Lower Columbia River and Estuary Needs Identification Workshop

Background and Expectations

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The purpose of this presentation is to promote some outcomes and expectations for this workshop. It is our hope that this workshop will lead to further collaboration in developing ecosystem restoration actions for the lower Columbia River, and that this workshop will also lead to clearly defining critical research needs that will positively direct effective ecosystem restoration actions. To better understand why these objectives are important, three topics will be briefly discussed: 1) the Biological Opinion requirements relating to estuary restoration, and ongoing activities undertaken to meet these objectives, **2**) Corps of Engineer authorities under which this work will be conducted, and **3**) the current systems and processes under which research activities are developed. At the conclusion of this presentation, the need for collaboration should be clearly apparent.

1. The Federal Columbia Power System (FCRPS) Biological Opinion has a number of reasonable and prudent actions (RPA's) which address estuary restoration. Of primary importance to this workshop are RPA's 160 and 161. The language of **RPA 160**, calls for the Corps and BPA, working with LCREP, to develop and implement an estuary restoration program with a goal of protecting and enhancing 10,000 acres of tidal wetlands and other key habitats. What are the key habitats? How can this habitat be developed in a cost-effective manner?

The language of **RPA 161**, calls for the Corps and BPA to fund a monitoring and research program to address the estuary objectives of the FCRPS biological opinion. Therefore, a desired outcome of this workshop is direction for the development of such a research plan.

Work to meet these RPA's has been underway. As you can see by the mix of people supporting this workshop, collaboration is occurring. Some basic applied research is underway. We ask you, are these the correct studies? Are there better, more cost efficient ways to answer needed questions leading to habitat development. For background, the Corps and BPA have funded several projects:

A. Salmon at Rivers End: The Role of the Estuary in the Decline and Recovery of Columbia River Salmon Draft January 2001. (SARE) was funded by BPA to address primarily the following four questions about salmon in the estuary.

a. What habitat and processes support native salmon populations during the estuary phase of their life history?
b. Have changes to the estuary had a significant role in salmon decline?

c. What have been the impacts of flow regulation on the hydrology, habitat, and biological interaction in the estuary ecosystem?
d. What estuary conditions are necessary to maintain diversity of salmonids in the Columbia River Basin?

B. Lower Columbia and Estuary Habitat Conservation and Restoration Workshop. This two-day workshop held on June 12 and 13, 2001 included plenary presentations, panel discussions and facilitated workgroup sessions that included approximately 100 attendees interested in estuarine restoration. A significant number of potential restorations sites were identified and criteria developed to help in the prioritization of these sites. Subsequently, working through the Lower Columbia Estuary Program Science Workgroup specific considerations were developed to address estuarine habitat restoration criteria. All this information is presented in the workshop proceedings.

C. Studies, monitoring and Research

Beginning in 2001, under the Columbia River Fish Mitigation project, specific research and monitoring activities were initiated as follows:

Casillas, Bottoms, et al., *"**Estuarine habitat and juvenile salmon – Current and historic linkages in the lower Columbia River and estuary**"*

This project included multiple objectives, including determining the temporal relationship between tidally influenced habitats (lower river and estuary) and the presence/absence, abundance, and benefit to juvenile salmon, with an emphasis on shallow water areas, dendritic channels, backsloughs, and main channel margins in the Columbia river.

Objective: Characterize historical changes in flow and sediment input to the Columbia River estuary and changes in habitat availability throughout the lower river and estuary.

Objective: Compare trends in abundance and life histories of juvenile salmon at a landscape scale on representative transects of shallow-water habitat between Puget Island and the Columbia River mouth.

Objective: Describe salmonid use and performance in selected emergent and forested wetlands and their relationship to local habitat features.

MaComas et al., *"**A study to estimate salmonid survival through the Columbia River estuary using acoustic tags**"*

This study includes the development and deployment of acoustic telemetry systems for tracking juvenile salmonids in a saline environment. It includes the

technology development of downsizing acoustic tags, and estimating survival and habitat use in the estuary.

Muir et al., *"**Evaluation of the relationship among time of ocean entry, physical, and biological characteristics of the estuary and plume environment and adult return rates."***

This includes the rearing of fall Chinook juveniles and differential timed releases into the estuary to evaluate biological and physical characteristics associated with time of release and survival to adults.

An inventory of estuary habitat was funded by the Action Agencies through LCREP. This report will be addressed in detail later, *"**Floodplain Habitat Cover Types of the Lower Columbia River and Estuary, December 2002."***

Other research programs associated with the juvenile fish transportation program, Caspian tern research, etc are also underway. The BPA/Northwest Power Planning and Conservation Council fish and wildlife program will also provide resources toward estuary research and actions. In whole, there are many actions ongoing. Without effective coordination and collaboration, efficient and complementary actions will not occur. An outcome of this workshop is to help facilitate this collaboration.

2. The previous information addresses the history of actions taken to date. It is important to also understand the authorities and processes under which actions will be funded and implemented. To that end, the following discussion is intended to provide an overview relating to Corps of Engineer authorities. There is a separate process for BPA/NWPPC actions. Again, the major take-home message is that these authorities only work effectively if there is collaboration amongst all parties. Many of these authorities require cost sharing and non-federal operation and maintenance. Controversial or unsupported actions will slow implementation. Resources are limited, so essential prioritization of activities is crucial. As many of you are aware based upon funding prioritization efforts currently underway within the Corps and BPA, resources are very limited. We must honestly move forward with only the most critical actions.

The Corps currently plans to use existing authorities to implement the reasonable and prudent actions required for the Columbia River Estuary. These authorities include General Investigations (GI); Continuing Authorities Program (CAP) Sec.1135, Sec.206; Columbia River Estuary Restoration Section 536; Planning Assistance to States and Tribes (PAS); and the Columbia River Fish Mitigation program (CRFM).

Estuary research is primarily being funded under our **Columbia River Fish Mitigation program** (CRFM). This is the same program that funds research and construction activities to improve salmonid survival at our upstream projects. As might be expected, there are a number of items that must take place under the FCRPS biological opinion, and difficult prioritization discussions occur within the region. Primary funding discussions occur within the System Configuration Team. The recommendations coming from this workshop will assist in developing funding allocations.

Habitat development work will occur primarily under sections 1135, 206 and 536. These authorities require cost sharing, don't provide condemnation authority, require someone to agree to operations and maintenance, and should primarily be directed toward implementation rather than monitoring. Again, for these authorities to work, regional collaboration is a necessity. Specifics regarding these authorities may be obtained from the staff identified at the conclusion of this presentation.

3. For those interested in submitting research proposals, such proposals are evaluated under our Anadromous Fish Evaluation Program. This program includes a process where research proposals are solicited, prioritized, and funded. A schedule of activities is provided in this presentation for the AFEP program.

Restoration actions may be implemented under a number of authorities described in this presentation. Generally, most generally require cost sharing, and an agreement to provide operation and maintenance. BPA/Northwest Power Planning and Conservation Council funds may be used for the cost sharing. Please contact the following individuals for specific information regarding these programs:

Overall Program

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Martin Hudson, Chief, Planning Branch, (503) 808-4703

Estuary Program and Section 536

Taunja Berquam, (503) 808-4757

Continuing Authorities Program

Doug Putman, (503) 808-4757

AFEP Program

Rock Peters, (503) 808-4777

Blaine Ebberts, (503) 808-4763

In conclusion, a successful estuary ecosystem restoration program requires collaboration, that successful prioritization of work occurs and that an overall partnership develops. It is our goal that this workshop will move us positively forward in these objectives.