



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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May 13, 2009

Forest Practices Board
P.O. Box 47012
Olympia, WA 98504-7012

Re: Forests and Fish Program – Clean Water Act Review

Ladies and Gentlemen:

On April 4, 2008, the Department of Ecology (Ecology) communicated to the Board that it was beginning the 2009 review of whether or not we could continue to rely upon the Forests Practices Program to protect water quality and bring waters back into compliance with the state's water quality standards. The need for this Clean Water Act (CWA) review was established in Schedule M-2 of the 1999 Forests and Fish Report (FFR). Schedule M-2 outlines the conditions under which Ecology offered CWA Assurances to entities conducting forest practices in conformance with the conditions of the 1999 FFR.

On February 2009, Ecology developed a first draft of its CWA review findings and shared that draft with the Forests and Fish Policy Committee (Policy). The Policy committee established a workgroup to provide assistance and feedback to Ecology in its effort to revise that draft. Additionally, Ecology met individually with the tribal, industrial, and conservation caucuses, as well as having received written comments from interested stakeholders. Based on the comments and discussions that have taken place, Ecology has revised the February draft.

Ecology is nearing the end of the 2009 CWQ Assurances review. A final document should be completed before July 2009. Consistent with our April 4, 2008, letter to the Board, we found a problematic lack of information to conclude that the existing program can be relied upon to bring forest practices in compliance with the state water quality standards and the federal CWA. In our enclosed May 5, 2009, draft review paper, Ecology outlined detailed accomplishments and their associated timelines that would provide a basis for extending the CWA Assurances into the future. It is our contention that with the commitment of the caucuses and their principals, the needed program improvements and accomplishments, while challenging, are achievable.

Ecology staff will provide a briefing to the Board at its upcoming meeting on May 20, 2009. We look forward to answering any questions you have at that time.

Sincerely,

Kelly Susewind, P.E., P.G.
Water Quality Program Manager

cc: Forests and Fish Policy
Forest Practices Board Liaisons

Enclosure



Draft

2009 Clean Water Act Assurances Review of Washington's Forest Practices Program

*Examining the effectiveness of Washington's forest practices
program in bringing waters into compliance with state water
quality standards and the federal Clean Water Act*

Washington State Department of Ecology

May 5, 2009

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Table of Contents

Introduction and Overview3
Summary of Ecology Review Findings4
 I. Establish Rules and Funding to Implement the Forests and Fish Report5
 II. An Adaptive Management Program to Update Rules and Guidance9
 III. Consistent Compliance and Enforcement of the Forest Practices Rules.....14
 IV. Programs to Bring Roads up to Design and Maintenance Standards.....19
 V. Landowners to Share Data.....21
 VI. Training and Technical Assistance to Improve Implementation21
Conclusions23
Appendix A: Summary of Formal Milestones.....25
Appendix B: Adaptive Management Program Strategic Goals, Objectives, and Tasks30

Introduction and Overview

This paper summarizes the findings of a review by the Department of Ecology (Ecology) on the progress the state's forest practices program is making in bringing waters into compliance with state water quality standards and the federal Clean Water Act (CWA).

The need for this review was established as part of the Forests and Fish Report of 1999 (http://www.dnr.wa.gov/Publications/fp_rules_forestsandfish.pdf). Ecology is using this review to determine if CWA program assurances granted as a part of the 1999 Forests and Fish Report (FFR) should be continued beyond June 30, 2009. The CWA assurances establish that the state's forest practices rules and programs, as updated through a formal adaptive management program, will be used as the primary mechanism for bringing and maintaining forested watersheds in compliance with the state water quality standards.

In 1999, Ecology assumed ten years would be sufficient time to evaluate the effectiveness of the rules and programs implementing the FFR, as well as to determine initial trends in water quality improvement. At this time it is unclear if forest practices rules and programs are working effectively to bring waters into compliance with the state water quality standards. The ability to answer the key CWA questions by the June 30, 2009 target has been hindered by:

- Delayed involvement by the Forest and Fish Policy Committee (Policy);
- Decisions to place non-water quality studies first on the research agenda;
- Conflicts between stakeholders in the adaptive management and compliance monitoring programs;
- Limitations to the capacity of volunteer researchers, policy representatives, and field staff; and
- The length of time needed to conduct quality research.

Although the 2009 target has not been met, significant progress has been made in implementing the Forests and Fish program. In addition, the problems encountered over the last ten years are well known to the key program participants; which creates a solid foundation for making the needed program improvements if the participants truly desire to do so.

Ecology recognizes there are significant challenges to relying on the forest practices and adaptive management programs to protect water quality, and we recognize there are problems with the operation and decision making structure of the existing program. However, Ecology also sees significant potential benefits if these problems can be overcome. At its foundation, the adaptive management program is designed to allow key stakeholder groups to work together to identify solutions that protect water quality. Those solutions, once identified, would be implemented across all non-federal forest lands throughout the state using a well established regulatory program. Ecology finds reason for optimism in the expressed interest of program participants to learn from past problems and to improve the forest practices program; however, specific measures of improvement will be required to maintain the assurances into the future. Without enacting some strategic changes and formally treating water quality studies and concerns as high priorities, there is little practical foundation for maintaining the assurances beyond June 30, 2009.

Ecology has examined all of the written contingencies and expectations established in the 1999 FFR as well as a supplemental 2006 Ecology white paper (prepared to remind stakeholders of the 2009 review). After considering the relative water quality risks, the progress in completing water quality-focused scientific studies, and the health of the decision making system; Ecology has determined the assurances will be only conditionally extended. This extension is conditioned on meeting specific research and administrative milestones by specific target dates described herein. These milestones effectively establish a work-plan that will enable the assurances to be retained into the foreseeable future.

Summary of Ecology Review Findings

The following lists the conditions and contingencies that were established in the 1999 FFR as the basis for providing the CWA assurances to the state’s forest practices program (shown in bold font). Similar conditions have been grouped together into categories. Following the list of conditions is a summary of the key findings (shown in italics) and the corrective remedies identified to support continuing the CWA assurances past June 30, 2009. Both general recommendations and formal milestones are established below as remedies for program deficiencies. The remedies described as “milestones” are intended to create a compliance schedule to ensure steady incremental improvement and provide a basis to continue the assurances. Failure to meet any milestone by the deadline established would be cause for potentially revoking the assurances at that point in time.

In 1999, Ecology assumed there would be adequate data by 2009 to conduct an objective review of the forest practices rules and their associated programs. Instead, this 2009 review is characterized by a paucity of data. As a consequence, Ecology has had to rely to a large extent upon the personal experiences of Ecology staff and other cooperators to describe program performance. Ecology recognizes the shortcomings of using subjective evidence in this review, and has therefore tried to limit its use and to highlight the importance of obtaining unbiased data on program performance.

Many of the remedies identified focus on the state Department of Natural Resources (DNR). This focus reflects that DNR is the primary agency overseeing all aspects of the forest practices and adaptive management programs. Readers are encouraged not to misinterpret this focus as an indictment of fault. DNR has been working cooperatively with Ecology to enact solutions to many of the issues noted below both prior to and independent of this CWA review. The general pattern of working to improve the ongoing forest practices program also extends to other cooperators as well. **In an effort to illustrate the extent of ongoing commitments towards program improvement, the milestones shown below in green font represent remedies that are underway with the support of DNR and cooperators in the adaptive management program.**

I. Establish Rules and Funding to Implement the Forests and Fish Report

Formal Forests and Fish contingencies established include:

- 1. Passage of state legislation, adoption of regulations, and appropriation of adequate funding to implement the FFR.**
- 2. No significant loss of funding or staffing to the state regulatory agencies dedicated to forest practice regulation or monitoring.**
- 3. Court orders, changes to the CWA, or changes to state or federal laws and regulations that weaken the ability to apply the FFR.**

Discussion: The CWA Assurances were offered contingent on establishing and maintaining an adequately funded and operationally effective forest practices program that implements the FFR. Meeting this contingency requires that DNR and the other resource agencies and cooperators provide and maintain adequate staffing and funding to keep the field operations and adaptive management programs running effectively. It also requires that no significant changes to laws and regulations take place that would undermine the foundation of water quality protection established in the FFR.

These contingencies have not been fully met. Since 1999, there has been a mixture of successes and retreats from the underpinning of the landmark 1999 agreement. Rules were initially adopted to implement the FFR, and substantial resources were put into action to implement a formal adaptive management program. But countering these successes, staffing has arguably not matched what is needed to fully implement the rules and programs, changes have been made to the laws that weaken some of the original protections established in the FFR, and significant reductions in staffing and funding appear likely to occur over the next three to five years.

Remedies identified to support continuation of the assurances include:

- (a) Federal pass-through funding has diminished since the inception of the FFR and is predicted to be depleted in the second half of the 10-11 biennium. In addition, the state and nation are both suffering through the worst economic period on record since the great depression. Continued CMER funding is based partially on general fund state revenue in DNR's budget and partially on timber tax revenue. At this time the state is experiencing cuts to the general fund and harvesting with its associated revenue stream has declined by approximately 50%. Recognizing the likelihood of budget shortfalls in the adaptive management program, it is important that water quality studies be designated as high priority, and efforts made to ensure their timely completion. The adaptive management program should also develop a strategy to make better use of partnerships (e.g., monitoring consortium, Puget Sound Partnership, USFS) and to compete for grant monies. This strategy may in part include developing study plans with the intention of having them ready to compete for any outside funding sources as they emerge. In addition, it is imperative that new dedicated long term funding sufficient to carry out the

requirements of the FFR be secured as soon as possible as the reliance on grants is unlikely to be either workable or sufficient to maintain the existing program.

[Milestones: 1) By July, 2009, the AMP Administrator with the assistance from the Policy and CMER committees will send to the Forest Practices Board a revised CMER work plan and budget that places key water quality studies as high priorities as described in section II(d) regarding the adaptive management program.

2) By October 2009, the AMP Administrator with assistance from the Policy and CMER committees will identify a strategy to work in partnership with other research institutions and entities and to be in the best position to apply for new monies as they become available.

3) By August 1, 2009, the Forest Practices Division Manager, in cooperation with caucus principal support, will identify and implement a strategy to try and secure stable, adequate, long-term funding for the AMP.]

- (b) Water type change requests often come in large batches with short review times. This makes it difficult for existing staff in the resource agencies and tribes to review all of the requests, and as a consequence many are approved without the necessary review. Efforts are needed to ensure water type modification requests are adequately evaluated by resource agency staff. Potential solutions include revising the rules so protective buffers exist along all stream types, increasing regulatory agency staffing for reviewing the requests, and creating administrative procedures to regulate the number of requests that need to be reviewed during any month. Compounding the workload issues, concerns continue to persist about how protocol surveys are conducted and the conditions established for multidisciplinary teams to conduct their reviews in the field. Most of these problems relate to the improper recognition of what constitutes barriers to fish migration, and should be remedied by the use of more training and guidance. Occasionally, however, the problems appear to be more related to placing unreasonable expectations on multidisciplinary review teams; such as scheduling the site visit while the stream and access roads are heavily covered in snow. These types of issues occur only infrequently, but they cause disproportional harm to the overall integrity of the program and should be dealt with through using a clearly defined process.

[Milestones: 1) By February 2010, DNR in consultation with WDFW, Ecology, and the Tribes will develop a strategy that requires prioritization and that ensures the number of change requests sent to cooperating agencies for 30-day review are within the capacity of those cooperators to respond to effectively. The strategy will also standardize the current ad hoc process of holding monthly coordination meetings with agency and tribal staff in all the DNR regions to allow the group knowledge and resources to be more efficiently used to evaluate change requests.

This strategy will be shared with the membership of the Policy Committee prior to its implementation, and implemented for the 2010 season.

2) By February 2011, DNR will complete an evaluation of the relative success of the water type change review strategy with the help of WDFW, Ecology, and the Tribes. As a consequence of the 2011 evaluation, DNR will institute further refinements identified as needed to ensure water typing requests are appropriately reviewed prior to their approval.

3) By March 2010, DNR Forest Practices will establish online and field guidance to ensure regional staff is fully aware of the conditions and acceptable processes for changing water typing and coordinating the review of multidisciplinary teams.]

- (c) Changes to water typing are not being recorded in the water type maps. This leads to a less efficient system of identifying the appropriate water typing for streams overall, as new surveys and change requests are not using the information from past surveys. To address this problem, any forest practices application that has a water type change in it must be accompanied with a water type change form in order for the application to be considered complete. Natural resource agency and tribal staff should also be directed to complete water type modification forms where inaccuracies are documented during ID team visits unrelated to the review of landowner requested changes.

[Milestone: By February 2010, DNR will establish the necessary changes in protocols to ensure that all water type changes are formally applied for and then recorded. At the same time, Policy members representing agency and tribal review team members will provide direction to their field staff to complete water type modification forms for any corrections that they identify as needed to the water type maps.]

- (d) Subsequent to the FFR, the state legislature created exemptions to the standard forest practices rules designed to protect water quality and public resources for a subset of small forest landowners. More information is needed to assess the general water quality risk created by the legislature providing exemptions for harvests of less than 20-acres (for owners of less than 80 total acres in the state). Satisfying this need may require a water quality risk assessment to be conducted for the 20-acre exempt rules that considers their influence on water quality at both the reach and watershed level.

[Milestone: By July 2010, DNR in consultation with Ecology, WDFW and the tribes will develop a plan for conducting a general water quality risk assessment for the 20-acre exempt rules at both the reach and watershed scale and provide an opportunity for review by the Policy Committee. At a minimum, this analysis will examine total lengths of stream affected to date and characterize the individual harvest lengths to estimate the probable impact to water quality at the site and stream scale. By July 2012, the risk assessment should be complete, and the results provided in a report form suitable for briefing caucus principals and legislators. If the risk analysis shows water quality standards are likely not being supported, then by August 2013, the Policy committee will assist Ecology in developing a strategy for providing feedback to the state legislature on the probable effect of continuing the exemptions and alternative approaches that may bring the effects within regulatory limits.]

- (e) Subsequent to the FFR, the state legislature expanded the definition of what constitutes a small forest landowner (SFL). Given approximately 50% of the state's private forests are now managed by SFLs, efforts are needed to better evaluate the impact of the SFL programs on water quality. The primary concern regarding the expanded definition is how it affects bringing roads into compliance with standards to protect water quality. In addition to expanding the definition of SFL, the legislature also eliminated the inventory,

planning and reporting requirements for SFL roads. The elimination of this planning requirement did not eliminate the need for SFL roads to comply with water quality pollution laws, or arguably the need to meet the 2016 target for bringing all forest roads into compliance with road standards. Rather than requiring Road Maintenance and Abandonment Plans (RMAPs) for all their roads, SFLs must submit a checklist RMAP in association with any forest practice application (FPA). This checklist RMAP process requires that roads used in association with that FPA be brought up to current road standards, but it does not address any of the landowner's roads that would not be used for the harvest. To understand if SFL roads are posing a threat to water quality, DNR needs to follow through with its current proposal to assess the condition and rate of compliance of SFL roads. The focus for this CWA milestone is to assess the potential delivery of sediment to waters of the state. This project needs to be completed in time to brief the 2013 legislature; however, Ecology believes getting this information to the Policy Committee sooner would provide a more realistic timeframe to identify needed changes in the RMAP requirements. In developing this plan, DNR should consider opportunities to add this task to site visits associated with funding fish passage projects on SFL parcels, and other cost effective means to accomplish this work. It is further recommended that DNR investigate the ability to use the information collected in the RMAP checklists to assist in understanding the general risks posed. For example: How many checklist RMAPs involved water crossings, and what proportion indicated that the RMAP checklist applied to their entire ownership?

[Milestone: By December 2009, DNR with assistance from the Small Forest Landowner Office, the Policy Committee and the CMER Co-chairs will develop a plan for assessing the extent to which SFL roads are contributing to the delivery of sediment and the general effectiveness and any associated environmental risk associated with continuing to rely on the checklist RMAP procedures for bringing forest roads into compliance by the 2016 target date. The work associated with implementing the plan needs to be completed by October 2012 and a report provided to Ecology and the Forests Policy Committee by December 2012.]

- (f) To better assess the adequacy of staffing and funding, DNR should continue to audit the forest practices program's ability to effectively and consistently implement the forests and fish rules. To the extent feasible, these audits should consider the staffing of all cooperators integral to field teams. They should address whether a lack of staffing is affecting the overall success of the program in effectively implementing forests and fish rules and protecting water quality. As has been noted by several cooperators in reflecting on this concern; adequacy is not just boots on the ground but includes having the right people, trained correctly, with the right tools, and implementing the rules correctly. For just this reason, it is imperative that the issue be addressed through a broad framework of assessment, training, and audits. DNR has a process for conducting audits of regional office performance. Ecology recommends that those audits continue at regular intervals with some method provided to track changes in performance. While serving as a mechanism to assess general adherence to standard processes and to identify potential weaknesses, the audits do not directly assess adequacy of staffing or success in meeting rule elements. Ecology believes, however, this gap in performance assessment information can be adequately filled by strengthening the compliance monitoring

program. Needed improvements to the compliance monitoring program are discussed separately in this document. **[Recommendation]**

- (g) Ecology provides necessary water quality expertise that is at risk of loss due to a lack of dedicated, dependable, and adequate funding. Ecology should explore alternate funding opportunities for Ecology staff. A work assessment should also be conducted by Ecology with the assistance of DNR to identify where additional resources may be needed, or where they should be redirected to better protect water quality. **[Recommendation]**

II. An Adaptive Management Program to Update Rules and Guidance

Formal Forests and Fish conditions established include:

- 1. An approved Adaptive Management Program (AMP) section in the Forest Practices Board Manual that will provide formal procedures for participants to successfully link science questions to policy decisions.**
- 2. A Cooperative Monitoring, Evaluation, and Research Committee (CMER) Work Plan that includes water quality-related projects that have been prioritized for funding and includes program integration across spatial scales.**
- 3. Easy access to reports and data from the AMP on the Internet so the information can be used in existing public processes associated with the Clean Water Act.**
- 4. The adoption of any more stringent water quality standards can be accommodated with adaptive management.**
- 5. There is no general failure to upgrade regulations or guidance called for in adaptive management. This includes failure to develop agreed upon resource objectives, research priorities, and compliance monitoring programs.**
- 6. Specific resolution by CMER of the following issues:**
 - Develop a protocol for identifying perennial stream initiation points.**
 - Estimate the current status of stream temperature and riparian stand conditions on forest lands.**
 - Evaluate the reach-scale effectiveness of riparian buffer prescriptions at providing adequate shading post-harvest to protect stream temperatures.**
 - Evaluate the cumulative effects of harvest on stream temperature.**
 - Evaluate the cumulative effects of forest practices on sediment input and stream habitat.**

Discussion: The CWA assurances were established on the condition that an effective adaptive management program (AMP) would be established and maintained. A healthy and effective AMP is central to the ability of Ecology to offer the CWA assurances. The AMP needs to provide a scientific framework for testing whether the forest practices rules are effective in protecting water quality, and for identifying any changes needed to rules not found effective. Substantial progress has been made in establishing the structure and

operation of the AMP. An AMP board manual was developed to outline how the program should operate, and significant funding and effort has occurred to get scientific studies underway to test various portions of the rules and guidelines governing forest practices.

In spite of these substantial efforts, the AMP has not completed any studies that directly pertain to testing the effectiveness of the rules in protecting water quality. The science arm of the AMP has also been largely unsuccessful in providing research findings the Forest and Fish Policy Committee (Policy) and the Forest Practices Board (Board) will reliably use to validate or to revise the forest practices regulations and guidance. There are significant problems with the ability of the policy and science arms of the AMP to work together to test and revise the rules in a timely and effective manner. Part of the problem is simply inherent in a program that seeks to develop agreements between stakeholders with competing interests. But the problems also seem rooted in the foundation of the AMP itself. There appears to be significant disagreement as to the appropriate roles of science and policy in the AMP, and on the role the initial negotiated forests and fish rules should play in evaluating the acceptability of future changes. These disagreements, combined with poor communication between the science and policy arms of the program, compromises the AMP's effectiveness. To the credit of its participants, strategic planning efforts are underway with the intention of identifying and correcting the shortcomings of the program. The Policy committee has developed a strategic plan (see Appendix B) with five broad goals supported by multiple objectives and specific tasks designed to revitalize the adaptive management program. This recognizes a general consensus that the program is not working as effectively and efficiently as intended or desired. There is also general understanding that testing the effectiveness of the rules for protecting water quality must be a top priority if Ecology is to continue the assurances past June 30, 2009.

Notwithstanding recent processes initiated to identify ways to improve the program, the program as it now exists (from CMER through Policy and up to the Forest Practices Board) has not yet demonstrated a propensity to use science as a foundation for improving the forest practices rules and programs. Changes to the rules and programs, as well as the rejection of peer reviewed science products provided by CMER, occur at both the Policy and Board level based on informal analyses and general concerns. A willingness to make decisions based solely on “policy” concerns appears to be having the practical effect of relegating the CMER science process to being primarily a backdrop to a system of negotiation rather than a foundation for testing and revising the rules.

Based on its past performance, the current adaptive management program (CMER, Policy, and the Forest Practices Board) does not fulfill the conditions for offering the Clean Water Act Assurances. Fundamental changes are needed to ensure the rules and associated programs will be revised in a timely manner based on scientific findings.

Remedies identified to support continuation of the assurances include:

- (a)** Much of the recent conflict within the adaptive management program is centered on disagreements about what constitutes the proper roles of the Board, Policy, and CMER in revising rules and guidelines; and what the role of science and economics should be in

the decision making process. The roles of CMER and Policy should be clarified, and revisions should be made to the decision making process to ensure science remains the foundation for changing the forest practices rules. Improved communication between CMER and Policy is needed with the aim of ensuring that CMER studies have the greatest potential to provide answers that Policy will use to validate or suggest revisions to forest practices regulations and guidance to the Board. The adaptive management program (CMER, Policy, and Board) would benefit from an outside audit on its performance, structure, and decision making framework. Such outside audits should occur periodically (perhaps every five years) and be used to actively improve the program. This remedy is consistent with the first goal of the Strategic Goals, Objectives, and Tasks document recently completed by the Policy Committee (see Appendix B). To ensure the AMP's operations are transparent to the public, the results of these audits should be discussed at the Forest Practices Board.

[Milestones: 1) By October 2009, the AMP Program administrator, with the assistance of CMER and Policy, will coordinate training sessions on the AMP protocols and standards for CMER, Policy, and the Board to remind and train participants on the agreed upon protocols. This will also serve as an opportunity to identify portions of the protocols and associated rules that may need revision to improve performance or clarity.

2) By July 2010, the AMP Program administrator shall initiate an independent review of the Adaptive Management Program. This review shall be done by representatives of independent, 3rd party research organizations and include:

- a. An examination of the structure and function for technical performance, fiscal efficiency and overall accountability,**
- b. An assessment of the performance and efficiency of the consensus-based decision processes,**
- c. A review of the rigor of CMER science and whether it productively adds to the body of PNW region science to confidently address the L-1 Questions, and**
- d. An evaluation of the interactions of science and policy within the AMP.**

Results of this independent review shall be taken to the Board after providing an opportunity for CMER and Policy to develop responses and recommendations for needed corrections. The independent reviewer should be asked to specifically identify if a different approach to the AMP is needed to assure a more certain and timely outcome of projects and commensurate changes to rules and guidelines.]

- (b)** The amount of forest that must be retained in buffers to protect water quality and other public resources is dependent on the type of the waterbody. The amount of buffering in non-fish bearing perennial waters is dependent on the identification of the point at which the flow becomes perennial (flows year round in a normal water year). There is currently no agreed upon protocol for determining this point. The absence of a protocol for determining the uppermost point of perennial flow initiation creates added uncertainty in the protection provided to Type N waters. A dependable field protocol must be developed. If such a protocol cannot be developed, as currently appears the case, an evaluation is needed to determine the extent rules requirements for buffering may need to be altered to ensure water quality will be protected in Type NP waters (in the absence of

an effective means of identifying the uppermost point of perennial water). Sufficient Type N studies are contained within the CMER work plan to allow a science-based assessment of the protection and relative risks provided by the existing prescriptions. These studies need to be ranked as a high priority and moved into implementation at the soonest practical time. **[Milestones: 1) By July 2011, the Policy Committee, with the aid of the existing chartered subcommittee, will establish an effective field protocol for identifying perennial initiation points. If this milestone cannot be satisfied, Ecology will request the Board to establish interim no-harvest forested buffers (30-50 feet in width) along portions of the NP stream network currently not provided with such buffers until such time as the effectiveness of the current Type N program of rules and guidance can be validated as meeting water quality standards. 2) By December 2013 the Type N Basalt Lithology Study is to be completed, and the Policy Committee with the assistance of CMER will initiate an evaluation of the effectiveness of NP rules that takes into consideration the spatial uncertainty in establishing the NP break point. Within 6 months of completing the Type N Basalt Lithology Study, an evaluation of the NP rules must be completed using the available research information. Any recommended changes needed to address gaps in the intended level of protection will be made. 3) A second formal review of the Type N rules is to occur within 6 months of completing the Type N Incompetent Lithology and Eastside Type N Effectiveness Studies, with this review occurring no later than December 2018.]**

- (c) Past and ongoing CMER studies and their associated data are not readily available or housed in any defined location. This puts this information at risk of being lost, and makes it largely inaccessible to the public; as well as to AMP participants who could otherwise use the information to improve the efficiency of ongoing and planned studies. To help ensure the availability of reports and data generated through the AMP, the current efforts by DNR to scan all CMER reports into digital formatting should be supported. The effort of CMER and the Northwest Indian Fisheries Commission to develop an archival and GIS-based data acquisition system should similarly be supported. **(Recommendation)**
- (d) After almost ten years, no CMER studies have been completed that inform whether or not the forest practices rules can be relied on to bring waters into compliance with the state water quality standards and the CWA. In addition, the state in general, and the AMP in particular, are facing an increasingly difficult budget situation and will not be able to maintain the level of research effort it has in the past without an infusion of new resources. To directly address the need to have water quality-related projects prioritized for funding, the 2010 annual CMER work plan and budget exercise should be used to formally establish and maintain water quality studies as high priorities in the adaptive management program. A prioritized list of projects and milestones is presented in Table 1 below to help focus the budget prioritization effort and to ensure water quality studies are expediently pursued. Table 1 shows the water quality priorities and general timeframes for study development needed to support continuation of the CWA assurances. Ecology recognizes and accepts that unexpected and uncontrollable circumstances may cause deviations from this schedule, such as catastrophic events

causing the loss of study sites, and thus would not view such circumstances as cause to revoke the assurances. Ecology also recognizes that some projects, such as the Mass Wasting Landscape Scale Effectiveness Study, may need to remain in a design state while it awaits a storm of sufficient magnitude to allow a statistical examination of landslide rates. Ecology further recognizes that until a project has a study design developed, it is not possible to identify an accurate time frame for its completion, or in some cases to fully determine if the project should be pursued as a CWA priority as designed. In addition to completing the listed studies, Ecology finds a need for a summary of the state of the knowledge with regards to the potential impact of the forest practices rules on amphibians. This should be done at the earliest practical opportunity and include both CMER and Policy representatives in an effort to understand whether the program is collecting the information needed to address rule effectiveness. Similarly, a coordinated strategy is needed to ensure that all information likely necessary to conduct a thorough review of the Type N rules (east and west) will be available upon completion of the Type N incompetent and Type N Eastside Effectiveness studies, respectively. With the foregoing in mind, Ecology intends to update this CWA timeline on a biennial basis with the assistance of CMER and Policy as projects are scoped and designed.

[Milestones: 1) By July 2009, the projects identified by Ecology in Table 1 will be reflected in the CMER budget and work-plan in a manner that establishes a priority schedule for study development. Failure to meet any of the milestones identified by more than one year without prior consent by Ecology may be viewed as a basis to revoke the CWA assurances at that point in time.

2) By October 2009, the AMP Manager needs to establish a process for flagging projects for the attention of Policy that are having trouble with their design or implementation. This process should use project management tracking to identify projects not proceeding on a schedule reflecting a realistic but expedient pace (i.e., a normal amount of time to complete scoping, study design, site selection, etc.)]

Table 1: List of Research Milestones to Support Continuation of CWA Assurances		
	Task Description	CMER Group
2009	Complete: <u>Hardwood Conversion – Temperature Case Study</u>	RSAG
	Study Design: <u>Wetland Mitigation Effectiveness</u>	WETSAG
	Study Design: <u>Testing the Accuracy of Unstable Landform Identif.</u>	UPSAG
2010	Complete: <u>Mass Wasting Prescription-Scale Monitoring</u>	UPSAG
	Implement: <u>Wetland Mitigation Effectiveness (Pilot)</u>	WETSAG
	Study Design: <u>Amphibians in Intermittent Streams (Phase III)</u>	LWAG
	Study Design: <u>Type N Experimental in Incompetent Lithology</u>	RSAG/UPSAG
	Scope: <u>Mass Wasting Landscape-Scale Effectiveness</u>	UPSAG
2011	Complete: <u>Bull Trout Overlay Temperature</u>	RSAG
	Complete: <u>Solar Radiation/Effective Shade</u>	RSAG
	Implement: <u>Eastside Type N Effectiveness</u>	SAGE
	Implement: <u>Amphibians in Intermittent Streams (Phase III)</u>	LWAG
	Implement: <u>Type N Experimental in Incompetent Lithology</u>	RSAG/UPSAG
	Study Design: <u>Mass Wasting Landscape-Scale Effectiveness</u>	UPSAG

	Scope: <u>Wetland Management Zone Effectiveness Monitoring</u>	WETSAG
	Scope: <u>Eastside Type N Effectiveness (new study needed)</u>	SAGE/RSAG
2012	Complete: <u>Type N Experimental in Basalt Lithology</u>	RSAG
	Complete: <u>Buffer Integrity-Shade Effectiveness</u>	RSAG
	Complete: <u>Wetland Mitigation Effectiveness</u>	WETSAG
	Complete: <u>Amphibians in Intermittent Streams (Phase III)</u>	LWAG
	Implement: <u>Testing the Accuracy of Unstable Landform Identif.</u>	UPSAG
	Scope: <u>Wetland/Stream Water Temperature Interactions</u>	WETSAG
2013	Complete: <u>First Cycle of Extensive Temperature Monitoring</u>	RSAG
	Scope: <u>Effectiveness of RMAP Fixes</u>	UPSAG
	Scope: <u>Wetland Hydrologic Connectivity</u>	WETSAG
2014	Study Design: <u>Effectiveness of RMAP Fixes</u>	UPSAG
	Scope: <u>Type F Experimental Buffer Treatment</u>	RSAG
2016	Complete: <u>Type N Experimental in Incompetent Lithology</u>	RSAG
	Scope: <u>Watershed Scale Assess. of Cumulative Effects</u>	UPSAG/RSAG
2017	Complete: <u>Eastside Type N Effectiveness (new study needed)</u>	SAGE
	Study design: <u>Watershed Scale Assess. of Cumulative Effects</u>	UPSAG/RSAG
2018	Complete: <u>Roads Sub-basin Effectiveness</u>	UPSAG
	Implement: <u>Watershed Scale Assess. of Cumulative Effects</u>	UPSAG/RSAG

III. Consistent Compliance and Enforcement of the Forest Practices Rules

Formal Forests and Fish conditions established include:

1. There is not a lack of enforcement of forest practices on the part of state regulatory agencies.
2. No broad scale landowner non-compliance exists with meeting the forest practice regulations or the FFR.
3. If an individual landowner fails to implement forest management practices or demonstrates a pattern of non-compliance, the assurances may be withdrawn for that landowner.
4. Documentation based on compliance monitoring data that the rules are being implemented in a reasonably consistent manner across in each DNR region.
5. Documentation based on compliance monitoring data demonstrating when the rules are different for small landowners than for large landowners, what level of compliance is being achieved by each landowner category.

- 6. Documentation based on compliance monitoring data showing how well rules regarding water quality protection measures such as riparian buffers; road construction, maintenance and abandonment; alternate plans; and unstable slope requirements are being implemented.**
- 7. Results of an analysis of alternate plan compliance with standards in the rules that evaluates whether alternate plans provide protection to public resources at least equal in overall effectiveness as default forest practices prescriptions.**

Discussion: The CWA assurances were conditioned on the ability to demonstrate the forest practices rules are being consistently and effectively applied at all scales – statewide, DNR region, and individual landowner.

Statewide compliance patterns. From a statewide perspective, DNR has done an admirable job in developing a formal program to assess compliance. The compliance monitoring program (CMP) does a good job at assessing overall compliance rates with selected conditions in approved forest practices applications (FPA). The draft 2006/2007 biennial compliance report, for example, provides sound evidence that no significant difference in rates of compliance with FPA conditions existed between large and small forest landowners. Preliminary results from the draft report found that 75% of the riparian activities evaluated were in compliance on both small and industrial landowner lands. Of the road activities evaluated, 87% and 86% were in compliance on small and industrial landowner lands, respectively. Ecology field staff actively participating in the forest practices program support the contention that landowner compliance is reasonably good statewide. However, the statistics also demonstrate that approximately one out of every four riparian prescriptions evaluated experienced at least some level of non-compliance. This fact suggests that initiatives are needed to identify the causes of non-compliance and to reduce the incidence level.

A significant concern for Ecology is that the CMP is focused on assessing compliance with only select provisions of approved FPAs. This means the CMP is not providing an adequate assessment of compliance with other important provisions of the forest practices rules related to water quality protection. Only compliance with provisions established in an approved FPA that can be readily evaluated during a short field visit are being assessed currently in the CMP. Critical areas of omission from the CMP include:

- 1. Water typing decisions (wetland versus lake or stream, fish-bearing versus non fish-bearing, seasonal versus perennial)*
- 2. Designation of channel migration zones and inundated and associated wetlands*
- 3. Unstable slope rules*
- 4. Measurements of bankfull stream width*
- 5. Adherence to streamside shade rules*
- 6. Haul roads used to remove the harvested timber*

In addition, no program exists to determine if approved alternate plans are equal in overall effectiveness as compared with the default forest practices rules.

Regional and landowner compliance patterns. The CMP has not provided information that allows compliance patterns to be assessed at either regional or landowner scales. Ecology staff reports that forestry staffs within the DNR regions are generally doing an excellent job of applying and enforcing the rules. However, staff and other cooperators often express the belief that regional differences exist in the application of the forest practices rules and in undertaking enforcement actions. Without unbiased data on regional compliance patterns, however, these concerns can neither be confirmed or dismissed.

There is no mechanism in place to resolve disagreements between members of field review teams or conflicts over enforcement decisions. Since DNR is the final arbitrator of the forest practices rules, even unanimous determinations of resource agency staff representing Ecology, the Department of Fish and Wildlife, and the tribes can be overruled by DNR staff. While this situation rarely occurs, it highlights the framework under which problems and interagency conflicts can be preserved and perpetuated by individuals.

Remedies identified to support continuation of the assurances include:

- (a) Disagreements occur at both the field and policy level regarding interpretations of regulations and guidance, as well as regarding the role and methods used to involve multidisciplinary teams. These disputes are often allowed to continue unresolved for very long periods of time. These disputes waste limited staff resources, endanger professional working relationships, and result in the unequal application of the rules and guidelines between landowners and regions. To facilitate resolution of such disputes, DNR should establish a formal procedure to efficiently assemble a troubleshooting team with representation from Policy and technical experts from the various caucuses. The job of the team would be to conduct timely investigations of the concerns of any participating cooperators regarding field determinations. Such a team would be used to help settle disputes and to provide an opportunity for identifying problems needing formal resolution through revised guidance or rules.

[Milestone: By December 2009, DNR with assistance of Ecology and WDFW (will establish a process for assembling troubleshooting teams (or the CMP steering committee as the topic dictates) to address field disputes identified as needing resolution by representatives of the Policy Committee. This process will be designed to ensure the appropriate mix of both policy and technical participants are invited to improve the chance of rapid and thorough resolution of the issue at hand. Upon formal (written) request for such a team to be formed, DNR has three weeks to initiate the process. Within the three weeks, DNR may provide a demonstration satisfactory to the proponent as to why the issue can be resolved without the assistance of such a team. The Policy committee should be made aware of any issues that have been requested to go through a troubleshooting team process.]

- (b) The Compliance Monitoring Program (CMP) does not currently examine compliance with numerous rule elements of great importance to protecting water quality. The existing structure of the CMP may preclude an assessment of compliance with some of these rule elements. In such cases, separate studies are needed to supplement the current CMP. Separate studies or CMP assessment methodology are needed to examine the level

of compliance with the rule requirements for water typing, shade, wetland identification and mitigation, unstable slopes, channel migration zones, and haul roads. More detailed guidance and training should also occur to enhance consistency in defining the boundaries for measuring bankfull width and channel migration zones.

[Milestone: By December 2009, DNR with consultation with WDFW and Ecology (or with the CMP steering committee) will develop general plans and timelines for assessing compliance with rule elements such as water typing, shade, wetlands, haul roads and CMZs with the goal to initiate these programs and any needed training by July 2011].

- (c) Training is needed to decrease conflict among cooperators engaged in compliance assessments, and to minimize noncompliance rates that may be due to a misunderstanding of the forest practices rules and guidance.

[Milestone: By December 2009, DNR with consultation with Ecology and WDFW (or with the CMP steering committee) will establish a framework for certification and refresher courses for all participants responsible for regulatory or CMP assessments. This will be focused on aiding in the application of rules regarding bankfull width, CMZ boundaries, application of road rules, and wetlands. Training opportunities will also be established for landowners to ensure all participants have an equal opportunity to gain a mutual understanding of the rule's requirements and how they are being applied in regulatory and compliance programs. Consideration should be given to focusing the curriculum of refresher courses on assessing difficult situations. A standing multiagency expert team (DNR, WDFW, Ecology, Tribes) should be identified for each issue, both to resolve contested field calls in a timely manner and enhance the shared understanding regarding the identification of these features.]

- (d) The current compliance rate of 75% for riparian prescriptions contained in approved FPAs is not sufficient to support long-term maintenance of the assurances.

[Milestone: By July 2010, DNR in consultation with Ecology and WDFW (or with the CMP steering committee) will assess the primary issues associated with riparian noncompliance and formulate a program of training, guidance, and enforcement believed capable of substantially increasing the compliance rate – with a goal of getting to 95% or better by 2013. Ecology will consider both the actual intensity of noncompliance (e.g., is it predominately at levels within reasonable field method limits and thus likely to occur even with due diligence) when determining if this compliance target rate milestone has been satisfied.]

- (e) The conditions established in the FFR for granting the assurances specifically demand that compliance be tracked at both the landowner and regional level. The existing CMP is not collecting or recording information that allows such a comparison to occur. In addition to satisfying the CWA Assurances, there is a need to track compliance issues at the landowner level to support both voluntary (training) and regulatory (escalating enforcement) corrective mechanisms as part of DNR's existing compliance and enforcement programs. Recognizing that a random sample-based program will unlikely be capable of identifying non-compliance patterns at the landowner scale, DNR should

work with Ecology, WDFW, and the Tribes (or with the CMP steering committee) to determine the best alternative mechanism to identify problem landowners. In resolving this issue, the use of both informal and formal enforcement documents should be evaluated as an adjunct to the data collected from the CMP.

[Milestone: By October 2009, DNR with the assistance of Ecology, WDFW, and the Tribes (or with the CMP steering committee) will meet to resolve the issue of not tracking compliance at the individual landowner level, with the goal of establishing procedures to begin assessing the compliance pattern of individual landowners by June 2010. These procedures and their effectiveness in identifying compliance trends at the landowner level will be reassessed by Ecology by June 2012 to ensure the program provides sufficient information to take action where appropriate to remove the CWA assurances from landowners with persistent compliance problems.]

- (f) Alternate plans allow significant deviations from the forest practices rules, and result in trading different forms of natural resources in space and time (such as sacrificing short-term shade to get large woody debris more quickly) so long as the resulting alternate plan “provides protection to public resources at least equal in overall effectiveness as provided by the act and rules” (WAC 222-12-040). No program exists to validate that approved plans are meeting this foundational element of the alternate plan rules. At present, the program represents the application of the best professional judgment of DNR foresters and other cooperators invited to participate as part of field advisory teams. It is important to begin collecting baseline data on alternate plans (a resource inventory) before and after the harvest. This is needed to create a foundation that will allow an assessment of whether alternate plans are equal in overall protection to the baseline rules and whether they are meeting the state water quality standards. **[Milestone: By February 2010, DNR with the assistance of Ecology, WDFW, and the Tribes (or with the CMP steering committee) will establish a sampling program that will gather baseline information sufficient to assess the success of the alternate plan process. This monitoring plan should include how to select sample sites, how to best document the content and assumptions contained in the alternate plan, what to monitor and how frequently to do so, and responsibilities for who will conduct that monitoring. Data collection will be initiated in the 2010 CMP field season.]**
- (g) Past problems with getting concerns addressed over the content and procedures included in the CMP suggests significant value may accrue through the formation of the newly authorized CMP steering committee. Ecology strongly encourages DNR to continue to engage key cooperators in finalizing a charter for the committee that defines the roles and the decision-making process to be used. Many of the remedies discussed above would be appropriately handled by such a committee. **[Milestone: By October 2009, DNR will complete the Charter for the Compliance Monitoring Steering Committee and determine which issues identified herein related to the compliance monitoring program will be dealt with by the committee. This is intended to help move these issues forward on schedule as well as to flag the items for which an alternative process for resolution is needed.]**

IV. Programs to Bring Roads up to Design and Maintenance Standards

Formal Forests and Fish conditions established include:

- 1. Road Maintenance and Abandonment Plan (RMAP) results that are readily available, including: where RMAPs are complete, a summary of all active and orphan roads and abandoned roads.**
- 2. Results of an analysis of small forest landowner roads not yet covered by RMAPs or checklist RMAPs. The goal of the analysis is to estimate whether these roads potentially threaten water quality, so that strategies can be developed or modified to assure they reach the 2016 goal.**

Discussion: The CWA assurances included specific provisions to ensure that roads were on track to comply with construction and maintenance standards by 2016. This recognizes the high concern regarding the impact of road design and maintenance on protecting water quality. DNR reports that large landowners are on schedule to meet the 2016 target date for bringing all their roads into compliance. This coupled with successful CMER studies on the effectiveness of road prescriptions should allow Ecology and the forest practices program to identify a level of prescriptions and ongoing maintenance and monitoring that will meet the CWA objectives into the long-term. This would be a substantial success and one that Ecology, DNR, and the other cooperators should continue to focus on. One problem with the RMAP program is that it was not designed to allow an outside assessment of its progress, or input into the priorities chosen for road and culvert repair. Also, the data is collected and stored in different formats by different landowners and regions. While Ecology is reasonably confident that DNR is correctly assessing that landowners are on track to meeting the 2016 goal and are not deferring priority work, some effort is needed to help provide tools that will better illustrate the basis for that assessment.

The story is much less clear for the roads maintained by small forest landowners (SFL). These landowners occupy approximately 50% of the private forestlands in the state, and it is critical that they also be on a course to success. The state legislature eliminated the planning requirements for SFLs, making it very difficult to know if their roads are going to be able to meet water quality standards and other resource objectives by 2016. DNR was charged by the legislature with conducting two interim assessments on the status of roads on SFL properties. The first briefing period was in December 2008, but provided no actual assessment on the condition, risk, or progress of SFL roads. The second briefing date is December 2013, however, if substantial problems exist that are not identified until 2013, there is little chance corrective action can be taken in time to reach the 2016 target. This strongly suggests that a survey of SFL roads is needed before 2013. Ecology, therefore, supports DNR's current draft proposal to conduct such a survey in time to brief the 2011 legislature.

Remedies identified to support continuation of the assurances include:

- (a) It would facilitate tracking progress with RMAPS if the original plan to complete a GIS forest roads layer and getting all the RMAPs into a GIS framework could be accomplished. Alternatively, a reporting structure is needed that summarizes progress to date and activities still remaining to allow Ecology and other interested parties to gain more confidence that roads are on target to meet the 2016 deadline.
- [Milestones: 1) By December 2011, DNR with the assistance of large landowners will provide summary information for all industrial landowners having RMAPs. The summary information will include at a minimum: Date RMAP completed, total miles of road, total miles of road brought up to standards, total number of fish barriers, total number of fish barriers removed, and a brief statement describing the strategy for bringing all roads into compliance by 2016 that demonstrates even-flow or otherwise provides confidence compliance will be attained by 2016. If reasonable and feasible, the summary will show the annual progress on road and barrier improvement that has occurred since the inception of the RMAP, and DNR will provide a master summary for all industrial landowners combined. 2) By January 2010, as part of the regional RMAP annual meeting process DNR should begin soliciting input from Ecology, WDFW, and tribes formally participating in the forests and fish process regarding the established road work priorities.]**
- (b) To reach the 2016 RMAP deadline, it is critical DNR work with small forest landowners (SFLs) to assess the rate of compliance with road maintenance and abandonment requirements on road segments with the potential to deliver sediment to waters of the state prior to the 2013 legislative update. It is recommended that DNR work with the SFL committee to develop an effective sampling program. It is further recommended that the program recognize SFLs will have significant resistance to allowing regulatory staff to examine their roads; therefore, use of non-state agency staff for conducting the assessments should be considered. Existing information should be used to assist in paring down the relative risk. Some of this information can be efficiently collected using completed RMAP checklists in which SFL identify whether the FPA covered all of the roads on their property. This information combined with the summary information from the SFL data base may prove useful along with the survey itself in characterizing any potential gap in protection or the relative level of certainty and risk.
- [Milestones: 1) By June 2010, DNR in consultation with the SFL committee will develop a methodology for sampling small forest landowner roads to determine the level of compliance. 2) By December 2011, DNR will complete the sampling and prepare a summary report for Ecology that assesses the progress of SFLs in bringing their roads into compliance with the road rules by 2016, and any general risk to water quality posed by relying on the checklist RMAP process for SFLs. If SFLs are not likely to be in compliance, then an interim report to the legislature will be prepared along with ideas on how to change the existing strategy in order to bring roads into compliance.]**

V. Landowners to Share Data

Formal Forests and Fish conditions established include:

- 1. Landowners will share water quality data collected in cooperative research, adaptive management, and TDML development. Landowners are further encouraged to share all pertinent data to assist in water quality planning efforts.**

Discussion: Within the CMER program, landowners have actively participated in conducting scientific studies and supplying environmental data associated with those studies. Some landowners have also cooperated in sharing data to assist in developing TMDLs in mixed use watersheds (includes non-forestry activities). Landowners have not otherwise freely shared water quality data collected on their land. It is important to note, however, the specific language in the assurances encourages but does not require landowners to share water quality data outside of the listed programs.

- (a) This condition has been met.** Ecology and the Adaptive Management Program should actively encourage voluntary efforts to further expand the role of landowners and other cooperators in data collection programs. Expanding the ability of landowners, tribes, and other cooperators to provide data to assess status and trends would enable a more robust sampling program, and potentially provide an ability to separate regional from statewide trends. In 2010, Ecology plans to lead an effort within CMER to evaluate the issues related to establishing monitoring protocols and opportunities for stakeholders to collect water quality data for contribution to the status and trends assessment project. That information should be delivered to the Policy Committee on or before June 2010.
[Recommendation]

VI. Training and Technical Assistance to Improve Implementation

Formal Forests and Fish conditions established include:

- 1. A procedure manual with detailed guidance regarding contents and approval processes for alternate plans.**
- 2. Implementation of regional unstable landform Identification project.**
- 3. Identification of high landslide hazard areas.**
- 4. Training to identify potentially unstable slopes.**
- 5. Training programs for operators on road maintenance and construction standards.**
- 6. Outreach to small forest landowners on protecting public resources.**

Discussion: The CWA assurances were conditioned on developing tools and programs that provide ongoing guidance to landowners and cooperators on the effective implementation of

the forest practices rules. The requisite board manual was developed in 2007 and processes are in place to continue to revise and improve that manual over time as issues arise. An evaluation occurred to verify that no regionally unique forms of unstable slopes existed that would need supplemental guidance, and DNR provides regular training around the state for foresters and other professionals interested in enhancing their ability to identify unstable slopes. DNR also provides lists of qualified experts who are available to assist landowners in identifying potentially unstable slopes and meeting the forest practices rule requirements for those sites. Rules and a board manual have been produced that describe the requirements for constructing and maintaining roads. In addition, Ecology has assisted DNR in providing training to the DNR regional offices on road standards, and is currently working with DNR to develop an updated training program to conduct around the state in 2009. Training also takes place through the contract loggers association, and some of the large landowners require loggers to have taken this before they will contract with them.

In 1999, the Washington State Legislature authorized a Small Forest Landowner Office (SFLO) within DNR. The SFLO was directed to serve as a "resource and focal point for small forest landowner concerns and policies" with a goal to improve the economic viability and environmental quality of small forestland holdings. The Family Forest Fish Program administered out of the SFLO has provided twelve million dollars in assistance that has opened up 439 miles of fish habitat, helping also to reduce sediment and improve water quality. The SFLO provides training on road maintenance twice a year to hundreds of small forest landowners and provides stewardship planning classes to help SFLs manage their land.

Given the generally high confidence that guidance and outreach programs will continue to be updated as needed, all of the training and outreach conditions linked to the CWA assurances are considered to have been met except where noted as a milestone elsewhere herein. One element that has not satisfactorily been completed is the identification of high landslide hazard areas. The Landslide Hazard Zonation (LHZ) project was created to provide an improved screening tool by describing and mapping all potentially unstable slopes in priority watersheds. The LHZ project also provides information useful for selecting appropriate mitigation action. GIS data created from this project (landslides and hazard zones) are available from DNR. Considerable progress has been made in completing the LHZ project. Staff vacancies have recently been filled and the program is currently making reasonable progress in mapping landslide hazards. These are all positive factors, but there still remains a majority of the state to map and at the current pace it will be many more years before all the commercial forest lands in the state have been completed. Of the 229 watersheds that were originally prioritized, 129 were deemed critical. DNR estimates they may be able to complete the 129 by 2013 if all goes as planned and they can retain their current workforce.

Remedies identified to support continuation of the assurances include:

- (a) The potential damage to water quality and public resources from unstable slopes is significant and completion of the LHZ mapping program provides important supplementary information to help landowners identify unstable slopes. DNR should

continue to look for ways to fully fund the LHZ mapping program to ensure that all of the priority watersheds are completed in the shortest practical time. [**Recommendation**]

Conclusions

Ecology has examined all of the written contingencies and expectations established in the 1999 Forests and Fish Report. After considering the relative water quality risks, the progress in completing water quality-focused scientific studies, and the health of the decision making system; Ecology has determined the forest practices and adaptive management programs, **as they exist today**, fail to provide a basis for extending the Clean Water Act assurances past the June 30, 2009, deadline. Ecology further concludes the failure of the adaptive management program to test the effectiveness of the rules affecting water quality and to make changes to those rules in a timely fashion disqualifies the program for coverage as an adaptive management program for the purposes of providing interim compliance under the water quality standards (WAC 173-201A-500(3)).

In spite of the deficiencies that exist today, Ecology is conditionally extending assurances with the intent to stimulate the needed improvements to the forest practices and adaptive management programs. Ecology has established specific actions and dated milestones for accomplishing these actions as part of this review. The extension of the assurances is conditioned on meeting these research and administrative milestones by the specific target dates described. These milestones serve as a mandatory work-plan to retain the assurances into the foreseeable future.

Ecology is providing this opportunity to extend the CWA assurances in recognition that:

- There are substantial benefits to water quality if we can rely on the established forest practices and adaptive management programs.
- The underlying foundation of the forests practices programs are generally healthy.
- Much of the needed corrections can be made with relative ease using existing resources.

Ecology recognizes that steps are already being taken to address many of the corrective milestones associated with operational issues, the compliance monitoring program, and issues of progress under RMAPs. Ecology fully expects these steps to be successful in the short-term. Ecology's highest concern at this point in time is with the adaptive management program. These concerns are greatest regarding the ability to fund the studies needed to have a viable science-based program, and the ability to improve the underlying decision-making process. Scientific studies need to be designed to provide Policy and the Board with the answers they need to make decisions on the effectiveness of the current rules and guidance. Just as importantly, once completed, these studies must enter an adaptive management program committed to using science to fairly and efficiently revise the forest practices rules and programs.

Ecology finds that compliance with the milestones for study completion, program review, and other improvements described herein would demonstrate sufficient progress to satisfy the CWA assurances and the adaptive management provisions of the state water quality standards. Because extending the assurances is based on meeting the specific research and administrative milestones identified above by the specific dates listed, failure to meet any milestone would be

considered a basis for potentially withdrawing the assurances at that time. Ecology will consider the cause for missing any milestones, however, and will not consider the program in default for minor delays or delays caused by factors outside the ability of the program to predict or control (such as natural disasters causing a loss of research sites).

To be successful, the caucus principals will need to work together to find funding and to support taking the steps needed to meet the specific milestones. Ecology supports, therefore, the strategic goal to bring together the principals as soon as practical to renew and maintain a spirit of cooperation and collaboration among the six caucuses.

Ultimately, the success of any program of studies will be determined when the studies are finished. It will be critical, therefore, that ongoing and planned studies be designed to assess compliance with the water quality standards, and that follow-up studies needed to provide finer resolution are expediently planned and implemented. Such follow-up studies are not described in this document but will need to be addressed as they arise as the milestones listed herein are met.

Ecology expects to continue participating in the forest practices and adaptive management programs regardless of whether or not the assurances are maintained. If the assurances are withdrawn, however, Ecology will no longer hold itself to the original agreement under the assurances. This would mean at a minimum that: 1) forested waters on the 303(d) list will enter the standard prioritization process for developing Total Maximum Daily Load limits (water clean-up plans), and 2) specific implementation plans will be developed by Ecology for any forested waters for which TMDLs are established to ensure these waters will move into compliance with the state's water quality standards. Without a basis for relying on the adaptive management program, Ecology may independently use the available science to design implementation requirements for TMDLs and to make recommendations to the Board for rule changes that ensure water quality standards will be achieved.

Appendix A: Summary of Formal Milestones

Note: Green font indicates remedies that are currently in the process of being implemented or established and is provided to help highlight new issues established by this CWA review document.

2009

July 2009, the projects identified by Ecology in Table 1 will be reflected in the CMER budget and work-plan in a manner that establishes a priority schedule for study development. Failure to meet any of the milestones identified by more than one-year without prior consent by Ecology may be viewed as a basis to revoke the CWA assurances at that point in time. [II(d)]

August 1, 2009, the Forest Practices Division Manager, in cooperation with caucus principal support, will identify and implement a strategy to try and secure stable, adequate, long-term funding for the AMP. [I(a)]

October 2009, the AMP Administrator with the assistance from the Policy and CMER committees will identify a strategy to work in partnership with other research institutions and entities and to be in the best position to apply for new monies as they become available. [I(a)]

October 2009 the AMP Program administer with the assistance of CMER and Policy will coordinate training sessions on the AMP protocols and standards for CMER, Policy, and the Board to remind and train participants on the agreed upon protocols. This will also serve as an opportunity to identify portions of the protocols and associated rules that may need revision to improve performance or clarity. [II(a)]

October 2009, the AMP Manager needs to establish a process for flagging projects for the attention of Policy that are having trouble with their design or implementation. This process should use project management tracking to identify steps that are not proceeding on a schedule that reflects an realistic but expedient pace.(i.e., what is a normal time to complete scoping, study design, site selection, etc.) [II(d)]

October 2009, DNR with the assistance of Ecology, WDFW, and the Tribes (or with the CMP steering committee) will meet to resolve the issue of not tracking compliance at the individual landowner level, with the goal of establishing procedures to begin assessing the compliance pattern of individual landowners by June 2010. These procedures and their effectiveness in identifying compliance trends at the landowner level will be reassessed by Ecology by June 2012 to ensure the program provides sufficient information to take action where appropriate to remove the CWA assurances from landowners with persistent compliance problems. [III(e)]

October 2009, DNR will complete the Charter for the Compliance Monitoring Steering Committee and determine which issues identified herein related to the compliance monitoring program will be dealt with by the committee. This is intended to help move these issues forward on schedule as well as to flag the items for which an alternative process for resolution is needed. [III(g)]

December 2009, DNR with assistance of Ecology and WDFW (will establish a process for assembling troubleshooting teams (or the CMP steering committee as the topic dictates) to address field disputes identified as needing resolution by representatives of the Policy Committee. This process will be designed to ensure the appropriate mix of both policy and technical participants are invited to improve the chance of rapid and thorough resolution of the issue at hand. Upon formal

(written) request for such a team to be formed, DNR has three weeks to initiate the process. Within the three weeks, DNR may provide a demonstration satisfactory to the proponent as to why the issue can be resolved without the assistance of such a team. The Policy committee should be made aware of any issues that have been requested to go through a troubleshooting team process. [III(a)]

December 2009, DNR with assistance from the Small Forest Landowner Office, the Policy Committee and the CMER Co-chairs will develop a plan for assessing the extent to which SFL roads are contributing to the delivery of sediment and the general effectiveness and any associated environmental risk associated with continuing to rely on the checklist RMAP procedures for bringing forest roads into compliance by the 2016 target date. The work associated with implementing the plan needs to be completed by October 2012 and a report provided to Ecology and the Forests Policy Committee by December 2012. [I(e)]

December 2009, DNR with consultation with WDFW and Ecology (or with the CMP steering committee) will develop general plans and timelines for assessing compliance with rule elements such as water typing, shade, wetlands, haul roads and CMZs with the goal to initiate these programs and any needed training by July 2011. [III(b)]

December 2009, DNR with consultation with Ecology and WDFW (or with the CMP steering committee) will establish a framework for certification and refresher courses for all participants responsible for regulatory or CMP assessments. This will be focused on aiding in the application of rules regarding bankfull width, CMZ boundaries, application of road rules, and wetlands. Training opportunities will also be established for landowners to ensure all participants have an equal opportunity to gain a mutual understanding of the rule's requirements and how they are being applied in regulatory and compliance programs. Consideration should be given to focusing the curriculum of refresher courses on assessing difficult situations. A standing multiagency expert team (DNR, WDFW, Ecology, Tribes) should be identified for each issue both to resolve contested field calls in a timely manner and enhance the shared understanding regarding the identification of these features. [III(c)]

2010

January 2010, as part of the regional RMAP annual meeting process DNR should begin soliciting input from Ecology, WDFW, and tribes formerly participating in the forests and fish process regarding the established road work priorities. [IV(a)]

February 2010, DNR in consultation with WDFW, Ecology, and the Tribes will develop a strategy that requires prioritization and that ensures the number of change requests sent to cooperating agencies for 30-day review are within the capacity of those cooperators to respond to effectively. The strategy will also standardize the current ad hoc process of holding monthly coordination meetings with agency and tribal staff in all the DNR regions to allow the group knowledge and resources to be more efficiently used to evaluate change requests. This strategy will be shared with the membership of the Policy Committee prior to its implementation, and implemented for the 2010 season. [I(b)]

February 2010, DNR will establish the necessary changes in protocols to ensure that all water type changes are formally applied for and then recorded. At the same time, Policy members representing agency and tribal review team members will provide direction to their field staff to complete water type modification forms for any corrections that they identify as needed to the water type maps. [I(c)]

February 2010, DNR with the assistance of Ecology, WDFW, and the Tribes (or with the CMP steering committee) will establish a sampling program that will gather baseline information sufficient to assess the success of the alternate plan process. This monitoring plan should include how to select sample sites, how to best document the content and assumptions contained in the alternate plan, what to monitor and how frequently to do so, and responsibilities for who will conduct that monitoring. Data collection will be initiated in the 2010 CMP field season.. [III(f)]

March 2010, DNR Forest Practices will establish online and field guidance to ensure regional staff is fully aware of the conditions and acceptable processes for changing water typing and coordinating the review of multidisciplinary teams. [I(b)]

June 2010, DNR in consultation with the SFL committee will develop a methodology for sampling small forest landowner roads to determine level of compliance. [IV(b)]

July 2010, DNR in consultation with Ecology, WDFW and the tribes will develop a plan for conducting a general water quality risk assessment for the 20-acre exempt rules at both the reach and watershed scale and provide an opportunity for review by the Policy Committee. At a minimum this analysis will examine total lengths of stream affected to date and characterize the individual harvest lengths to estimate the probable impact to water quality at the site and stream scale. By July 2012, the risk assessment should be completed its review, and the results provided in a report form suitable for briefing caucus principals and legislators. If the risk analysis shows water quality standards are likely not being supported, then by August 2013, the Policy committee will assist Ecology in developing a strategy for providing feedback to the state legislature on the probable effect of continuing the exemptions and alternative approaches that may bring the effects within regulatory limits. [I(d)]

July 2010, the AMP Program administrator shall initiate an independent review of the Adaptive Management Program. This review shall be done by representatives of independent, 3rd party research organizations and include:

- An examination of the structure and function for technical performance, fiscal efficiency and overall accountability,
- An assessment of the performance and efficiency of the consensus-based decision processes,
- A review of the rigor of CMER science and whether it productively adds to body of PNW region science to confidently address the L-1 Questions, and
- An evaluation of the interactions of science and policy within the AMP.

Results of this independent review shall be taken to the Board after providing an opportunity for CMER and Policy to develop responses and recommendations for needed corrections. The reviewing party should be asked to specifically identify if a different approach to the AMP is needed to assure a more certain and timely outcome of projects and commensurate changes to rules and guidelines. [II(a)]

By July 2010, DNR in consultation with Ecology and WDFW (or with the CMP steering committee) will assess the primary issues associated with riparian noncompliance and formulate a program of training, guidance, and enforcement believed capable of substantially increasing the compliance rate – with a goal of getting to 95% or better by 2013. Ecology will consider both the actual intensity of noncompliance (e.g., is it predominately at levels within reasonable field method limits and thus likely to occur even with due diligence) when determining if this compliance target rate milestone has been satisfied. [III(d)]

2011

February 2011, DNR will complete an evaluation of the relative success of the water type change review strategy (discussed previously) with the help of WDFW, Ecology, and the Tribes. As a consequence of the 2011 evaluation, DNR will intact further refinements identified as needed to ensure water typing requests are appropriately reviewed prior to their approval. [I(b)]

July 2011, *the Policy Committee, with the aid of the existing chartered CMP subcommittee, will establish an effective field protocol for identifying Perennial Initiation Points.* If this milestone cannot be satisfied, Ecology will request the Board to establish interim no-harvest forested buffers (30-50 feet in width) along portions of the NP stream network currently not provided with such buffers until such time as the effectiveness of the current Type N program of rules and guidance can be validated as meeting water quality standards. [II(b)]

December 2011, DNR with the assistance of large landowners will provide summary information for all industrial landowners having RMAPs. The summary information will include at a minimum: Date RMAP completed, total miles of road, total miles of road brought up to standards, total number of fish barriers, total number of fish barriers removed, and a brief statement describing the strategy for bringing all roads into compliance by 2016 that demonstrates even-flow or otherwise provides confidence compliance will be attained by 2016. If reasonable and feasible, the summary will show the annual progress on road and barrier improvement that has occurred since the inception of the RMAP, and DNR will provide a master summary for all industrial landowners combined.

2) By January 2010, as part of the regional RMAP annual meeting process DNR should begin soliciting input from Ecology, WDFW, and tribes formally participating in the forests and fish process regarding the established road work priorities. [IV(a)]

December 2011, *DNR will complete the sampling and prepare a summary report for Ecology that assesses the progress of SFLs in bringing their roads into compliance with the road rules by 2016, and any general risk to water quality posed by relying on the checklist RMAP process for SFLs. If SFLs are not likely to be in compliance, then an interim report to the legislature will be prepared along with ideas on how to change the existing strategy in order to bring roads into compliance.* [IV(b)]

2013

December 2013, the Type N Basalt Lithology Study is to be completed, and the Policy Committee with the assistance of CMER will initiate an evaluation of the effectiveness of NP rules that takes into consideration the spatial uncertainty in establishing the NP break point. Within 6 months of completing the Type N Basalt Lithology Study, an evaluation of the NP rules must be completed using the available research information. Any recommended changes needed to address gaps in the intended level of protection will be made. [II(b)]

2018

December 2018, or within 6 months of completing the Type N Incompetent Lithology and Eastside Type N Effectiveness Studies if sooner, the Policy Committee with the assistance of CMER will conduct a second formal review of the Type N rules. [II(b)]

Table 1: List of Research Milestones to Support Continuation of CWA Assurances		
	Task Description	CMER Group
2009	Complete: <u>Hardwood Conversion – Temperature Case Study</u>	RSAG
	Study Design: <u>Wetland Mitigation Effectiveness</u>	WETSAG
	Study Design: <u>Testing the Accuracy of Unstable Landform Identif.</u>	UPSAG
2010	Complete: <u>Mass Wasting Prescription-Scale Monitoring</u>	UPSAG
	Implement: <u>Wetland Mitigation Effectiveness (Pilot)</u>	WETSAG
	Study Design: <u>Amphibians in Intermittent Streams (Phase III)</u>	LWAG
	Study Design: <u>Type N Experimental in Incompetent Lithology</u>	RSAG/UPSAG
	Scope: <u>Mass Wasting Landscape-Scale Effectiveness</u>	UPSAG
2011	Complete: <u>Bull Trout Overlay Temperature</u>	RSAG
	Complete: <u>Solar Radiation/Effective Shade</u>	RSAG
	Implement: <u>Eastside Type N Effectiveness</u>	SAGE
	Implement: <u>Amphibians in Intermittent Streams (Phase III)</u>	LWAG
	Implement: <u>Type N Experimental in Incompetent Lithology</u>	RSAG/UPSAG
	Study Design: <u>Mass Wasting Landscape-Scale Effectiveness</u>	UPSAG
	Scope: <u>Wetland Management Zone Effectiveness Monitoring</u>	WETSAG
	Scope: <u>Eastside Type N Effectiveness (new study needed)</u>	SAGE/RSAG
2012	Complete: <u>Type N Experimental in Basalt Lithology</u>	RSAG
	Complete: <u>Buffer Integrity-Shade Effectiveness</u>	RSAG
	Complete: <u>Wetland Mitigation Effectiveness</u>	WETSAG
	Complete: <u>Amphibians in Intermittent Streams (Phase III)</u>	LWAG
	Implement: <u>Testing the Accuracy of Unstable Landform Identif.</u>	UPSAG
	Scope: <u>Wetland/Stream Water Temperature Interactions</u>	WETSAG
2013	Complete: <u>First Cycle of Extensive Temperature Monitoring</u>	RSAG
	Scope: <u>Effectiveness of RMAP Fixes</u>	UPSAG
	Scope: <u>Wetland Hydrologic Connectivity</u>	WETSAG
2014	Study Design: <u>Effectiveness of RMAP Fixes</u>	UPSAG
	Scope: <u>Type F Experimental Buffer Treatment</u>	RSAG
2016	Complete: <u>Type N Experimental in Incompetent Lithology</u>	RSAG
	Scope: <u>Watershed Scale Assess. of Cumulative Effects</u>	UPSAG/RSAG
2017	Complete: <u>Eastside Type N Effectiveness (new study needed)</u>	SAGE
	Study design: <u>Watershed Scale Assess. of Cumulative Effects</u>	UPSAG/RSAG
2018	Complete: <u>Roads Sub-basin Effectiveness</u>	UPSAG
	Implement: <u>Watershed Scale Assess. of Cumulative Effects</u>	UPSAG/RSAG

Appendix B: Adaptive Management Program Strategic Goals, Objectives, and Tasks

Forests & Fish Report Vision for Adaptive Management: "An Adaptive Management program is necessary to monitor and assess implementation of forest practices rules and achieve desired resource objectives. Adaptive Management is a formal process for evaluating the current resource status and, over time, for evaluating the effectiveness of rules and guidance in protection, maintenance, and enhancement of habitat necessary to meet resource goals and objectives, for making adjustments to forest practices on a regional or statewide basis, and for requiring mitigation, where necessary, to achieve resource objectives." (Forests & Fish Report, p. 70)

Goal 1: Assess and improve Adaptive Management Program efficiency and effectiveness

Objective 1: On an ongoing basis, assess the efficiency and effectiveness of the program in meeting the Program's mission and vision.

1. **Task 1:** AMPA / CMER Co-Chairs - By December 2008, develop a timeline estimating when critical questions in the CMER work plan will be answered
2. **Task 2:** Forest Practices Operations ADM/ CMP Manager - By December 2008, a steering committee or other collaborative process, shall be established to guide and make recommendations on compliance monitoring efforts. Such a steering committee will need to meet in a timely manner so delays don't occur in the training of survey crews and the collection of field data.
3. **Task 3:** AMPA / CMER Co-Chairs - By January 2009, synthesize CMER work completed since 2000, summarize knowledge gained and assess progress towards answering FFR Adaptive Management key questions.
4. **Task 4:** Policy Co-Chairs / AMPA / CMER Co-Chairs - By January 2009, clarify when and how research and monitoring results will be used to assess current rules and policies, i.e. should action be recommended in response to each project in a program, or should all projects in a program be completed before action is recommended, or something in between? Review and document decision with caucus principals as necessary.
5. **Task 5:** AMPA / CMER Co-Chairs / CMP Manager - By March 2009, determine timing and coordination between compliance monitoring and effectiveness monitoring projects, and report results to Policy. (Note - Task 5 is dependent upon the timing of task 2. The intent is to complete task 5 within three months of the compliance monitoring steering committee's (or similar collaborative process) acceptance of the revised compliance monitoring design. More will be known about the timing of task 2 by the end of this month.)
- **Task 6:** Policy Co-Chairs / AMPA / CMER Co-Chairs - By March 2009, review the CMER Work Plan to ensure programs/projects are prioritized appropriately, tightly focused on FFR resource objectives/performance targets and key deadlines/time frames are identified.
6. **Task 7:** CMER Co-Chairs - By April 2009, revise the CMER Work Plan to incorporate key components of CMER science synthesis, reflect Policy's prioritization of projects and include project schedule estimates.

- **Task 8:** AMPA / CMER Co-Chairs - By December 2009, synthesize applicable non-CMER research for priority topic areas identified as a result of completing Tasks 1, 2 and 6.

Objective 2: Every ten years the structure, process and performance of the Adaptive Management Program will be independently reviewed.

- **Task 1:** Policy Co-Chairs / AMPA / CMER Co-Chairs - By January 2010, obtain independent review of the Adaptive Management Program. This review shall be done by representatives of independent, 3rd party research organizations and include:
 - An examination of the structure and function for technical performance, fiscal efficiency and overall accountability
 - An assessment of the performance and efficiency of the consensus-based decision processes
 - A review of the rigor of CMER science and the responsiveness of CMER work to body of PNW region science that is applicable to the L-1 Key Questions
 - An evaluation of the interactions of science and policy within the AMP

Goal 2: Reestablish and maintain productive, collaborative caucus relationships

Objective 1: In order to more productively resolve contentious forest practices issues, the Department of Natural Resources (DNR) will lead efforts to renew and maintain cooperation and collaboration among the six caucuses as an alternative to competitive lobbying and litigation.

1. **Task 1:** Commissioner of Public Lands - By January 2009, convene a meeting of caucus principals to determine their commitment to the Timber, Fish & Wildlife (TFW)/Forests & Fish Report (FFR) vision and ground rules, review caucus relationships, reinforce responsibilities and recognize capacity challenges of caucus representatives, and review how economic viability intersects with the Adaptive Management Program.
2. **Task 2:** Caucus Principals - By February 2009, write a joint letter summarizing outcomes of Task 1 and giving appropriate direction to caucus representatives.
3. **Task 3:** Policy Co-Chairs / AMPA / CMER Co-Chairs - By April 2009, develop and implement a plan to improve understanding and conformance with WAC 222-12-045, the TFW / FFR ground rules and responsiveness to Board Manual Section 22 guidance.

Goal 3: Secure adequate program funding and enhance communications

Objective 1: To ensure funding is available for caucus participation in the AMP as well as priority research and monitoring projects, the Forest Practices Division Manager, in cooperation with caucus principal support, will lead efforts to obtain stable, adequate, long-term funding.

- **Task 1:** F&F Policy / Caucus leads - Support DNR's unstable slopes decision package, which includes a request to double the GF-S Adaptive Management fund from \$1.2M per biennium to \$2.4M.
- **Task 2:** Policy Budget Committee - By June 2009, develop a plan to obtain dependable, long-term funding adequate for participation, research and monitoring projects, and program management.

Objective 2: Raise the public profile of the AMP.

- **Task 1:** AMPA / Policy Co-Chairs / CMER Co-Chairs - By July 2009, develop and implement an AMP communication and outreach strategy.

Goal 5: Increase research capabilities and scientific knowledge

Objective 1: Strengthen and develop partnerships with other research organizations

4. **Task 1:** AMPA / CMER Co-Chairs - On an ongoing basis, explore and develop partnerships with other natural resource research organizations. Report back to CMER and Policy biannually on progress.

Appendix C: Comment Letters Received on Ecology’s Initial Draft