



Wednesday March 9, 2011

CREST Quarterly Newsletter

Greetings CREST Members and Partners:

It is still blustery outside, but the budding plants tell us that spring is around the corner! We have spent the winter developing conceptual plans for new habitat restoration projects, as well as continuing to assist local governments with important planning projects. Our biologists are gearing up for the field season and have been setting up a new and improved laboratory space for processing juvenile salmon prey samples.



Oemleria cerasiformis (Indian Plum)

Project Manager Amy Ammer is particularly proud to announce that the full force of the Columbia River tides are once again reaching into the Fort Columbia wetlands, carving channels and providing new rearing and refuge opportunities for migrating juvenile salmon and other wildlife.

Please check out the project updates below and attached media articles. As always, stay in touch and let us know how we can be of service.

~Micah Russell, Director

Habitat Restoration Project Updates

Fort Columbia:



After several years of careful preparation, a large box culvert has been installed underneath Highway 101 near Chinook, WA. As a result, nearly 100 acres of wetland floodplain has been reconnected to the Lower Columbia River estuary. Twice daily tides are transforming the site as they carve new channels and export nutrients and insect prey out into the main body of the river.

A juvenile coho salmon has already been spotted inside the wetlands and rigorous monitoring this spring may reveal many more. Biologists will gather data to determine which juvenile salmon species and genetic stocks are utilizing the site, what they are eating, and how the physical habitat itself is changing.



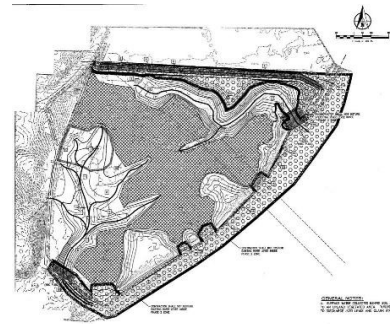
CREST would like to thank all of the individuals who contributed to this project over the years. Special thanks to the Lower Columbia Fish Recovery Board, Bonneville Power Administration, WA Dept. of Transportation, WA State Parks, and Thompson Bros. Excavation.

Otter Point:



Work continues on Lewis & Clark National Historic Park property to restore 33 acres of estuarine wetland. In the fall of 2010 CREST completed the majority of Phase I activities including clearing, non native plant species removal, 100% excavation of the north tidal channel, approximately 25% of the south channel, large wood debris mobilization, levee material preparation, and erosion control. Completion of Phase I activities will commence in spring 2011 once site conditions improve.

Phase II actions include the construction of a new 1,400 feet long cross levee just inside the north boundary of the project site to protect adjacent property from flood impacts. Once the new levee is in place, the existing levee will be breached in several locations to allow full tidal connectivity to the channels and floodplain. The cross levee construction is considered a major modification to a federally authorized levee system and is therefore subject to the U.S. Army Corps of Engineers Section 408 review process and approval. CREST is in the process of submitting the required materials.



Planning Department Projects

We continue to partner with local governments and other organizations on innovative planning projects. For example, CREST is providing Geographical Information Systems (GIS) mapping services for the *Astoria Downtown Historic District Association's* project to make two- and three-dimensional images of downtown available to the public. This will allow business owners, non-profit organizations, property managers and realtors to view all businesses, vacant buildings, potential usable spaces and the associated contact information. The City of Astoria and Clatsop Community College are also participating.

For an interesting fly-through of some of the preliminary modeling, check out this short video:

<http://www.youtube.com/watch?v=SFyey7eo69o>

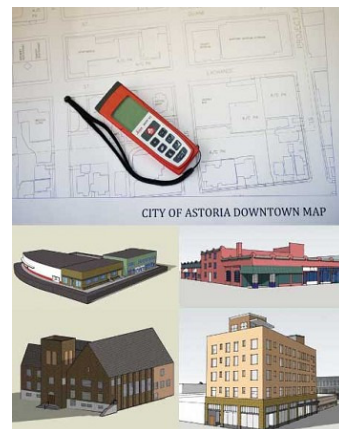


photo courtesy of The Daily Astorian

Salmon Can Once Again Explore Marsh Mapped By Lewis And Clark

(transcript of Oregon Public Broadcasting radio report)

Rob Manning | February 25, 2011 | Astoria, OR

Historians say Lewis and Clark's Corps of Discovery mapped -- but probably didn't bother to explore -- a marsh just north of the mouth of the Columbia River.

In recent years, federal officials have become convinced those wetlands are worth exploring -- and worth restoring -- to save salmon.

But as Rob Manning reports, the hurry to get projects going has gotten federal officials into hot water with a key scientific panel.

205 years ago, William Clark mapped a marsh on the north side of where the Columbia River opens wide and empties into the Pacific.



Scientists believe that historically, juvenile salmon used the area to feed before heading out to sea.

But more recently, a railroad line and then Highway 101 cut the wetlands off from the river.

It was still impassable when Amy Ammer with the Columbia River Estuary Study Taskforce toured the area, two years ago.

Amy Ammer: "So, none of the juveniles that are in the Columbia River can make it through to here."

Rob Manning: "This is basically unusable wetland then, as far as the fish are concerned."

Amy Ammer: "As far as the fish are concerned, it's unusable and a deathtrap."

It was a deathtrap for the few salmon that actually got in. But mostly salmon couldn't get in. And that meant they missed out on food, according to a salmon recovery consultant along on the tour, Allan Whiting.

Allan Whiting: "The data is suggestive enough now, to say that salmon using these restored marshes -- their stomachs are full, they've gotten the food from the marshes that have been restored. And they're healthier as a result. And that's just based on these first initial projects. You know, we need a lot more of these sites to prove that over time."



Rob Manning / OPB

Whiting hasn't been alone in calling for more projects in the estuary. So has Judge James Redden -- the judge who's been in the middle of years of litigation over the Columbia River.

Largely because of Redden's statements, the Bonneville Power Administration has committed millions to estuary projects in the last few years.

One of their signature efforts has been to take out that "deathtrap" near present-day Fort Columbia.

After years of planning and fundraising, construction crews pulled out the last of the barriers between the wetland and the river last week. The final sequence actually started a little unexpectedly, as Amy Ammer watched silty Columbia River water wash in.

Scientists are focusing salmon restoration efforts on wetlands near the Columbia's mouth.

Amy Ammer: "Our plan was to remove the coffer dam and then have the tide go in. The tide's high enough that it came around and helped itself to our project site."

After the tide forced its way past the coffer dam, crews methodically removed the vertical pieces that had kept the river water out.

As Ammer waited for that work to finish, she emphasized the importance of connecting the wetland near Fort Columbia.

Amy Ammer: "This is kind of those types, you know the 'golden goose' – high quality habitat, fully disconnected, connected again to the Columbia River. And this particularly area, because we're in the brackish area, it's particularly important life history stage for salmon as they're transitioning from fresh to salt."



Rob Manning / OPB

The \$1.2 million project provides fish channels and tree trunks, and promises a salt-and-freshwater mixing zone covering 12 acres.

Salmon could wind up using the whole 96-acre wetland. Ammer says because of the new 12 foot-by-12-foot entrance, salmon will have a wetland that's more like what the Corps of Discovery found 200 years ago.

Amy Ammer: "One of the things that I have at my desk is a map of this. When they came through here, they did map it. And that was part of the impetus for saying 'hey, we do have a good project', because this is an historic distributary. And it would've been connected. This highway causeway wasn't built by nature."

Historians say that Lewis and Clark likely mapped the wetland from the edge, without walking into the bog on foot. Until the last few years, federal agencies didn't look too closely at the estuary, either.

Now, BPA is playing catch up. Officials are trying to expand scientific understanding of the lower river wetlands, while also funding recovery projects there.

Rob Manning / OPB

But a scientific review panel has raised questions about that approach, arguing BPA doesn't have a scientifically rigorous way of prioritizing projects for federal funding.

Staff at the Northwest Power and Conservation Council summarized those concerns last month by saying "the mechanisms for project selection and evaluation in the estuary are not functioning."

It went on to say that a "intervention" was needed.

Tony Grover directs fish and wildlife for the council.

Tony Grover: "I think it's fair to say that the lower river and estuary is about 25 years behind the rest of the Columbia Basin in developing a set of routine procedures to screen projects and develop them."

Tony Grover says one of the main barriers to good research is pretty basic. He says scientists are used to using structures like dams to count and track fish, but they haven't yet figured out how to do that in an estuary environment.

Tony Grover: "There's no place where the fish congregate below Bonneville Dam in sufficient numbers that would make it efficient to set that kind of a system up."

BPA says it's working with the Army Corps of Engineers and scientists to come up with a better system by the end of the year.

Back at the estuary restoration project, there's a narrow window for getting the work done. Amy Ammer with CREST says the in-river work can only happen in the winter, when the fish aren't using it.

Amy Ammer: "The reason is you have adults coming in the fall, and you have juveniles going out in the spring, summer, fall. And you have adults coming at different times, as well – spring, summer, and fall – pretty much all the time. This is the time when there's the least amount of fish."

So as contractors get their equipment in place and scientists get their monitoring systems ready this fall and winter, they might feel a little like Lewis and Clark did.

It was in late fall 1805 that William Clark wrote of a boggy bay, and a Dismal Nitch, at the mouth of the Columbia.

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Big culvert opens new era for Chinook River wetland:

CREST takes the lead in habitat restoration projects

By KATIE WILSON, The Daily Astorian

Wednesday, February 23, 2011

CHINOOK, Wash. — Where a 24-inch culvert once let in a trickle of water and the occasional confused, claustrophobic fish, a huge 12-foot-by-12-foot culvert is now installed under U.S. Highway 101 in Washington.

Water is again flowing through what was historically a wetland area.

Funded by an array of sources and combining the organization and permitting powers of a variety of agencies, the project is nearing completion.

The Fort Columbia Tidal Reconstruction Project headed by the Astoria-based Columbia River Estuary Study Taskforce (CREST) seeks to reconnect the Columbia River estuary with a distributary of the Chinook River that flows through a wetland east of Highway 101.

“The culvert is oversized for the amount of water we’re counting on in the next two years,” said Amy Ammer, habitat restoration specialist with CREST and project manager for the recent undertaking. “This is better for 50 year-type of growth.” But Ammer says the whole point is to look at the long term.

“This whole area will open up,” she said.

Before the construction of the highway, the area was a wetland where waters washed back and forth with the tides, creating a tidal slough, prime rearing habitat for juvenile salmonids.



The building of the highway cut off communication between the wetlands and the estuary, and the wetland ceased to function effectively as a wetland.

Now, as waters flow along the current channel and dig back into old channels and reestablish paths through the land, bringing in nutrients and sweeping out toxins, Ammer is confident the wetland will begin to flourish again.

In the first two years, CREST hopes to see major changes in roughly 12 acres of the 96-acre cut of land.



Salty or brackish water will flow in with the tides and begin to change the plant populations. Seedlings are already popping up.

As even more water is allowed in at high tide, so more water will likely leave at low tide, turning areas that may have once been permanently flooded into areas that are only seasonally or semi permanently flooded.

CREST has the funding to monitor the site for the next two years, said Matt Van Ess, habitat restoration coordinator. The total cost for the project was \$1.2 million, he said.



Ammer hopes to wrap up the last of the work this week, weather permitting.

“People have been very encouraging,” Ammer said. “We’re working on a major roadway and it’s inconvenient for them.” But they’re excited when they hear about the project, she said.

“This is going to help in so many ways,” she said. Wetlands know what to do with water, cleaning, filtering and absorbing it, and can prevent flooding and improve overall water quality.

CREST is now looking into the possibility of doing similar projects at spots east of Fort Columbia, near Dismal Nitch and Hungry Harbor where Lewis and Clark spent a number of miserable days in 1805.



Those projects, which also involve the removal of an old, inadequate culvert with a larger culvert, are several years down the road, CREST Director Micah Russell said.

“These are expensive projects, big projects,” Van Ess said, but there is the encouragement to do them from both the Washington Department of Transportation and the U.S. Army Corps of Engineers. Organizations like CREST can usually get to the projects faster and at lower overall cost, Van Ess said.

The Lewis and Clark National Historical Park is looking at the example set by CREST’s project to examine the possibilities for the park-owned land at Megler Creek, east down Highway 101, near Dismal Nitch.

But that project would also be several years out, said Park Superintendent David Szymanski. The impact (in terms of amount of wetlands restored) would be less at that site than at the Fort Columbia site, Szymanski said, and currently the park does not have the funding for the project.