

MID-COLUMBIA COHO RESTORATION PROJECT

EARLY WINTERS ACCLIMATION SITE POST-CONSTRUCTION REVEGETATION PLAN

PREPARED FOR:

YAKAMA NATION – MID-COLUMBIA COHO RESTORATION PROGRAM
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1 INTRODUCTION

The Yakama Nation is working to establish a locally adapted and self-sustaining population of Coho Salmon (*Oncorhynchus kitsutch*) in the Mid-Columbia basin. These efforts are known as the Methow Natural Production Implementation Phase of the Mid-Columbia Coho Reintroduction Project (MCCRP) and are being conducted throughout the Methow and Wenatchee Basins. The MCCRP includes plans for Coho smolt acclimation and release at approximately 11 locations in the Methow watershed. This document addresses post-construction revegetation and monitoring activities that will be conducted at the Early Winters Acclimation Site. The Early Winter Acclimation site is located in rural Okanogan County (tax parcel number 9001030000) near the intersection of Early Winters Creek with Highway 20. The site is located at latitude 48.59741, longitude -120.44188.

2 POST-CONSTRUCTION PLANTING DESIGN

Approximately 133-count 1-gallon shrubs and 18-count 1-gallon tree species will be planted within the Early Winters Acclimation project site. Planting will occur on the berms created to form the ponds, as well as around the proposed electrical generator building and power line installation. Proposed plant species to be utilized throughout the site are listed in Table 1 and depicted in Figures 1, 2 and 3 of Appendix A:

Table 1: Early Winter Plant Species

Common Name	Scientific Name	Number	Size
Tree Species			
Douglas Fir	<i>Pseudotsuga mensiesii</i>	4	1-gallon
Ponderosa Pine	<i>Pinus ponderosa</i>	14	
Shrub species			
Serviceberry	<i>Amelanchier alnifolia</i>	74	1-gallon
Chokecherry	<i>Prunus virginiana</i>	49	
Redosier dogwood	<i>Cornus stolonifera</i>	10	

In addition to the installation of the tree and shrub species provided in Table 1 above, the fenced area adjacent to the acclimation ponds, two spoils areas (where excess material excavated for pond construction will be placed), and areas disturbed to install utilities and water supply will be hydroseeded with the seed mixture specified in Table 2. If required, and confirmed with landowner or landowner representative, additional topsoil may be added to the spoils areas prior to hydro-seeding.

Table 2: Hydroseed Plant Mixture

Plant Species	Quantity
“Durar” Hard Fescue (<i>Festuca trachyphylla</i>)	50%
Western fescue (<i>Festuca occidentalis</i>)	30%
Sandberg Bluegrass (<i>Poa secunda</i>)	10%
Idaho Fescue (<i>Festuca idahoensis</i>)	10%

The hydroseed mixture will be applied at a rate of approximately 20 lbs per acre. A total of approximately 0.71 acre will be hydroseeded.

2.1 Performance standards

The following performance standards are required to be met for successful completion of the project:

1. Plant 133 1-gallon shrubs and 18 1-gallon tree species as shown in Figures 1, 2 and 3.
2. Browse protection shall be installed around all plantings suitable to prevent predation by deer, beaver, rodents, etc.
3. Provide temporary irrigation to all plant areas for at least one growing season or as deemed necessary.
4. A minimum of 80 percent survival of installed plant species will be present in the planting areas at the end of third growing season.
5. Volunteer native species will be included as acceptable plants within the planted areas and included for plant success.
6. Aerial coverage by invasive species shall not exceed 10 percent at the end of Monitoring Years 1 through 3. In the event that field review results in the determination that 10 percent invasive areal coverage is exceeded, invasive species must be removed mechanically in order to meet this standard.

2.2 Post-Construction Inspection

The post-construction inspection must consist of evaluating the plantings immediately after installation to confirm the planting plan was followed and the plants were installed appropriately. Planting of the project areas shall be completed after construction occurs and by the end of October.

Photo points must be established during the post-construction inspection and must be marked in the field. These points must be utilized for monitoring and documenting the development of restored vegetation over the course of the long-term monitoring period.

Following completion of the post-construction monitoring, an as-built drawing must be provided detailing any changes to the approved planting plan.

2.3 Long-term monitoring

Long-term monitoring must be conducted over a three year period with monitoring visits to be conducted three total times after growing seasons 1, 2 and 3. The purpose of the long-term monitoring program must be to evaluate the establishment and maintenance of the plant community within the project areas to determine if vegetation has been re-established in the impact area and if the performance standards have been met. Photos must be taken at the pre-established photo-points established during the Post-Construction Inspection to document the status of the plantings.

Monitoring must be conducted using the techniques and procedures described below to quantify the survival, relative health and growth of plant material. Monitoring must be conducted in late August or early September, with the annual monitoring report describing and quantifying the status of the project actions submitted following each monitoring visit.

Monitoring shall be conducted pursuant to the schedule provided within Table 3 below:

Table 3: Monitoring Schedule

Monitoring Event	Timing
Post Construction Inspection	Late fall after planting – report due by Dec. 15 th
Long Term Monitoring	Late summer, first year – report due by Oct. 15 th
	Late summer, second year – report due by Oct. 15 th
	Late summer, third year – report due by Oct. 15 th

2.3.1 Vegetation

The total number of proposed plantings for this project is relatively small and therefore can be conducted by a total plant count to determine percent survival. In addition, an inspection of all of the planted material to determine health and vigor of the installation will be conducted during each monitoring visit. Analysis results will be compared against Performance Standards provided in Chapter 2.3. Monitoring reports will be provided pursuant to reporting requirements as identified in Chapter 2.5.

2.3.2 Photographic Documentation

A minimum of three permanent photo-points will be established (one at each area detailed on Figures 1, 2 and 3) in order to obtain representative photographs of the project. Additional photo-points may also be established as necessary based on post-construction site conditions. Photographs will be taken from the same locations yearly to document the project's appearance and progress. These photographs will be included within the monitoring reports.

2.4 Contingency Plan

A contingency plan may be implemented if necessary. Contingency plans can include additional plant installation, erosion control, and plant substitutions including type, size, and location.

If the monitoring results indicate that any of the performance standards are not being met, it may be necessary to implement a contingency plan. Careful attention to maintenance is essential in ensuring that problems do not arise. Should any portion of the planting areas not meet the performance standards, a contingency plan will be developed and implemented upon regulatory and stakeholder approval.

Contingency/maintenance activities will be developed to address unique site characteristics and may include, but are not limited to:

1. Replacing all plants lost to vandalism, drought, or disease, as necessary.
2. Replacing any plant species with a 20% or greater mortality rate after two growing seasons with the same species or similar species as approved.
3. Irrigating planting areas only as necessary during dry weather if plants appear to be too dry, with a minimal quantity of water.
4. Removing all trash or undesirable debris from the project area as necessary.

2.5 Reporting

Monitoring reports must be prepared following each site visit conducted (Years 1 through 3); these reports must summarize the results of each monitoring visit. The monitoring reports must document the changes that have occurred within the project planting areas and make recommendations for improvements and/or corrective measures for any problems noted during the monitoring visits.

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APPENDIX A: EARLY WINTERS PLANTING PLAN FIGURES

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Figure 1: Pond and Pump Vault Plantings

Figure 2: Generator Building Plantings

Figure 3: Power line Plantings