time period for completing Road Maintenance and Abandonment Plan (RMAP) work in order to reduce the annual cost of the program. The Governor’s Office was particularly interested in providing support to the FFFPP program and also to assess the risk for small forest landowner roads. Policy formed a sub-group to work with the Governor’s Office and all caucuses on funding alternatives for accelerating the FFFPP program, assess small forest landowner roads and for all caucuses to work collaboratively to seek additional funding for small

landowner and county fish passage barrier repair. The Forest Practices Board considered a recommendation by the Forests and Fish Policy Committee that would extend the RMAP deadline, and modify Board Manual revisions, and subsequently approved draft rule language at the May 10, 2011 Board meeting. A third component is development of an operational plan by the Forest Practices operations section.

Policy also recommended to the Forest Practices Board – which the Board approved – a watershed analysis rule intended to ensure watershed analysis prescriptions continue to address the potential for adverse effects on resources from forest practices activities. The language fills gaps in the previous watershed analysis review process by including new standards designed to keep prescriptions current and protective enough to warrant exemption from Class IV-special classification.

### **Clean Water Act Assurances**

Upon the completion of the Forests and Fish Report in 1999, the Washington State Department of Ecology (Ecology) and the Environmental Protection Agency agreed to provide Clean Water Act assurances to the State of Washington for a period of ten years. It was assumed ten years would be sufficient time to determine if implementation of the revised rules and Forest Practices program—including adaptive management—were effective in meeting water quality standards, or putting impaired waters on a trajectory to meeting standards. Ecology reviewed the Forest Practices Program to determine if the Clean Water Act assurances should be retained and produced a report of their findings in July 2009. For Ecology’s report go to, <http://www.ecy.wa.gov/programs/wq/nonpoint/ForestRules.html> and click on: [\*2009 Clean Water Act Assurances Review of Washington’s Forest Practices Program\*](#) (Washington State Department of Ecology 2009). This report was transmitted to the Forest Practices Board in October 2009.

The report concluded that while much has been accomplished, much remains to be done. In particular, Adaptive Management Program research and monitoring projects designed to determine if the rules are effective in meeting water quality standards are not yet complete. Consequently, Ecology was unable to determine rule effectiveness. The report contained milestones of accomplishments related to the Adaptive Management Program, including a schedule for individual research and monitoring projects, deemed important for Clean Water Act assurances. The assurances document also identified some operational milestones that needed to be implemented. Ecology conditionally extended Clean Water Act assurances based on the need to satisfactorily accomplish the milestones. DNR established a project management tracking system for the 21 milestones. The Adaptive Management Program Administrator was lead on six and co-lead on one of the 21 Clean Water Act milestones. Four of the seven Adaptive Management Program related milestones have been completed. The remaining three Adaptive Management Program related milestones are in various stages of completion.

### **Forests and Fish Policy Committee Priorities for Fiscal Year 2011-12**

The Forests and Fish Policy Committee prioritized their work list in summer of 2010 and submitted a letter to the Board in November 2010. Although the work list is a dynamic document, high priority work items continued to include:

1) Securing long-term supplemental funding for the Adaptive Management Program. Over the last ten years DNR has received seven federal grants totaling more than \$20 million to support the Forest Practices Adaptive Management Program. These grants have supplied the vast majority of the program's funding over this time period. However, the last grant was expended in FY 2011. Therefore, beginning in FY 2011 the Forest Practices Adaptive Management Program needed an additional \$2.5 million per year in operating revenue to maintain adequate program operating capacity.

To cover the \$2.5 million budget short fall for FY 2011, the Washington State Legislature funded the program by tapping into the Aquatics Land Enhancement Account and relying on federal grants, if awarded. However, that was a one-time fix and not meant to be a permanent solution to long-term funding of the program. DNR also worked on an agreement with the Washington Office of Management and Budget to free up more of the money held in the Forests and Fish Support Account working reserve. These one-time allocations were sufficient to hold the program over through FY 2011. Funding for FY 2012 will come primarily from the Forests and Fish Support Account (approximately \$2.9 million), EPA grant, and DNR-allotted general fund-state revenue. However, funding through the Forests and Fish Support Account did not come without a cost – a 20 percent reduction in participation grants to the tribal community and a 50 percent reduction to non-governmental organizations.

Caucus principles (agency directors, Commissioner of Public Lands, industry and tribal caucus leaders, etc.), working with their Forests and Fish Policy Committee designees, are committed to finding new sources of stable, long-term funding. In addition to considering potential state and federal funding alternatives, the current funding strategy also includes the CMER Committee actively competing for federal grants, when they become available.

2) Implementing high priority Clean Water Act assurance milestones identified in Ecology's July 2009 review.

3) Implementing other high priority tasks in the Adaptive Management Plan strategic plan.

### **3.6 Adaptive Management Program Website**

#### **Adaptive Management Program Website:**

[http://www.dnr.wa.gov/BusinessPermits/Topics/FPAdaptiveManagementProgram/Pages/fp\\_am\\_program.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/FPAdaptiveManagementProgram/Pages/fp_am_program.aspx)

#### **CMER Websites:**

<http://www.dnr.wa.gov/AboutDNR/BoardsCouncils/CMER/Pages/Home.aspx>

#### **Active CMER Projects Website:**

[http://www.dnr.wa.gov/BusinessPermits/Topics/FPAdaptiveManagementProgram/Pages/fp\\_cmer\\_active\\_projects.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/FPAdaptiveManagementProgram/Pages/fp_cmer_active_projects.aspx)

#### **Completed CMER Projects Website:**

[http://www.dnr.wa.gov/BusinessPermits/Topics/FPAdaptiveManagementProgram/Pages/fp\\_cmer\\_completed\\_projects.aspx](http://www.dnr.wa.gov/BusinessPermits/Topics/FPAdaptiveManagementProgram/Pages/fp_cmer_completed_projects.aspx)

### **3.7 Electro-fishing Report**

One of the conditions of the Incidental Take Permits relates to electro-fishing. Electro-fishing is used to determine if listed fish species are in a stream. A shocking device is used to stun fish so they can be counted. United State Fish and Wildlife Service and NOAA Fisheries asked for an accounting of any electrofishing related to Adaptive Management Program research.

#### **Electrofishing Activity**

The only project to incorporate electrofishing as part of the research project is the ongoing project that was reported in the 2010 annual report. There were no new projects involving electrofishing related to Adaptive Management Program research between July 1, 2010 and June 30, 2011.

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**Electrofishing Conducted for Adaptive Management Research  
Pre- and Post-Activities Report, FY2007  
(As required under the Incidental Take Permit for the Forest Practices HCP)**

#### **Pre Electrofishing**

**1. Name of project:** Type N Experimental Buffer Study

**Date of project implementation for 2010 field season:** July-October, 2010

**Primary contact for project:** Bill Ehinger/Marc Hayes

**Names of watersheds where surveys will be conducted:**

Extreme headwater tributaries to: Willapa River, North River, Wishkah River, Clearwater River, Humptulips River.

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

0 miles.

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

Aimee McIntyre, Project Technician, Washington State Department of Fish and Wildlife.  
Jason Walter, Senior Aquatic Research Technician, Weyerhaeuser Company.

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

None required. No sampling in streams containing listed fish.

### **Post Electrofishing**

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

800 meters total stream length sampled twice yearly.

- 2. Document any listed-fish encounters:**

None.

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

None.

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

N/A