

**Westside Type F Riparian
Management Zone
Exploratory Study Draft Report**

CMER Introduction March 22, 2022

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Part of 3-Phase Westside Type F Effectiveness

Overarching questions of overall effectiveness study:

1. Riparian Stand Characteristics and Riparian Functions

- a) How do the RMZ and no-RMZ harvest prescriptions affect riparian stand characteristics and riparian functions?
- b) How do the characteristics of riparian forest stands and associated riparian functions in areas with RMZ and without RMZ harvest change over time?
- c) Do riparian forest stands in areas with RMZ and without RMZ harvest remain on trajectory to achieve DFC targets?

2. Physical Stream Characteristics and Processes

- a) How do physical stream characteristics and processes respond to changes in riparian functions in areas with RMZ and without RMZ harvest?
- b) Do physical stream characteristics and processes meet performance targets?

3. Aquatic Biological Response

- a) What is the aquatic biological response to changes in riparian functions in areas with RMZ and without RMZ harvest?

3-Phase approach selected as most efficient way to answer all CQs

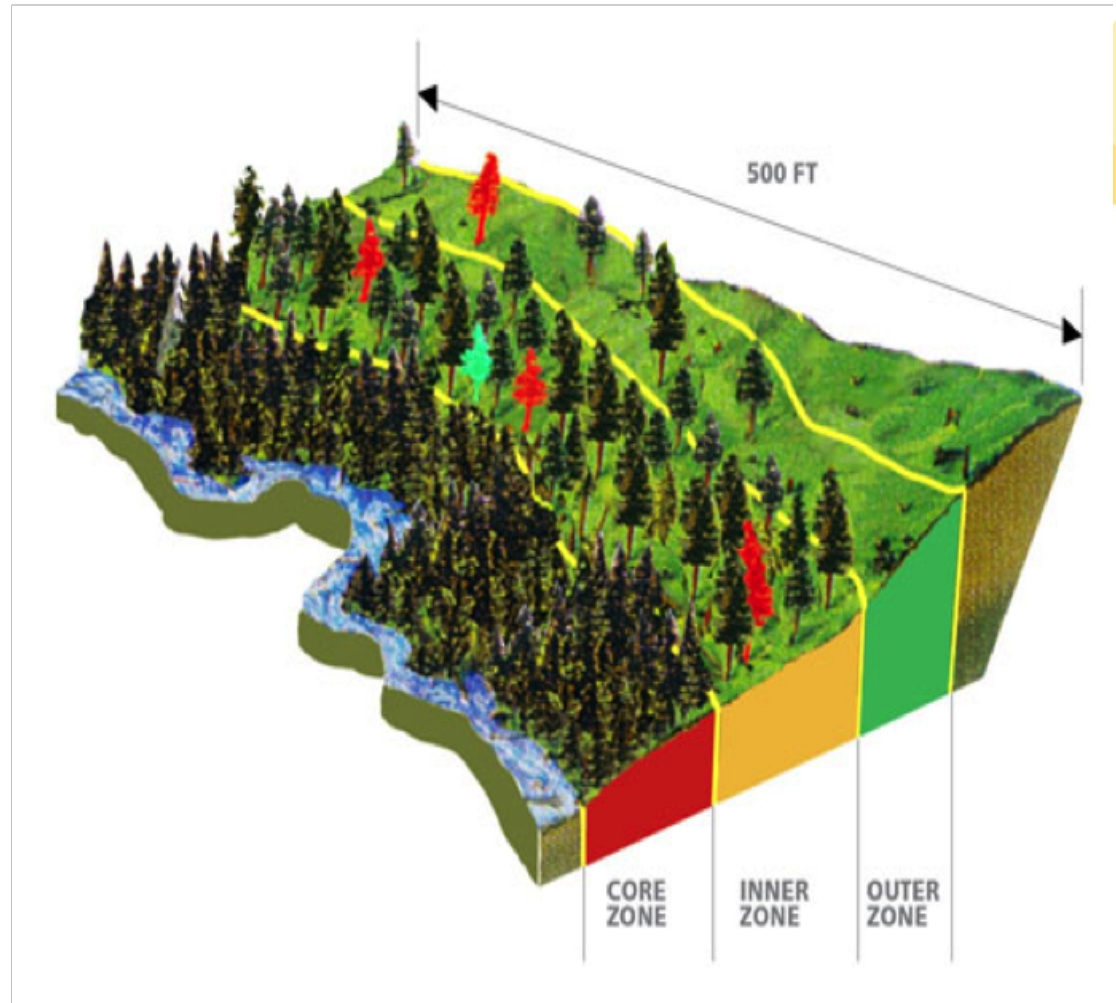
1. GIS desktop analysis of what prescriptions landowners are applying for in FPAs
 2. AI Exploratory Study
 3. BACI Experimental Study
- BAS/Scoping process recommended by TWIG, and Policy selected/approved this approach to answer the BAS/Scoping questions

Phase 2. Exploratory study - Purpose

- Focused on assessing riparian stand conditions and selected riparian functions across a wide range of prescription variants and site conditions.
 - This will provide a large-scale, coarse-level assessment of current riparian conditions that focuses on addressing scientific uncertainty about mortality, stand trajectory (DFC), and riparian functions associated with different prescription variants following harvest (critical question 1).
- The results of the pilot study could help better define the population of interest for the BACI study (step 3) by providing information on the condition of riparian stands and level of functions associated with different prescription variants as well as information on the potential effect of site conditions.

Type F Riparian Background

- 25 potential standard RMZ Prescriptions/RMZ Inner Zone widths
 - Based on site class, stream width
 - In some of those, can do some harvesting in the “Inner Zone” (middle zone)



Phase 2. Exploratory study – What we wanted to explore

- the level of post-harvest riparian functions (e.g. shade, large wood recruitment, streambank integrity/bank erosion, sediment attenuation, litter fall)
- the frequency and magnitude of windthrow effects on buffer tree mortality rates
- an estimate of the proportion of treatment sites on trajectory to meet DFC

Study Approach – Analysis

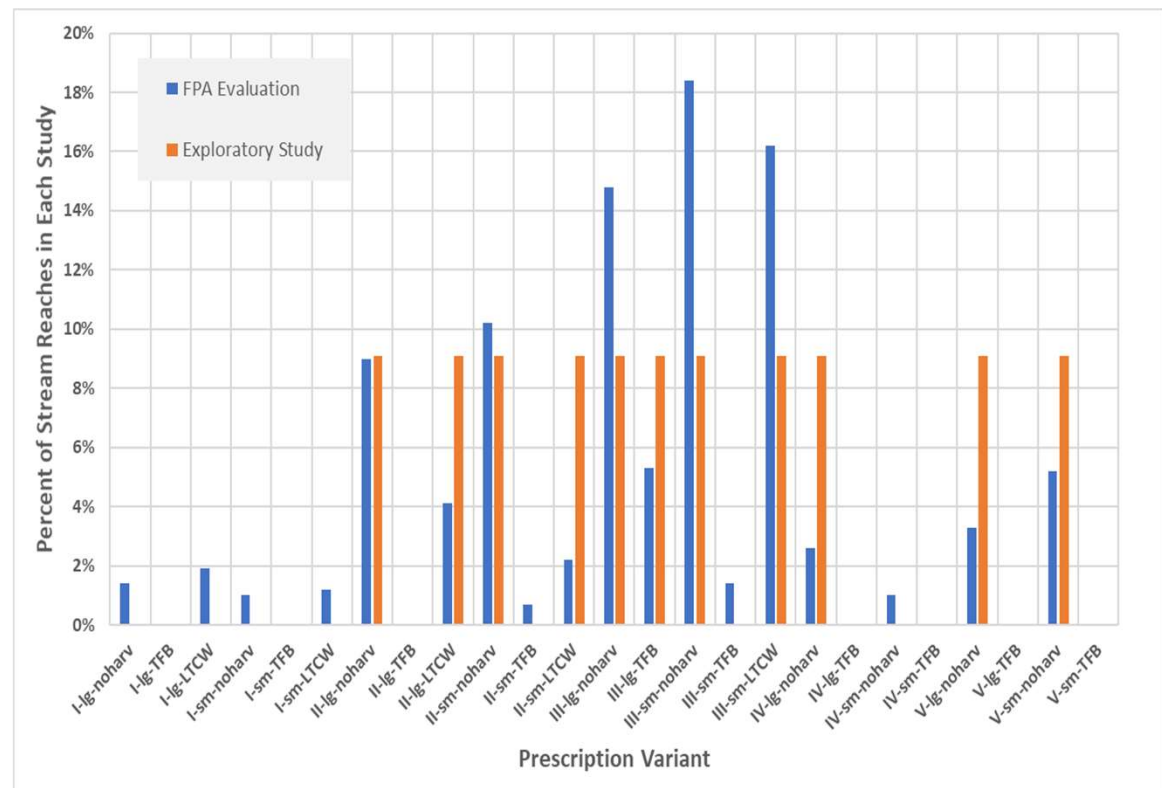
- Explore relationships among stand conditions and functional factors, especially looking at those relative to sites that had harvest in the Inner Zone
- Assess the status of factors related to forming aquatic habitat at randomly selected F&F RMZs
- Investigate whether any particular prescriptions or factors stand out as requiring more extensive study (focusing Phase 3 study)
- Assess variabilities (help guide the development Phase 3 study)

Study Approach – Information Acquisition

- Inspected randomly-selected riparian buffers on one side of Type F and S (fish-bearing) streams approximately three years after harvesting
- 300-foot stream segment at each site (sometimes broken into pieces)
- Collected stand characteristics, canopy cover, mortality, instream wood contributed since harvest
- Explored relationships among stand conditions and functional factors, especially looking at those relative to sites that had harvest in the Inner Zone

Study Sites

- 11 most commonly applied RMZ Prescriptions
- Theoretically, 10 in each
 - 4 Site Classes
 - 3 Inner Zone treatments, although no one site class/stream width combo had all 3
 - Really, one Rx had 11 sites, one had 8, another 9



Study Sites

Distributed around Western WA CMER lands

- Heaviest in coastal region, esp. NW Coast
- Site Classes II and III most highly represented in CMERlands and in studied Rx

