

PROJECT CHARTER

EVALUATION OF PHYSICAL FEATURES THAT DEFINE FISH HABITAT IN FORESTED LANDSCAPES ACROSS WASHINGTON STATE POTENTIAL HABITAT BREAK (PHB) VALIDATION STUDY

February 2021

PROJECT CHARTER OVERVIEW

The purpose of the Project Charter is to describe the project and give the Project Manager and the Project Team the authority to begin utilizing program resources and spending allocated project funds (CMER Protocols and Standards Manual (PSM) Chapter 7, section 4). In general, Project Charters should be brief and updated as needed as the project is implemented to accurately, reliably, and concisely communicate the projects' basic elements and objectives. When substantive changes are considered necessary, which amend the scope of the project (i.e. study design, budget, or schedule), the charter should to be updated (version #2, #3, etc.) to communicate those changes.

PROJECT CHARTER APPROVAL DATES

April 5, 2019

OVERSITE COMMITTEE

In-Stream Scientific Advisory Group (ISAG)

PROJECT TEAM MEMBERS

Cody Thomas (Spokane Tribe of Indians/ISAG co-chair), Jason Walter (Weyerhaeuser Co./ISAG co-chair), Jenelle Black (CMER Science staff), Doug Martin (Martin Environmental/WFPA), Chris Mendoza (Conservation Caucus), John Heimborg (WDFW), Don Nauer (WDFW)

PROBLEM STATEMENT

The upper extent of fish habitat in forested watersheds is influenced by many factors including gradient, channel condition, nutrients, flow, barriers to migration, and history of anthropogenic and natural disturbance. The Washington Forest Practices Board has identified criteria to be used in determining Potential Habitat Breaks (PHBs) between fish (Type F) and non-fish bearing waters (Type N) across the state. These criteria are based upon data collected during single-pass Washington Department of Natural Resources (DNR) protocol electrofishing surveys and include gradient, bankfull width, and vertical and non-vertical natural barriers to migration. To evaluate which physical criteria best define the end of fish (EOF) habitat (the uppermost stream segments that actually or potentially are inhabited by fish at any time of the year), detailed information is needed on the uppermost fish location and associated habitat in small streams

across Washington State. While some data on habitat conditions at last detected fish locations are available (e.g., from existing water type modification forms (WTMFs) submitted to DNR), the Board made the decision for CMER to implement a field study specifically focused on PHB assessment and determination.

PURPOSE STATEMENT

The purpose of the PHB study is to develop the criteria to identify the point (F/N break) that; 1) represents the upper extent of habitat that is both accessible and likely to be used by fish; 2) is based on measurable physical stream characteristics, and 3) is associated with a protocol electrofishing survey within the context of FHAM.

PROJECT OBJECTIVES

Additionally, this study is intended to provide insight into how last detected fish points, EOF habitat, and PHBs proposed by the Washington Forest Practice Board may vary across ecoregions, seasons, and years. The study will evaluate the PHB criteria selected by the Board to be used in FHAM as part of a water-typing rule and explore potentially useful attributes that may help to more accurately describe PHBs (Table 1). It is designed to identify PHB criteria that can be used to identify EOF habitat in forested streams across Washington and to better understand how PHBs may be influenced by seasonal and/or annual variability in fish distribution, and by location within Washington State (e.g., reduce uncertainty). The overall goal is to test the accuracy and reliability of PHB criteria as an aid in identifying EOF habitat in an objective and repeatable manner.

It is important to note that this study is not intended to evaluate the current water typing system or the FHAM; or to describe how the regulatory Type F/N break should be determined. Other factors such as temperature, flow, water quality, and biological interactions are important covariates that might influence the distribution of fishes but do not affect PHBs. Therefore, they are not being evaluated in this study.

CRITICAL QUESTIONS

- How can the line demarcating fish and non-fish habitat waters be accurately identified?
- To what extent does the current water typing survey window encompass account for seasonal and annual variability in fish distribution considering potential geographic differences?
- How do different fish species use seasonal habitats (timing, frequency, duration)?
- How does the upstream extent of fish use at individual sites vary seasonally?
- How does the delineation of the upstream extent of fish habitat change seasonally?
- **Additional critical question pending discussion:** How well and under what conditions does eDNA sampling accurately and consistently identify the upstream extent of fish presence, abundance, and/or fish habitat?

Additional, testable study questions were developed to complement critical questions:

- Which combinations of physical channel features and basin characteristics (for example, gradient, channel width, barriers to migration) best identify the end of fish habitat relative to the location of the last detected fish?
- How do the locations of the last detected fish vary interannually?
- How do the locations of the last detected fish vary seasonally?
- How does the interannual variability of last detected fish influence identification of the PHB features?
- How does the seasonal variability in location of last detected fish influence the identification of the PHB features?
- How do the locations of last detected fish vary geographically across the state of Washington?
- Where the location of the last detected fish changes, how does that influence the PHB that is associated with the F/N break and how frequently does that occur?
- How do these physical channel and basin characteristics (e.g. bankfull width, average gradient, basin size) associated with the identified end of fish habitat vary geographically across the state of Washington?
- How do the physical channel features at the locations initially identified as PHBs change in time?
- How well do the PHB criteria provided by the Washington Forest Practices Board accurately identify the EOF habitat when applied in the Fish Habitat Assessment Methodology (FHAM)?
- Can protocols used to describe PHB be consistently applied among survey crews and be expected to provide similar results in practice?

CMER RULE GROUP AND PROGRAM

The PHB Validation Study is part of the CMER, Stream Typing Rule Group.

PROJECT DELIVERABLES AND PROJECT TIMELINE

Project Milestones	Responsible Party	Estimated Dates of Completion								
		FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
<i>Study Development</i>										
Charter - updated	ISAG subgroup	Mar-21								
Scoping & BAS Alternatives	ISAG subgroup	NA								
Study design- ISAG approved	ISAG subgroup		Jul-21							
Study design- CMER approved	ISAG subgroup		Nov-21							
Study design- ISPR approved	ISAG subgroup			May-22						

Site Selection and Data Management Document	ISAG subgroup			Apr-22						
Field Implementation										
RFQQ for field implementation	Project Manager			Jul-22						
Site Selection and Field Reconnaissance	ISAG Subgroup/ Contractor			Oct-23						
Data Collection	Contractor				Dec-26					
QA/QC	ISAG Subgroup/ Contractor				Jan-27					
Data Analysis and Reporting										
Data analysis	PI/Contractor				Mar-27					
Final Report - ISAG approved	PI/Contractor								Sep-27	
Final Report - CMER approved	PI/Contractor								Dec-27	
Final Report - ISPR approved	PI/Contractor								Jun-28	
6 Questions Document	Project Team									Sep-28
Board approval	ISAG Subgroup									Nov-28
Publication to DNR and CMER Websites	Project Manager									Dec-28
Written and verbal updates to the Board and CMER	Project Manager	As needed								

BUDGET

Budget/Cost Items	Expenditures FY17 - FY19	FY22	FY22	FY23	FY24	FY25	FY26	FY27	Project Total
Inter-Agency Agreements (IAAs)	\$0	\$0	\$175,400	\$727,800	\$902,300	\$905,400	\$366,200	\$59,500	\$3,136,600
Field implementation (IE USGS) - Field Manual, Site Selection, and Reconnaissance	\$0	\$0	\$175,400	\$112,400	\$0	\$0	\$0	\$0	\$287,800
Field implementation (IE USGS) - training, data coll. and mgmt.	\$0	\$0	\$0	\$615,400	\$902,300	\$902,300	\$278,600	\$0	\$2,698,500
Field implementation (IE USGS/USFS) - eDNA sampling	\$0	\$0	\$0	\$0	\$0	\$3,100	\$0	\$0	\$3,100
Reporting (IE USGS)	\$0	\$0	\$0	\$0	\$0	\$0	\$87,600	\$59,500	\$147,100
Service Contracts (PSCs)	\$319,076	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$319,076
Wild Fish Conservancy	\$3,950	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cramer Fish Sciences (Pilot Study)	\$124,497	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Cramer Fish Sciences (Study Design)	\$190,629	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Project Team (PSC)	\$76,293	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$76,293
Pete Bisson	\$3,680	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Jeff Kershner	\$36,377	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Patrick Trotter	\$36,236	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Supply and Expense (On-going)	\$0	\$0	\$0	\$0	\$27,600	\$27,600	\$27,600	\$0	\$82,800
Science Technician Supplies (Small Supplies, Tools)	\$0	\$0	\$0	\$0	\$27,600	\$27,600	\$27,600	\$0	\$82,700

Supply and Expense (One-time)	\$0	\$0	\$10,200	\$183,600	\$0	\$20,400	\$25,500	\$0	\$239,700
eDNA analysis	\$0	\$0	\$0	\$0	\$0	\$0	\$25,500	\$0	\$25,500
eDNA sampling equipment	\$0	\$0	\$0	\$0	\$0	\$20,400	\$0	\$0	\$20,400
Data Collection devices/Equipment Manufacture/Equipment Purchase	\$0	\$0	\$10,200	\$183,600	\$0	\$0	\$0	\$0	\$193,800
FY Total	\$395,369	\$0	\$185,600	\$911,400	\$929,900	\$953,400	\$419,300	\$59,500	\$3,854,469

Project Total: \$3,854,469

PROJECT TEAM ROLES AND RESPONSIBILITIES

Name, Title, Affiliation, Contact Info	Roles and Responsibilities
<p>Project Manager:</p> <ul style="list-style-type: none"> • Eszter Munes eszter.munes@dnr.wa.gov 	<ul style="list-style-type: none"> • Monitor project activities and the performance of the Project Team. • Communicates progress, problems, and problem resolution to the Adaptive Management Program Supervisory Project Manager and Administrator (AMPA), and CMER. • Work with ISAG/CMER, and Project Team to help develop Project Charters and Project Plans, and keep them updated as needed over time. • Work with ISAG, CMER, and Project Team (including PI, contractors, and other Team members) to resolve problems and build consensus. • Work with PI and Project Team members to develop interim and final reports. • Ensure communication between all team members is clear, concise, and consistent. • Maintain contact and process access agreements, once site access is granted. • Ensure coordination between ISAG/CMER, Project Team and landowners. • Coordinate all technical reviews and responses in a timely fashion. • Facilitate archiving of all data and documents. • Works with PI to manage documents on Microsoft Teams. • Work with the AMPA, ISAG/CMER, and Project Team to develop and review proposals, RFPs or RFQQs, review contractor proposals, monitor contract performance, and provide input on budgeting, schedule, scope changes, and contract amendments. • See that contract provisions are followed. • Provide direction and support to the Project Team to achieve clear and specific scopes of work, schedules, and budgets within approved contracts. • Communicate and/or authorize communication with all project-related contractors. • Maintains sole responsibility for all aspects of project management even if other individuals are completing or helping complete parts of the project.
<p>Principal Investigator(s): <i>TBD</i></p>	<ul style="list-style-type: none"> • Attends ISAG and Project Team Meetings. • Oversees the technical aspects of the project including protocol development and refinement, site selection, data collection, analysis, and reporting. • Works with PM and field manager in overseeing data collection by field crew.

	<ul style="list-style-type: none"> • Oversees and conducts data analysis and QA/QC of data provided by field staff. • Leads in developing, writing, and preparation of the final report. • Lead author of findings report. • Responds to comments by reviewers of reports. • Prepares quarterly summary and progress reports of project status, as needed. • Presents technical findings to ISAG, CMER, TFW Policy, and the Board as necessary. • Communicates concerns or issues that arise with PM.
Project Team members: <ul style="list-style-type: none"> • Donald Nauer Donald.Nauer@dfw.wa.gov • Douglas Martin doug@martinenv.com • Christopher Mendoza cmendoza2@comcast.net • John Heimburg John.Heimburg@dfw.wa.gov • Jenelle Black jblack@nwifc.org • Cody Thomas cody.thomas@spokanetribe.com • Jason Walter Jason.Walter@weyerhaeuser.com 	<ul style="list-style-type: none"> • Attends Project Team and ISAG meetings. • Provides expertise as necessary for successful completion of project. • Assists PI for addressing technical and scientific questions/issues. • Assists PI with communications, data analyses, and reporting, as needed. • Provides timely review and constructive feedback on project documents and the final report. • Participates in completing site selection. • May assist contractor and PI with training of field crews. • Helps implements QA/QC protocol.
Contracted Field Manager: <i>TBD</i>	<ul style="list-style-type: none"> • Works with PI to coordinate field activities. • Provides primary oversight of field crew schedules, logistics, and needs. • Works with PI to provide training to field crews. • Communicates implementation status, changes, and needs to PI and PM. • Provides expertise as necessary for successful completion of project. • Provides timely review and constructive feedback on project documents and the final report. • Participates in project meetings and conference calls, as needed.
Contracted Field Crew: <i>TBD</i>	<ul style="list-style-type: none"> • Collects and QA/QCs field data. • Responsible for field gear and equipment. • Transmits data to Field Manager and PI according to designated schedule. • Participates in project meetings and conference calls, as needed.
Contracted Technical Lead Staff: <i>TBD</i>	<ul style="list-style-type: none"> • In coordination with the PI, oversees and conducts QA/QC of data provided by field staff. • Conducts project data summaries and analyses.

	<ul style="list-style-type: none"> • Assists PI with reporting. Helps prepare interim and final reports. • Responds to comments by reviewers of reports. • Creates spatial and tabular databases for all project data. • Participates in project meetings and conference calls, as needed.
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AUTHORIZATION

The Washington Forest Practices Board (Board) has empowered the CMER committee and the TFW Policy committee to participate in the Adaptive Management Program (AMP) (WAC 222-12-045(2)(b)). CMER is responsible for completing technical information and reports for consideration by TFW Policy and the Board. CMER has been tasked with completing a programmatic series of work tasks in support of the AMP; these tasks are outlined in CMER's biennial work plan approved by TFW Policy and the Board. For PHBs and other water typing projects, the role of TFW Policy is being fulfilled by the Board. As such, project documents, budget, and requests will be brought to the Board for review and approval.

RECOGNITION OF SUPPORT

Committee	Date of Acceptance	Reference
ISAG	02/16/2021	meeting minutes
CMER	02/24/2021	meeting minutes
FP Board		meeting minutes

REFERENCES

Cooperative Monitoring Evaluation and Research (CMER) Committee. (2013), Fiscal Year 2014 Work Plan. http://www.ndr.wa.gov/publications/bc_CMER_WorkPlan.Pdf.

Cooperative Monitoring Evaluation and Research (CMER) Committee. (January 2019), 2019-2021 Biennium Work Plan. https://www.dnr.wa.gov/publications/fp_cmer_2019_2021_workplan_20190119.pdf?o9uq19w.

Protocols and Standards Manuel (PSM). (2017), CMER Review5 06_19_2017 Final Draft, Chapter 7, Section 4.

Protocols and Standards Manuel (PSM). (2017), CMER Review5 06_19_2017 Final Draft, Chapter 7, Section 6.3.

WAC 222-12-045. April 2013. <http://apps.leg.wa.gov/wac/default.aspx?cite=222-12-045>.