

# Shasta RPA Amendment:

## Science and Monitoring Work Plan

NOAA Fisheries & US Bureau of Reclamation  
December 14, 2017

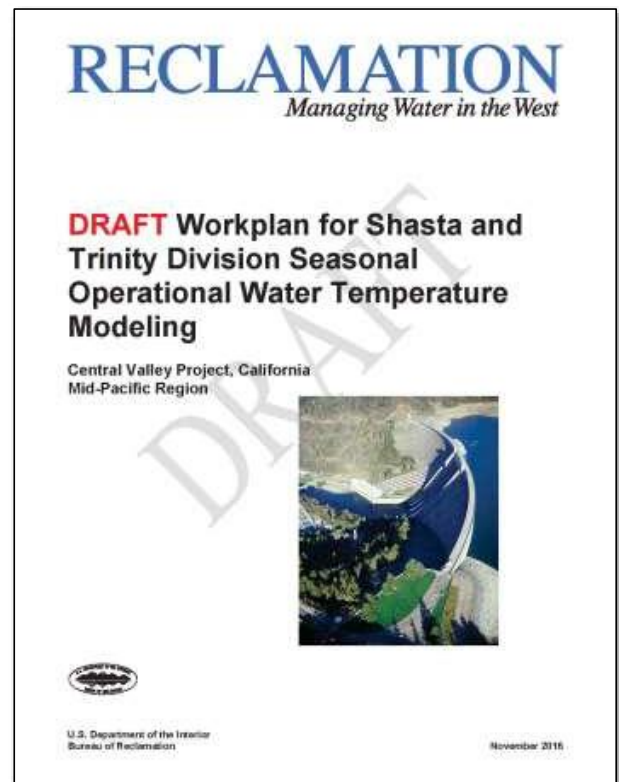
# Status of the Plan



The current document is a Reclamation and NMFS product originally envisioned to be similar to the *CVP and SWP Drought Contingency Biological Monitoring Plan* (Dec. 2014).

# Concurrent Effort

The Science Plan is intended to complement Reclamation's *Modeling Workplan* (Nov. 2016), the objective of which is to update and refine modeling capabilities.



# Science Plan Objectives

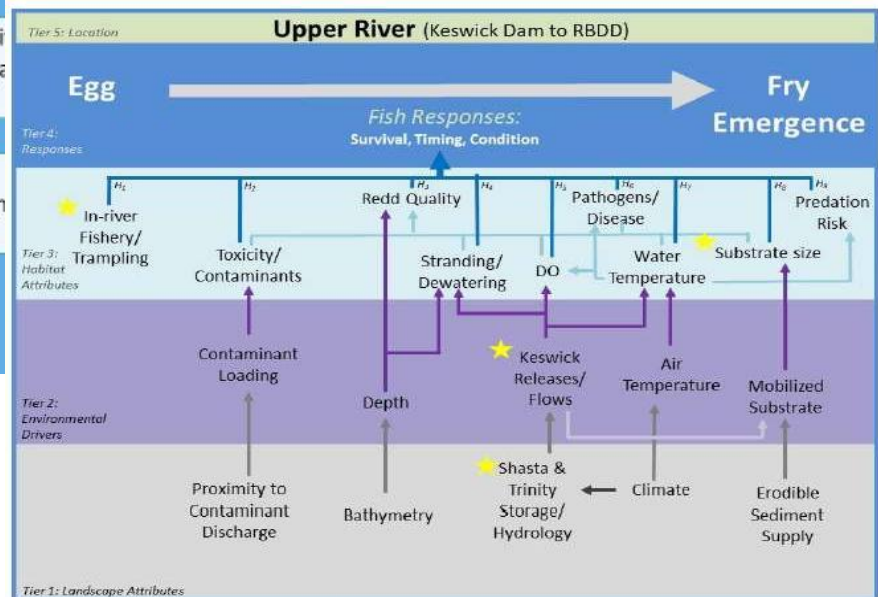
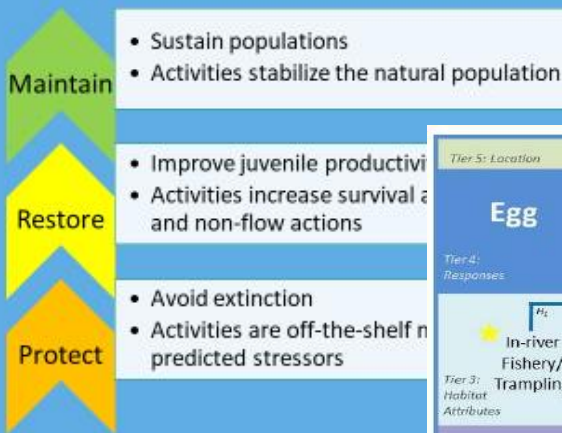
To be used to help guide the “budget in Federal fiscal year 2018, if possible, and into fiscal year 2019 and beyond.”

Specifically by directing actions that will:

- Reduce uncertainty on the conditions necessary to achieve desired fish and water management goals
- Identify near-term monitoring, biological modeling, and analysis and synthesis needs to improve fish and water management decision-making regarding Action Suite I.2
- Coordinate activities between agencies, stakeholders, and other interested parties.

# Fish and Water Management Goals

## Environmental Watering Approaches

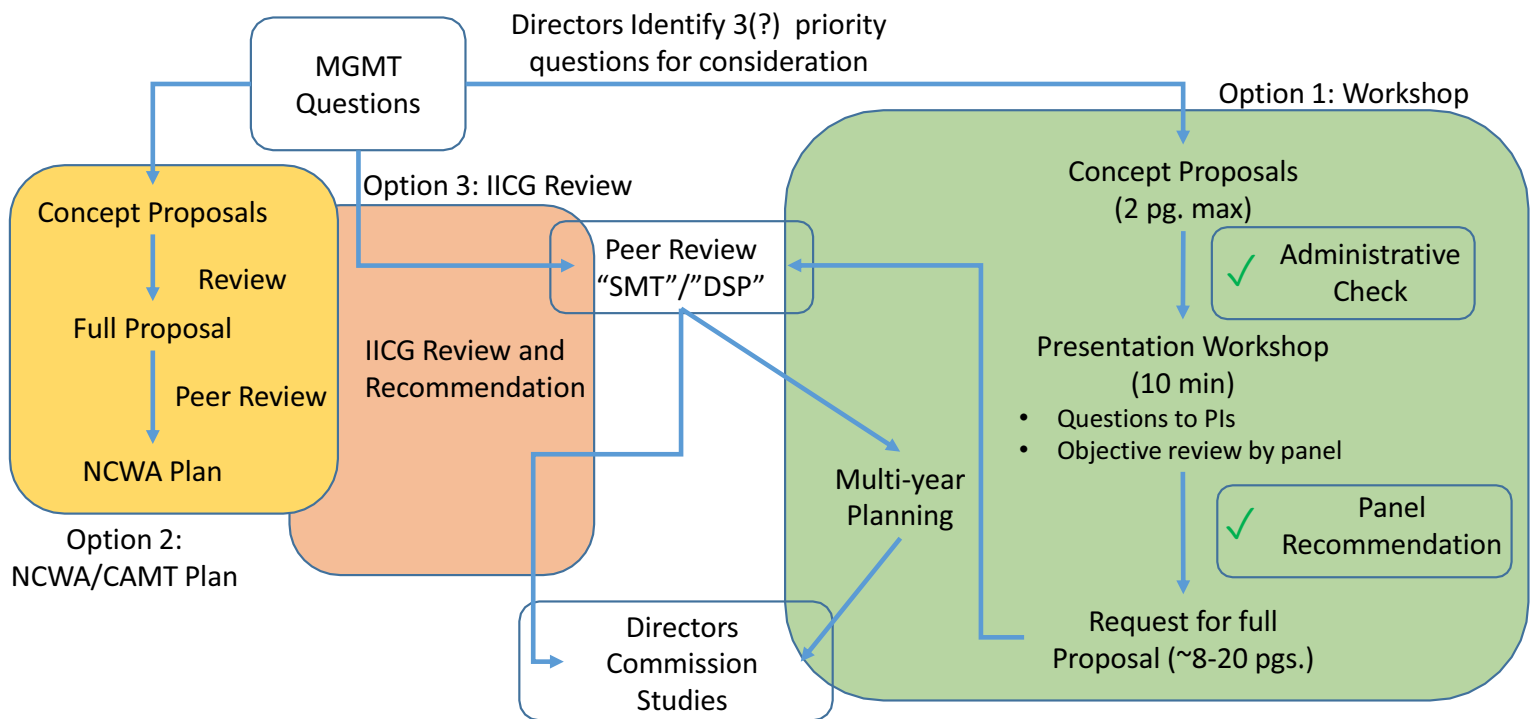


# Management Questions

- Forecasting (biological modeling and synthesis)
- Species Viability and Variability (mechanistic studies of observation and experiments)
- Interactions between Stressors (community studies)
- Structural Modification and Facilities (engineering studies)

# Implementation

## Science Planning: Annual/Bi-annual cycle?



# Monitoring

The Science Plan identifies a number of new and ongoing monitoring programs the data of which currently inform, or may be used in the future to inform, Project operations. This monitoring may be further used to answer the proposed management questions.

- Core Monitoring (existing, compliance monitoring)
- Special Studies (Short-term, opportunistic studies)



# Time Table and Next Steps

Task	Timeline
Final version of Science Plan	December 2017 – January 2018
Study prioritization and planning	January- June 2018-2020
Study funding and implementation	October 2018- September 2021
Study Status Reporting	Semiannually WY 2019-2021
Monitoring Status Reporting	Open data approach
Biological Review Panel (Independent review of final findings and monitoring)	September 2019, 2021, 2023

# Questions and Feedback

Reclamation and NMFS are particularly interested in comments regarding

- (1) sufficiency of the Management Questions section,
- (2) the collaborative science approaches to planning, prioritization, and implementation described in the Implementation section (slide 7), and
- (3) adequacy of the Stakeholder Involvement and Outreach section.

Questions and input can be provided via email to Evan Sawyer, [evan.sawyer@NOAA.gov](mailto:evan.sawyer@NOAA.gov). Please send comments no later than COB March 2, 2018.