

Riparian Scientific Advisory Group and  
Cooperative Monitoring Evaluation and Research Committee  
Extensive Status and Trends Monitoring  
March 13, 2019

At the November 5, 2018 Timber Fish Wildlife Policy (Policy) Committee meeting, the Committee approved requesting RSAG and CMER to consider an approach to extensive monitoring and to prepare recommendations that would come back to the Policy (November 5, 2018 Policy meeting minutes). This document is in response to Policy's request.

## Background

Extensive monitoring is a component of the Forest Practices Habitat Conservation Plan (FPHCP) and the Cooperative Monitoring Evaluation and Research (CMER) Committee Work Plan.

The CMER Work Plan includes four extensive monitoring programs:

- Extensive Status and Trends Stream Typing Monitoring (5.1.5),
- Riparian Status and Trends Monitoring for Vegetation and Temperature in Type F & N Streams (5.2.5),
- Mass Wasting Landscape Scale Extensive Monitoring (5.5.6.6),
- Extensive Fish Passage Monitoring (5.7.5).

Section 4a-4.2 of the Forest Practices Habitat Conservation Plan (FPHCP) states “Extensive monitoring evaluates the statewide status and trends of key watershed processes and habitat conditions across lands covered under the FPHCP. Extensive monitoring is a landscape-scale assessment of the effectiveness of forest practices rules to attain specific performance targets. This is different from effectiveness monitoring, which evaluates the effect of specific prescriptions or practices at the site scale.”

Currently there is no comprehensive riparian forest inventory that monitors the status and trends of all the riparian forest resources and functions regulated under the Department of Natural Resources FPHCP.

Work completed in the Extensive Riparian Status and Trends Monitoring Program to date includes:

- Extensive Riparian Status and Trends Monitoring for Temperature in Type F & N Streams for the Westside to be completed in 2019;
- Extensive Riparian Status and Trends Monitoring for Temperature in F Streams for the Eastside of Washington was completed June 2013;
- Extensive Riparian Status and Trends Monitoring – Vegetation, Type F/N Westside and Eastside projects;
  - A pilot study evaluating different scales of aerial photos was completed in 2006;
  - A literature synthesis review to evaluate the feasibility of applying remote sensing to assess riparian stand conditions was completed in November 2015;
  - The Extensive Riparian Vegetation Monitoring Remote Sensing Pilot (see findings report) completed in June 2017;

- The Extensive Riparian Vegetation Monitoring Implementation Pilot (see finding report) completed in September 2018;
- Eastern Washington Riparian Assessment Project (EWRAP) completed 2016.

For additional context and background information, refer to the document prepared by RSAG February 12, 2014 titled “Use of Remote Sensing to Conduct Extensive Riparian Monitoring.” This document was prepared based on a directive from Policy, specifically, “Policy directed RSAG to consider high-level options for how to move forward on extensive monitoring as well as options for other extensive studies. This should include perspectives considering the past and future as well as existing technologies. RSAG should also consider other monitoring approaches to landscape-level performance.” (July 11, 2013 Policy meeting notes)

### Purpose

“Evaluate the current status of key watershed input processes and habitat condition indicators across FP HCP lands, and document trends in these indicators over time as the forest practices prescriptions are applied across the landscape.” (CMER 2019-2021 Biennium Work Plan).

### Problem Statement

To date:

- An unbiased landscape-scale representative inventory of riparian forest conditions across Forest and Fish Report (FFR) lands does not exist.
- There are no baseline data for assessing the status and trends of the riparian forest at the landscape-scale.

### Guidance Questions

CMER is seeking guidance from Policy in order to clarify research/monitoring needs which will drive the development of proposals consistent with Policy’s intent for the Extensive Riparian Status and Trends Monitoring Program. Therefore, it is important for Policy to identify the Extensive Monitoring Questions and levels of resolution needed for decision making. To aid this process, CMER developed a list of potential questions (see table below) that Policy may want to address with extensive monitoring. The table provides a list of example questions with their utility for the types of information that may be gained from extensive monitoring. Clearly more questions or revised questions may result from Policy’s review.

<b>Examples of: purpose, questions, and utility of extensive riparian vegetation monitoring program.</b>			
<b>No</b>	<b>Purpose</b>	<b>Questions</b>	<b>Utility/Why do we want to know this?</b>
1	status	What is the proportion and miles of streams currently typed as S/F and Ns/Np streams with buffer strips established post FFR?	This is a report card on how many stream miles are protected by FFR. This helps us understand the extent the FFR are applied across the landscape.
2	status/ trend	What proportion of streams dominated by hardwoods?	This can address questions about the extent of hardwood in RMZs and changes in hardwood dominance over time.
3	status/ trend	What is the spatial distribution of forest stand/structure types along F and N streams by region or WAU and how is it changing over time?	To identify the potential of these stands to provide ecologic function and how they change over time due to management, climate chance, etc.
4	status	What is the proportion of buffers with disturbances such as windthrow, fire, disease/bugs?	This estimates the extent where buffers have been impacted by major disturbance and the associated loss of functions (e.g. shade and LWD) across the landscape.
5	context	How similar or dissimilar are the buffers in CMER effectiveness studies (e.g., composition, width, length) to those across the landscape?	Provides some spatial context to the results of CMER studies.
6	function	What proportion of RMZs provide various levels of shade and LWD?	This could inform questions about if and where buffer rules may or may not maintain shade and LWD.
7	status	What proportion of the riparian forest has reached the Desired Future Condition (DFC)?	Provides a measure for how well we are achieving the goals of FFR.
8	trend	What proportion of the riparian forest is on the trajectory to reach the Desired Future Condition (DFC)?	Provides a measure for how well we are achieving the goals of FFR.
9	status	What proportion of the stream network meets the state temperature standards?	This would give an estimate of the measure of success on lands which are not available for sampling because of access issues.
10	status	What proportion of RMZs have been thinned?	This would evaluate the proportion of RMZs thinned which may improve the riparian forest for fire resilience, forest health or to improve fish habitat.
11	status	What proportion of riparian forest have adjacent upland fire resiliency or forest health thinning treatments?	This would indicate the risk to RMZs from prescribed burning of the upland forests.
12	status/ trend	What proportion and total length of S/F and Np streams have riparian functions protected by rules <u>other than</u> the riparian prescriptions themselves (e.g.murrelets, unstable slopes etc.)?	Illustrates the contributions to riparian functions provided by these other prescriptions.
13	status/ trend	What total amounts and proportions of S/F and Np streams in the overall FFR footprint have been treated to date under each of the different riparian prescriptions (NIZH, DFC 1, DFC 2, etc.)?	In combination with the results of our prescription effectiveness studies, this will allow us to estimate the condition of the riparian forest at the landscape to state scales.