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October 19, 2011

TO: Forest Practices Board (FPB)

FROM: Mark Hicks

SUBJECT: CWA Assurances and the 2012 FPB Work Plan

At the August 2011 meeting of the Forest Practices Board, Ecology was asked to provide assistance in determining how the board's work plan may affect accomplishment of the Clean Water Act (CWA) milestones. Ecology was also asked to help the board understand how each milestone related to water quality. This memo attempts to address the board's requests.

1) The primary assistance the FPB can provide in supporting the attainment of the CWA Assurances is to actively avoid initiating new projects that are not CWA priorities or which will conflict with completing the CWA milestones. A small number of adaptive management program (AMP) participants and state resource agency staff provide the lion's share of the work for all the projects that go through the AMP and FPB processes. This means that unless new work is contracted out, it will restrict the capacity of the AMP process to complete other ongoing or planned activities, such as those contained in the CWA milestones.

   This situation argues for workload assessment and planning by the board that extends to the staff and volunteer stakeholders who are the workhorses for the Forest Practices AMP. Before agreeing to any new projects, the board should ask DNR board staff to provide an assessment of whether, and to what extent, the timing of that new work and the work load associated with it will impair their ability to assist in the timely completion of Clean Water Act milestones. Ecology's AMP representatives would be glad to assist in making such workload and timing assessments so that when new projects arise they can be scheduled to minimize any conflict with completing the CWA milestones and retaining the Assurances.

2) The issue of how the CWA milestones are related to water quality and retaining the CWA Assurances was addressed in the original 2009 review paper in which the milestones were established. Board members are encouraged to re-examine the letter and attachments provided to the board in 2009. The simple answer, however, is that protecting water quality requires the proper implementation of effective rules.

   This goal requires a robust adaptive management program to validate the effectiveness of the rules, and implementation programs that ensure those rules are applied correctly on the ground. Since part of the board's question seems to be attempting to tease out relative priorities, Ecology is providing an attachment that summarizes the relative priorities of the remaining uncompleted CWA milestones.

MPH

Enclosure

Relative Priorities of Clean Water Act Milestones

Department of Ecology
October 2011

Non-CMER Milestones

The following assigns the remaining uncompleted non-CMER milestones (i.e., operations, compliance monitoring, and enforcement) into three prioritization categories. Prioritization considers the relative importance to creating a program that can be relied upon to bring waters into compliance with the state water quality standards. It also takes into account the amount of lead time required to complete the milestone and therefore gain the intended benefits. Most of these milestones are already well overdue, and this list should not be inferred to suggest that any of those overdue milestones are no longer important to retaining the Assurances.

Highest Priority

- Develop a plan for evaluating the risk posed by small forest landowner (SFL) roads for the delivery of sediment to waters of the state; and by November 2013, prepare a summary report that assesses the progress of SFLs in bringing their roads into compliance with road best management practices, and any general risk to water quality posed by relying on the checklist RMAP process for SFLs. (Due July 2010)

  Small forest landowners are not required to provide RMAPs for their roads, and need only bring those roads up to standards at the time they will be used for new harvests. It is unknown whether or not small forest landowner roads are causing a disproportionate or unacceptable affect on water quality as compared with large landowner roads and thus whether or not the assurances should apply to this sector. It is also unknown, therefore, whether or not the legislature should be asked to consider revising the current checklist RMAP process.

- Develop a strategy to examine the effectiveness of the Type N rules in protecting water quality at the soonest possible time that includes: a) Rank and fund Type N studies as highest priorities for research, b) resolve issue with identifying the uppermost point of perennial flow by July 2012, and c) completing a comprehensive literature review examining effect of buffering headwater streams by September 2012. (Strategy due July 2010)

  Only portions of the Type N network are provided with treed buffers, and the remaining receive substantially narrower buffers then fish-bearing waters. These rules pose perhaps the greatest risk to meeting state water quality standards. To be protective, the rules also need to be accurately applied on the ground. Conflict over where the Type Np (perennial non-fish) channel begins and ends affects how much of the system actually receives buffers. The strategy is intended to prepare to address the concerns of Type N waters in a thoughtful and expedient manner.

- Assess primary issues associated with riparian noncompliance (using the CMP data) and formulate a program of training, guidance, and enforcement believed capable of substantially increasing the compliance rate. (Due July 2010)

  The DNR compliance-monitoring program found that one out of every four riparian harvests was in violation of the forest practices rules. Proper protection of riparian areas is needed to fully protect water quality. It is important to use the data to understand the specific circumstances and where appropriate, to improve training, guidance, and oversight to increase compliance.

- Initiate process of obtaining an independent review of the Adaptive Management Program. (Due December 2010)

The CWA assurances are based on the assumption that the rules will be expediently evaluated through a robust and effective adaptive management program. Particularly with the recent cuts to funding for cooperators and the AMP, it is even more important that the program be as efficient and effective as it can be. Participants are having a difficult time initiating any steps to review and improve the existing process. A qualified outside reviewer is needed to examine the financial and structural efficiency (ability to move issues forward and to make decisions) of the AMP and to assist participants in assessing what if any changes can be made to improve its efficiency.

- Initiate a program to assess compliance with the Unstable Slopes rules. (Due December 2012)

  Mass wasting can cause substantial and long-term harm to water quality and aquatic resources. In addition to testing the effectiveness of the rules, it is critical to make sure that the rules are being applied properly in the FPA process.

Moderate Priority

- Establish online guidance that clarifies existing policies and procedures pertaining to water typing. (Due March 2010)

  Proper water typing is required to accurately apply the forest practices rules. Conflicts over the process of water typing uses up limited staff resources that could otherwise be used to ensure proper application of the rules elsewhere, and improper water typing can result less protective buffers being authorized.

- Establish a framework for certification and refresher courses for all participants responsible for regulatory or CMP assessments. (June 2010)

  Substantial disagreements occur on the application of key portions of the forest practices rules among even very experienced cooperators. This causes a waste of limited staff resources needed to review other proposals, and it suggests inaccurate application of the rules is occurring.

- Design a sampling plan to gather baseline information sufficient to reasonably assess the success of alternate plan process. (Due October 2010)

  Alternate plans are used as a mechanism to harvest adjacent to streams and other waters of the state without having to follow any of the standard rules being tested in the adaptive management program. Only a small proportion of harvests actually are conducted under alternate plans, but those that do occur have the greatest chance of affecting aquatic resources. No process exists to impartially evaluate whether the alternate plan process is working to meet the alternate plan requirements or to protect water quality and aquatic resources.

Lowest Priority

- Complete training sessions on the AMP protocols and standards for CMER and Policy and offer to provide this training to the board. Identify and implement changes to improve performance or clarity at the soonest practical time. (Due December 2009)

  Delays in projects appear to be related to failure to follow existing process as well as potential inefficiencies in those processes. This training was intended to address these potential obstacles and help create a more efficient AMP.

CMER Research Studies

Ecology views the prioritization of CMER projects according to the relative risk of existing forest practice rules in not meeting water quality standards along with the relative likelihood the proposed studies, as conceived, will be able to reasonably reduce the uncertainty about that protection. In general, the priorities for research can be placed into three general priority groups:

Highest Priority:

- *Type N rules*
- *Bull Trout overlay*
- *Type F - eastside rules*
- *Mass wasting effectiveness*
- *Road BMP effectiveness*

Moderate Priority:

- *Rules for forested wetlands*
- *Cumulative effects at the watershed scale*
- *Effectiveness of alternate plans*

Lowest Priority:

- *Rules for Type A and B wetlands*
- *Status and trends monitoring*
- *Type F Westside rules*

Type N – Non Fish Bearing Waters

Type N studies are Ecology's highest priority. The CWA and state standards apply to all waters rather than to just the protection of fisheries. Type N waters receive the least amount of buffering and therefore bear the greatest risk of not meeting water quality standards. Ecology is expecting that the following studies can be used to reasonably assess whether or not the Type N rules are working to protect water quality. Further studies may still be needed but the following are expected to substantially reduce uncertainty about the effectiveness of the Type N rules in meeting state standards.

Buffer Integrity-Shade Effectiveness	Nearing completion
Type N Experimental in Basalt Lithology	Nearing completion
Type N Experimental in Incompetent Lithology	Field work starting 2011
Eastside Type N Effectiveness	No progress has occurred
~~Amphibians in Intermittent Streams (Phase III)~~	May be answered in Basalt study

Type F – Fish Bearing Waters

Type F eastside studies are Ecology's second highest priority. Ecology is largely not concerned with the standard Westside Type F rules, but is concerned with the narrower buffers and more open riparian forests permitted on the eastside. The CWA chosen priority projects are designed to first address the Eastside Type F rules. Unfortunately, the existing bull trout studies examined small harvest areas and will not confidently address the WQS compliance question alone. This combined with a general expectation that the impact will be generally small and variable, make it important to conduct a more generic Type F eastside effectiveness study and to examine if the cumulative impacts at the basin scale are below WQS triggers. It will eventually be important to also conduct Westside Type F studies as well but these are lower CWA priorities.

Solar Radiation/Effective Shade	Nearing completion

Bull Trout Overlay Temperature	Nearing completion
(*Eastside*) Type F Experimental Buffer Treatment	No progress
Watershed Scale Assess. of Cumulative Effects	No progress

Mass Wasting Studies

Mass wasting can overwhelm all other source of sediment and physical damage to streams and aquatic life. Rules are established to try to bring landslide rates down to background levels but these rules have yet to be fully tested. The three studies below will be very helpful, but will still not completely answer the question of whether or not the rules are as effective as possible in minimizing land sliding due to harvesting and road design features. The prescription scale monitoring study ended up not being able to assess the contribution of site scale features, such as drainage structures, in triggering or magnifying mass wasting events. It will, however, likely produce information that suggests we may not be identifying all of the unstable features using the current rule identified landform (RIL) descriptions. This triggered the decision to initiate a new RIL criteria study.

Mass Wasting Prescription-Scale Monitoring	Nearing completion
Examine the effectiveness of the RILs	No progress – new project
Mass Wasting Landscape-Scale Effectiveness	No progress

Road Studies

Protecting water quality from sediment draining from roads requires minimizing the water that runs in ditches or directly off roads into streams and other waters, as well as preventing roads from creating unstable slopes that will fail and contribute sediment to streams. The CMER Roads Sub-basin Effectiveness study largely showed that roads were being well disconnected from streams. It is questionable if a second sampling event is needed or warrants the high cost of this trend analysis project. It appears the largest gap of knowledge is whether the road BMPs are effective at both the site and basin scale. The RMAP fixes study has not been scoped so it is not known if it will address this important gap.

Roads Sub-basin Effectiveness	Periodic sampling Effectiveness of
RMAP Fixes	No progress

Wetlands Studies

Forested wetlands are harvested completely and other wetlands are protected by very narrow buffers. Although it is generally believed that wetland processes are rather unaffected by forestry, that expectation has largely been untested. The wetlands research program is lacking wetland ecologists to help design studies and lacks a well thought out strategy for how it will prioritize its studies to address critical questions. Work to date created a strong decision to change course and focus on the forested wetland rules. A forthcoming literature synthesis is intended to help provide some prioritization information to help the Wetland Science Advisory Group move forward to designing a more effective study.

Forested Wetlands Literature Synthesis	Now Hiring Contractor
Forested Wetlands Effectiveness Study	Waiting for Synthesis
Wetland/Stream Water Temperature Interactions	No progress
Wetland Management Zone Effectiveness Monitoring	No progress
Wetland Hydrologic Connectivity	No progress

Ambient Monitoring

Ideally, at the very start of implementing the new Forests and Fish requirements CMER would have assessed the current conditions of water quality and riparian vegetation. This did not happen. Almost ten years was allowed to pass before the first samples were taken and then only for three of the four statewide strata (none for eastside Type N waters). This time lag will have affected how much change can be detected in the future since it allowed trees and vegetation a decade or more to grow and affect the shading of streams. There is very low ability to use this information to say any more than that some given percentage of water bodies is higher than a given temperature in the year tested. It does not allow Ecology to determine if the forest practices are causing them to warm and if that warming is in excess of what is permitted under the state water quality standards. In other words, we could use the data to place waters on the 303(d) impaired waters list. We may even be able to detect a small cooling trend, but we will not be able to use the data to conclude that the current rules have us on a track to bringing all forest lands into compliance with the state standards (i.e., data cannot be defensibly used to determine if the rules are sufficient to meet water quality standards). Discussions are ongoing and planned within the AMP to better understand how this program can be designed to more effectively inform the AMP process.

First Cycle of Extensive Temperature Monitoring	three of four strata complete