

**NMFS/USFWS Friday Director's Meeting
NMFS High-level Review Summary of BA
February 15, 2019**

Good news:

1. Susan Boring will be working with us as a technical editor. Thank you USFWS!
2. Continued progress on the modeling. Big thanks to Katrina at Reclamation for helping move this.
3. NMFS team is wrapping up their review of the BA.
4. Technical coordination meetings with Reclamation scheduled next Thursday and Friday.

Concerns:

1. The BA review has identified some concerns with the proposed action and the Effects Analysis. A snapshot of these are summarized below:

Proposed Action

- a. Many operational details are lacking and several important parts of the proposed action do not seem to be supported by the best available science and may pose significant risks to listed fish species:
 - Shasta Cold Water Pool Management
 - Winter-run Chinook Interventions (Increased reliance on Livingston Stone, Trap and Haul)
 - OMR Flow Management: criteria
- b. CVP Contract Shortage Provisions and COA are mentioned in the proposed action but are not being consulted on. This is a concern because they fundamentally drive operations.
- c. Components of the PA are described as being either "Site Specific" or "Programmatic", however many of the Site Specific components lack sufficient detail for us to analyze them in a way that would lead to quantification of the amount or extent of take in an Incidental Take Statement. Examples include:
 - Shasta Dam Raise
 - Shasta Cold Water Pool Management: 4 tiers of operation
- d. Many missing components that we expected to see:
 - 5-agency adaptive Management Plan
 - Storage Management (building carryover storage)
 - I:E or replacement alternative

Effects Analysis

- a. The effects analysis uses a comparative approach to the without operations scenario to show that effects are overall beneficial. Details are lacking that allow us to quantify the effects of the action, so we are looking at the appendices for more details.
- b. Difficulty sorting through the appendixes to find data that supports the effects analysis in the BA. Our interpretation of information in appendixes could be different than Reclamations.

Modeling Status Update:

Funding mechanisms being finalized, but generally resolved

- NMFS SWFSC Winter-run Life Cycle Model
- NMFS SWFSC CVTemp temperature modeling
- NMFS temperature dependent egg mortality model

On track to be completed by ICF/Cramer

- Salvage-Density Model
- Delta Passage Model (DPM)
- IOS
- DSM2 Fingerprinting Analysis (need to confirm with Reclamation)

Awaiting additional input from NMFS, but on track to be completed by Jacobs

- DSM2-HYDRO Analysis

ICF doing recon, will discuss options more with NMFS

- SalSim
- Spawning and Rearing Weighted Usable Area (WUA) in Tributaries
- SALMOD

Additional tasks identified as high-priority for Trinity analysis, pursuing with Reclamation and USFWS

- SSS (stream salmonid simulator): USFWS and USGS have capability but not sure of bandwidth.

Need: NMFS talk with Sacramento USFWS about Trinity USFWS running this model for the ROC effort.

- SONCC coho habitat modeling: Can be run by Reclamation TRRP. Concern that analysis won't be ready until late March. NMFS and Rec to discuss.
- River Basin Model-10 (RBM10): Will be run by Reclamation TRRP.