

WFPA Headwater Stream Smart Buffer Pilot Project

Adaptive Management Proposal Initiation
Pilot Rule Petition
February 12, 2020

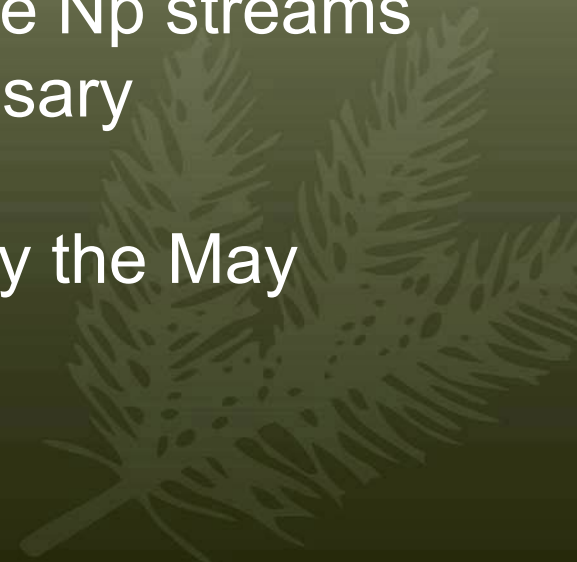


WFPA Headwater Stream Smart Buffer Pilot Project

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WFPA Request

1. Relevant information produced by this pilot project should be considered in the AMP process on Type Np streams (BM 22 proposal initiation assessment)
 2. A CR 101 authorizing a pilot rule to conduct experimental treatments on Type Np streams in western Washington is necessary
 3. FPB action on these requests by the May 2020 meeting
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Project Purpose

Examine effectiveness of alternative RMZ configurations (i.e. smart buffers) on Type Np streams in Western WA at improving shade and minimizing water temperature changes that may be the result of forest management.

Determine under what conditions smart buffers are implementable and provide proof of concept.

Determine if smart buffering is cost effective from both a planning and operational perspective.

Working Hypothesis

RMZ locations, lengths, widths, and stand densities can be configured to improve effective shading of Np streams over that provided by existing fixed-width RMZs, and it can be achieved by a cost-effective planning process and strategic allocation of the RMZ area.



Project Basis

AMP knowledge gap - testing of different Np stream RMZ configurations at meeting both resource protection and operational objectives - the Type N Hardrock Study varied RMZ length only

Type Np streams can represent 60% or more of the total stream length subject to the FPRs, therefore RMZ alterations can have high costs

WFPA members are interested in learning if alternative RMZ configurations can minimize cost while meeting resource protection objectives.

Project Basis

Schedule L-1 of the Forests & Fish Report (adopted by the FPB in February 2001 and incorporated into the 2005 FP HCP) contain key questions which include a commitment to “...*test whether less costly alternative prescriptions would be effective in producing conditions and processes that meet resource objectives...*”

This pilot project will be the first attempt to embark on such an endeavor.



Project Objectives

Implement alternative RMZ configurations designed to optimize for the reduction in solar insolation and allocation of retained riparian stands along Np streams.

Examine smart buffering in a range of different harvest unit sizes and locations commonly implemented on Np streams.

Measure the effectiveness of smart buffering to reduce solar insolation within the Np harvest unit and minimize changes in stream temperature within and downstream of harvest unit.

Project Objectives

Evaluate how watershed characteristics and harvest unit configuration influences effective shade, solar insolation, and air temperature within the harvest area.

Evaluate how watershed and hydrology attributes may influence temperature response to treatment.

Evaluate cost effectiveness of smart buffer planning and implementation.



Study Approach

Before-After-Control-Impact (BACI) design with treatment and reference sites

Sites selected opportunistically, contain N_p stream(s), scheduled for harvest in 20 or 21

Primary metrics of interest are effective shade, stream and air temperature



Project Sites

19 potential treatment sites

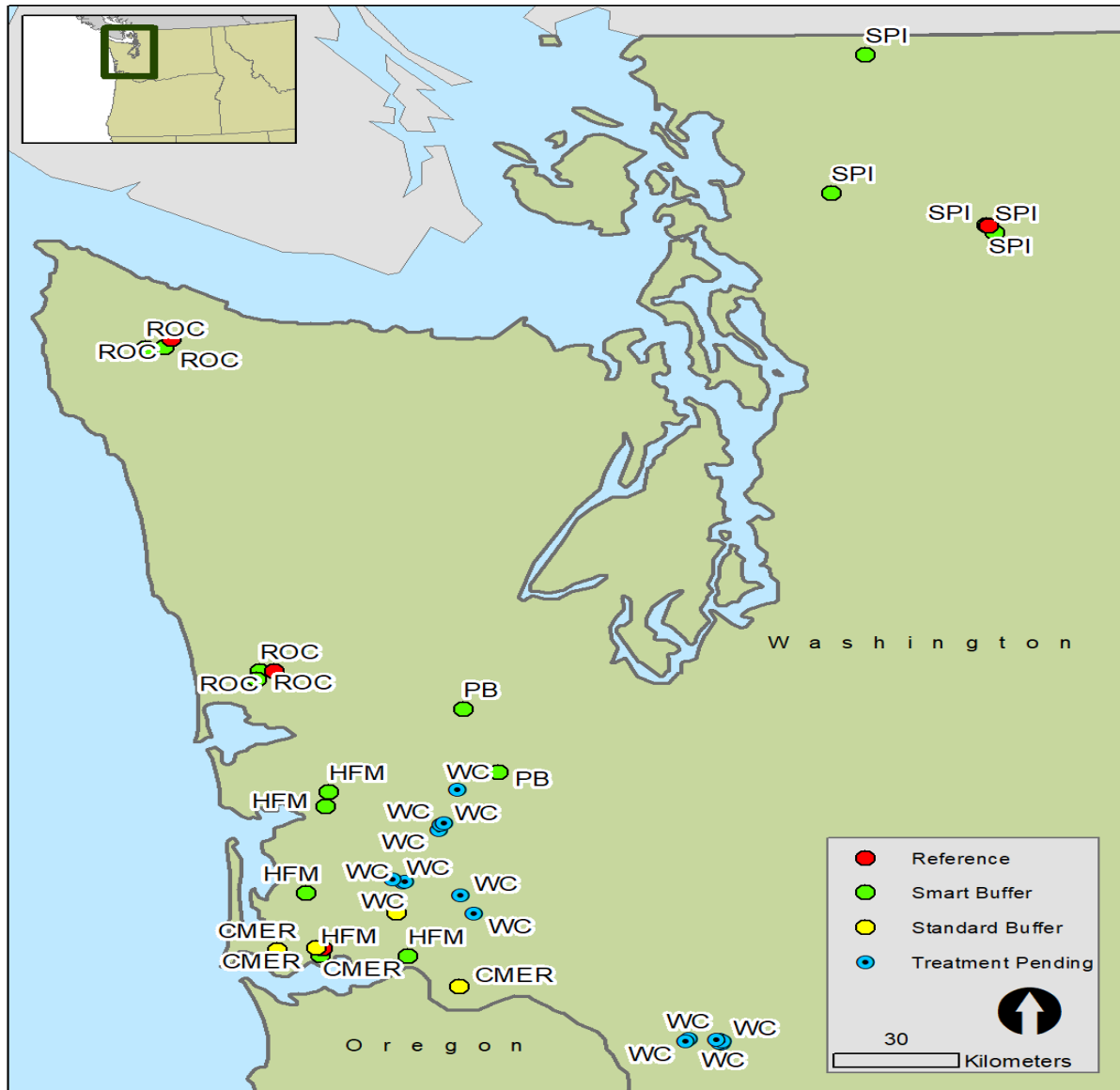
7 unharvested reference sites

4 standard Type Np rule RMZ treatments

Evaluating use of several CMER Type N study sites, reference and treatment, for additional comparison

Numbers may change as we progress through the project.

Project Sites



Project Schedule

Company	Number of sites monitored by year							
	Pre-harvest				Post-harvest			
	2019		2020		2021		2022	
	Tre	Ref	Tre	Ref	Tre	Ref	Tre	Ref
Hancock	5	0	5	0	5	0	5	0
Port Blakely	1	0	1	0	1	0	1	0
Rayonier	5	2	5	2	5	2	5	2
SPI	4	1	4	1	4	1	4	1
Weyerhaeuser	0	0	4*	4	4*	4	4*	4
All	15	3	19	7	19	7	19	7

* Weyerhaeuser is considering monitoring at 4 additional sites with standard Np buffer treatment.

Next Steps

Verify treatment site details, incorporate into study plan

Provide briefings and/or field trips for interested parties/groups (CMER, TFW Policy, FPB members)

Determine ~range of treatment types

Obtain pilot rule authorization by May FPB meeting

Finish pre-treatment data collection

Finalize alternative RMZ configurations, incorporate into FPAs and submit to DNR

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Questions?

