

# Lewis River Aquatic Fund Projects (SA 7.5.3.2)

## Project Closeout Report

<b>Project Title:</b>	<b>Lewis River Hydroelectric Project</b> <b><i>Plas Newydd RM 2.0 Off-Channel Habitat Enhancement Project</i></b>
<b>Project Approved By:</b>	Aquatic Coordination Committee April 2009
<b>Original Project Sponsor:</b>	Cowlitz Indian Tribe
<b>Project Funding</b>	\$50,000
<b>Project Description (work completed):</b>	<p>The Natural Resources Department of the Cowlitz Indian Tribe used \$50,000 dollars of ACC funding to implement a riparian planting project on the Mainstem Lewis River to enhance habitat quality for Lower Columbia Chinook, coho, and steelhead, all listed as <i>Threatened</i> under the <i>Endangered Species Act</i>.</p> <p>This project enhances the off-channel habitat (Figure One below) by planting a shrub/tree complex of 3000 willows and red-osier dogwood along the water's edge over 2200 linear feet around RM 2 – 3 on property owned by Plas Newydd LLC.</p> <p>The shrub/tree complex will consist of a densely planted gallery of 1000 willows (<i>Salix</i> spp.) and 2000 red-osier dogwoods (<i>Cornus stolonifera</i>). These plants will be placed in a hex grid with sides .5 meters in length along the water's edge. Installing plants in this density provides multiple utility. Planting at higher densities may help afford an opportunity to outcompete reed-canary grass (<i>Phalaris arundinacea</i>) by beating the reed-canary grass to canopy, thus shading them out. Another function of a dense planting strategy is to maintain the shading function of the shrub/tree complex in the event of high mortality (greater than 20%, but less than 60%). The plantings occurred in the early fall of 2011, prior to the onset of the rainy season.</p> <p>Willows were nursery-grown in 1 gallon pots. Willows had been treated to stimulate root growth by cutting the mainstem. Willow leaders growing out of the cut mainstem were also approximately 70 – 100 cm tall.</p> <p>Red osier dogwoods were grown in 1 gallon nursery pots. Aboveground growth was around one and a half meters in height.</p> <p>No stakes or tubes were used for protection against beavers, voles, or other herbivores. It was felt that using tubes or fencing would create a potential source of restoration debris that would find its way down the Lewis and into the Columbia River and its estuary. Plants were put into the ground at the sites between September and October of 2011.</p>

**Workforce:**

- **Personnel (by craft)** Rudy Salakory (Biologist and Project Manager, Cowlitz Indian Tribe)
- **Contractors:** Boulder Creek Landscaping Inc

**Schedule Summary:**

Plantings installed Early Fall 2011

**Problems Encountered:**

No significant problems were encountered during the implementation of this project

**Things that went well:**

Project site was easily accessible, neighboring landowners were helpful and accommodating, materials and equipment were available for a rapid and successful execution of the project plans.

**Work Not Completed:**

This project is complete as of the writing of this report.

**Lessons Learned:**

Use of “seasoned” potted plants (nursery plants grown over multiple seasons to foster root development) instead of bare root stock is a trade of for survival versus sheer number of plants put into the ground. The large amount of sediment and relatively rapid change in river energetics requires plants that have the resources to outpace sediment aggradation and to withstand velocity fluctuations of the Mainstem Lewis River.

**Attachments:**

Photos of the project and descriptions follow.

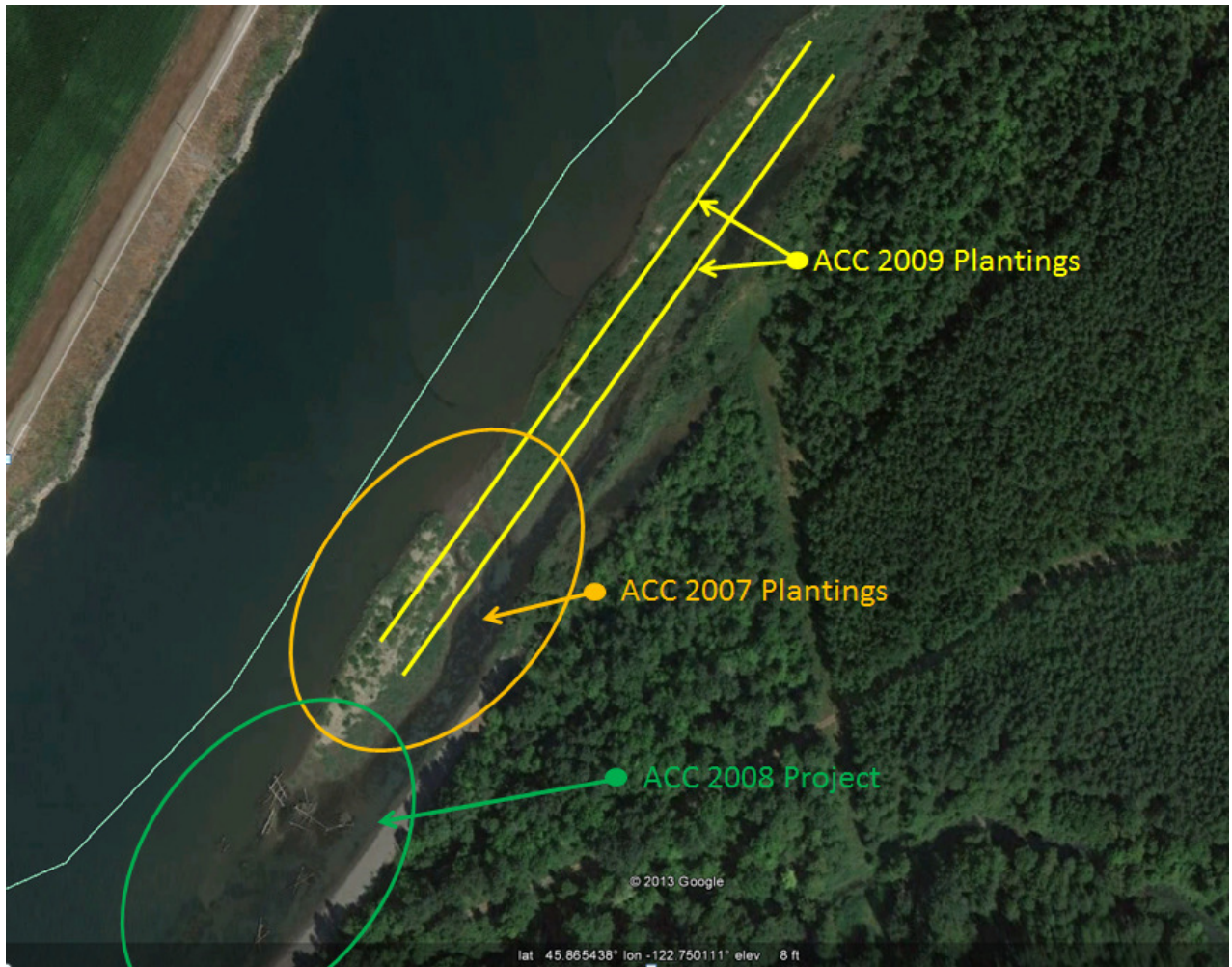


Figure 1. The planting area in yellow (two lines) indicate where planting was done under this funding agreement. The green oval indicates where the log structures were placed under the 2008 funding cycle. The area in the orange oval is where plantings occurred in the 2007 funding cycle.



Figure 2. Some of the willow plants stockpiled and ready to be distributed around the planting site.



Figure 3. Plants laid out in their planting configuration.