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DELTA STEWARDSHIP COUNCIL

A California State Agency

December 16, 2015

Chair
Randy Fiorini

Craig Muehlberg
Acting Bay-Delta Office Manager
United States Bureau of Reclamation,
Bay-Delta Office
801 I Street, Suite 140
Sacramento, CA 95814

Maria Rea
Sacramento Area Office Supervisor
National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento, California 95814

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Executive Officer
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Kaylee Allen
Field Supervisor
United States Fish and Wildlife Service
San Francisco Bay-Delta Fish and Wildlife Office
650 Capitol Mall, 8-300
Sacramento, California 95814

Re: Report of the 2015 Delta Science Program Independent Review Panel (IRP) on the Long-term Operations Biological Opinions (LOBO) Annual Science Review

Dear Mr. Muehlberg, Ms. Rea, and Ms. Allen:

The Delta Science Program is pleased to present the enclosed review report entitled, "Independent Review Panel (IRP) Report for the 2015 Long-term Operations Biological Opinions (LOBO) Annual Science Review." The transmittal of this report fulfills a request from the United States Bureau of Reclamation (Reclamation), National Marine Fisheries Service (NMFS), and United States Fish and Wildlife Services (USFWS) to provide annual independent external review of implementation of the RPA Actions in the NMFS and the USFWS Long-term Operations Biological Opinions (LOBO) for the state and federal water projects.

The overall goal of this peer review was to inform NMFS and USFWS about the efficacy of the prior year's water operations and regulatory actions prescribed by their respective Reasonable and Prudent Alternatives (RPAs). The review summarized lessons learned and provided recommendations for incorporating new science to inform scientifically justified adjustments **to the RPAs or their implementation** supporting future water years' real-time decision making. This year's review focused on specific issues that arose during the 2015 water year related to: 1) progress on Shasta Reservoir and Sacramento River temperature monitoring, modeling,

"Coequal goals" means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."

– CA Water Code §85054

December 16, 2015

Page 2

and management; 2) a report on the River Assessment for Forecasting Temperature (RAFT) decision support tool (model); 3) a report on the enhanced particle tracking modeling; and 4) a USFWS report on past, present, and future approaches to incidental take of Delta Smelt.

The independent review panel consisted of Dr. James Anderson, Dr. James Gore (Chair), Dr. Ron Kneib (Lead Author), Dr. Nancy Monsen, Dr. Geoffrey Schladow, and Dr. John Van Sickle. These panel members were selected for their expertise and reputation concerning anadromous fish, estuarine ecology, hydrodynamics, transport modeling, environmental statistics, and water quality. The panel met in public meetings on November 5 - 6, 2015.

Detailed information on the 2015 Long-term Operations Biological Opinions Annual Science Review can be found on the Delta Science Program web page (<http://deltacouncil.ca.gov/event-detail/12645>). The Delta Science Program was pleased to assist in the process of evaluating the implementation of the RPAs and specific issues that arose during the 2015 Water Year through open and transparent scientific peer review.

If there are questions about the 2015 Long-term Operations Biological Opinions Annual Science Review, IRP report, or the overall process, please contact Nicole Stern, Environmental Scientist, Delta Science Program, at (916) 322-6545.

Sincerely,

A handwritten signature in black ink that reads "Cliff Dahm". The signature is written in a cursive, slightly slanted style.

Cliff Dahm, Ph.D.
Lead Scientist, Delta Science Program
Delta Stewardship Council

Enclosure

Cc: Janice Piñero, United States Bureau of Reclamation
Donna Garcia, United States Bureau of Reclamation
Garwin Yip, National Marine Fisheries Service
Kim Squires, United States Fish and Wildlife Service
Harry Spanglet, Department of Water Resources