

Northwestern Division – U.S. Army Corps of Engineers
ANDROMOUS FISH EVALUATION PROGRAM
FY2013 RESEARCH SUMMARY

Study Code: EST-12-P-NEW

Fish Program Feature: SCT spreadsheet identifier (i.e. CRFM Project)

Title: Synthesis and Evaluation of Research, Monitoring and Evaluation and Restoration Project Data in the Lower Columbia River and Estuary.

Management Application: Estuary research funded through the CRFM AFEP supports the Corps and regions Columbia Estuary Ecosystem Restoration Program (CEERP). The goal of the CEERP is *to understand, conserve and restore ecosystems in the Columbia River Estuary*. This study supports this goal by executing the synthesis and evaluation of research, monitoring and evaluation data, and habitat restoration project data to answer management questions including:

- What are the limiting factors or threats (i.e., stressors and controlling factors) in the estuary preventing the achievement of desired habitat or fish performance?
- Which actions are most effective at addressing the limiting factors?
- Are the estuary habitat actions achieving the expected biological and environmental benefits? What actions are most effective?
- What adjustments should be made, if any, to improve the ability of the SBU crediting method to predict benefits to ESA-listed fish from ecosystem protection and restoration in the LCRE?

As we answer these questions, we can make better decisions about habitat restoration (project selection, design and assessments) and RME efforts in the LCRE. Estuary research progresses actions under the 2008/2010 FCRPS BiOp:

- *Habitat Strategy 2* - Improve Juvenile and Adult Fish Survival in Estuary Habitat: **RPA 37** Estuary Habitat Implementation. Findings inform the Expert Regional Technical Group (ERTG) assigned survival benefit unit (ASBU) methods, specifically criteria for “certainty of success”, “habitat access/opportunity” and “habitat capacity/quality”.
- *RM&E Strategy 4* – Estuary Habitat and Ocean Research, Monitoring, and Evaluation: **RPA 60** Monitor and Evaluate Habitat Actions in the Estuary. Analysis of restoration accounting metrics will provide summary statistics of restoration accomplishments (e.g., number of acres restored, etc.). **RPA 61** Investigate Estuary / Ocean Critical Uncertainties: Analysis of biological data will build our scientific understanding of salmon ecology in the LCRE; **RPA 50** Report available information on population viability metrics in annual and comprehensive evaluations.
- *Adaptive Management Actions* – **RPA 1** Implementation Plan, **RPA 2** Annual Progress Report, **RPA 3** Comprehensive RPA Evaluations: Meta-analysis will contribute to the implementation plan (CEERP Action Plan), annual progress reporting (CEERP Synthesis Memorandum) and comprehensive reporting (CEERP synthesis and evaluation of RME and project data).

Background: In January 2011 the Independent Scientific Review Panel expressed concern that RME and project development were not well-coordinated in the LCRE. This study is intended to provide a regional database to store past and future data, and facilitate data sharing among research and restoration practitioners in the LCRE. The database will be developed in form and function to relate to other relevant regional data systems (e.g., PNAMP) and will provide a publically accessible (web-based) “engine” for future comprehensive analysis.

Wednesday, April 18, 2012

Study Goal: The goal of this study is to develop an estuary-wide data management system for research, monitoring and evaluation studies and restoration project development.

Objective 1 – Coordination: Coordinate with CEERP funding agencies and regional stakeholders to finalize key management questions and database needs for RME and ecosystem restoration in the LCRE within CEERP’s adaptive management framework.

Objective 2 - Database Development: Develop and demonstrate a proof-of-concept geospatial database management and analysis system.

Objective 3 – Analysis: Analyze data to answer key management questions, and provide analytical support at program level. Products will support comprehensive BiOp reporting.

Schedule: FY 2012 to FY 2014

	2012 Coordination and establish prototype database	2013 Refine database application	2014 Transfer to regional entity
Objective 1 Coordination	Stakeholder input and guidance during design	Stakeholder review and feedback on prototype database	Stakeholder coordination for eventual transfer of technology
Objective 2 Database	Develop estuary data Model and prototype database (PNNL-collected data); Refine data model and analytical outputs – confirm that outputs support key management questions; identify compatible data systems.	Populate database with regionally available data; Normalize available data to support meta analysis; Link to other compatible data systems (example, PNAMP)	Finalize geospatial database management and analysis system (e.g., restoration accounting metrics, etc.)
Objective3 Analysis	Perform preliminary analysis. 2012 Strategy Report, 2012 Action Plan, and 2011 Synthesis and Evaluation Memorandum	Analyze data to answer management questions and support science-based decisions; 2013 Synthesis Memorandum; 2013 Strategy Report and 2013 Action Plan	Analyze data to answer management questions and support science-based decisions; 2014 Synthesis Memorandum; 2014 Strategy Report and 2014 Action Plan

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