



State of Washington  
**DEPARTMENT OF FISH AND WILDLIFE**

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December 30, 2022

The Honorable Christine Rolfes  
Chair, Senate Ways and Means  
303 John A. Cherberg Building  
Post Office Box 40466  
Olympia, WA 98504-0466

The Honorable Timm Ormsby  
Chair, House Appropriations  
315 John L. O'Brien Building  
Post Office Box 40600  
Olympia, WA 98504-0600

The Honorable Kevin Van De Wege  
Chair, Senate Agriculture, Water,  
Natural Resources, and Parks  
212 John A. Cherberg Building  
Post Office Box 40424  
Olympia, WA 98504-0424

The Honorable Mike Chapman  
Chair, House Rural Development  
Agriculture, and Natural Resources  
132B Legislative Building  
Post Office Box 40600  
Olympia, WA 98504-0600

Dear Chairs,

I am writing to provide you with the Washington Department of Fish and Wildlife's progress report to the legislature regarding an evaluation of the forest practices adaptive management program. Funding and the proviso language requires a report to the relevant committees of the legislature per language in the 2021-23 operating budget proviso (24) which reads as follows:

(24) \$125,000 of the general fund—state appropriation for fiscal year 2022 and \$125,000 of the general fund—state appropriation for fiscal year 2023 are provided solely for the department to conduct an evaluation of the forest practices adaptive management program. The evaluation will be carried out generally consistent with the proposal provided to the timber, fish, and wildlife (TFW) policy committee in January 2020 titled Assessing Changes in Uncertainty During Adaptive Management: A Case Study of the Washington State Forest Practices Habitat Conservation Plan. To the extent practicable, the evaluation shall satisfy the cooperative monitoring, evaluation, and research five-year peer review process as required in WAC 222-12-045(2)(f), and support other ongoing forest practices adaptive management program evaluation and improvement efforts. The department shall consult with TFW policy caucus participants during the evaluation and provide for public review and comment of the draft report. A progress report shall be delivered to TFW policy participants and appropriate committees of the legislature by December 31, 2022, and a final report by June 30, 2023.

Staff have collected all available documents relevant to each project and have completed first draft descriptions for 8 of the 9 rule groups. In addition, the research team has completed an in-depth review of three existing reports on the of Forest Practices Habitat Conservation Plan (FPHCP) Adaptive Management Program (AMP) that contained past interviews of Timber Fish and Wildlife (TFW) - Cooperative Monitoring Evaluation and Research (CMER) participants.

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**However, we are currently two months behind our original schedule to complete the final report by June 30, 2023, due in large part to the unforeseen circumstances associated with COVID-19.** The research team will complete final edits on the survey by the end of December 2022 and data collection will begin in January 2023, with completion estimated in March 2023. Analysis and writing will begin in April 2023.

If you have any questions or concerns about this report, please feel free to contact Tom McBride, WDFW's Legislative Director, at (360)480-1472.

Sincerely,



Kelly Susewind  
Director

# Assessing Changes in Uncertainty during Adaptive Management: A Case Study of the Washington State Forest Practices Habitat Conservation Plan

Tim Quinn PhD, George Wilhere, Aimee McIntyre, and Reed Ojala-Barbour



December 2022

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# Project Overview

This project is composed of two major parts. Part 1 consists of recounting the history of Forest Practices Habitat Conservation Plan (FPHCP) Adaptive Management Program (AMP) studies since 1999. We do this by documenting reasons why each study was funded with respect to scientific and/or policy uncertainty and evaluating the degree to which those studies have contributed to resolving policy issues within the FPHCP AMP. This work is composed of four tasks: 1) characterizing the history of adaptive management, research, and monitoring of the FPHCP, 2) identifying key uncertainties (Schedules L1/L2; Cooperative Monitoring Evaluation and Research [CMER] work plans, etc.) and expectations for addressing them; 3) developing a comprehensive accounting of all CMER-funded studies, organized by rule group, and identify which key uncertainties each was intended to address; and 4) documenting the Policy outcome of research efforts (e.g., reduced uncertainty, rule change, etc.).

Part 2 is designed to a better understand the various perceptions and opinions of the adaptive management process held by AMP participants. This part of the study focuses on the role of risk and uncertainty relating to ecological outcomes, even though risk and uncertainty in other domains (e.g., economic, social, cultural) also play into the perception, experience, and may contribute to problems impacting the AMP. Part 2 relies on cataloguing perceptions from the three existing reviews of the Timber Fish and Wildlife (TFW) program using Q-methodology. Q-methodology is a mixed qualitative-quantitative approach that identifies patterns denoting shared social perspectives among a group of participants or stakeholders. Using Q-methodology, we will ask AMP participants and stakeholders to rank the problems identified in prior reports, providing additional data and detail to accomplish the goals listed in the following section.

## Part 1

Our objective in Part 1 is to document the progress of the AMP by documenting the reduction of scientific uncertainty, resolution of policy issues, and contributions to the broader scientific literature.

### Methods

We are developing an overview of CMER projects, in which we explore scientific uncertainties and research progress made for different components of the AMP, i.e., each rule group (Table 1). Uncertainties and progress are summarized from a study-by-study evaluation of the following questions:

- What were the research objectives of the study?
- What key questions, resource objectives and performance targets were the study intended to address?
- Did research findings inform adaptive management? If yes, then how?
- What action did policy take or not take based on the findings from a study, and why?

To inform each question we rely on information from the following AMP documents: 1) Final Study Reports – Final reports inform CMER, TFW Policy and the WFPB on what was learned from a study,



relative to addressing study objectives, and the extent to which the study informed relevant critical questions: 2) Findings Reports – Upon the completion of a final project report, CMER prepares a findings report for TFW Policy which provides “technical recommendations and discussion of rule and/or guidance implications analysis” (Forest Practices Rules, WAC 222-12.045(2)(d)(v)), and which includes answers to the 6 questions from the ‘CMER/Policy Interaction Framework’: 3) CMER Work Plan: 4) Schedule L-1: 4) TFW Policy meeting minutes and materials, and 5) WFPB meeting minutes and materials

Protocols, standard procedures, and project management have been adapted through time as the AMP has matured. As such, the aforementioned materials will not be available for every project completed through the AMP.

**Table 1.** Rule groups, descriptions, and source for rule context (Washington Administrative Code [WAC]) for the ten rule groups identified by CMER in their biennial Work Plan.

Rule Group	Description	Rule Context
Stream Typing	Prescriptions for identifying fish-bearing and non-fish-bearing streams	WAC 222-16
Type N Riparian Prescriptions	Prescriptions for identifying non-fish-bearing streams and adjacent riparian areas	WAC 222-30
Type F Riparian Prescriptions	Prescriptions for managing fish-bearing streams and adjacent riparian areas	WAC 222-30
Channel Migration Zone	Prescriptions for delineating channel migration zones	WAC 222-30
Unstable Slopes	Prescriptions for identifying and managing areas potentially susceptible to mass wasting/erosion processes	WAC 222-254, 30
Roads	Prescriptions for identifying and managing erosion and runoff from forest roads	WAC 222-24
Fish Passage	Prescriptions for identifying and preventing fish passage barriers	WAC 222-24
Pesticides	Prescriptions for application of forest chemicals	WAC 222-38
Wetlands Protection	Prescriptions for identifying and managing wetlands	WAC 222-30

## Part 1 Progress to Date

We have collected all available documents relevant to each project. Where documents were known to exist but not readily accessible, we have reached out to AMP participants and principal investigators to find copies of those materials. Further, we have completed first draft descriptions for 8 of the 9 rule groups.



# Part 2

Drs. Grechen Sneegas (UW Postdoc) and Alex McInturff (Assistant UW Fish and Wildlife Coop Unit Leader) are investigating major obstacles to reaching consensus on management and policy decisions within TFW. Many of these decisions are related to changing or not changing forest practices rules when confronted with new scientific information collected by CMER. Their work has three key objectives: 1) describe how well the science enterprise has addressed scientific uncertainty as indicated by TFW Policy's responses to the results of CMER studies; 2) characterize the rationale of caucus representatives (TFW Policy and CMER members) that underpin their positions and opinions; and 3) identify lessons that might improve the FPHCP AMP, i.e., which elements of the current AMP to maintain and which to alter.

## Methods

Part 2 employs the "Q-methodology", which combines qualitative ( statements from past interviews of TFW-CMER participants, new semi-structured interviews) and quantitative analyses (factor analysis) to identify patterns of agreement and disagreement among caucus members regarding the adaptive management program. TFW participants rank-order a set of 30-45 statements which represent the breadth of opinions about the AMP, which are analyzed using by-person factor analysis. The factors produced in the study are interpreted as each comprising a distinct, shared viewpoint shared by caucus members associated with that factor.

The expected outcomes of this work include: 1) identifying how TFW caucus members group together in terms of what they believe are major problems driving AMP's dysfunction; 2) identifying which problems caucus members believe are the most and least relevant to the AMP's dysfunction, and which problems they view as most and least feasible to address; 3) identifying areas of high agreement and areas of high disagreement among/between caucus members; and 4) identify group coalitions and patterns of agreement/disagreement within and across the main seven caucuses, including any unknown or "hidden" coalitions between participants/groups.

## Part 2 Progress to Date

To date, the research team has completed an in-depth review of three existing reports on the FPHCP AMP that contained past interviews of TFW-CMER participants. During this stage, the team sourced statements about TFW participants' perceptions regarding the program's dysfunction. The team is currently in the final stages of designing the study's survey instrument, i.e., the set of 30-45 representative statements. The team will pilot the survey instrument during the first 2 weeks of December, then complete final edits by the end of December 2022. Data collection will begin in January 2023, estimated for completion in March 2023. Analysis and writing will take place from April through September 2023.



# Anticipated Completion Schedule

We are currently two months behind our original schedule (Table 2) to complete the final report by 30 June 2023. Our newly anticipated completion date is 30 August 2023. This delay was due in large part to the unforeseen circumstances associated with COVID 19 and will not affect the cost of the project.





**Table 2.** Initial timeline for tasks to be completed in Part 2 of this project. The timeline is currently 2 months behind schedule. Extra time to complete this part 2 will not affect the cost of this project.

Stage	Task	2022							2023					
		June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Prep	Secondary document review	█	█											
	Code documents for Q-statements		█	█										
Study Design	Concourse statement coding		█	█										
	Develop p-set list			█	█									
	Q-set development			█	█	█								
	Pilot Q-set, final edits					█								
	Contact for Q-sorts					█	█							
Q-Sorts	Conduct Q-sorts					█	█	█						
	Q-sort data entry / cleaning, etc.							█						
	Transcription for post Q-sort interviews							█						
	Conduct analyses								█	█	█			
Analysis	Follow-up interviews / focus groups (if needed)									█	█			
	Draft report / publication									█	█	█	█	█
	Present results													█

