
4a. Forest Practices Administrative Framework

Because Washington's Forest Practices program encompasses nearly 9.3 million acres of forestland and thousands of forest landowners, effective program administration is important to the overall approach to habitat conservation. The scope and scale of the program requires an administrative framework that goes beyond state government agencies to include other groups affected by forest management decisions on non-Federal and non-tribal forestlands. The administrative framework represents the structure within which program participants work cooperatively to develop, implement, and refine the Forest Practices program over time. The framework consists of four components: 1) program participants, 2) program development, 3) program implementation, and 4) adaptive management (i.e., program refinement). The following sections describe Forest Practices program participants (4a-1), program development (4a-2), program implementation (4a-3) and program refinement through adaptive management (4a-4).

4a-1 Forest Practices program participants

Participants in the Forest Practices program include the Forest Practices Board, certain programs within the Washington Department of Natural Resources (DNR), the Forest Practices Appeals Board (FPAB), cooperating agencies, tribes, other natural resource organizations and the general public. These entities do the work of the program. They develop, implement and refine the Forest Practices program to help it meet its goals.

The structure of the Forest Practices program and its participants is similar to that of state government; the Forest Practices Board as the rule-making body fills the legislative role, the executive role is filled by DNR as the main coordinating agency, and the judicial role is filled by the quasi-judicial FPAB with its administrative review authority. Cooperating agencies and organizations as well as the general public represent stakeholders with each advocating policy positions that serve their individual interests or agency/organizational missions. While stakeholder positions may sometimes conflict, the administrative framework within which the Forest Practices program operates ensures each group has a role and voice in the process.

The following sub-subsections describe Forest Practices program participants; their respective roles and responsibilities; and how they influence program development, implementation and refinement.

4a-1.1 Forest Practices Board

Washington's Forest Practices Board (the Board) sets the specific standards that are the basis for the Forest Practices program. The state's Forest Practices Act (the Act) established the Board in 1974 as an independent state agency. The Act directs the Board to adopt forest practices rules for non-Federal and non-tribal forestlands that protect public resources while maintaining a viable timber industry. Public resources include water, fish, wildlife and capital improvements of the state or its political subdivisions.

The Act is contained in chapter 76.09 of the Revised Code of Washington (RCW), and the forest practices rules adopted by the Board are contained in Title 222 of the Washington Administrative Code (WAC).

The Board consists of 12 members and is an independent state agency staffed by DNR and chaired by the Commissioner of Public Lands (or designee) who also administers DNR. Directors (or designees) of state agencies—including the Departments of Economic Development, Ecology, Agriculture and Fish and Wildlife—also sit on the Board. Seven other members are appointed by the governor and include an elected member of a county commission or council, a forest landowner (of less than 500 acres), an independent logging contractor and members of the general public.

In addition to adopting rules, the Board also approves the forest practices Board Manual (Board Manual), which is an advisory technical supplement to the rules, and which guides field practitioners and DNR regulatory staff when implementing certain rule provisions. The forest practices rules, together with the Board Manual, largely represent the protection measures that are presented in Sections 4b and 4c.

The Board also directs the forest practices Adaptive Management (AM) program (Figure 4.3). The AM program provides science-based recommendations and technical information to assist the Board in determining if and when it is necessary or advisable to adjust rules and guidance in order to achieve established goals and objectives. The Board empowers four entities to participate in the AM program:

- 1) the Cooperative Monitoring, Evaluation and Research (CMER) Committee,
- 2) the Forests and Fish Policy Committee (FF Policy),
- 3) the Adaptive Management Program Administrator (AMPA), and
- 4) the Scientific Review Committee (SRC).

The CMER Committee represents the science component of the program and oversees research and monitoring. FF Policy considers CMER Committee research and monitoring findings and makes recommendations to the Board related to forest practices rule and/or guidance additions or amendments. Both the CMER Committee and FF Policy are open to representatives of forest landowners, environmental interests, tribal governments, county governments and state and Federal agencies. The AMPA is a full-time employee of DNR and is responsible for overseeing the AM program, supporting the CMER Committee and reporting to FF Policy and the Board. The SRC performs independent peer review of CMER Committee work to determine if it is scientifically sound and technically reliable. The SRC may also review non-CMER work, and has, though it does not do so frequently. More information on the AM program is included in Section 4a-4.

4a-1.2 Washington Department of Natural Resources

DNR implements the Forest Practices program through the Forest Practices Division (FPD) at DNR headquarters in Olympia and the DNR regional offices across the state.

The FPD coordinates and provides policy direction to the Forest Practices program statewide. The FPD coordinates the development of forest practices rules and the Board Manual for consideration by the Board, provides technical and policy guidance to region

Figure 4.3 Structure of the Forest Practices Adaptive Management program

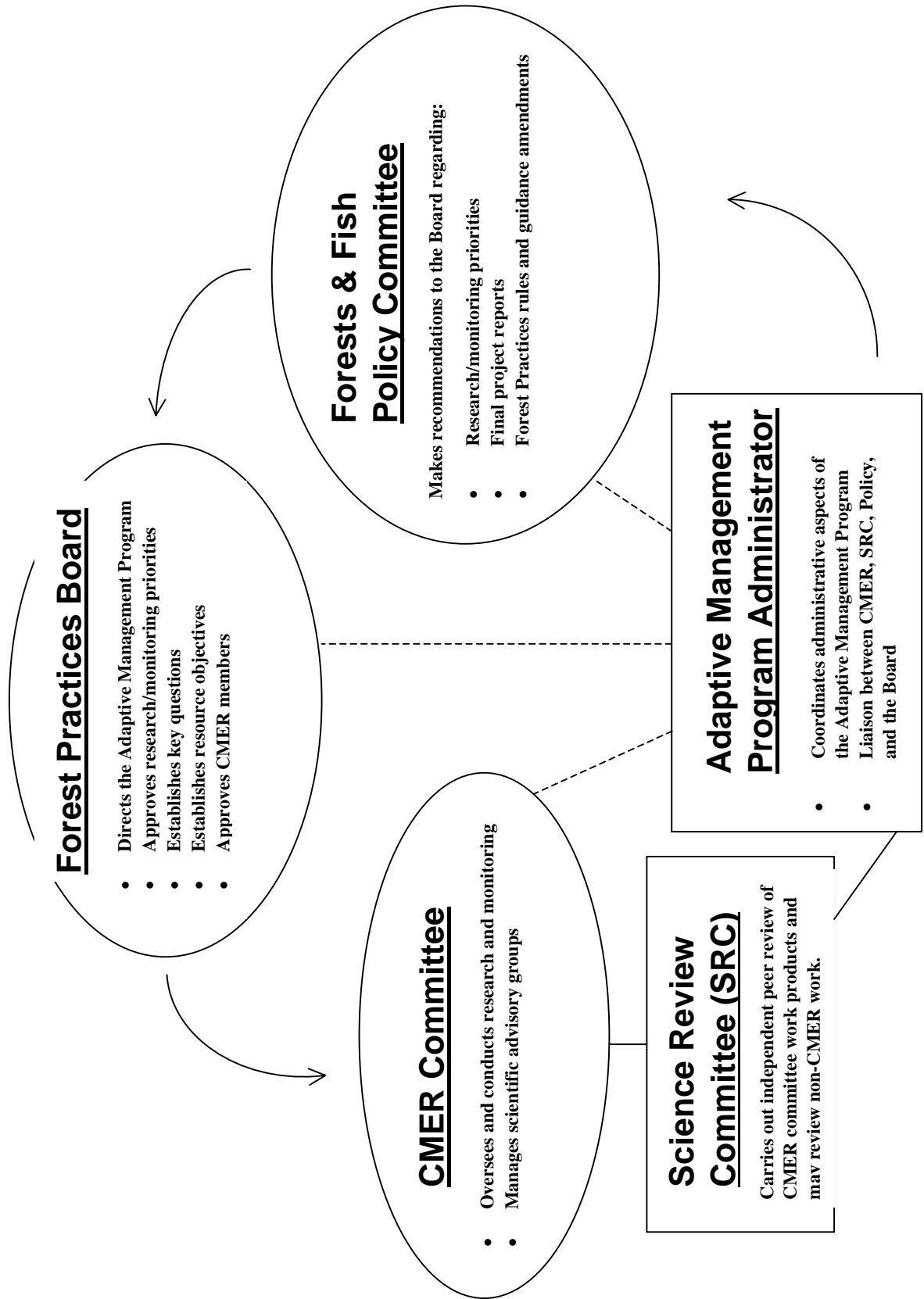
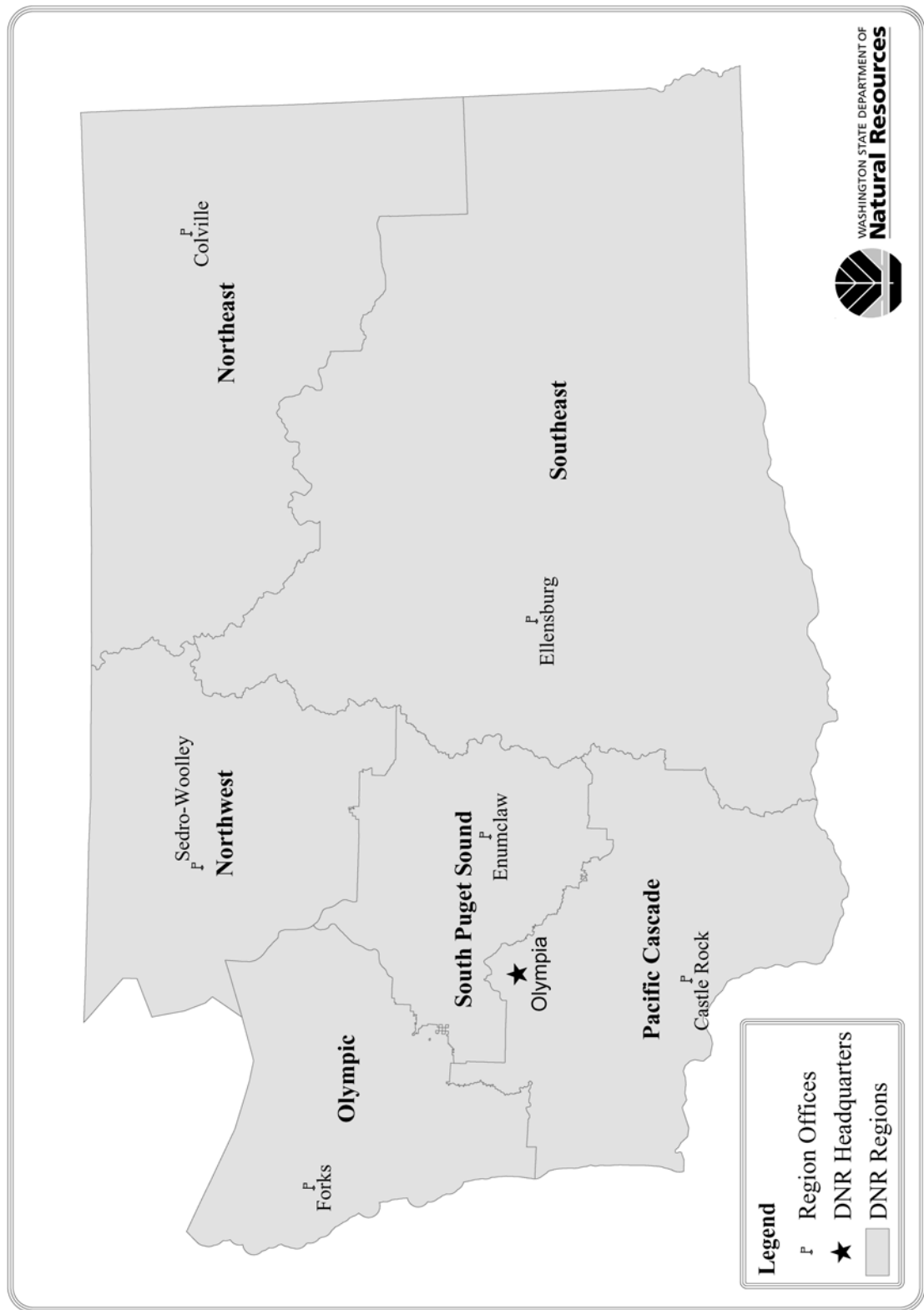


Figure 4.4 Regional offices for the Department of Natural Resources for the management of the Forest Practices program



staff related to program implementation, responds to appeals of agency decisions, creates and maintains technology-based tools, develops and delivers forest practices rules training and provides technical and scientific support for program implementation.

The FPD often takes a collaborative approach to Forest Practices program implementation, involving representatives of cooperating agencies and organizations in its decision-making processes. Typically, Washington Department of Ecology (Ecology) and WDFW as well as Federal agencies, tribes, environmental interests and forest landowners participate in the development of forest practices rules, the Board Manual and technology-based tools that facilitate program implementation. The FPD also assumes a primary role in the AM program by employing the AMPA, who acts as a liaison between the various AM program components and manages the AM program budget and contracts.

DNR's regional offices handle most other aspects of the Forest Practices program implementation. DNR maintains region offices in six locations throughout the state, and each office oversees field-based forest practices within its respective geographic area. Region offices are located in Castle Rock (Pacific Cascade Region¹), Sedro-Woolley (Northwest Region¹), Enumclaw (South Puget Sound Region¹), Forks (Olympic Region¹), Ellensburg (Southeast Region¹) and Colville (Northeast Region¹) (Figure 4.4). These same regions are the basis for the management of DNR state trust uplands. Management of DNR state trust aquatic lands occurs through three aquatic districts, Shoreline, Orca Straits and Rivers, which coordinates with the Aquatic Resources Division in Olympia.

The regional offices are chiefly responsible for forest practices permitting, compliance checks and enforcement. Region forest practices staff review and process forest practices applications and notifications, perform compliance checks of ongoing forest practices activities, take enforcement actions where appropriate, oversee Road Maintenance and Abandonment Plans (RMAPs), provide technical assistance to non-industrial forest landowners, participate in administrative appeals of agency decisions and regularly communicate changes in forest practices rules, guidance and policy to forest landowners and cooperating agencies and organizations.

Staff from the FPD and regional offices regularly meet to discuss and address issues related to Forest Practices program development, implementation and refinement. Ongoing communication between FPD and region staff helps ensure fair, consistent interpretation and application of program requirements within and between DNR's six regions.

Like the FPD, the regional offices use a collaborative approach to program implementation. Cooperating agencies and organizations—and the general public—can review and comment on proposed forest practices through an Internet-based system known as the Forest Practices Application Review System (FPARS). Also, representatives of cooperating agencies and organizations frequently participate in interdisciplinary team reviews of forest practices applications by providing DNR staff with technical input on potential hazards and risks to public resources and providing recommendations to avoid and/or reduce those risks.

¹ Region name as of 2004; region names are subject to change

Such collaborative approaches to decision-making at both the FPD and regional levels arose from the Timber/Fish/Wildlife Agreement crafted in 1987. The success of these approaches over the past 15 years has led the Board to adopt rules that require DNR to consult its cooperators on issues related to Forest Practices program implementation, thus ensuring continued collaboration into the future (WAC 222-12-044). Although the FPD and region offices are primarily responsible for forest practices administration, other DNR programs support the regulatory program. DNR's Asset Management and Protection Division¹ is home to two of these programs.

- State Environmental Policy Act (SEPA) Center – The SEPA Center is the public's main contact for information related to SEPA processing of forest practices applications. Forest practices that have been determined by the Board to have the potential for causing substantial environmental impact are subject to SEPA requirements, including public review and comment regarding potential effects on the environment. The SEPA Center maintains both mail- and e-mail-based distribution lists for notifying interested parties of proposed forest practices activities. Also, the public may review proposed activities on-line through DNR's SEPA Center website at www.dnr.wa.gov/htdocs/amp/sepa/sepahome.html or through the FPARS.
- Riparian Open Space Program (ROSP) – The ROSP is one of many habitat protection measures that comprise the Riparian Strategy (see Section 4b), and it was created to provide options to owners of forestland that qualify as unconfined avulsing channel migration zones (CMZs) under the forest practices rules. Unconfined avulsing CMZs are areas where abrupt shifts in stream or river location occur, resulting in a complex floodplain environment. Under the rules, no timber harvesting or road construction may occur within CMZs due to their high ecological value. Under the ROSP, owners of unconfined avulsing CMZs may apply to donate or sell the land to DNR or to place a permanent conservation easement covering the trees, land or both. DNR screens ROSP applications, prioritizes those that qualify and acquires lands based on available funding.

DNR's Information Technology Division¹ (ITD) also supports the Forest Practices program by maintaining the agency's information-technology infrastructure. This includes managing computer systems, maintaining the e-mail system that distributes FPARS notifications and managing the agency Internet website for the FPARS and SEPA Center. The ITD also maintains the agency's internal network that supports all Geographic Information System (GIS) activities and assists with data set management, documentation and distribution. Data distribution is particularly important for cooperating agencies and organizations that may want to obtain forest practices datasets such as hydrography, site class or unstable slopes. ITD staff also provides GIS analytical support for developing specific technology-dependent forest practices projects.

4a-1.3 Cooperating Agencies and Organizations

Although DNR is charged with implementing Washington's Forest Practices program, successful implementation involves a broader network of agencies and organizations. This includes Ecology and WDFW, Federal agencies, tribes and local governments. It

¹ Division name as of 2004; division names are subject to change

also includes environmental organizations and forest landowners. Following is a description of the roles and responsibilities of those agencies and organizations that participate in the Forest Practices program.

DEPARTMENT OF ECOLOGY

Ecology plays a significant role in the Forest Practices program because of its designation as the “State Water Pollution Control Agency” under the Federal Clean Water Act (CWA). One goal of the Forest Practices Act and rules is to ensure compliance with water quality standards and Federal water pollution control laws such as the CWA. Ecology’s director (or designee) must agree to water quality-related forest practices rules before the Board can adopt them. The director’s (or designee’s) membership on the Board also gives the agency a role in adopting other forest practices rules. In addition:

- Ecology’s Water Quality Program staff collaborates with DNR and other cooperating agencies and organizations to develop forest practices rules and Board Manual guidelines related to water quality protection.
- Ecology staff participates in forest practices application and notification review by providing DNR with technical input and recommendations for avoiding and/or mitigating water quality impacts associated with individual forest practices.
- Ecology is involved in the AM program at all levels, including the CMER Committee, FF Policy and the Board.

Ecology also has enforcement authority related to forest practices. If Ecology determines that a forest landowner or operator has failed to comply with forest practices rules related to water quality, the agency could seek a stop work order if DNR does not take enforcement action. However, Ecology may not impose civil or criminal penalties for actions conducted pursuant to a DNR approval or directive. Ecology must notify DNR prior to taking action under statutes or rules related to water quality.

DEPARTMENT OF FISH AND WILDLIFE

Due to fish and wildlife resource protection responsibilities, WDFW has a significant role in the Forest Practices program. The director of WDFW (or designee) is a member of the Board, thereby giving the agency a role in the adoption of forest practices rules. Staff in WDFW’s Habitat Program participate in drafting forest practices rules and Board Manual guidelines prior to Board adoption. In addition:

- WDFW field staff provide input and recommendations to DNR during forest practices application and notification review, particularly if habitat protection issues exist.
- WDFW is involved in the AM program and has representatives on the CMER Committee and FF Policy.
- WDFW staff maintains computerized datasets related to the status of fish and wildlife. DNR consults these datasets when processing forest practices applications and notifications.

In addition to supporting the Forest Practices program, WDFW is responsible for issuing permits and regulating activities that could affect the natural bed and/or flow of surface waters and that have a potential for adversely affecting fish life. This includes forest practices such as installing, maintaining or removing stream-crossing structures (bridges, culverts, fords), and yarding logs through or over stream channels. The permit, referred to as a Hydraulic Project Approval (HPA), is separate from DNR's forest practices application and notification, and is issued by WDFW.

As part of the 1999 Forests and Fish Law (Appendix C), the legislature expressed its intent that forest practices-related HPAs (chapter 77.55 RCW) should be more closely integrated with the forest practices permitting process (chapter 76.09 RCW). WDFW has completed integration of forest practices-related HPA applications affecting non-fish habitat streams. In November 2004, the Fish and Wildlife Commission adopted a rule (chapter 220-110 WAC) that waives the requirement for a Hydraulic Project Approval (HPA) for forest practices conducted in or across non-fish-bearing waters conducted under an approved forest practices application issued by DNR. A Memorandum of Agreement between WDFW and DNR was signed November 2005, which sets forth standards to promote continued cooperation between the two agencies in order to achieve the two missions: 1) to effectively and efficiently administer state forest practices rules and 2) to protect fish life and habitat. Effective June 1, 2005 approval of some forest practices applications concurrently serves as approval for specific forest practices-related hydraulic projects.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION FISHERIES

Like state agencies, the Federal National Oceanic and Atmospheric Administration (NOAA) Fisheries is considered a cooperating agency within the Forest Practices program. The agency has compliance and enforcement authority under the Endangered Species Act (ESA) and oversees implementation of federally approved habitat conservation plans involving most anadromous fish species and other marine species.

NOAA Fisheries staff participate in the AM program through the CMER Committee and FF Policy. They provide technical and policy input for the AM program by developing scientifically sound approaches to carrying out research and monitoring, interpreting findings and formulating recommendations that are forwarded to the Board for consideration. The agency also provides input on alternate plans that deviate from standard forest practices rules by participating in formal, region-based interdisciplinary team reviews coordinated by DNR. The forest practices rules also grant NOAA Fisheries a formal role in the development of Board Manual guidelines for alternate plans (WAC 222-12-0403). While not formally recognized in the rules, NOAA Fisheries personnel are also involved in developing and refining other Board Manual guidelines.

UNITED STATES FISH AND WILDLIFE SERVICE

The role of the United States Fish and Wildlife Service (USFWS) in the Forest Practices program is similar to that of NOAA Fisheries. USFWS has compliance and enforcement authority under the ESA and oversees implementation of federally approved habitat conservation plans involving wildlife, non-anadromous (i.e., resident) fish species and some anadromous fish species—including bull trout and cutthroat trout.

USFWS staff participate in the AM program through the CMER Committee and FF Policy, and are also involved in alternate plan review. USFWS assists in developing and refining Board Manual guidelines and has a formal role in developing the Board Manual guidelines for alternate plans (WAC 222-12-0403).

ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) directly oversees compliance with Federal water pollution control laws, including the CWA. Specifically, EPA reviews and approves Total Maximum Daily Load pollution control plans. The responsibility for implementing provisions of the CWA at the state level has been delegated to Ecology, which serves as the State Water Pollution Control Agency. EPA is a cooperating agency within the Forest Practices program through its participation in the AM program. The agency is represented on both the CMER Committee and FF Policy and may assist with Board Manual development.

UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE

The United States Department of Agriculture (USDA) Forest Service is involved with the Forest Practices program through its role in the Columbia River Gorge National Scenic Area. The scenic area was established by congress, and the states of Oregon and Washington have entered into a Compact preauthorized by congress to implement the Federal Columbia River Gorge National Scenic Area (CRGNSA) Act, 16 U.S.C. § § 544, et seq. chapter 43.97 RCW, 16 U.S.C. § 544c. The CRGNSA Act establishes a national scenic area to protect and provide for the enhancement of the scenic, cultural, recreational and natural resources of the Columbia River Gorge and to protect and support the economy of the Columbia River Gorge area by encouraging growth in existing urban areas and by allowing future economic development in a manner that is consistent with paragraph (1).16 U.S.C. § 544a.

The Board has adopted rules that address the potential effects of forest practices in the CRGNSA Act special management area on public resources, recreation and scenic beauty. The USDA Forest Service has the responsibility to evaluate compliance of forest practices activities that occur on lands designated as the CRGNSA Act “Special Management Area.” DNR works collaboratively with the USDA Forest Service to regulate forest practices in the Special Management Area, thereby ensuring that provisions of the CRGNSA Act are met. The USDA Forest Service also coordinates forest practices activities with DNR in cases where the USDA Forest Service and DNR or private forestlands are contiguous.

TRIBAL GOVERNMENTS

Washington’s tribes are important cooperators in the Forest Practices program. The Act and rules direct DNR to consult and cooperate with “affected Indian tribes” when developing and implementing many parts of the Forest Practices program. An “affected Indian tribe” is any federally recognized tribe that, in writing, requests information from DNR on forest practices applications and notifications filed in specific areas (WAC 222-16-010).

The 29 federally recognized tribes in Washington participate in the Forest Practices program to varying degrees. They are involved in many aspects of program administration, including program development and implementation and adaptive management. Tribal representatives work with staff from DNR and other agencies and organizations to draft forest practices rules and Board Manual guidelines, review forest practices applications and notifications and provide DNR staff with technical input related to these proposals via on-site forest practices reviews and interdisciplinary team reviews. Tribes are also involved in the AM program through the CMER Committee and FF Policy. The Northwest Indian Fisheries Commission (NWIFC) provides technical and policy support for many tribes in western Washington. NWIFC staff also participates in Forest Practices program development and implementation as well as adaptive management.

LOCAL GOVERNMENTS

Local governments—counties and municipalities—are involved in Forest Practices program implementation when they share jurisdiction with DNR. Joint DNR-local government jurisdiction over forest practices occurs in three areas:

- 1) implementation of the state Shoreline Management Act (SMA),
- 2) implementation of the State Environmental Policy Act (SEPA), and
- 3) processing of Conversion Harvest Option Plans (COHP).

County governments have been delegated the responsibility for implementing the SMA along surface waters designated as shorelines of the state (See Section 4b-1). When forest practices are proposed within the Shoreline Management Zone, DNR regions coordinate with counties to ensure provisions of both the forest practices rules and the SMA are met. When SMA requirements provide less resource protection than forest practices rules, operations must still comply with forest practices requirements.

DNR regions coordinate with local governments on forest practices applications subject to review under SEPA, including proposed forest practices activities that have the potential for substantial environmental impact, activities where forestland is to be converted to another use, activities on lands likely to be converted to urban development and activities on lands platted after January 1, 1960.

DNR also coordinates with local governments on COHPs, which are voluntary agreements between a landowner and the local government that allow the landowner to maintain the option for converting forestland to a non-forest use at a later date. COHPs are limited to the area identified for harvest on the forest practices application. An approved COHP often includes certain harvest restrictions and releases the landowner from a six-year moratorium on future development.

In addition to coordinating with DNR on SMA, SEPA and COHP issues, local governments may participate in site reviews and interdisciplinary team reviews of proposed forest practices—particularly in cases where public works such as roads, bridges or water supply facilities maintained by a county or municipality could be adversely affected by the proposed forest practices.

ENVIRONMENTAL ORGANIZATIONS

Environmental organizations are engaged in the Forest Practices program through adaptive management, CMER and Forests and Fish Policy Committee. Six organizations—including the American Lands Alliance, the Northwest Ecosystem Alliance, the Pacific Rivers Council, the Washington Environmental Council, the Washington Forest Law Center and Washington Trout—have formed the “Conservation Caucus.”

FOREST LANDOWNERS

Forest landowners participate at all levels in the Forest Practices program. Three of the six general public members on the 12-member Forest Practices Board generally represent timber interests. By law, one must be an owner of less than 500 acres of forestland and another an independent logging contractor (chapter 76.09 RCW). The third typically represents a large, industrial forest landowner.

The population of forest landowners in Washington is extremely diverse, with a wide range of goals and objectives for management of their lands. Ownership patterns vary as well, with individual holdings ranging from a few acres to more than 100,000 acres. Generally, the Washington Forest Protection Association (WFPA) represents large industrial forest landowners in the state while the Washington Farm Forestry Association (WFFA) represents small forest landowners, although there are a large number of landowners who are not members of either organization.

Both WFPA and WFFA have representatives on the CMER Committee and FF Policy. Both organizations encourage their members to attend DNR-sponsored training sessions to stay informed of the latest scientific and technical information related to research, monitoring and forest practices rule requirements. Many forest landowners also provide access to their lands for adaptive management research and monitoring.

4a-1.4 General Public

One role of the general public in the Forest Practices program is as reviewers of proposed forest practices. Typically, individuals or community organizations concerned about the potential impacts of forest practices on public resources and public safety in their local area of interest provide verbal or written comment to DNR. General public members are notified of proposed forest practices in their area of interest through DNR’s Internet-based Forest Practices Application Review System (FPARS). Individuals or organizations must register with DNR to receive notifications, and registration is free of charge by contacting the DNR-Forest Practices Division in Olympia or any of DNR’s six region offices. The general public can also review SEPA documents associated with Class IV-Special forest practices applications by accessing DNR’s SEPA Center website (www.dnr.wa.gov/htdocs/amp/sepa/sepahome.html).

The general public also participates in the Forest Practices program by: 1) providing input on forest practices rules development through the SEPA and Administrative Procedures Act (APA) processes, 2) providing input to the Board on forest practices Board Manual development and 3) providing input to the AM program.

4a-1.5 Forest Practices Appeals Board

The FPAB was established as part of the 1974 Forest Practices Act to hear appeals of forest practices decisions made by DNR. Agency decisions that may be appealed include the approval or disapproval of a forest practices application and the issuance of civil penalties, stop work orders, notices to comply and notices of intent to disapprove forest practices applications. Appeals may be filed by any individual, organization or agency affected by a DNR decision.

The FPAB is housed in the state's Environmental Hearings Office and its function is to provide all litigants a full and complete administrative hearing as promptly as possible, followed by a fair and impartial written decision based on the facts and law. The FPAB is an independent, quasi-judicial hearings board entirely separate from the DNR and any other state, regional or local unit of government. The FPAB consists of three members who are appointed by the governor and confirmed by the senate for staggered six-year terms. One of the three members must be an attorney. The presiding officer at each hearing is an Administrative Appeals Judge on staff within the Environmental Hearings Office.

4a-2 Forest Practices program development

Program development includes the processes by which forest practices rules, Board Manual guidelines, internal policies and technology-based tools are created. Forest practices activities carried out on covered lands must adhere to the forest practices rules; therefore, the rules represent the habitat protection measures for covered species. Board Manual guidelines, DNR internal policies and technology-based tools supplement the protection measures by providing DNR staff, forest landowners and cooperating agencies and organizations with additional direction and information related to rule implementation.

Much of the Forest Practices program related to the protection of aquatic resources has been developed and is in place. This occurred when the Board adopted permanent forest practices rules (WAC 222) in July 2001 that were based on recommendations in the Forests and Fish Report. However, the approach to habitat conservation under the FPHCP involves an ongoing cycle of program development, implementation and adaptive management-driven refinement (Figure 4.1). Therefore, at some level, program development is always occurring. For this reason, a description of the processes by which Forest Practices program development occurs is important to understanding the broader approach to habitat conservation. The following sections describe the development of forest practices rules, Board Manual guidelines, DNR internal policies and technology and information-based tools.

4a-2.1 Forest Practices Rules

The forest practices rules contained in Title 222 of the Washington Administrative Code represent the protection measures on which much of the FPHCP is based. Forest Practices Board Manual guidelines and internal DNR guidance supplement the rules and

sometimes determine how a particular rule is implemented, but the rules themselves are the foundation of the overall conservation strategy.

Forest practices rules are designed to meet broad performance goals, general resource objectives and specific performance targets for the protection of public resources, including species covered by the FPHCP. The degree to which forest practices rules meet these goals, objectives and targets is the focus of the adaptive management process described in Section 4a-4.

- *Performance goals* established in the Forests and Fish Report and later adopted in rule (WAC 222-12-045 (2)(a)), state that forest practices—either singularly or cumulatively—are intended to be conducted in a manner that will not significantly impair the capacity of aquatic habitat to:
 1. support harvestable levels of salmonids,
 2. support the long-term viability of other covered species, and
 3. meet or exceed water quality standards (including protection of designated uses, narrative and numeric criteria and antidegradation).
- *Resource objectives*, while qualitative, are more specific and are tied to environmental variables potentially affected by forest practices, including water temperature, large woody debris, sediment and hydrology. Resource objectives are contained in Schedule L-1 (Appendix N).
- *Performance targets* are specific, quantitative measures that define attainable target forest conditions and processes. They are tied to the same environmental variables listed above and are also found in Schedule L-1 (Appendix N).

The Forest Practices Act (chapter 76.09.370(6) RCW) specifies that the Board can make changes or additions to rules related to aquatic resources in only three circumstances:

- 1) If “...the changes or new rules are consistent with recommendations resulting from the scientifically based adaptive management process...”
- 2) If directed to do so by an “...order of any court having jurisdiction...” or
- 3) If “...future state legislation directs the Board to adopt or modify the rules.”

Even though a court or the state legislature may direct the Board to adjust rules, the primary mechanism for rule modification within the Forest Practices program is through the adaptive management process. The purpose of the AM program is to produce technical information and science-based recommendations to assist the Board in determining if and when it is necessary or advisable to adjust forest practices rules and guidance in order to achieve performance goals, resource objectives, and performance targets.

Once it has been determined that a new rule or modification of an existing rule is necessary, the process of rule development (or rule making) begins. The Administrative Procedures Act (chapter 34.05 RCW), the Forest Practices Act (chapter 76.09 RCW), and the State Environmental Policy Act (chapter 43.21C RCW) all govern the forest practices

rule-making process. The APA encourages agencies to seek participation from interested parties and engage in negotiated rule making. It is common practice for the Board to encourage Forest Practices program participants to work collaboratively during the rule-making process. The APA also requires public notification of rule making and public hearings allowing for oral and written comment.

The Board may adopt, amend or repeal a rule without adhering to the normal rule-making requirements if it finds that immediate action is necessary to preserve public health, safety or general welfare and observing normal time requirements would be contrary to the public interest, or if state or Federal law and/or rule, or a Federal deadline for receipt of Federal funds requires immediate action. Such “emergency rules” may not remain in effect for longer than 121 days after filing and may not be replaced by an identical or substantially similar emergency rule unless “conditions have changed.”

The Act requires the Board to send proposed rules to WDFW and counties for a 30-day review and comment period prior to initiating the formal rule-making process. By practice, the Board also sends proposed rules to affected tribes. The Act also requires that the Board reach agreement with the director of Ecology (or designee) before adopting forest practices rules related to water quality.

The SEPA generally requires that proposed forest practices rules be evaluated by the Board to determine if an Environmental Impact Statement (EIS) is required. This “threshold determination” typically takes 14 days, but may take longer. If an EIS is necessary, preparation can take several months. Sometimes the development of an EIS can take much longer based on the complexity of the rule proposal. The Board usually tries to coordinate the SEPA process with the APA rule-making process by combining public notification and hearing requirements when possible.

While DNR strives for consensus among Forest Practices program participants during the rule-making process, it may sometimes be necessary to present the Board with a final product that represents a majority—rather than consensus—opinion. In such cases, DNR staff informs the Board of the lack of consensus and provides a briefing on the outstanding issues before the Board takes action on proposed rules.

4a-2.2 Forest Practices Board Manual

The Forest Practices Board Manual is an advisory technical supplement to the forest practices rules that provides technical background and guidance for DNR staff, forest landowners and cooperating agencies and organizations when implementing certain rule provisions. The Board Manual contains over two dozen sections, each of which provides guidance for implementing a specific rule or set of rules.

Forest practices rules direct DNR to develop and make modifications to the Board Manual in cooperation with the Departments of Fish and Wildlife, Agriculture, Ecology and other affected agencies; affected tribes; and interested parties that have appropriate expertise. DNR staff coordinates the Board Manual development process and convenes and leads technical working groups of individuals with relevant background and experience. The process typically begins with the working group identifying key elements to be addressed. Once the key elements have been identified, the working group develops draft documents that are reviewed within the working group and by persons

with appropriate expertise outside the working group. Final draft documents are forwarded to the Board for review and approval.

Sometimes it may be necessary to present the Board with a final product that represents a majority, rather than consensus, opinion. In situations where the working group does not reach consensus, DNR staff informs the Board of the lack of consensus and provides a briefing on the outstanding issues before the Board takes action on the proposal.

Because the Board Manual is an advisory supplement and not part of Title 222 WAC, approval by the Board is not subject to requirements of the Administrative Procedures Act (APA). Therefore, Board Manual development and approval does not involve formal public hearings and SEPA review, although interested parties often have the opportunity to comment during Board meetings. Because the Board Manual is not subject to APA requirements, the Board has greater latitude when directing the development, modification and approval of Board Manual sections. This flexibility allows the Board to approve—and DNR to implement—Board Manual sections that might otherwise be delayed due to procedural requirements.

4a-2.3 Department of Natural Resources - Internal Guidance

Internal guidance developed by DNR supplements the forest practices rules and Board Manual. The complexity of the rules, details of program administration and variability in the forested environment often pose unique challenges for landowners and DNR staff attempting to “fit” the regulations to the landscape. Situations commonly arise where neither the rules nor the Board Manual provide enough specificity to address a particular implementation issue. In these cases it is necessary for DNR—as the lead regulatory agency—to develop internal guidance that provides direction consistent with established program goals, resource objectives and performance targets.

Internal guidance for rule implementation is developed within DNR’s Forest Practices Division. Once complete, new guidance or changes to existing guidance are communicated to all Forest Practices Division and region forest practices staff, followed by cooperating agencies and organizations affected by the policies.

4a-2.4 Information Technology Tools

Administration of the Forest Practices program is heavily dependent on information and technology-based tools. Tools include information systems, such as the FPARS, as well as discrete data sets, such as the hydrography layer that forms the basis of the water typing system. DNR directs and manages forest practices-related tool development within its Forest Practices and Information Technology Divisions. DNR often contracts with private vendors to provide oversight and technical assistance related to these projects.

Cooperating agencies and organizations sometimes assist with developing forest practices-related tools by providing technical support and advice. The type and number of cooperators involved often depends on the nature of the tool being developed and the end-user(s). If the tool would be used solely to support internal processes and would have no use outside the agency, DNR would direct tool development with little if any input from its cooperators. If the tool and/or its output would be shared with cooperating

agencies and organizations, it is likely those same agencies and organizations would be involved in tool development. When developing highly technical tools that have both a large degree of scientific uncertainty and potentially significant implications for protection of covered species, DNR seeks input from the CMER Committee. The CMER Committee has technical expertise in a wide range of subjects, making it a valuable resource upon which DNR can call to assist with tool development.

4a-3 Forest Practices program implementation

Forest Practices program implementation follows program development. Once new or revised forest practices rules, Board Manual guidelines, internal policies and technology-based tools have been developed, DNR works with those program participants affected by the change to implement the new program components. This typically includes forest landowners who must comply with provisions of the Forest Practices Act and rules, and cooperating agencies and organizations that support DNR in program implementation.

Forest Practices program implementation includes multiple components. The first component is the DNR-administered forest practices permitting process. Forest landowners are required to obtain approval from DNR prior to conducting forest practices activities. The permitting process involves reviewing and approving forest practices applications and notifications, conducting compliance checks of ongoing forest practices activities and taking enforcement actions where necessary. A formal compliance monitoring program is currently being developed to measure landowner and operator compliance with forest practices rules and to inform DNR's routine compliance checks and enforcement actions.

The second component of program implementation is DNR technical support. Staff specialists within the DNR Forest Practices Division provide expertise in the physical and biological sciences and support many aspects of program implementation.

Program implementation also includes an information, education and training component. This is the primary way DNR communicates changes in the Forest Practices program to internal agency staff, forest landowners and cooperating agencies and organizations.

The final component of program implementation is DNR's Small Forest Landowner Office (SFLO). The SFLO serves as a focal point for addressing issues specific to small forest landowners in Washington. Each of these program implementation components is described in more detail in the following sections.

4a-3.1 Forest Practices Permitting Process

The Forest Practices Act authorizes DNR to administer a permitting process to ensure that forest practices comply with applicable laws and rules. The permitting process requires that forest landowners submit an application or notification to DNR for proposed forest practices. Applications differ from notifications based on the risk posed by proposed activities and the DNR processing requirements. Forest practices *applications* are required for activities that pose a higher risk to public resources or public safety. Applications must be reviewed and approved by DNR before forest practices can begin.

Forest practices *notifications* are required for lower-risk activities. Notifications do not require DNR approval. A notification or approved application represents the forest practices “permit” that authorizes forest practices on covered lands.

In addition to being regulated under the Act, forest practices activities that affect the natural bed and/or flow of surface waters and that have a potential for adversely affecting fish life are subject to the state’s Hydraulic Code (RCW). The Hydraulic Code is administered by WDFW through a permit known as a Hydraulic Project Approval. Forest practices that are subject to the Hydraulics Code and require HPA permits are described in Sections 4b and 4c of this document.

4a-3.1.1 CLASSES OF FOREST PRACTICES

The Act establishes classes of forest practices based on the potential for the proposed operation(s) to adversely affect public resources. The Board establishes standards that determine which forest practices are included in each class. The different classes determine the level of DNR involvement in the permitting process. Low-risk operations receive relatively little, if any, review by DNR while higher-risk proposals are subject to greater levels of environmental review by DNR and its cooperating agencies and organizations. All forest practices, irrespective of class, must be conducted in accordance with forest practices rules.

The Act establishes four classes of forest practices (Class I, Class II, Class III and Class IV).

Class I forest practices are those determined by the Board to have no direct potential for damaging a public resource. Examples of Class I forest practices include pre-commercial thinning outside riparian zones and road maintenance activities where there is no potential for sediment delivery to waters or wetlands. Emergency fire control and suppression is also considered a Class I forest practice.

Class II forest practices are those determined by the Board to have a less than ordinary potential for damaging public resources. Class II forest practices require submittal of written notification of the operation to DNR. Class II forest practices involve timber harvest and/or road construction where no surface waters, wetlands, unstable slopes, threatened or endangered wildlife species and/or cultural resources are present on the site. Class II forest practices may begin five calendar days following DNR’s receipt of written notification.

Class III forest practices include all operations other than those considered Class I, Class II, or Class IV. Class III applications typically include forest practices where streams, lakes, wetlands, threatened or endangered wildlife species and/or cultural resources are present on-site. A large majority of forest practices applications and notifications received on an annual basis are considered Class III. According to program records in 2002, 74 percent of all forest practices applications and notifications submitted to DNR were Class III.

Class IV forest practices are separated into two sub-classes: Class IV-Special and Class IV-General. Class IV-Special forest practices require compliance with the SEPA rules and forest practices SEPA guidelines because they have the potential for a

substantial impact on the environment. DNR may require additional information or a detailed EIS before determining whether these forest practices may be carried out.

Class IV-Special forest practices are defined in WAC 222-16-050(1) as:

- 1) aerial application of pesticides in a manner identified as having the potential for a substantial impact on the environment under WAC 222-16-070 or ground application of a pesticide within a Type A or Type B wetland,
- 2) specific forest practices listed in WAC 222-16-080 on lands designated as critical habitat (state) of threatened or endangered species,
- 3) harvesting, road construction, aerial application of pesticides and site preparation on all lands within the boundaries of any national park, state park or any park of a local governmental entity, except harvest of less than 5,000 board feet within any developed park recreation area and park-managed salvage of merchantable forest products,
- 4) timber harvest or construction of roads, landings, gravel pits, rock quarries or spoil disposal areas on potentially unstable slopes or landforms that have the potential to deliver sediment or debris to a public resource or that have the potential to threaten public safety and which has been field verified by DNR,
- 5) timber harvest in a watershed administrative unit not subject to an approved watershed analysis under chapter 222-22 WAC or construction of roads, landings, rock quarries, gravel pits, borrow pits and spoil disposal areas on snow avalanche slopes within those areas designated by DNR—in consultation with the Department of Transportation and local government—as high avalanche hazard where there is the potential to deliver sediment or debris to a public resource or the potential to threaten public safety,
- 6) timber harvest, construction of roads, landings, rock quarries, gravel pits, borrow pits and spoil disposal areas on archaeological or historic sites registered with the Washington Office of Archaeology and Historic Preservation, or on sites containing evidence of Native American cairns, graves or glyptic records, as provided for in chapters 27.44 and 27.53 RCW,
- 7) forest practices subject to an approved watershed analysis under chapter 222-22 WAC in an area of resource sensitivity identified in that analysis that deviates from the prescriptions in the watershed analysis, and
- 8) filling or draining of more than 0.5 acre of a wetland.

Forest practices on unstable slopes or landforms (see (4) above) are subject to additional forest practices SEPA guidelines that go beyond completion of an environmental checklist. Proposed timber harvest or construction on potentially unstable slopes or landforms must undergo review by a qualified expert with education and experience in geology, geomorphology or a related field. The expert must assess the likelihood that the proposed forest practices will cause slope movement and the likelihood of sediment or debris delivery to a public resource or in a manner that would threaten public safety. In addition, the expert must suggest measures to mitigate the identified hazards and risks.

The assessment must be submitted as a written report to DNR for use in making a SEPA determination.

Class IV-General forest practices are those activities determined by the Board to be related to land uses other than forestry. These proposals may require a license or permit from a local government agency associated with a county or city. The local government agency assumes lead agency status for purposes of ensuring compliance with SEPA.

Class IV-General forest practices include:

- 1) Forest practices (other than Class I) on lands platted after January 1, 1960, or on lands being converted to another use, and
- 2) Forest practices that would otherwise be Class III, but that are taking place on lands that will not be reforested because of likelihood of future conversion to urban development.

When a forest practices application is determined to be Class IV-General, the local government entity (city or county) assumes lead agency status for compliance with SEPA rules. In these cases, DNR retains its authority under the Act and rules and may place conditions on the permit. In instances when DNR retains lead agency status for Class IV-General SEPA compliance, local government entities provide comments and may place conditions on the permit to ensure compliance with local critical area ordinances.

In accordance with RCW 76.09.240, DNR is in the process of working with local government entities to transfer jurisdiction of Class IV-General forest practices. Each city and county in the state is required to adopt ordinances by December 31, 2005, to regulate Class IV-General forest practices. These ordinances must: a) establish minimum standards for Class IV forest practices; b) set forth necessary administrative provisions; and c) establish procedures for the collection and administration of forest practices and recording fees. The city or county's ordinances or regulations must meet or exceed the standards set forth in the Forest Practices Rules. DNR, in consultation with Ecology, may approve or disapprove the regulations in whole or in part (RCW 76.09.240(3)). To date, DNR has transferred authority to regulate Class IV-General forest practices and those within the urban growth areas to four counties - Thurston, King, Spokane and Clark - and one city, Port Townsend. Several other local jurisdictions are in the process of developing programs to regulate Class IV-General forest practices. Assuming the state is successful in gaining incidental take coverage through the FPHCP, local jurisdictions—where Class IV-General authority has been transferred—may also apply to the Services for incidental take coverage. The Federal Services need to be contacted to determine the appropriate process for extending incidental take coverage to these Class IV-General forest practices.

Some forest practices within designated urban growth areas (UGAs) may not be Class IV forest practices. Exceptions are provided for in 76.09.050 RCW. DNR retains authority over forest practices within UGAs where: The landowner provides a written statement not to convert to a use other than commercial forest product operations for ten years, accompanied by either a forest management plan acceptable to DNR or documentation that the land is “designated forestland” and enrolled under the provisions of chapter 84.33 RCW; or a conversion option harvest plan has been approved by the local

governmental entity and submitted to DNR as part of the application. Additionally, DNR retains authority over forest practices within UGAs that are determined to be Class IV-Specials.

Assigning forest practices to different risk classes allows DNR and its cooperating agencies and organizations to prioritize workload more effectively. Like most agencies and organizations, participants in the Forest Practices program are limited in their capacity to review proposed activities. Many reviewers of forest practices focus their reviews on those activities that pose the greatest risk to public resources or public safety, such as Class IV-Special and/or Class III forest practices.

4a-3.1.2 FOREST PRACTICES APPLICATION AND NOTIFICATION REVIEW

Under the Forest Practices Act and rules, DNR is responsible for processing forest practices applications and notifications from individuals who are planning to conduct forest practices that are regulated under the Act and rules. DNR region offices administer the permitting process for forest practices applications and notifications.

Whether a notification or an application needs to be filed depends on the class of forest practices involved. Prior to initiating work, forest landowners and/or operators are required to submit a notification to DNR for Class II operations and submit an application and obtain approval from DNR for Class III or Class IV applications. A notification or approved application represents the forest practices “permit” that authorizes forest practices on covered lands. Class I forest practices can be conducted without submitting an application or notification to DNR, but must still adhere to forest practices rule requirements.

The class determines when operations can begin. The Act and rules establish timelines for the permitting process:

- Work on Class II forest practices may begin five calendar days after DNR receives a complete notification.
- Class III and Class IV forest practices must be approved, approved with conditions or disapproved by DNR within 30 calendar days after receipt of a complete application; however, DNR is directed to act on Class III applications that do not require field review within 14 calendar days.
- Class IV forest practices that require an EIS receive 30 days additional review when ordered by the Commissioner of Public Lands (chapter 76.09.050 RCW).

When DNR receives a forest practices application or notification, it evaluates the proposal for unstable slopes, hydric soils, forested wetlands, threatened and endangered species, rain-on-snow zones, cultural/archaeological sites and city or county permit requirements. Staff classify the permit based on the outcome of the screening, and enter it into the FPARS for review by DNR field staff and cooperating agencies and organizations.

The degree of field review each application receives depends on the level of risk to public resources. Class II applications generally receive less field review than Class III or

Class IV applications, because the likelihood for impact to public resources or public safety is low. DNR field staff prioritize on-site review of applications based on their local knowledge of the area and the information contained in the forest practices application.

DNR typically conducts site reviews of proposed forest practices if public resources such as fish habitat or water quality are potentially affected by the proposal. If complex issues arise that require expertise in a specific scientific discipline, DNR field staff request technical assistance. Depending on the issue, technical assistance may be provided from within the DNR Forest Practices Division or may come from cooperating agencies and organizations such as WDFW, Ecology or affected tribes. DNR arranges a site review of the proposal with one or more technical specialists to provide input and recommendations related to the issue(s) identified by DNR field staff. After considering input and recommendations received from the technical specialist(s), DNR field staff approve, conditionally approve or disapprove the application. Applications that are conditionally approved have one or more restrictions or “conditions” in order to ensure compliance with all applicable forest practices rules and guidelines and to prevent material damage to public resources.

In some cases, a forest practices application is reclassified after a field review. The most common reason for reclassification is that features identified on—or absent from—the forest practices application were actually absent from or present on the site. For example, an application initially classified as Class II because it included no mapped typed waters may be reclassified as Class III if the field review determines a typed water was present on-site. Also, applications initially classified as Class III because the office screening detected no unstable slopes may be reclassified as Class IV-Special if the field review confirms the presence of such slopes. Both situations are fairly common due to the limited accuracy of remotely sensed information that serves as the basis for forest practices base maps and office screening tools.

If an application is determined to be Class IV-Special because it proposes harvesting or construction on potentially unstable slopes or landforms, a geotechnical evaluation must be performed by a qualified expert as described in WAC 222-10-030. In addition to meeting the qualifications of the forest practices rules, this expert must also be licensed by the state of Washington as a geologist, because performing forest practices-related slope stability work is considered to be practicing geology. More information on geologist licensing can be found in chapter 18.220 RCW and WAC 308-15.

DNR uses the qualified expert’s report to determine if the proposed forest practices are likely to have a probable significant adverse impact on the environment and therefore requires an EIS. In making its determination, DNR evaluates whether the proposal:

- is likely to increase the probability of mass movement on or near the site,
- would deliver sediment or debris to a public resource or in a manner that would threaten public safety, and
- whether the movement and delivery are likely to cause significant adverse impacts.

The forest practices rules direct DNR to evaluate the proposal using appropriate expertise and in consultation with other affected agencies and tribes. The use of DNR agency

technical and scientific support to evaluate slope stability issues is described in Section 4a-3.2.

When a forest practices application is determined to be Class IV-General, the local government entity (city or county) assumes lead agency status for compliance with SEPA rules. In these cases, DNR retains its authority under the Act and rules and may place conditions on the permit. In instances when DNR retains lead agency status for Class IV-General SEPA compliance, local government entities provide comment and may place conditions on the permit to ensure compliance with local critical area ordinances.

The Act mandates that administration and enforcement of all Class IV-General forest practices be transferred from DNR to local governments by December 31, 2005 (RCW 76.09.240). This transfer of jurisdiction requires that local governments update their critical area ordinances, including clearing and grading ordinances, to meet or exceed the forest practices rules in place at the time of transfer. DNR will determine if and when local ordinances meet the requirements set forth in chapter 76.09.240 RCW. Once this occurs, the Commissioner of Public Lands will transfer to the local government entity the authority to regulate all Class IV-General forest practices.

Alternate Plans

An *alternate plan* is a tool forest landowners can use to develop site-specific management plans for forest practices regulated under the Forest Practices Act. WAC 222-12-0401 describes the alternate plan process, including their review by interdisciplinary teams. An alternate plan may deviate from the standard forest practices rules, as long as the plan provides public resource protection at least equal in overall effectiveness to the protections afforded by the Act and rules.

Both large and small forest landowners can submit an alternate plan. Small forest landowners who want assistance in preparing an alternate plan may seek assistance from the SFLO. Each plan must contain: 1) a map of the area covered, 2) a description of how the alternate plan provides public resource protection to meet the DNR approval standard, 3) a list of the forest practices rules that the alternate management plan is intended to replace, 4) descriptions of any monitoring or adaptive management strategies associated with the plan, 5) a description of an implementation schedule, and 6) justification showing that sufficient common physical characteristics exist for forest practices applications submitted separately under the same alternate plan.

Upon receipt of a forest practices application associated with an alternate plan, DNR appoints an interdisciplinary team to determine if the plan provides resource protection at least equal in overall effectiveness to the protections afforded by the Act and rules. The composition of the interdisciplinary team is determined by DNR; however, representatives of WDFW and Ecology—as well as any affected tribe—are invited to participate. The team determines if the proposal meets the DNR approval standard. If the interdisciplinary team provides DNR with a consensus recommendation regarding alternate plan approval, conditional approval or disapproval, the agency is directed to give substantial weight to that recommendation when making its decision.

Guidelines for alternate plans are in the Board Manual and include template prescriptions specific for small forest landowners. Template prescriptions are prescriptions for common situations that are repeatedly addressed in alternate plans. If a small landowner

chooses to follow a template, the standardization of a template alternate plan will make the plan layout and approval process more efficient, while continuing to maintain protection of public resources. An interdisciplinary team may submit a recommendation for approval, conditional approval or disapproval of a forest practices application associated with a template alternate plan without a site visit. The Board Manual also contains recommendations for alternate plans or alternate harvest restrictions that meet riparian functions, the effectiveness of strategies for meeting resource objectives and protecting public resources, and criteria to assist the department in determining whether a small forest landowner alternate plan qualifies as a low impact alternate plan.

It is anticipated that the alternate plan process will continue to evolve and improve over the life of the FPHCP. Alternate plans for small forest landowners may incorporate longer timeframes and encompass a landowner's entire forestland property. DNR's approval criteria for longer-term management plans will be developed in conjunction with the Federal agencies and will meet Federal ESA requirements. DNR is responsible for conducting audits of landowners' compliance with the terms of alternate plans. The audit includes review and approval of each landowner's scheduled performance reports (either in the office or on-site) when a performance report is required. The audits will be consistent with the terms of any agreements with the Federal government regarding the protection of fish and water quality.

4a-3.1.3 COMPLIANCE AND ENFORCEMENT

The Act authorizes DNR to ensure that all classes of forest practices comply with both it and the forest practices rules. Initiation of work under an approved application or notification represents the beginning of the compliance and enforcement phase.

Compliance Checks of Ongoing Forest Practices

DNR field staff, forest landowners, timber owners and operators are responsible for ensuring that ongoing forest practices are in compliance with the Act and rules. Field staff prioritize compliance visits based largely on the potential risk to public resources posed by the operation. For example, forest practices that propose substantial road construction in steep terrain are more likely to receive regular compliance visits than those with limited road construction on gentle slopes. Generally, prioritization coincides with the class of forest practice. Class III and Class IV forest practices typically receive much more frequent compliance visits than Class II forest practices. Other factors that influence the number of compliance visits include operator experience and proficiency and the time of year the operation is conducted. This targeted approach helps DNR ensure the effective and efficient use of field staff when carrying out its resource protection responsibilities.

Compliance checks are used to identify the level of forest operations in compliance and the information gathered is utilized towards the goal of continual improvement. Improvement to the program may include clarification of rule language, improved administration of the rules, additional education and training, and/or rule modification.

Compliance Monitoring

One of DNR's responsibilities is to ensure that operators and landowners are complying with the forest practices rules when conducting forest practices activities. According to WAC 222-08-160 (4), "the department shall conduct compliance monitoring that addresses the following key question: are forest practices being conducted in compliance with the rules? The department shall provide statistically sound, biennial compliance audits and monitoring reports to the Board for consideration and support of rule and guidance analysis. Compliance monitoring shall determine whether forest practices rules are being implemented on the ground. An infrastructure to support compliance will include adequate compliance monitoring, enforcement, training, education and budget."

Monitoring landowner and operator compliance with the forest practices rules is also an important component of Schedule L-1. Schedule L-1 also serves as the resource objectives for the Adaptive Management program (Appendix N). Although "effectiveness" monitoring is the primary focus of the Adaptive Management program, compliance monitoring plays an integral part. Compliance monitoring asks whether the rules are being followed, while effectiveness monitoring determines if the rules as applied are meeting Forest Practices program goals, resource objectives and performance targets.

The objective of the compliance monitoring program is to determine if forest practices are being conducted in compliance with the rules in effect since July 2001 (effective date of the new Forests and Fish rules). To reach this end, the goals of the compliance monitoring program are as follows:

- results must be credible and defensible
- sampling design provides required information
- program must be sustainable, easily understood, and manageable
- program must be progressively implemented and adjustable over time
- includes biennial reporting of results to the Forest Practices Board
- results are reported to the Services and EPA, where applicable

An internal working group led by DNR has developed a framework (or plan) for a statewide compliance monitoring program. The work group consists of representatives from DNR's Forest Practices program, Washington Departments of Ecology and Fish and Wildlife, and the U.S. Fish and Wildlife Service. This group reviews the applicable forest practices rules and develops protocols for data collection to make the determination of "compliance" or "non-compliance." The framework for the compliance monitoring program includes the following components:

- determining which rules to review first,
- identifying the type of data to be collected,
- determining sampling methods, sample size and measurement techniques,
- deciding how data will be analyzed, processed and reported,

-
- designing a preliminary assessment to evaluate field data collection processes, and
 - resolving funding, staffing, equipment and training needs.

An external review committee assists the internal work group by reviewing the program, offering suggestions for improvement and assisting in prioritizing the rule selection process. Its members represent the above-mentioned organizations along with the following groups: large industrial forest landowners, small non-industrial forest landowners, the Environmental Protection Agency (EPA), tribes, the conservation caucus and NOAA Fisheries.

The compliance monitoring program is designed to be responsive to evolving needs, and works initially to address rules having the greatest influence on protection of aquatic resources. Because of the extent and complexity of the forest practices rules, monitoring efforts are developed and implemented using a phased approach. The goal of the first phase was primarily to test the process by gathering compliance data on the riparian management zone (RMZ) rules along fish bearing streams. The information gained from this preliminary assessment helped to identify where the compliance survey process needs to be improved and strengthened. It will be followed by compliance monitoring surveys that address other forest practices rules in addition to the RMZ rules. Each phase will build on the previous phase. This approach allows for a thorough development of survey design and procedures.

RMZ Preliminary Assessment

The preliminary assessment, conducted in late 2004, reviewed compliance with the RMZ rules for fish-bearing (Type S and Type F) streams. In addition to collecting compliance data, it served as a “dry run” to gain a clearer picture of staffing, budget and equipment needs; a refinement of statistical methodology and data needs; identification of logistical challenges; and a final determination of the field data collection procedures and forms.

The RMZ compliance monitoring preliminary assessment project used a random sampling methodology in order to estimate the proportion of completed forest harvest activities in compliance with WAC 222-30-021, 222-30-022, and 222-30-040. The areas sampled were selected from forest harvest activities identified on forest practices applications and included only those RMZ’s adjacent to fish-bearing waters (Type 1, Type 2, or Type 3 waters or Type S and Type F waters). Applications that included 20-acre exempt parcels, alternate plans, HCPs, land use conversions, or hardwood conversions were excluded in order to focus the survey effort on the most common forest practices applications and to best utilize the limited compliance monitoring resources. Determination of fish-bearing waters was based on the approved typing for the selected forest practices applications. Forest practices documents that modified stream typing after the approval were also considered during the sampling and screening process.

Sample Size and Population

One hundred forest practices applications that were approved between July 1, 2001 and June 30, 2002 were randomly selected — 50 in western Washington and 50 in eastern Washington. Access problems and weather-related challenges prevented the survey crews from conducting surveys on all the sites selected. The total sample size was

78 applications — 43 on the westside and 35 on the eastside. The sample population of applications approved between July 2001 and June 2002 was selected for two reasons: the sampling period corresponded to the first year of implementation of the new forest practices rules based on the Forests and Fish Report; and these applications had the greatest probability of being completed. Forest practice applications are generally valid for two years following the approval date. The use of an entire year as the sampling period reduced the amount of seasonal variation in application submission among landowners so that one landowner is not more likely to be sampled based upon the annual application submittal practices.

The population was stratified between eastern and western Washington due to the difference in the RMZ rules on each side of the state (WAC 222-30-021 and 222-030-022). This was the only stratification used. Stratification was limited in the preliminary assessment to maintain efficiency and to keep the project manageable.

Data Collection

Data collection was limited to those data fields identified as necessary to determine compliance with the selected WAC's. In general, the data fields included stream type, width and segment length verification as well as RMZ width verification; presence of yarding corridors, stream adjacent parallel roads and/or CMZs; harvest option selected (including verification of the Desired Future Condition (DFC) calculations if run); information about any harvest occurring in the core zone; size and species of trees left in the inner and outer zones (based on the harvest option selected); location and species of trees left in the outer zone relative to sensitive sites; and compliance with down wood requirements, wildlife reserve trees, and bull trout overlay shade requirements. The data collection forms reflected the differences between the RMZ rules in eastern and western Washington.

In addition to on-site data gathered as a part of the rule review, other pertinent information was collected as part of the preliminary assessment to better estimate the time commitment needed to complete the surveys. For example, each surveyor was asked to record their drive time to the site; the harvest option chosen by the applicant and whether the surveyors collected data for the DFC (Desired Future Condition) calculation; type of terrain (gentle, moderate, steep); how easy or difficult it was to walk through the vegetation to take measurements; and length of time to review the forest practices application (prior to going on-site) and length of time for the field measurements. This information will be used to formulate the budgetary requirements and other resources needed for a successful compliance monitoring program.

Measurement Techniques

Field measurement techniques and protocols used to evaluate compliance with the rules were the same techniques available for landowners and operators as they apply the rules to their operations. The monitoring survey crews used the forest practices rules and the forest practices board manual procedures to evaluate the RMZ's for compliance. This included the Desired Future Condition (DFC) program for the westside sites and the eastside high elevation sites.

In order to ensure consistency across crews, survey team leaders and Forest Practices Division personnel jointly conducted the first surveys as a training exercise. Division

personnel also filled in for survey team leaders on some surveys.

Sampling Unit

Stream segments were used as the sampling units. If the applicant identified segments on the forest practices application, those were used as the sampling unit. If the applicant had not identified segments, stream segments were designated generally using stream confluences as the segment breaks. Each segment was then assigned a random number from a random number generator to identify the segment to be surveyed. This was done prior to the survey crews going into the field to take measurements.

Sampling Method

All applications (Class II, Class III, Class IV) approved between July 1, 2001 and June 30, 2002 were prioritized for sample selection based on a random number assignment. Applications were then screened for water typing, and those with Type 1-Type 3 streams were selected. If more than one stream segment was included in the application, the segment to be surveyed was randomly selected. Landowner permission was requested for access to the survey sites. Where permission was denied, those randomly selected survey sites were skipped over and sites further down the list were selected.

Table 4.1 Western Washington Type 1-Type 3 RMZ Preliminary Assessment Results.

Total Surveys	43
# Compliant	39
% Compliant	91%
# Non-compliant	4
% Non-compliant	9%

Table 4.2 Eastern Washington Type 1-Type 3 RMZ Preliminary Assessment Results.

Total Surveys	35
# Compliant	22
% Compliant	63%
# Non-compliant	7
% Non-compliant	20%
# Compliance Undetermined	6
% Compliance Undermined	17%

Preliminary Assessment Review

After completing the surveys, the survey team leaders and the Forest Practices Division's Compliance Monitoring coordinator met to review procedures and determine how to improve the sampling methods. In general, suggestions included revising the forms to

collect additional information; reviewing ways to determine compliance with the shade rule in areas covered by the bull trout overlay; and revising methods to determine compliance, other than a time-consuming 100 percent cruise in densely stocked inner zone areas.

Many of the difficulties in determining compliance with RMZ rules in eastern Washington occurred on applications where the bull trout overlay applies. It proved challenging to determine whether certain trees removed in the inner zone would have provided shade to the stream. It was also challenging to determine whether stumps were part of the harvest on the application being surveyed (harvest in 2001-2002), or from a harvest previous to the Forests and Fish rules. This led to uncertainty (17 percent of the applications where compliance was not determined) but not necessarily “non-compliance.” The 20 percent non-compliance rate in eastern Washington (seven surveys) was primarily the result of harvest in the inner zone when basal area requirements weren’t met; not leaving 21 of the largest trees in the inner zone when required; or harvesting trees within the bull trout overlay that likely provided shade to the stream.

Table 4.4 depicts a high rate of compliance with the forest practices rules during calendar years 2002 - 2003, as determined by the number of enforcement actions taken. There is overlap between the approval time periods of the applications reflected in Table 4.4 and the applications sampled in the RMZ preliminary assessment (July 1, 2001 to June 30, 2002). It is important to note the results illustrated by Table 4.4 reflect compliance with all forest practices rules, while the RMZ preliminary assessment viewed a small subset of the rules. More importantly, Table 4.4 shows the number of enforcement actions taken, including notices to comply and stop work orders. The RMZ preliminary assessment recorded whether the application was in compliance with the RMZ forest practices rules, regardless of whether a violation occurred. On several applications surveyed in eastern Washington, the application was deemed “non-compliant” because the applicant had not left 21 of the largest trees/acre in the outer zone. While the forest practices application in this instance was technically out of compliance, the important question of when does non-compliance result in public resource damage, or a violation, is not answered by a simple yes/no response on a data collection form. As presented in Section 4a-3.1.3 of the FPHCP, compliance and enforcement activity by DNR Foresters is “front-loaded” as much as possible when reviewing forest practices applications so as to avoid non-compliance, which would result in actual or potential public resource damage. A non-compliance finding during a compliance survey does not provide an explanation for the non-compliance (i.e., misinterpretation of the rules or purposeful intent); and also does not indicate whether actual or potential resource damage was a result of the non-compliance. Consequently, these will be important matters to resolve in future surveys as compliance monitoring moves forward and becomes institutionalized with the Forest Practices program.

It was also determined that while the survey team leader position helped maintain consistency between the surveys, there were still some differences in the way the surveys were conducted. The survey team leaders for the preliminary assessment were DNR forest practices foresters who conducted the surveys in addition to their regular job responsibilities. Having dedicated survey team leader positions whose primary

responsibility is compliance monitoring, along with more thorough training would ensure greater consistency between the surveys.

The primary goals of the preliminary assessment were achieved — to gather and analyze information about compliance with the RMZ rules; and most importantly, to scrutinize the logistics, fine-tune the methods for future surveys, and determine the resources needed for an effective compliance monitoring program. The lessons learned will result in a more effective process for the next set of rules reviewed.

Future Plans for the Compliance Monitoring Program

Work has begun on the development of the second phase of the monitoring project: compliance with the rules covering forest road construction, maintenance and abandonment. Subsequent phases include surveys, in the following priority order, of the rules covering:

- Type Np & Type Ns streams,
- perennial initiation points,
- sensitive sites,
- unstable slopes;
- exempt 20 acre parcels;
- alternate plans;
- wetland management zones.

The following table highlights a proposed timeline for rule review. It outlines the implementation of the phased approach, as mentioned earlier, to compliance monitoring —in this proposal, compliance monitoring surveys for forest practices rules are phased in beginning approximately every fiscal year. Each new phase will include collecting the new data plus the data from the previous phases. For example, at the same time the road construction, maintenance and abandonment rules are surveyed, data on Type S and Type F RMZ rules (if those types of RMZs are present) will be collected. The Type Np, perennial initiation points, sensitive sites, and Type Ns rules survey will also include collecting data on both the RMZ rules, and road construction, maintenance and abandonment rules, if appropriate. Each active implementation phase builds on to the preceding phase. All phases are preceded by a planning and development stage. So while an active field survey is taking place, work is ongoing to develop the next phase of rule review. The order and timing in which each phase is introduced (i.e., rule surveys occurring at a faster pace) may change as the compliance monitoring program evolves. In addition, to be most efficient, some rule surveys may be combined to begin at the same time.

Table 4.3 Proposed Forest Practices Compliance Monitoring Timeline

Rules	Proposed Start Date
Type S & Type F RMZ Rules	July 2006
Road Construction, Maintenance and Abandonment Rules	July 2007
Type Np, PIPs, Sensitive Sites, Type Ns Rules	July 2008
Unstable Slopes Rules	July 2008
20 Acre Exempt Rules	July 2009
Alternate Plan Rules	July 2009
Wetlands	July 2010

The Forest Practices program continues to actively seek state funding from the legislature and support from its partners to effectively implement the compliance monitoring program. Funding for the next biennium (2005-2007) includes approximately \$2.1 million dollars supporting the compliance monitoring program, with approximately \$170,000 passed through to WDFW and \$269,000 to Ecology. DNR plans to work cooperatively with WDFW and Ecology to conduct the field surveys and analyze the data. DNR is currently in the process of establishing a position to manage the compliance monitoring program and anticipates having the manager hired by January 2006.

The implementation of a well-designed compliance monitoring program will offer agencies, the public and the Forest Practices Board insight into the question of whether forest practices are being conducted in compliance with the rules. Ultimately, a successful compliance monitoring program combined with the information gained through the Adaptive Management program will result in continuous improvement in compliance of the forest practices rules and work to further protect, maintain and enhance the public resources of the state.

Enforcement

The Act and the Board both, by policy, encourage informal, practical, result-oriented resolution of alleged violations and action needed to prevent damage to public resources. It is also Board policy to use a progressive approach to enforcement that begins with consultation and voluntary efforts to achieve compliance while reserving civil penalties (i.e., monetary fines) to more serious infractions. When forest practices are found to be out of compliance with the rules, DNR has a number of compliance and enforcement options it may choose to take. These include supplemental directives, informal conferences, notices to comply, stop work orders, technical assistance compliance notices, notices of correction, corrective actions, civil penalties, disapprovals, financial assurances and criminal penalties. Each of these options is described below.

Supplemental Directive

A *supplemental directive* is an informal advisory notice from DNR to the landowner, timber owner or operator regarding specific actions DNR prefers or minor changes to the operation.

Informal Conference

An *informal conference* is an informal discussion between DNR and the landowner, timber owner or operator to assist with forest practices rules compliance and to prevent compliance problems. The process is educational and advisory. DNR is required to give the operator and/or representative an opportunity for an informal conference prior to taking further enforcement action unless damage to public resources is imminent. WAC 222-46-020 describes informal conferences in more detail.

Notice to Comply

A *notice to comply* is an official, formal enforcement document. It is served to the landowner, timber owner or operator, and it informs him or her of the need to comply with the direction detailed in the notice—to correct a failure to comply with the rules or to take action to prevent resource damage when there has been no violation, unauthorized deviation or negligence. Also, if a violation, deviation, material damage or potential for material damage to a public resource occurs, and DNR determines that a *stop work order* (see below) is unnecessary, DNR must issue a notice to comply. Oftentimes, notices to comply are used as an administrative tool to make minor changes to an approved forest practices application. When used in this way, a notice to comply does not mean the landowner, timber owner or operator has violated the Act or rules. Notices to comply are final orders of the DNR subject to appeal. RCW 76.09.090 and WAC 222-46-030 describe notices to comply in more detail.

Stop Work Order

A *stop work order* is an official, formal notice served to an operator to temporarily or permanently shut down all or part of an operation in progress. DNR has the authority to issue a stop work order if there is any violation of the Act or rules, there is a deviation from an approved application or immediate action is necessary to prevent continuation of or to avoid material damage to a public resource. This action may be taken to prevent material damage to public resources when no violation, unauthorized deviation or negligence has occurred. A stop work order is a final order of DNR, subject to appeal, and effective immediately upon service. RCW 76.09.080 and WAC 222-46-040 describe stop work orders in more detail.

Technical Assistance Visit Compliance Notice and Notice of Correction

Technical assistance visit compliance notices are used when a violation is discovered during a technical assistance visit and a stop work order is unnecessary. A *notice of correction* is used only when a violation of the forest practices rules is discovered and other enforcement documents cannot be served. Both kinds of notices are served to a landowner, timber owner or operator to inform him or her of the need to comply with the direction in the notice. Technical assistance visit compliance notices and notices of correction are official, formal enforcement documents created by the Regulatory Fairness Act of 1995. Neither notice is a final order of DNR or is subject to appeal to the Forest Practices Appeals Board. Chapter 43.05 RCW describes these notices in more detail.

Corrective Action

A *corrective action* is an action taken by DNR to correct or repair a site condition required by a final order of DNR or a final decision of the Forest Practices Appeals Board in cases where a landowner, timber owner or operator fails to correct or repair the site. Before taking corrective action, DNR must first determine the associated cost of the work to be performed and give notice of the cost to the landowner, timber owner or operator. If

the landowner, timber owner or operator fails to complete the work, DNR may conduct the work and recover the cost. RCW 76.09.120 and WAC 222-46-050 describe corrective actions in more detail.

Civil Penalty

A *civil penalty* is a monetary fine imposed by DNR when other enforcement measures are not effective in securing compliance with provisions of the Act or when a violation results in significant damage to public resources. Anyone who violates provisions of the Act or forest practices rules or who converts forestland to a use other than commercial forest without the consent of the county, city or town is subject to a civil penalty. Each violation is subject to a maximum \$10,000 penalty. A civil penalty is a final order of the DNR and is subject to appeal. RCW 76.09.170 and WAC 222-46-060 describe civil penalties in more detail.

Notice of Intent to Disapprove and Disapproval

DNR has the authority to disapprove any forest practices application or notification submitted by any person who has failed to comply with a final order or decision, or who has failed to pay any civil penalty. DNR is required to provide written notice of its intent to disapprove future applications and notifications. The disapproval is in effect for up to one year or until compliance is achieved, whichever is longer. This is a final order of DNR subject to appeal. While the disapproval is in effect, the violator may not serve as a person in charge of, be employed by, manage or otherwise participate to any degree in forest practices activities. RCW 76.09.140 and WAC 222-46-070 describe disapprovals in more detail.

Financial Assurances

DNR has the authority to require *financial assurances* before a landowner, timber owner or operator conducts any forest practices activity in cases where the landowner, timber owner or operator has, within the preceding three-year period: 1) operated without an approved forest practices application, 2) continued to operate in breach of—or failed to comply with—the terms of a stop work order or notice to comply, or 3) failed to pay any civil or criminal penalty. The financial assurance required could be in the form of a bank letter of credit, a cash deposit, a savings account assignment or a corporate surety bond executed in favor of DNR. DNR may deny any forest practices application or notification for failure to submit financial assurances as required. RCW 76.09.140 and WAC 222-46-090 describe financial assurances in more detail.

Criminal Penalty

Any person who conducts forest practices or knowingly aids or abets another in conducting forest practices in violation of the Act or rules can be found guilty of a gross misdemeanor, punishable by a fine and/or imprisonment. RCW 76.09.190 and WAC 222-46-080 describe criminal penalties in more detail.

For routine enforcement, DNR currently employs 47 Forest Practices Foresters (FPFs), stationed in six regional offices throughout the state. The current number of approved Forest Practice Applications and Notifications (FPA/Ns) varies daily as new permits are approved and older permits expire. However, most permits are valid for two years. Therefore, the number of permits approved over a two-year period can give a general indication of the number of permits valid at any one time—approximately 10,000 to 12,000 FPA/Ns. There are a small number of multi-year permits approved under specific

circumstances (approved alternate plans, road maintenance and abandonment plans and watershed analysis permits) that may be valid for up to five years. Because there are very few of these permits, they have little influence on the current number of valid FPA/Ns.

Table 4.4 illustrates the total number of FPA/Ns approved during the 2002 and 2003 calendar years and the number of enforcement actions taken during the same time period. Enforcement documents depicted in the table are *stop work orders* and *notices to comply*. As described earlier, these documents are used for both non-violation and violation situations. Non-violation situations include:

- Authorized changes to the FPA/N
- Modification of an approved FPA/N in order to avoid resource damage, often as a result of new information becoming available
- Unauthorized deviations from the approved FPA/N where there is no direct violation of the forest practices rules and no significant public resource damage

Violation situations include unauthorized deviations from the approved FPA/N where there is a direct violation of the forest practices rules and thus damage to—or potential for damage to—a public resource.

Table 4.4 Forest Practices Compliance and Enforcement Activity for 2002-2003.

	Stop Work Order				Notice to Comply				Total FPA/Ns approved	
	Non-Violation		Violation		Non-Violation		Violation		2002	2003
REGION	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003
Central	0	0	4	6	136	117	15	30	1394	1327
Olympic	0	0	2	5	12	14	10	15	678	691
Northeast	4	0	14	20	102	74	40	40	1228	987
Northwest	1	0	19	16	63	64	33	38	698	766
SPS	2	0	6	2	7	1	4	3	606	612
Southeast	0	0	0	0	18	14	15	7	346	324
Southwest	0	0	0	4	83	61	15	8	617	672
Totals	7	0	45	53	421	345	132	141	5,567	5,379

Note – in 2004, Central and Southwest Region were consolidated into the Pacific Cascade Region.

During calendar years 2002-03, 10,946 FPA/Ns were reviewed and approved. During the same time period there were a total of 1,144 enforcement documents prepared (10 percent). Of these, 773 were for non-violations (7 percent) and 371 were for violations (3 percent). Therefore, of the enforcement documents prepared, approximately 68 percent are for non-violations and 32 percent are for violations. Approximately 6 percent of the violation enforcement documents go on to secondary enforcement such as a *civil penalty* or *notice of intent to disapprove*. Assuming these data are fairly representative, the overall non-compliance rate, which results in a *civil penalty* or *notice of intent to disapprove*, is very low.

Results from ongoing compliance checks of forest practices and the developing compliance monitoring program will work to inform one another over time so as to more efficiently and effectively target limited compliance and enforcement resources. As explained earlier, Forest Practices Foresters prioritize compliance checks on those FPA/Ns that are suspected of having the highest risk to public resources. However, the formal compliance monitoring program, through the use of sampling, may reveal areas in need of more focused field compliance efforts. Or, it may be found that the current practice is effective at correcting most of the violations that could have resulted in resource damage. Similarly, information learned about certain rule groups through ongoing compliance checks may be used to help prioritize the efforts of the formal compliance monitoring program. An information feedback loop between the two programs will result in continuous improvement in each and increased compliance over time.

4a-3.2 Technical Support

DNR's Forest Practices Division has a staff of natural resource specialists that provide technical support for the Forest Practices program. These individuals have education and training in the physical and biological sciences, including geology, geomorphology, hydrology, soils, riparian and aquatic ecology and fisheries biology. Most with backgrounds in the physical sciences are licensed under the state's geologist licensing law as geologists, engineering geologists and/or hydrogeologists and meet the Act's definition of "qualified expert" for assessing slope stability issues. The primary role of the technical staff is to provide complete, objective interpretations of technical and scientific information for use in developing policies and making decisions related to forest practices matters.

Technical staff spend a significant portion of their time assisting region forest practices field staff with forest practices application review. Most often, technical staff are called on to review slope stability and channel migration issues related to a particular forest practices proposal.

- For slope stability issues, staff review typically includes: 1) determining if all unstable slopes and/or landforms were recognized and correctly identified in the proposal, and 2) assessing the hazards and risks associated with the proposed activities. Technical staff perform an on-site evaluation of the proposal and review supporting geotechnical reports prepared by qualified experts (for Class IV-Special forest practices). They give the results of their review to region forest practices staff responsible for approving or disapproving the application.

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- Channel migration issues are handled in a similar manner, with technical support staff determining if a channel migration zone is present on-site and, if so, if the zone was delineated in accordance with forest practices rules and Board Manual guidance.

In addition to providing forest practices application review, DNR's technical staff also evaluate alternate plans. Alternate plans typically include deviations from standard forest practices rules. Technical support staff participate in interdisciplinary team reviews of the hazards, risks, and benefits associated with alternate plan proposals. Issues most often include harvesting in riparian and channel migration zones, but other deviations from forest practices rules are evaluated as well.

Technical staff participate in the Adaptive Management program through the CMER Committee. Technical staff help identify research and monitoring priorities, develop study plans, administer contracts and evaluate research results. In some cases, technical staff are directly involved in the management and/or implementation of Adaptive Management projects such as the development of "rule implementation tools." Rule implementation tools are generally technology-based products that DNR uses to implement forest practices rules. Examples include the Water Typing/Fish Habitat Model and the Landslide Hazard Zonation project.

When a DNR decision is challenged through a forest practices appeal, technical staff members are sometimes called on as expert witnesses. As witnesses, staff members are expected to give objective interpretations of any technical and scientific information related to the appeal. Due to their specialized training and experience, technical staff also help develop forest practices training programs and often serve as instructors. They have developed and delivered training for internal agency personnel, landowners, operators, and cooperating agency and organization personnel on topics such as unstable slopes and channel migration zones.

4a-3.3 Information, Education and Training

Forest practices rules require DNR to "...conduct a continuing program of orientation and training, relating to forest practices and rules thereof, pursuant to Revised Code of Washington 76.09.250" (WAC 222-08-140). DNR conducts ongoing training programs to educate internal agency staff, forest landowners and staff from cooperating agencies and organizations on forest practices rule implementation. Examples of training activities include: training for Forest Practices program participants when new forest practices rules are adopted; training for new DNR forest practices staff; refresher courses for DNR forest practices staff; ongoing forest practices training for outside organizations (e.g., Washington Contract Loggers Certification); and special training requests.

DNR relies on a variety of processes to provide information and training to internal agency staff and cooperating agencies and organizations. The DNR Forest Practices Division has on staff a Training Manager who schedules, organizes and manages the statewide forest practices training program. Statewide training has included topics such as new rule training, unstable slope training and hands-on training for how to locate a channel migration zone. The Training Manager schedules, organizes and manages the two-day training on forest practices rules provided annually for the Washington Contract Logger Association (WCLA). The WCLA offers a five-day training course to

participants, which includes the two-day forest practices rules training for operators seeking state certification. The two-day course provided by DNR covers subject areas such as water typing, riparian areas and wetlands, channel migration zones, unstable slopes and road maintenance and abandonment. Other statewide training is offered in accordance with the needs of DNR region staff, forest landowners and cooperating agencies and organizations.

DNR region offices develop and implement their own training in response to specific needs in their regions. Examples of training developed and implemented by individual DNR regions include training on identification of bankfull width and training on best management practices for forest road construction and maintenance.

DNR region staff generally deliver both statewide and region specific training. In addition, each region office holds regular TFW “cooperator” meetings as a means of communicating changes in rules, rule implementation or application processing to Forest Practices program participants. Cooperator meetings are an important mechanism to assure fair, uniform application of forest practices requirements within and among DNR’s six regions. DNR region staff also organize informal meetings where technical or scientific information is presented as a way of keeping field practitioners informed about recent research findings.

4a-3.4 Small Forest Landowner Office

Recognizing the ecological and economic importance of non-industrial private forestlands to the state, the Washington legislature funded and directed DNR to establish the Small Forest Landowner Office, which would serve as a resource and focal point for small forest landowner concerns and policies (chapter 76.13 RCW). Established in 2000, the SFLO has an overall goal of maintaining the economic viability and environmental quality of small forestland holdings. In addition, the SFLO has defined the following objectives:

- promote, implement and manage the Forest Riparian Easement Program
- provide expertise in the management of small forest landholdings
- provide expertise of government programs applicable to small forest holdings
- develop alternative management and harvest plans for small forest holdings
- collect demographics on small forest landowners and their land holdings
- recommend incentives to improve management of small forest holdings for water quality and other environmental and economic goals

To assist the SFLO in achieving these objectives, the legislature also authorized the establishment of a Small Forest Landowner Office Advisory Committee. This committee consists of seven members, including representatives from the Departments of Ecology and Fish and Wildlife, and a tribal representative. Four additional committee members are small forest landowners appointed by the Commissioner of Public Lands from a list of candidates submitted by the board of directors of the WFFA.

4a-4 Forest Practices program refinement/adaptive management

The Services define adaptive management as a method for examining alternative strategies for meeting measurable biological goals and objectives and then, if necessary, adjusting future conservation management actions according to what is learned. The Services require an adaptive management strategy for habitat conservation plans that pose a significant risk to covered species at the time an Incidental Take Permit is issued due to significant data or information gaps. The adaptive management strategy should 1) identify the uncertainty and the questions that need to be addressed to resolve the uncertainty; 2) develop alternative strategies and determine which experimental strategies to implement; 3) integrate a monitoring program that is capable of detecting the necessary information for strategy evaluation; and 4) incorporate feedback loops that link implementation and monitoring to a decision-making process that results in appropriate changes in management. The FPHCP includes a formal, structured Adaptive Management program that includes each of these components. The framework of the AM program is described in the forest practices rules (WAC 222-12-045).

A series of key questions guides adaptive management research and monitoring priorities. These key questions represent the most significant scientific uncertainties facing developers of the Forests and Fish Report in 1999. Some FFR recommendations—later adopted as forest practices rules—were developed based on limited scientific data. Recognizing this, FFR authors recommended these areas be the focus of the AM program. Key questions were developed for environmental variables potentially affected by forest practices. Questions relate to sediment, large woody debris (LWD), stream temperature, hydrologic change, and forest chemicals; they can be found in Schedule L-1 (Appendix N). Schedule L-1, part of the FFR and later adopted by the Forest Practices Board in February 2001 with minor revisions, includes a description of the three overall performance goals, resource objectives as defined by the functional objectives and performance targets, and three key questions concerning compliance, effectiveness, and validation monitoring. Schedule L-1 serves as the foundation for the AM program, and more specifically guides the development of research and monitoring projects described in the CMER Workplan (Appendix H). Key questions—and therefore research and monitoring priorities—are likely to change over time as Adaptive Management proceeds and new information becomes available. Changes to resource objectives, performance targets and research and monitoring priorities, while at the discretion of the Forest Practices Board, would typically be reviewed and agreed to by the Forests and Fish Policy Committee. Upon approval of the FPHCP by the Services, any future substantive changes to these AM program elements would require concurrence by the Services.

The AM program was created for three reasons:

- 1) To ensure programmatic changes will occur as needed to protect covered resources
- 2) To ensure predictability and stability in the process of change so that forest landowners, regulators and interested members of the public can anticipate and prepare for change

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- 3) To ensure quality controls are applied to scientific study design, project execution and interpreted results

The purpose of the AM program is to produce technical information and science-based recommendations to assist the 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 (See Section 4a-2.1). As a result, a successful AM program is essential to ensuring the ongoing development and implementation of measures that effectively conserve the habitats of species covered under the FPHCP.

The AM program—like the broader Forest Practices program—consists of multiple components, each of which has a specific role in the adaptive management process. The following sections describe the AM program components, the process by which adaptive management occurs and the research and monitoring programs currently underway.

4a-4.1 Adaptive Management - Components and Process

The primary components of the Adaptive Management program include the Board, FF Policy, the CMER Committee, the AMPA and the SRC (Figure 4.3). Three of these program components—the Board, FF Policy and the CMER Committee—reflect the broad stakeholder representation that exists within the Forest Practices program as a whole. Therefore, like the Forest Practices program, the AM program structure encourages participation by all parties with an interest in the regulation of forest practices on non-Federal and non-tribal forestlands in Washington. The role of each AM program component and its relationship to other program components is described below.

FOREST PRACTICES BOARD

The Board manages the AM program in an open process that includes comments and recommendations from the general public. The Board approves CMER Committee members, establishes key research and monitoring questions and resource objectives, approves research and monitoring priorities and projects, approves CMER Committee budgets and expenditures, oversees fiscal and performance audits of the CMER Committee, participates in the dispute resolution process and considers recommendations from FF Policy for adjusting forest practices rules and guidance.

FORESTS AND FISH POLICY

FF Policy makes recommendations to the Board regarding CMER Committee priorities and projects, final project reports and forest practices rule and/or guidance amendments. FF Policy membership is self-selecting and generally includes the state Departments of Natural Resources, Fish and Wildlife and Ecology; Federal agencies (including NOAA Fisheries, USFWS, EPA and the USDA Forest Service); forest landowners; tribes; local governments; environmental interests and the governor's office. Members of the general public are welcome to attend FF Policy meetings.

COOPERATIVE MONITORING, EVALUATION, AND RESEARCH COMMITTEE

The CMER Committee oversees and conducts research and monitoring related to Forest Practices program goals, resource objectives and performance targets. Its purpose is to advance the science needed to support the adaptive management process. The committee is charged with developing and managing, as appropriate: 1) scientific advisory groups and sub-groups, 2) research and monitoring programs, 3) a set of protocols to define and guide the execution of the process, 4) a baseline dataset used to monitor change and 5) a process for policy approval of research and monitoring projects and use of external information.

The CMER Committee is composed of individuals who have expertise in scientific disciplines to address forestry, fish, wildlife and landscape process issues, including mass wasting, hydrology and fluvial geomorphology. Membership is approved by the Board and is open to the state Departments of Natural Resources, Fish and Wildlife and Ecology; Federal agencies (including NOAA Fisheries, USFWS and EPA); forest landowners; tribes; local governments and environmental interests.

ADAPTIVE MANAGEMENT PROGRAM ADMINISTRATOR

The Adaptive Management Program Administrator is a full-time employee of DNR and is responsible for overseeing the AM program and for supporting the CMER Committee. The AMPA makes regular reports to FF Policy and the Board on program and project priorities, status and expenditures. The AMPA has credentials as a program manager, scientist and researcher.

SCIENTIFIC REVIEW COMMITTEE

The Scientific Review Committee is contracted by CMER to carry out an independent peer review process to determine if work performed by the CMER Committee is scientifically sound and technically reliable. The SRC is comprised of individuals who have experience in scientific research and who have no affiliation with the CMER Committee. SRC members are selected by the SRC coordinator and can be nominated by the CMER Committee. The CMER Committee determines what products should be subject to review by the SRC; however, the SRC generally reviews final reports of CMER Committee studies, study proposals, final study plans, certain CMER Committee recommendations and pertinent studies not published in a CMER Committee-approved, peer-reviewed journal. Other products that may require review include external information or data, work plans, requests for proposal and progress reports.

The adaptive management process involves all program components detailed above. A process framework for implementing the program is described in the FFR and WAC 222-12-045. A more detailed process guide was developed and is incorporated into the Board Manual as Section 22 – Guidelines for Adaptive Management Program. The section serves as a procedures manual for the AM program and clearly defines the roles and responsibilities of the various program components and the process by which information flows from the CMER Committee to FF Policy and from FF Policy to the Board. Section 22 was adopted by the Forest Practices Board in September 2005. It can

also be accessed on DNR's website:

www.dnr.wa.gov/forestpractices/board/manual/section22.pdf.

Complementing the Board Manual section on adaptive management is the CMER Committee Protocols and Standards Manual, which describes the operational aspects of the program's research and monitoring branch. The Protocols and Standards Manual defines the roles and responsibilities of the CMER Committee, its members and its Scientific Advisory Groups, as well as their relationships with other positions and committees. The Protocols and Standards Manual also describes processes such as project prioritization, project management, budgeting, accounting, and contracting. A provisional edition of the manual, dated February 2005, was approved by CMER. While the procedural sections are complete, other sections including data and document management and dispute resolution are in progress.

4a-4.2 Research and Monitoring Programs

The CMER Committee produces an annual work plan that describes the various adaptive management research and monitoring programs, associated projects and work schedule (Appendix H). The CMER Work Plan is intended to inform CMER Committee participants, the Forest Practices Board, policy constituents and members of the public about CMER Committee activities. The programs in the work plan have been prioritized based on the level of scientific uncertainty and resource risk associated with the priorities of Schedule L-1 (Appendix N). CMER has worked to implement the high priority programs first to ensure that the most important questions about resource protection are answered before the less important ones where there is lower scientific uncertainty or lower resource risk. The plan is a "living document" that will be revised in response to research findings, changes in policy objectives and funding. The 2006 CMER Work Plan includes four programs: effectiveness and validation monitoring, extensive monitoring, intensive monitoring and rule implementation tools.

EFFECTIVENESS AND VALIDATION MONITORING

Effectiveness monitoring is designed to evaluate the degree to which forest practices rules and guidance meet performance targets and resource objectives. Validation monitoring will determine if the performance targets are appropriate for meeting the stated resource objectives. For example, effectiveness and validation monitoring might address these questions:

- Do riparian management zone requirements provide 85 percent of large woody debris recruitment potential for a stand on a trajectory toward desired future condition (performance target/effectiveness monitoring)?
- And, if achieved, will the desired future condition provide complex in- and near-stream habitat (resource objective/validation monitoring)?

Effectiveness and validation monitoring are sometimes referred to as "prescription" or "best management practice" (BMP) monitoring because they are conducted at a site scale and generally focus on specific rule prescriptions or practices.

The CMER Committee has identified 15 effectiveness and validation monitoring programs (CMER Work Plan 2006). Each program has several associated projects, some of which are currently underway. Others have not yet reached the scoping phase.

EXTENSIVE MONITORING

Extensive monitoring evaluates the statewide status and trends of key watershed processes and habitat conditions across lands covered under the FPHCP. Extensive monitoring is a landscape-scale assessment of the effectiveness of forest practices rules to attain specific performance targets. This is different from effectiveness monitoring, which evaluates the effect of specific prescriptions or practices at the site scale. Extensive monitoring is designed to provide periodic measures of rule effectiveness that can be used in the AM process to determine if progress is consistent with expectations. For example, extensive monitoring might address the question: Are higher than expected stream temperatures on covered lands decreasing with time and, if so, at what rate is the reduction occurring?

The CMER Committee has identified four extensive monitoring programs: 1) riparian status and trend monitoring, 2) fish passage trend monitoring 3) road sub-basin scale effectiveness monitoring and 4) wetlands trend monitoring (CMER Work Plan 2006). Currently, all extensive monitoring programs are in the scoping and design phase.

INTENSIVE MONITORING

Intensive monitoring is a watershed-scale research program designed to evaluate cumulative effects and provide information that will improve our understanding of the interactions between forest practices and covered resources. An evaluation of cumulative effects at a watershed scale requires an understanding of how individual actions or practices influence a site and how the associated responses propagate downstream through the system. This understanding will enable the evaluation of the effectiveness of forest practices applied at multiple locations over time. Evaluating biological responses is similar and requires an understanding of how various actions interact to affect habitat conditions, and how system biology responds to habitat changes.

CMER Committee staff prepared a draft scoping paper that identifies potential intensive monitoring objectives and critical questions. Contacts with outside programs with similar interests in intensive monitoring are being pursued to identify opportunities for collaboration.

RULE IMPLEMENTATION TOOLS

Rule implementation tools are projects designed to develop, refine or validate protocols, models and targets used to facilitate forest practices rule implementation. Two types of rule tool projects have been identified:

- The first types are known as Methodological Projects and involve the development, testing or refinement of field protocols and models used in the identification and location of important landscape features such as water type breaks, unstable slopes and sensitive sites. Current projects focus on developing a

Geographic Information System-based water typing model and a statewide landslide hazard screen.

- The second types are known as Target Verification Projects. Projects in this category are designed to assess the validity of performance targets thought to have an uncertain scientific foundation, such as the Desired Future Condition basal area targets for riparian management zones.

The CMER Committee has identified ten rule implementation tool programs consisting of 24 projects (CMER Work Plan 2006). The CMER Committee and DNR have agreed to assign management and oversight of rule implementation tools to DNR. DNR advises the CMER Committee on project priorities and provides regular status reports for ongoing projects.

TYPE N STREAM DEMARCATION AND DESIRED FUTURE CONDITION STUDY – ADAPTIVE MANAGEMENT AT WORK

CMER has completed two studies identified as high priority. The first study, the Type N (non-fish-bearing) stream demarcation study Phase I: Pilot Study, was intended to gather data to help refine the demarcation of perennial and seasonal Type N streams. Non-fish-bearing streams (Type N) are divided into seasonal (Type Ns) and perennial (Type Np) streams. The correct demarcation between Type Np and Type Ns streams is important because they have different protective measures under the forest practices rules. The second study was the validation of the western Washington riparian desired future condition (DFC) performance targets. This study was intended to evaluate the current riparian DFC performance targets for riparian stands adjacent to fish-bearing streams in western Washington. DFC means the forest stand conditions of a mature riparian forest at 140 years of age.

The purpose of the Type N stream study was to (a) test a field protocol for collection data on the initiation of perennial flow, and (b) to collect sufficient data to assess basin area variability for use in the design of a statewide data collection effort envisioned to follow the pilot study. Ten cooperators collected field data at a total of 224 Type N streams in 15 study areas, nine in western Washington and six in eastern Washington. The Pilot study confirmed that the field protocol was adequate to consistently collect data that could be used to identify the Type Np/Type Ns break. The study also found that there was considerable variability among basin areas, with precipitation class providing a better means of stratification than either present default regions or ecoregions. The study also provided information on observed basin sizes that indicated that the default basin areas used in the forest practices rules – when the perennial initiation point cannot be located in the field – were different than actual observed basin area. Observed basin areas were smaller than default basin areas. The average observed basin area in the coast region, westside region, and eastside regions, respectively, was 8, 22 and 118 acres, which is 61 percent, 42 percent, and 39 percent of the default basin areas in the forest practices rules. In light of this CMER study, the Forests and Fish Policy Committee informed the Board that the existing default basin areas for determining stream perennial initiation points (PIPs) in WAC 222-16-031(3) and (4) are incorrect. FF Policy recommended to the Board on August 16, 2005, that the default basin area language be deleted from the WACs and replaced with language that refers readers to the Forest Practices Board Manual Section 23 to help them locate PIPs in the field.

The objectives of the DFC study were to a) document characteristics of mature, unmanaged conifer and mixed composition riparian stands in western Washington; b) estimate mean

basal area per acre by site class and compare the results with the current DFC performance target values in the forest practices rules; and c) estimate values for other stand attributes and evaluate their feasibility as DFC performance target metrics. A random sample of 113 riparian stands west of the Cascade Mountains was selected for study. The study showed that basal area per acre of mature unmanaged conifer-dominated riparian stands is significantly different from the values used in the forest practices rules. The study did not show that basal area per acre of mature unmanaged conifer-dominated riparian stands is significantly different by site class (current rules establish that basal area targets differ by site class), but did suggest that site class maps are incorrect. In addition, a suite of alternative target metrics was evaluated on the basis of their ability to characterize stand structure, variability, biological/ecological significance and cost/feasibility. None were clearly superior to basal area per acre as a DFC target metric. In light of this CMER study, FF Policy recommended on August 16, 2005 that the Board consider rulemaking by investigating the scope of potential outcomes to resolve the issues identified in the DFC study. The scoping study will help determine what portion of and to what extent the forest practices rules need to be changed to address the issues identified in the DFC study.

The Type N Demarcation and DFC studies were the two highest priority adaptive management projects identified in the FFR. These studies were initiated, completed, and peer-reviewed by SRC, and the FF Policy forwarded rule change recommendations to the Board. This demonstrates the Adaptive Management program is successful at meeting the intent of WAC 222-12-045. For information on additional CMER studies refer to Appendix H, the CMER Work Plan.

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