ROC on LTO Track 1

Objective:

- Potential modified water operations and actions that can directly or indirectly improve South-of-Delta water supply that can be accomplished in the near-term.

Reclamation has developed a list of ideas for Track 1 based on internal brainstorming, agency discussions, stakeholder workshops, and comments received on previous LTO processes.

Track 1 NEPA will be completed with either an Environmental Assessment or a concise Environmental Impact Statement. Analysis would be mostly qualitative. Ideas must not affect upstream operations to avoid triggering a suite of necessary models in the impact analysis.

Preliminary development of a list of ideas has resulted in a suite of options that are being considered by categories such as: actions, process changes, and pilot programs and studies. Actions would consist of modifications to Reclamation's Proposed Action in the 2008 Biological Assessment that was used for the 2008 and 2009 BOs. Process changes would consist of clarifying language and adjustments to how the RPA actions are actually implemented, such as meeting groups and methodologies. Lastly, Reclamation will include a series of pilot programs to determine efficacy of possible future actions and studies to improve delta knowledge. The initial list may change due to time and complexity constraints. Elements that continue to show merit may be included in future process, such as Revisions to the LTO (Track 2) or ROC on LTO (Track 3).

<u>Actions</u>

1. I:E ratio
    - Minimum outflows
    - Different ratios to reach objective
2. WIIN Act implementation
    - Process and criteria for OMR flexibility during storm events (section 4003)
    - Expanded transfer window (develop criteria)
    - Evaluate transfer ratios
    - Modify method to calculate OMR
3. Presence-based combined OMR
    - Fish monitoring data for trigger
    - Offramp decision making
    - Entrainment model
    - Real time operation
4. Barriers
    - Physical and non-physical barriers
    - Dissolved oxygen in Stockton DWSC
    - Deter migration to DCC, Georgiana slough
    - Habitat restoration to change flows at Georgiana junction
    - Encourage migration to Sutter and Steamboat sloughs
5. Fall X2

- Consider removing December requirement
- Adaptive Management approach
- Modify averaging period (months)
- Focus on Grizzly and Honker Bay compliance
- Flexibility

6. Preferential pumping through CVP

Process Changes

7. Incidental take methodology
    - Use more years of data
    - Use more or different trawls
    - Entrainment model
    - Salvage multiplier
8. Decision group restructuring

Pilot Programs and Studies

9. Foodweb
    - Sacramento Deepwater Ship Channel
    - Repair gates in West Sacramento to allow flow through
    - Add fertilizer for foodweb benefits
10. Hatchery Management
    - 100% mark hatchery fish
    - Return spawned hatchery fish to the river for nutrients
    - Volitional hatchery releases
    - Barge releases
11. Predator Control
    - Improve public access at CCF to improve predator fishing
    - Catch Reward program
12. Studies
    - Substrate for delta smelt spawning
    - Delta sediment reintroduction pilot
    - eDNA
    - Delta Smelt detection methodologies and monitoring locations
    - EDSM
    - Early warning stations (turbidity)

Schedule:

April 2018	Refined ideas list
May 2018	Project Description
December 2018	Final NEPA document/Biological Assessment