**DRAFT Programmatic Issue:**

**Columbia River Estuary**

**Issue:**

There is a lack of a clear synthesis or framework in the estuary, linking habitat restoration actions to monitoring efforts to action effectiveness evaluations. Part of the issues may lie in the divison of responsibility between entities in the estuary. Currently there is one Bonneville funded project for estuary RM&E in this category review. Staff is concerned about data sharing, methods development, and use of data.

**Background and staff comments:**

The lower Columbia river and estuary have received increased attention and implementation funding as demonstrated by the Council’s 2009 Fish and Wildlife Program and the 2008 FCRPS Biological Opinion. Along with a growing attention to the needs in the estuary there appears to be a lack of coordination and communication efforts. This is not exclusively an RM&E issue but also applies to the habitat restoration work in the estuary.

A number of other initiatives and funding partners enhance the need for better collaboration and information synthesis. The Corps of Engineers (Corps) is funding RM&E projects in the estuary and lower Columbia River. In 2009, Bonneville implemented RPA 37 of the FCRPS BiOp, which calls for the formation of an Expert Regional Technical Group (ERTG). The purpose of this group is to provide technical support to Action Agencies on *estimated survival benefits* to ESUs from habitat actions in the estuary. This activity will help inform the selection of specific BiOp related habitat restoration activities in the estuary and lower Columbia River.

A related initiative is the Integrated Status and Trends Monitoring (ISTM) program. This is a demonstration effort under PNAMP, focusing on developing monitoring processes and tools in the estuary. There are multiple entities involved in this effort including ODFW, WDFW and the US Geological Survey (USGS). It is apparent that there is a need to ensure that activities in the estuary are conducted in a scientifically sound, efficient and collaborative manner.

Two projects intended to address the NMFS 2008 FCRPS Biological Opinion (BiOp), the *CREST Estuary Habitat Restoration* (2010-004-00) and *Columbia Land Trust Estuarine Restoration* (2010-073-00) projects, did not receive positive reviews by the ISRP. While it is understood that these projects are important for habitat action implementation of the BiOp in the estuary, it is unclear how these projects fit in a regional approach linking habitat restoration and monitoring, evaluation and management decisions.

What happened to those two projects is symptomatic of the larger issue -- the lack of a clear synthesis or framework in the estuary linking habitat restoration actions to monitoring efforts to action effectiveness evaluations. Part of the issue may lie in the fragmentation of responsibility. At a recent meeting of the Council’s F&W Committee, Bonneville informed the Committee and Council staff that the Corps and Bonneville have agreed on a division of responsibility in the estuary. Bonneville assumed responsibility for habitat restoration and some status and trend monitoring while the Corps of Engineers assumed responsibility for action effectiveness monitoring and evaluation. Bonneville staff agreed that a overarching synthesis of the monitoring and evaluation effort in the estuary is appropriate, but also indicated that they believe the Corps has the responsibility to make that synthesis occur. It appears that the most appropriate time for a synthesis document that would clearly show the expected links between habitat projects and estuary RME would occur prior to start of a habitat/geographic review of estuary projects. The question remains whether the division of responsibility between the Action Agencies will accommodate that schedule. If the responsibility for the monitoring and effectiveness framework lies with the Corps of Engineers, and yet this review is about Bonneville-funded projects that will feed information to the Corps, what is the best way for the Council to structure its recommendations here to push the federal agencies into providing the necessary synthesis?

**ISRP Programmatic Comments:**

* There is a lack of evidence of collaboration of projects attempting to estimate mortality of juvenile salmon in the estuary (NOAA, COAST, LCREP and Avian Predation).
* In addition these projects need to integrate with other estuary implementation projects.
* There is a need for better communication with inland mangers.

**ISRP project specific comments for LCREP**

Project #2003-007-00, *Lower Columbia River Estuary Ecosystem Monitoring, a*s part of this review, the ISRP provided a “Yes (Qualified)” recommendation. The qualification requests that additional information and detail are need in a “synthesis” that needs to be reviewed by the ISRP. The synthesis document is to address integration of results and after completion of a classification system and monitoring design.

This qualification associated with LCREP is explicitly linked to the issue raised by the ISRP in the two project specific reviews associated with BiOp habitat type projects (i.e., CREST and CLT) mentioned above (e.g., details regarding methods, project relationships, prioritization framework, scientific process and etc.).

ISRP programmatic suggestions (related to Ocean but may overlap into the estuary):

* BPA-sponsored basinwide forum on the effects of climate and ocean conditions on Columbia River Basin fish and wildlife potentially led by NOAA Fisheries.

Specific possible topics could include Life Histories and Density dependence.

* *D*evelopment and improvement of simulation and predictive models to modify harvest or hatchery releases.
* Better understand *how* ocean conditions affect growth, survival, and ocean distribution of anadromous fish.

**Relationship to Council Questions:**

There is only one estuary project reviewed under the RM&E category review. The project is not a research project therefore is unlikely to address the critical uncertainties in the research plan. This project is not designed to directly contribute to one of the nine program-management questions or associated indicators. Major accomplishments and relevance will be addressed in the development of the synthesis reports described under the recommendation section below.

**Possible Options:** Recommend the development of a synthesis document to address integration of results after completion of a classification system and monitoring design. In addition, this document should include methods and monitoring details from all entities involved. The ISRP stresses the need of all participants should be involved in the development of this document (i.e., NOAA, PNNL, CREST, CLT).

**Preliminary Recommendation:**

We recommend that an estuary-wide synthesis be completed to summarize the research and monitoring that has occurred in the estuary and how that information will inform management decisions and priorities for restoration. Bonneville indicated that the Corps of Engineers is the lead agency responsible for research, monitoring and evalutation in the estuary. Recommend that the Council and Bonneville impress the importance of an estuary-wide information synthesis to the COE and the desire to complete this synthesis as soon as possible, so that on-the-ground work (CREST, CLT) work can continue with minimal interruption. Staff is working to set up a meeting with Bonneville and Corps staff to the discuss the development of a clear synthesis or framework linking habitat restoration actions to monitoring actions and to action effectiveness monitoring and evaluation. Among other elements, this synthesis report should also explain more clearly the role of the one estuary monitoring project reviewed as part of this RME/AP review, the Lower Columbia River Estuary Ecosystem Monitoring project. The ISRP and staff review of that specific project further highlighted the need for a synthesis of the information collected under the project and how it will be used as well as major accomplishments and relevance. See the project level recommendation for additional information.

**Primary RM&E proposal**

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| **Project #** | **Project Title** | **Sponsors** | **Purpose/Emphasis** | **BiOp/Accord** | **FY 2010 Funding** | **Funding Req. Annual** |
| 2003-007-00 | Lower Columbia River Estuary Ecosystem Monitoring | Lower Columbia River Estuary Partnership (LCREP) | Habitat RM&E | RPA: 58.1, 58.3, 58.4, 59.1, 59.2, 59.4, 59.5, 60.1, 61.1, 61.3 | $1,024,359 | $1,779,277 |
|  |  |  | Total: |  | $1,024,359 | $1,779,277 |

**Related projects that could be integrated in the discussion:**

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| **Project #** | **Project Title** | **Sponsors** | **Purpose/Emphasis** | **BiOp/Accord** | **FY 2010 Funding** | **Funding Req. Annual** |
| 1997-024-00 | Avian Predation on Juvenile Salmonids | Oregon State University, Real Time Research | Predation, RM&E | RPA: 66, 67, 68 | $530,566 | $773,583 |
| 1998-014-00 | Ocean Survival of Salmonids | National Oceanic and Atmospheric Administration (NOAA) | Habitat, RM&E | RPA: 58.3, 58.4, 59.5, 61.1, 61.2, 61.4 | $2,122,893 | $2,720,691 |
| 2003-009-00 | Canada-USA Shelf Salmon Survival Study | Canada Department of Fisheries and Oceans | Programmatic RM&E | 61.1 | $455,971 | $511,800 |
| 2003-114-00 | Coastal Ocean Acoustic Salmon Tracking (COAST) | Kintama Research | Programmatic RM&E | RPA: 52.2, 55.1, 55.2, 55.8, 61.2 | $2,143,816 | $2,100,000 |
|  |  |  | Total: |  | |  |  | | --- | --- | |  | $5,253,246 | | $6,106,074 |

**Estuary-related projects being funded and implemented by the Corps of Engineers in FY 2011:**

* Action effectiveness research and monitoring of ecosystem restoration actions within the lower Columbia River and Estuary—Julia Butler Hansen NWR; study code EST-05-P-07; cost is $185,000.
* Evaluation of life history diversity, habitat connectivity, and survival benefits associated with habitat restoration actions in the lower Columbia River and Estuary; study code EST-P-09-1; cost is $700,000.
* Juvenile salmonid ecology and restoration of tidal freshwater habitats; study code EST-P-11-new; cost is $2M total for this project and estuary project below.
* Contribution of tidal fluvial habitats in the Columbia River estuary to the recovery of diverse salmon ESUs; study code EST-P-10-new; cost is $2M total shared with project immediately above.

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