

### **Enclosure 3**

#### **Detailed Comments on NMFS Draft Science Workplan**

***(Enclosure 4 to NMFS January 19, 2017 Transmittal)***

March 22, 2017

**General/Summary** – The National Marine Fisheries Service (NMFS) provided a draft science workplan as the fourth enclosure to its January 19, 2017 transmittal of the draft proposed amendment to the components of the reasonable and prudent alternative (RPA) related to Shasta Dam operations from the 2009 Biological Opinion (BiOp). The transmittal refers to the fourth enclosure as a “proposed science workplan”. The document identifies itself as a proposed modeling framework. The latter description appears to be more accurate. Reclamation believes that the two agencies should meet and further discuss the need and objectives for the development of a science workplan, and based on a common understanding of what the workplan is intended to accomplish, develop a document that reflects near-term and long-term needs that can leverage partnerships and be sustained.

The science workplan should support ongoing processes involving the entire Central Valley Project (CVP), including but not limited to the reinitiation of consultation (ROC) on the NMFS and US Fish and Wildlife Service Biological Opinions (BiOps), activities under the Central Valley Project Improvement Act (CVPIA), compliance with the Water Infrastructure Improvements for the Nation (WIIN) Act, Bay-Delta Water Quality Control Plan update processes being undertaken by the State Water Resources Control Board, development of supporting information for decisions related to the California WaterFix project, adaptive management processes under the existing BiOps, and various projects related to the species being undertaken by stakeholders including the Collaborative Science and Adaptive Management Program (CSAMP) and the Sacramento River Settlement Contractor efforts. Reclamation believes the need for such a workplan warrants an approach that extends beyond this process to amend the Shasta-related components of the existing NMFS BiOp, and development of the workplan should be undertaken as a parallel but separate process from the amendment process. We believe there is a need to prioritize Shasta-related components of the workplan in support of this amendment process.

In October 2016, Reclamation developed a draft workplan for the development of a revised framework for operational models in support of Sacramento River temperature management. This workplan is geared towards meeting the forecasting needs of Reclamation’s operations, and as such, is anticipated to support many of the physical modeling needs associated with activities under the RPA of the NMFS BiOp. Reclamation believes that as a result, some of the efforts outlined in the “Physical Models” section of the proposed framework in the NMFS draft science workplan are duplicative with efforts already underway in this workplan. Reclamation looks forward to working with NMFS to further discuss how we may be able to leverage our respective efforts by focusing on the strengths and expertise of each agency in order to minimize duplication and ultimately meet the needs of both agencies. Specifically, Reclamation envisions an approach that provides for Reclamation taking a lead role in the development of physical/operational modeling, with NMFS focusing more specifically on leading biological modeling. Both agencies should consider undertaking activities within a large, diverse, and

collaborative science enterprise that incorporates other partner agencies, stakeholders, non-governmental organizations, and academia.

**Page 3/4** – The document describes work completed on an egg survival model. Based on the description and associated figures, the study focuses on developing estimates of temperature dependent mortality based on modeling of temperature exposure of eggs, and comparing those to field-based fry survival estimates that result from any number of factors affecting survival. Reclamation requests additional discussion/description as to whether other (non-temperature based) factors might play a role in the survival estimates, and how those might factor in to the temperature dependent mortality modeling to produce the most accurate estimate of temperature impacts. Reclamation also reiterates the need to address concerns raised by CVP stakeholders as discussed in Enclosure 2 to this transmittal.

**Page 6 (“Reservoir” paragraph)** – The document states that current monitoring and modeling of water quality in Shasta Reservoir is inadequate, and suggests additional monitoring needs. No data or information is offered to support the statement of inadequacy, nor is information offered as to what needs would be met through additional monitoring. It should be noted that Reclamation does not agree with the statement, and would encourage further dialog on any potential additional needs for expanded in-reservoir monitoring.

**Page 6 (“Summary” paragraph)** – The document notes the application of the modeling framework in support of other processes such as California WaterFix and meeting Delta water quality standards. This appears to support the concept of a larger process as outlined in our general comment section above.