Schedule L-1 Subject Matter Experts,

Thank you for participating in the revision of Schedule L-1 (Appendix N, Forest Practices Habitat Conservation Plan) Functional Objectives and Performance Targets.

Background

The Forest Practices Habitat Conservation Plan (FPHCP) was adopted in 2005 by the Washington Department of Natural Resources (DNR), on behalf of the state of Washington, as permitted by the federal services (USFWS and NOAA) under issuance of a multispecies incidental take permit. The FPHCP provides protection and the long-term conservation of aquatic species and maintains Washington state water quality standards while also providing a regulatory climate conducive to a viable forest products industry. The FPHCP covers over 9 million acres of private forestland and some state forestlands east of the Cascade Crest. The prescriptive elements of the plan are based on the states Forests and Fish law (i.e., Forest and Fish Report, 1999; Forest Practices Salmon Recovery Act, 1999; FPHCP Appendix C and N; DEIS Appendix C) and the State's Forest Practices Program implementing that law.

Schedule L-1 (FPHCP Appendix N) is part of the original Forest and Fish Report (FPHCP Appendix B) that was adopted by the Washington Forest Practices Board in 2001, with minor revisions, and later promulgated into the FPHCP. Schedule L-1 includes three overall performance goals, and resource objectives as defined by functional objectives and performance targets. Resource objectives are key aquatic conditions and processes affected by forest practices. These resource objectives are intended to meet the Overall Performance Goals where "Forest practices, either singly or cumulatively, will not significantly impair the capacity of aquatic habitat to: 1) support harvestable levels of salmon, 2) support the long-term viability of other covered species listed in the FPHCP, and 3) meet or exceed water quality standards."

Resource objectives consist of Functional Objectives which are broad statements of major watershed functions potentially affected by forest practices, and Performance Targets (PTs) which are measurable criteria that define specific, attainable target forest conditions and processes. The existing performance targets are based on the FPHCP's Environmental Impact Statement (EIS) that contains alternatives analysis, Environmental Effects on riparian and wetland processes, fish and fish habitat, amphibian and amphibian habitat, etc. (2005). The DNR Adaptive Management Program (AMP) was created to provide science-based recommendations and technical information to assist the Forest Practices Board (FPB) in determining if and when it is necessary or advisable to adjust rules and guidance (WAC 222-12-045). The DNR AMP is made up of two committees established by the FPB, the Cooperative Monitoring, Evaluation, and Research Committee (CMER) and the Timber, Fish, and Wildlife Policy Committee (TFW Policy). CMER is the science body of the AMP and conducts research that tests forest practices rules to ensure that resource objectives are met. The Performance Targets in Schedule L-1 are the benchmarks intended to inform CMERs research objectives, and the critical questions designed to meet those objectives, when developing studies to assess the impact of forest practices on aquatic species covered by the FPHCP and maintaining WA state water quality standards. As Subject Matter Experts (SMEs), you will be provided with a more in-depth background of the DNR AMP, and the science and analyses from the FPHCP EIS supporting

current PTs, before you begin working on further development and/or revision of PTs, to ensure that you appreciate how the PTs in SL1 are consulted and used in the FP Board's AMP processes.

Performance Targets up for Revision

Not all of the PTs are in need of revision based on prior and active research being conducted by CMER to update several PTs, therefore the CMER SL1 workgroup has already prioritized which PTs will be considered for revision, receiving necessary approvals to proceed. The prioritization was based on PTs that are absent, vague or essentially a repeat of an existing rule rather than a measurable target. Based on this prioritization, the Workgroup has recommended that three SME groups be formed where the following PTs from SL1 will be reviewed and possibly revised:

Group 1: Shade, Riparian Condition, Litterfall, In-Stream LWD
Group 2: Pool Frequency, Pool Depth, Peak Flows, Fines in Gravel
Group 3: Wetlands

General Tasks and Expectations for Subject Matter Experts

The SMEs will be tasked with reviewing and potentially revising, replacing, or adding to the PTs listed above, according to their assigned group. SMEs will be expected to utilize the best available science in reviewing the Performance targets. This includes familiarization with a variety of background documents (e.g. FPHCP EIS 2005), completed relevant CMER research (provided), and relevant peer-reviewed literature.

SMEs should become familiar with the FPHCP and SL1 documents, including the Final Environmental Impact Statement (FEIS), which describes the alternatives analysis and the variety of analyses, studies, and expertise that were used in formulating the current FOs and PTs. SMEs should especially focus on the following chapters from the FEIS: Chapter 2 Alternatives Analysis, Chapter 4 Environmental Effects-Riparian and Wetland Processes, Chapter 6 References, and Appendix B Riparian Modeling. It is important for SMEs to understand how the current FOs and PTs were developed and their intent, before beginning the review and revision process. Additional reference materials may be required within individual groups.

SMEs should also become familiar with completed CMER studies that are directly or indirectly relevant to the PTs that are up for revision. CMER studies were designed to assess whether PTs are met under current forest practice rules, as well as inform the development of new PTs. The findings and final reports for these studies will be provided, and it will be up to the SME groups to determine the relevancy of these studies to the revision of the PTs. Equally as important, the SMEs should search for and incorporate relevant peer-reviewed literature and reports relevant to the assessment of the PTs under review.

In addition, the SMEs should be familiar with the Stillwater report (2012), which is a previous review of CMER science that includes recommendations regarding Schedule L-1 Performance Targets. Also, the role and use of performance targets to protect aquatic ecosystem has advanced since the publication of the Schedule L-1 document and this line of research should be considered.

The SME groups will be expected to meet frequently to discuss existing PTs and their revision, including conducting necessary tasks (homework) in between meetings. The groups should assess

existing PTs using current best available science and decide whether; 1) PTs are consistent with the current state of knowledge, 2) if not, is there enough new information to warrant revising, replacing, or adding to the PTs, and 3) if so, provide recommendations for new PTs. For example, new performance targets may be recommended to address new or missing standards that align with best available science. Climate change and wetlands, in particular, are missing performance standards in line with scientific knowledge that has been gained since the original document was written. The groups will be expected to provide scientific justification, in written form, for the decisions made on individual PTs, including why they were or were not changed and if they were changed, what is the scientific basis supporting the recommendations for newly proposed PT.

Subject Matter Expert Group Guidance

Below are a series of guidance questions or statements that SMEs should consider while reviewing and revising the PTs. Some of the guidance applies to all the groups and some apply to only one of the groups, as noted. The guidance are areas we have identified as needing further investigation and it will be up to the SME groups to determine if any recommendations can be made based on their findings. Any PTs that are developed should be reasonably measurable at a landscape scale. For example, the existing SL1 suggests that a PT for groundwater temperature be developed, but it is commonly understood that measuring groundwater temperature at a scale relevant to forest practices would consume vast resources (both money and people), making it impractical. Therefore, PTs that cannot be practically measured at an appropriate scale (i.e. forestlands covered by the FPHCP) should not be considered. Considerations as to if there is a surrogate parameter that can be measured as an indicator for a desired parameter could be considered.

Guidance for all Groups

Questions with Workgroup Consensus

1. Consider assessing the PTs in a shifting baseline conditions (such as mean air temperature, reduced snowpack, flows, increase in perennial streams, etc.) due to climate change and changing future conditions and explicitly state where and how climate change assumptions or predictions were incorporated into decisions.
2. In addition to the performance targets listed for this group, what other metrics and/or rating systems are commonly used by other resource management agencies (WDOE, WDFW, EPA, USFWS) to assess the resource functional performance connected to forest practices impacts on aquatic habitat and species?
3. Be cognizant of how the targets are measured. If possible, write and update targets in a way that reduces subjectivity in field measurements.
4. Consider if different targets are needed to adjust for stream size (Type N vs Type F, or a gradient based on BFW). If possible, can PTs be refined for how they are applied to account for temporal dynamics and spatial variability.
5. Are the performance targets, which are the measurable criteria, defining specific, attainable target forest conditions and processes?
6. Is the target something that can be accurately measured across the FFR landscape?
7. Does the performance target adequately account for statewide spatial and temporal variation inherent in forest ecosystems and consider the time frame for achieving target (see Effectiveness Monitoring Section in SL1)?

Questions Without Workgroup Consensus

8. Do the resource objectives (at the functional objectives level and/or individual performance targets), which are defined for key aquatic conditions and processes, meet one or more of the overall performance goals? To answer this question, the Performance Targets must be associated with at least one of the Overall Performance Goal.
9. “Are the resource objectives the right ones to achieve the overall performance goals?”
10. Are the resource objectives and performance targets the right ones to achieve the regulatory stability necessary for a viable forest products industry?

Guidance for Group 1: Shade, Riparian Condition, Litterfall, In-stream LWD

Questions with Workgroup Consensus

1. Consider whether to add or eliminate PTs based on new data. Examples could be windthrow, wood recruitment including spanning wood and wood age, but we encourage SMEs to consider others as well.
2. Need a new PT for shade and litterfall, current PT is a repeat of the rule for type Np.
3. Consider year-round shade, not just summer months. There are some interesting dynamics during the leaf-off period.
4. Look into litterfall and connections to leaf decomposition in streams and how that relates to benthic macroinvertebrate communities.
5. Consider how riparian tree shade and LWD recruitment varies within the stream order and network.
6. Should functions of all in-stream wood be considered (LWD and small wood) in headwater streams (e.g. aquatic habitat, sediment retention, etc)?

Questions without Workgroup Consensus

7. Performance targets for shade, riparian condition, litterfall in-stream wood will not significantly impair aquatic habitat to support harvestable levels of Salmon?
8. How has the performance targets for shade, riparian condition, litterfall in-stream wood will not significantly impair aquatic habitat to "Support the long-term viability of other covered species"?

Guidance for Group 2: Pool Frequency, Pool Depth, Peak Flows, Fines in Gravel

Questions With Workgroup Consensus

1. Consider the seasonal and annual variations that may impact pool frequency and depth in seasonal Type F and Type N streams.
2. Consider low flow conditions in addition to peak flows.

Questions Without Workgroup Consensus

3. How has the performance targets for pool frequency, pool depth, peak flow, and fine in gravel contributed to the Overall Performance Goal of "Support harvestable levels of salmonids"?
4. How has the performance targets for pool frequency, pool depth, peak flow, and fine in gravel contributed to the Overall Performance Goal of " Support the long-term viability of other covered species"?

Guidance for Group 3: Wetlands

The current wetlands performance target is not as extensive or detailed as those addressing riparian protections. Wetland science has had significant advancements since this document was originally written. Because of this, SMEs should use wetlands BAS to consider where additional performance targets or revised functional objectives are needed and make appropriate suggestions.

1. How well do the current wetland PTs address the requirements in WAC 222-30-010 (4): "Wetland areas serve several significant functions in addition to timber production: Providing fish and wildlife habitat, protecting water quality, moderating and preserving water quantity. Wetlands may also contain unique or rare ecological systems. The wetland management zone and wetland requirements specified in this chapter are designed to protect these wetland functions when measured over the length of a harvest rotation, although some of the functions may be reduced until the midpoint of the timber rotation cycle."
    a. What kinds of performance targets could be used to assess that these conditions are met?
    b. Which of the protected species covered under the HCP inhabit wetlands? What wetland functions are required to maintain habitat for these species?

2. Is the Wetlands' performance target, "No "net loss in the hydrological functions of wetlands" an effective measurable performance target? If yes, is it adequate to measure return of wetland functions to baseline conditions? If no, what would be appropriate new performance target(s)?

3. Wetlands do not have a single set of functional needs but instead, different sites will require a variety of different conditions to be considered to be functioning well. How could this be addressed in forest practices when setting specific performance goals for returning functions to baseline/pre-disturbance conditions??