PROJECT MANAGEMENT PLAN

Type N Experimental Buffer Treatment Project in Hard Rock Lithologies – Extended Sampling (Phase III)
February 15, 2022

PROJECT MANAGEMENT PLAN OVERVIEW

The Project Management Plan breaks down project work into logical steps to help provide a framework to efficiently allocate resources, reliably estimate project costs, and help guide schedule, budget development and project scope. Previously in the CMER Protocols and Standards manual (PSM), this document was titled an implementation plan. The Project Management Plan documents and tracks the progress of a CMER project through its various stages. The contents of the Project Management Plan will vary depending on the type and complexity of the project. The Project Team is the primary audience for the Project Management Plan; however, SAG/CMER members are encouraged to provide feedback on the plan.

OVERSITE COMMITTEE

Landscape and Wildlife Advisory Group (LWAG)

PROJECT TEAM MEMBERS

Name, Title, Affiliation, Contact Info	Roles and Responsibilities
Aimee McIntyre, WDFW Aimee.Mcintyre@dfw.wa.gov	Principal Investigator
Reed Ojala-Barbour, WDFW Reed.Ojala-Barbour@dfw.wa.gov	Principal Investigator
Lori Clark, DNR Lori.clark@dnr.wa.gov	Project Manager
A.J. Kroll, Weyerhaeuser AJ.Kroll@weyerhaeuser.com	Team Member
Jay Jones, Weyerhaeuser Jay.jones@weyerhaeuser.com	Team Member

BACKGROUND

In 2001, the Washington State Forest Practices Board (Board) approved a comprehensive set of new forest practice rules based on the Forest and Fish Report (FFR). One of the goals of these rules is to protect water quality, including aquatic life, in streams on non-federal forest lands in Washington State. In concurrence with the approval of the FFR, the Board adopted a Forest Practices Adaptive Management Program (AMP). The purpose of the Forest Practices AMP is to "provide science-based recommendations and technical information to assist the Board in determining if and when it is necessary or advisable to adjust rules and guidance for aquatic resources to achieve resource goals and objectives". To provide the science needed to support adaptive management, the Board established the CMER Committee which has been tasked with performing research in support of the AMP.

In response to new forest practices rules and development of the AMP, Schedule L-1 resource objectives and CMER critical questions, LWAG (the Landscape and Wildlife Scientific Advisory Group) proposed and developed an effectiveness study to evaluate the effectiveness of the riparian leave-tree buffer configuration for non-fish-bearing (Type N) basins in western Washington. The Type N Experimental Buffer Treatment Project in Hard Rock Lithologies (hereafter, Hard Rock Study) was identified as a Clean Water Assurance (CWA) Milestone. Effectiveness of riparian buffers was evaluated in terms of whether each produced forest conditions that achieved agreed upon Resource Objectives. This study informed two of the four FFR goals, including (1) to support the long-term viability of stream-associated amphibians and (2) to meet or exceed water quality standards.

The Hard Rock Study design was approved by Independent Scientific Peer Review (ISPR) and CMER in 2005. The CMER and ISPR-approved study design describes a long-term study designed with the ability to be carried out in multiple phases dependent on the outcome of the previous study period or "phase". The study is a BACI (Before-After Control-Impact) study that compares buffer effectiveness of the current Forest Practices (FP) rules for non-fish-bearing perennial streams (Type Np Waters) to riparian buffer alternatives, including no buffer in the Riparian Management Zone (RMZ) and a RMZ buffer along the entirety of the Type Np Water length. These alternative riparian buffer treatments (FP, 0%, and 100% buffers, respectively) were compared to references that were not harvested during the study period. During Phase I of the Hard Rock Study, pre-harvest data were collected 2006-2008, harvest implementation with alternative RMZ treatments was implemented spring 2008 through summer 2009, and post-harvest sampling began immediately after harvest for two or more years from 2009-2011. Findings for Phase I are reported on in McIntyre and colleagues (2018). Based on the findings from Phase I, additional data collection was recommended and approved for several responses, beginning in the third year post-harvest in 2011 and continuing for up to nine years post-harvest through 2018 (i.e., Phase II). The report outlining those findings (McIntyre et al. 2021) was approved by ISPR and CMER in July 2021, and study findings were presented to TFW Policy in January 2022.

Results from Phase II of the Hard Rock Study suggested substantial declines in Coastal Tailed Frog densities in all riparian buffer treatments in the 7- and 8-years post-harvest (e.g., a 65%, 93%, and 84% decline in stream network-wide Coastal Tailed Frog larval density in the 100%, FP, and 0% treatments, respectively). These findings were contrary to the results for the two years post-harvest (i.e., Phase I). There was also a delayed negative response detected for torrent salamanders in the FP treatment in Phase II (i.e., 64% decline in stream network-wide density). One of the focal goals of the Forest Practices Rules is to provide compliance with the Endangered Species Act (ESA) for aquatic and riparian-dependent species, including Forests and Fish-designated stream-associated amphibians (i.e., Coastal Tailed Frog and Cascade, Columbia and Olympic Torrent Salamanders). As such, study PIs proposed additional data collection for stream-associated amphibians and other relevant co-variate data to evaluate continued trends in amphibian populations to address the FFR goal of supporting the long-term viability of stream-associated amphibians.

This Project Management Plan includes extended monitoring (proposed as Phase III) for amphibian demographics as a part of the Hard Rock Study. Since the study design was

developed and approved prior to the requirement for a scoping document, said document does not exist for this study.

PROJECT MILESTONES AND TASKS

Project Milestones	Dates by Fiscal Year (Actual* or Estimated)						
	2021	2022	2023	2024	2025	2026	2027
Charter		Mar					
Project Management Plan		Feb					
CMER/SAG Review & Approval of PM Plan		Mar-Apr					
Site Selection and Data Collection Plan	Site selection reported on in McIntyre et al. 2009						
Access Agreements	Dec	Jan-Mar					
Field Team Hiring (lead)		May	May				
Field Team Hiring (techs)		Jun	Jun				
Field Sampling		Jun-Oct	Jun-Oct				
Data QA/QC		Oct-Dec	Oct-Dec				
Field Data Analyzed				Jan-Mar			
Final Report Development				Apr-Jun			
Final Report for LWAG/CMER Review					Jul		
Final Report Revisions & CMER Approval					Aug-Sep		
ISPR Review					Oct-Dec		
Final Report Revisions & ISPR Approval					Feb		
6 Q Development & Review					Feb-Mar		
6 Q CMER Revisions & Approval					Apr-May		
6 Q and Findings Report to Policy					Jun		

*Use asterisk to distinguish actual dates.

PROJECT DELIVERABLES

Task/Deliverable	Responsible Team Member	Estimated Completion Date
Charter	McIntyre	March 2022
Project Management Plan	Clark	April 2022
Access Agreements	McIntyre	March 2022
Field team hiring (lead)	McIntyre	Spring 2022 & 2023
Field team hiring (techs)	McIntyre	Spring 2022 & 2023
Field data analyzed	McIntyre	Winter 2024
Final Report (LWAG, CMER, and ISPR approved)	McIntyre	February 2025
6 Questions Document	McIntyre & Project Team	June 2025
Findings Report and Final Repot Presentation to TFW Policy		July 2025
Quarterly Progress reports	McIntyre	September 31st, December 31st, March 31st, and June 30th.

*Use asterisk to distinguish actual dates.

PROJECT TEAM MEMBERS

Name, Title, Affiliation, Contact Info	Roles and Responsibilities
Aimee McIntyre, WDFW Aimee.Mcintyre@dfw.wa.gov	Principal Investigator
Reed Ojala-Barbour, WDFW Reed.Ojala-Barbour@dfw.wa.gov	Principal of Investigator
Lori Clark, DNR Lori.clark@dnr.wa.gov	Project Manager
A.J. Kroll, Weyerhaeuser AJ.Kroll@weyerhaeuser.com	Team Member
Jay Jones, Weyerhaeuser Jay.jones@weyerhaeuser.com	Team Member
Max Lambert, WDFW Max.Lambert@dfw.wa.gov	Team Member

Name, Title, Affiliation, Contact Info	Roles and Responsibilities
Lori Clark, Project Manager, DNR	• Monitors project activities and the performance of the Project Team. • Communicates progress, problems, and problem resolution to the Adaptive Manager Administrator (AMPA), CMER, and LWAG. • Works with LWAG/CMER, and Project Team to manage Project Charter and other r documents, and keeps them updated. • Works with the AMPA, LWAG/CMER, and Project Team to monitor contract perfo provide input on budgeting, schedule, scope changes, and contract amendments. • Works with LWAG, CMER, and Project Team to resolve problems and build conser • Works with PI and Project Team to develop interim and final draft reports. • Ensures communication between team members is clear, concise, and consistent. • Coordinates technical reviews and responses in a timely fashion. • Facilitates archiving of data and documents. • Ensures that contract provisions are followed. • Provides direction and support to the Project Team to achieve clear and specific scop schedules, and budgets within approved contracts. • Maintains sole responsibility for all aspects of project management even if other indi completing or helping complete parts of the project.
Aimee McIntyre, Research Scientist/Principal Investigator, WDFW	• Executes the technical and scientific components of the project. • Provides materials needed by the PM. • Prepares quarterly summary and progress reports of project status. • Conducts field data collection, hires staff and purchases supplies and equipment to s collection. • Develops summaries and conducts statistical analyses to inform Final Report develo • Leads in the development and writing of the Final Report and Six Questions for Poli • Presents study progress and/or findings to LWAG, CMER, and Policy. • Communicates project status and issues to the PM and Project Team. • Coordinates project meetings as needed .
Reed Ojala-Barbour, Wildlife Biologist/Principal Investigator, WDFW	• Supports the technical and scientific components of the project. • Supports field data collection and database management. • Develops summaries and conducts statistical analyses to inform Final Report develo • Supports development and writing of the Final Report. • Provides technical expertise for successful implementation of project components. • Assists with writing and review of Final Report and Six Questions for Policy. • Assists with communicating project information to LWAG and CMER as needed. • Participates in project meetings and conference calls.
Project Team Members: A.J. Kroll Jay Jones	• Supports the technical and scientific components of the project. • Provides technical expertise for successful implementation of project components. • Provides statistical support. • Assists with review of Final Report and Six Questions for Policy. • Participates in project meetings and conference calls.

PROJECT CONSTRAINTS AND ASSUMPTIONS

Project constraints are limiting factors (internal or external) that affect the initiation, planning, execution, monitoring & control, and close-out of a project. Constraints restrict or dictate the actions of the project team. There are four specific constraint types that will be considered herein: schedule constraints, budget constraints, human resource constraints, and resource constraints. Assumptions on the other hand are factors in the planning process that are considered to be true, real, or certain, without proof or demonstration and are outside the total control of the project team.

Schedule constraints:

- The Hard Rock Phase III Charter is currently in dispute at TFW Policy. The project schedule could be significantly impacted if the AMPA does not approve the project team to continue with field implementation in spring 2022. If the dispute is not resolved by April 2022, it will delay project field implementation for one year due field prep work that needs to happen in March-May and the timing of the upcoming field sampling for amphibian demographics May-October 2022. The Phase III study proposal was approved by CMER in May 2020 and by TFW Policy in July 2020. The FP Board approved funding allocations to support this work with the approval of the most recent AMP Master Project Schedule (MPS). WDFW has an active contract with DNR to complete this work in the current biennium and has been given the authority to conduct work and spend funds as described in the contract by the AMPA.

Budget constraints:

There are no specific budget constraints at this time.

Human resource constraints:

- Hiring seasonal field technicians each summer is necessary to collect data. If there are hiring delays it could make it difficult to meet the data collection schedule.

- Project team members, contractors, and/or technicians may not be permitted to work as usual due to the limitations on workflow presented by COVID-19 restrictions and/or social distancing requirements.

- Fieldwork may be delayed during episodes of unhealthy air quality or extreme fire risk to ensure personnel safety.

Resource constraints:

- We don't have management control of the study sites, although we do have landowner access agreements. We could lose access to a site making field data collection impossible.

Project assumptions:

The following are key assumptions for implementation of this project:

- The core members of the Project Team stay on the team throughout the majority of the project.
    a. If a core member were unavailable, time could be lost in replacing them.
    b. Loss of certain expertise could limit or slow the ability to execute some portions of the study design.
- The project will maintain access to the study sites throughout the time of the study.
    a. Private land ownership or management changes could potentially compromise keeping the sites in the study.
- The dispute in TFW Policy is resolved in a timely manner to facilitate staying on schedule.
- Data collection will not be significantly hindered by periods of extreme fire risk and/or unhealthy air quality.
- Funding for the project remains stable.

A separate Risk Management Plan will not be developed unless one of these constraints or assumptions occurs or if one is deemed necessary. The process for developing a detailed Risk Management Plan is outlined in section 7.11 of the CMER Protocols and Standards Manual (PSM). A Risk Management Plan identifies potential actions to avoid, reduce, and/or mitigate impacts to a project.

DECISION-MAKING AUTHORITY

The Forest Practice Board (Board) has approval authority over proposed CMER projects, annual work plans, and expenditures. The Board manages the Timber, Fish and Wildlife Policy Committee (Policy), the Cooperative Monitoring, Evaluation, and Research (CMER) Committee, and the Adaptive Management Program Administrator (AMPA) to assist with the Board's directives. Policy assists the Board by providing guidance to CMER and recommendations on adaptive management issues. CMER is responsible for understanding available scientific information that is applicable to the questions at hand, selecting the best and most relevant information and synthesizing it into reports for Policy and the Board. The AMPA coordinates the flow of information between Policy and CMER according to the Board's directives. Decision-making authority described in this section needs to be consistent with CMER process and ground rules per the Board Manual section 22.

Decisions related to science and/or technical items is the responsibility of the PIs and the Project Team. If needed, decisions for scientific and/or technical items could be expanded to include the SAG and CMER. Final documents will be prepared by the project team and then reviewed and approved by the SAG, CMER, Independent Scientific Peer Review (ISPR), and Policy. Although the PM will assist in the facilitation of the discussion and decision making process, the PM will not be directly involved in decisions related to science and/or technical items.

Decisions related to contractual (scope of work, RFQQ, contract process, contractor interaction, etc.) and budgetary items is the responsibility of the PM along with input from the Project Team. Requests for additional funding will be approved by the PM and Project Team and sent to the SAG and CMER for formal approval. Minor budgetary or contractual items will be handled directly by the PM with notification provided to the Project Team. Major budgetary or

contractual items will be decided between the PM, Project Team, and AMPA. If needed, decision making for budgetary items may require CMER and/or Policy input and/or approval.

PROJECT RESOURCE NEEDS

Project Resource	Quantity
Vehicles (rented from state motor pool, truck or SUV)	4
iPads or other electronic device for data collection	7
Computer/laptop	3
SAS	1
Avenza software (for navigation to sites)	7
Tidbits	~85

PROJECT BUDGET

Budget/Cost Items	FY 2022 Budget	FY 2023 Budget	FY 2024 Budget	FY 2025 Budget
Inter-Agency Agreements (IAAs)	**$142,800**	**$304,500**	**$300,300**	**$82,950**
Personal Service Contracts (PSCs)				
Supplies and Expenses (On-going)				
Supplies and Expenses (One-time)				
Summary Totals	**$142,800**	**$304,500**	**$300,300**	**$82,950**

Total Project Budget: $830,550

PROJECT SITES

Site	Forest Type/Location	Lat	Lon	Landowner
OLYM-REF	managed forest	47.326	-123.731	Olympic National Forest
OLYM-100%	managed forest	47.648	-124.201	DNR/The Nature Conservancy
OLYM-FP	managed forest	47.297	-123.743	Rayonier
OLYM-0%	managed forest	47.289	-123.756	Rayonier
WIL1-REF	managed forest	46.584	-123.735	DNR
WIL1-100%	managed forest	46.580	-123.728	DNR
WIL1-FP	managed forest	46.583	-123.734	DNR
WIL1-0%	managed forest	46.815	-123.867	Hancock
WIL2REF1	managed forest	46.484	-123.752	Hancock
WIL2REF2	managed forest	46.593	-123.715	DNR

WIL2-100%	managed forest	46.766	-123.807	Hancock
WIL2-0%	managed forest	46.453	-123.814	DNR
WIL3-REF	managed forest	46.344	-123.388	DNR
WIL3-100%	managed forest	46.372	-123.401	DNR
CASC-REF	managed forest	45.808	-121.997	Gifford Pinchot National Forest
CASC-FP	managed forest	45.676	-122.263	DNR
CASC-0%	managed forest	45.676	-122.262	DNR

COMPANION CMER DOCUMENTS

Document	Completion Date (Actual* or Estimated)
Type N Experimental Buffer Treatment Project in Hard Rock Lithologies –Phase III Project Charter	March 2022
Data Collection Procedures	July 2005
Project Management Plan	April 2022
Final results report	February 2025
Final 6 Questions Document	June 2025
Document Management and closure plan	October 2025

*Use asterisk to distinguish actual dates.

PROJECT COMMUNICATION OVERVIEW

Transparent and accurate communication between the different adaptive management parties (Project Team/SAG/CMER/AMPA/TFW Policy) is critical for the AMP to guide and oversee the work of the Project Team. This section provides a framework to manage and coordinate the communications needed for all phases of a project. If a separate Communication Plan is needed for a project, see section 7.6 of the PSM for detailed guidelines.

Two primary pathways exist for project communication to occur when working on CMER projects - 1) between the Project Team and project oversight committees (i.e., SAGs/CMER/TFW Policy), and 2) communication within the Project Team.

PROJECT OVERSIGHT COMMITTEE COMMUNICATION

This section covers communication between the Project Team and the project oversight committees (i.e., SAGs/CMER/TFW Policy). Project oversight communication includes three categories of documents/communication: 1) Project management documents that enable oversight committees to understand how projects will be managed, 2) Project tracking and communication to enable the oversight committee(s) to track project progress and provide guidance and approvals to move projects forward, and 3) communication with contractors.

1. **Project management documents**
   The PM is the lead author for the Project Charter, Project Management Plan, and other project management documents. If the Principal Investigator (PI) has been identified at the

time of project launch, the PM will work with the PI to draft the Project Charter and Project Management Plan, in consultation with the oversight committee.

Project Management Documents*	Primary Author	Collaborators	Final Approval	Primary Audience
Project Charter	PM	PI and Project Team (if identified)	CMER and TFW Policy	Project Team, SAG, CMER, and TFW Policy
Project Management Plan (including communication and risk sections)	PM	PI and Project Team (if identified)	CMER	Project Team, SAG, and CMER
Document Management and closure plan	PM	PI	N/A	Project Team, SAG, and CMER

*For details regarding these documents, see PSM Section 7.6

2. Project tracking and guidance documents

The PM is responsible for ensuring that all reporting tasks are complete and provided on schedule. When preparing progress reports, the PI is responsible for providing detailed and comprehensive costs, schedule, and project updates, in writing, to the PM consistent with prior written agreement. The PM, in turn, is responsible for summarizing project update information into progress reports, and presenting these progress reports to the overseeing SAG and to CMER per the project schedule or as requested by the SAG or by CMER. The PM may delegate preparation or presentation of progress reports to the PI or other Project Team members, with their consent.

Project Tracking/Guidance Documents*	Primary Author	Collaborators	Final Approval	Primary Audience
Project updates	PM	PI	N/A	Project Team, LWAG, CMER, and TFW Policy
CMER quarterly and annual project progress reports	PM	PI	N/A	LWAG and CMER
CMER Requests	PM	Project Team	CMER	CMER
TFW Policy Requests/Check-ins	AMPA	Project Team	CMER	TFW Policy
Public Presentations	PI/PM	Project Team	N/A	Public

*For details regarding these documents, see PSM Section 7.6

3. Contractor Communications

In all cases, the PM is primarily responsible for facilitating open and transparent communication between contractor(s) and project oversight committee(s) members. Committee members should generally not directly communicate with the contractor(s) about substantive project elements outside of formally organized meetings, conference calls, or PM-facilitated group e-mail discussions, unless specifically authorized in pre-established contract terms, or approved in advance to do so by the PM. The PM may verbally grant

authorization, and the rest of the Project Team and oversight committee members should be informed when this occurs. The PM is responsible for informing the contractor(s) of this policy as well.

INTRA-PROJECT TEAM COMMUNICATION

The PM provides assistance to Project Team members by coordinating communication (e.g., one-on-one and group meetings, conference calls, etc.) when needed as well as maintaining the e-mail distribution list for the Project Team. The PM also ensures that any communication resulting in a formal decision about the project occurs in a transparent and inclusive way.

The PI is responsible for preparing and writing technical reports for CMER. How the PI communicates and works with other Project Team members to produce these documents will vary based on the nature of the project and dynamics of the Project Team. The PI works together with the PM to coordinate communication with other team members as needed.

Communication by individual team members includes participation at meetings and conference calls, providing feedback on draft documents, researching specific topics/issues, taking the lead on writing report sections, and/or acting as co-author(s) of CMER documents. The expectation is that Project Team members, including PMs and PIs, who communicate outside of normal project meetings, conference calls, and other venues will share substantive, project-related conversations they have with the rest of the Project Team. For additional details regarding project team communication see PSM section 7.6.3.

Communication structure