

Reinitiation of Consultation Clear Creek Technical Workgroup Charter

DRAFT June 20, 2017

The purpose of this document is to describe the purpose, objectives, process, staffing, roles and responsibilities, and timeline of the interdisciplinary interagency technical workgroups for the Reinitiation of Consultation (ROC) on the Coordinated Long-Term Operation (LTO) of the Central Valley Project (CVP) and State Water Project (SWP).

This document is draft, and may change throughout the process.

Purpose

The geographically based interagency interdisciplinary technical workgroups are charged with identifying and developing new ideas to meet the biological and operational functions of the CVP and SWP.

The scope of the Clear Creek technical workgroup includes Clear Creek actions as well as Whiskeytown Reservoir actions and operations related to Clear Creek (such as release outlets, glory hole spillway, *etc*). Trinity River diversions will be addressed as part of the Sacramento River group, and Sacramento River and Trinity River tradeoffs will be discussed as part of the Sacramento River group.

Objectives of the Reinitiation of Consultation

On August 2, 2016, Reclamation requested reinitiation of Endangered Species Act (ESA) Section 7 consultations with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) on the LTO of the CVP and SWP. Several factors resulted in Reclamation requesting reinitiation of consultation under the ESA, including the continued decline in the status of the listed species, the recent multiple years of drought, and the evolution of best available science. This consultation is expected to update the system-wide operating criteria for the LTO consistent with Section 7 requirements, to investigate the potential of including new and relevant conservation measures for listed species, and to review the existing Reasonable and Prudent Alternative (RPA) actions included in the 2008 USFWS Biological Opinion (BO) and 2009 NMFS BO to determine their continued substance and efficacy in meeting the requirements of Section 7 of the ESA.

The overall goal of the ROC is to achieve a durable and sustainable BO issued jointly by the USFWS and NMFS (or two closely coordinated BOs) that accounts for the updated status of the species, operation of new facilities constructed or expected to be constructed, including the

California WaterFix project (CWF), and modifications to the operation of the CVP and SWP. In a parallel process, the Department of Water Resources (DWR) will comply with the California Endangered Species Act (CESA) for the SWP.

Approach

The approach for the ROC on LTO process includes:

- “Fresh Look Concept”: The five agencies aim to analyze revising operation of the CVP and SWP, including appurtenant facilities, hatcheries, and inclusion of possible restoration, to account for new science and recent information.
- Biological objectives: The five agencies hope to focus the Proposed Action on meeting biological objectives, through consideration of operations in conjunction with habitat restoration and construction, instead of focusing solely on operational objectives.
- Best available science: The five agencies will use best available science and set appropriate biological objectives to attain water use and species conservation goals.
- Science-based adaptive management: The Proposed Action is anticipated to include adaptive management for adjustments over time based on new science.
- Transparency: Reclamation will establish an expanded stakeholder engagement process, and will include a broad range of stakeholders in coordination with the five agencies.
- Peer review: Peer review and/or independent review of new tools used and specific analyses is an important objective of this consultation.

Objectives of this process

The objectives of the technical workgroup process include:

- Brainstorm new ways to meet the biological and operational functions of [insert Geographic area] of the CVP / SWP.
- Clearly link new methods to science-based requirements to avoid jeopardy.
- Identify tradeoffs between species, operational and biological objectives, and build consensus among different agencies to balance these needs to the extent possible.
- Develop ideas into potential options for inclusion in the ROC on LTO alternatives.
- Build trust and collaboration between agencies.
- Coordinate with the 5-agency team to schedule stakeholder meetings regarding ideas.
- Document ideas and any development, constraints, or tradeoffs and resolutions in a report.

Background

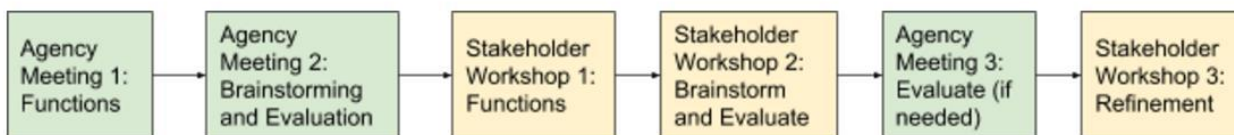
The ROC on LTO is intended to be a “fresh look”, with new ideas and ways to meet biological objectives incorporated into the National Environmental Policy Act alternatives and ESA proposed action. To accomplish this, interdisciplinary, interagency technical workgroups have

been organized by geographic area. These workgroups are expected to identify ideas that would go into alternatives, and develop their ideas to the extent possible.

A team with representatives from Reclamation, DWR, USFWS, NMFS, and the Department of Fish and Wildlife (DFW) meets every two weeks. The technical workgroup Point Person is expected to coordinate with Reclamation's Project Manager and/or the 5-agency team as they move through this process. The 5-agency team encourages technical workgroups to coordinate with stakeholders to further evaluate and assess the ideas generated. However, all stakeholder outreach should occur after briefing or with the consent and collaboration of the 5-agency team.

Process and Schedule

- 1) Identify Functions
- 2) Brainstorm Solutions and Evaluate
- 3) Stakeholder Workshop – Identify Functions
- 4) Stakeholder Workshop – Brainstorm and Evaluate
- 5) Further Evaluation
- 6) Stakeholder Workshop – Solution Refinement
- 7) Documentation



Each technical workgroup process will start with an introduction by Reclamation's Project Manager and/or the Point Person on the overall ROC process and where the technical workgroup input fits into the overall process. This presentation should include a discussion of the overall ROC on LTO objectives as well as this charter.

Step 1 - Identify functions - Day 1

Technical workgroup meetings will include a presentation from Reclamation and/or DWR on the operations of the Whiskeytown Reservoir and Clear Creek region of the CVP, including the variation in operations in different hydrologic conditions, followed by a presentation from biologists on biological resources of importance in that region (i.e. fish species). The biological presentations could use existing conceptual models from recent Interagency Ecological Program (IEP) efforts including the IEP Management, Analysis, and Synthesis Team (MAST) effort for Delta Smelt and the Salmon and Sturgeon Assessment, Indicators, Life Stages (SAIL) effort for salmonids and sturgeon. This will provide all technical workgroup members background information to inform their brainstorming process. There are a large number of constraints that could be considered (see Constraints section below). However, these will not be discussed in detail at this stage in order to encourage creative, open brainstorming. All of the constraints can be changed - with varying levels of effort. The presentation on overall operations

and biological resources is expected to take 1-4 hours, depending on the region, and may be combined with a site visit.

For Step 1, the technical workgroup should identify the key functions of that region, such as: produce winter-run Chinook salmon and provide water. The technical workgroup should examine components of the baseline for the region and develop critical functions. Functions then may have sub-components, also known as lower order functions, processes or factors. Physical processes / limiting factors could be the factors that could affect juvenile production, including temperature, predation, habitat, water quality, food, cover, etc, based on scientific research or published papers.

This identification may be done with FAST (Functional Analysis System Technique). FAST considers why each function is done, and then how each function is done, to develop a chart of higher and lower order functions of the system. Figure 1 below shows a diagram of the FAST process. This process is expected to be completed on Day 1.

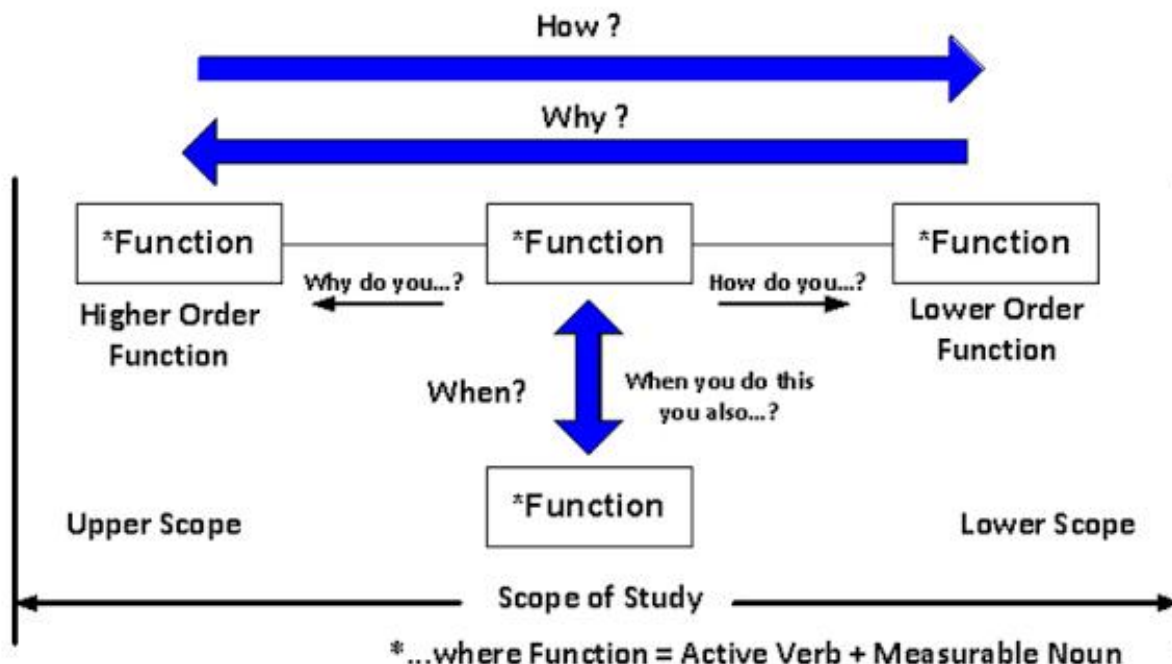


Figure 1: Functional Analysis System Technique Diagram (Source: <http://www.valueanalysis.ca/fast.php>)

After some functions are identified, functional analysis involves:

- Identifying more functions by asking “how” and “why.”
- Identifying how the function is achieved. Answers would be placed to the right of the function in terms of an active verb and measurable noun.
- Identifying why the function undertaken. Answers would be placed to the left of the function in terms of an active verb and measurable noun.
- When functions cannot be connected in terms of “how” and “why”, functions may be missing or redundant and the chart needs expansion.

- Some functions may happen at the same time. Identify when this function is done, what else is done or caused by the function?
- Higher order functions (towards the left), which could be: “produce Chinook salmon”, or “supply water” describe what is being accomplished by this region’s water supply system and rivers.
- Lower order functions (towards the right), which could be: “inundate floodplains” or “open slide gate for diversion” describe how the higher order functions are being accomplished.
- Functions that occur together with or as a result of each other can be plotted vertically, as shown in Figure 1 above.

Below are some existing conceptual models, which may be used to inform the FAST diagram for Clear Creek.

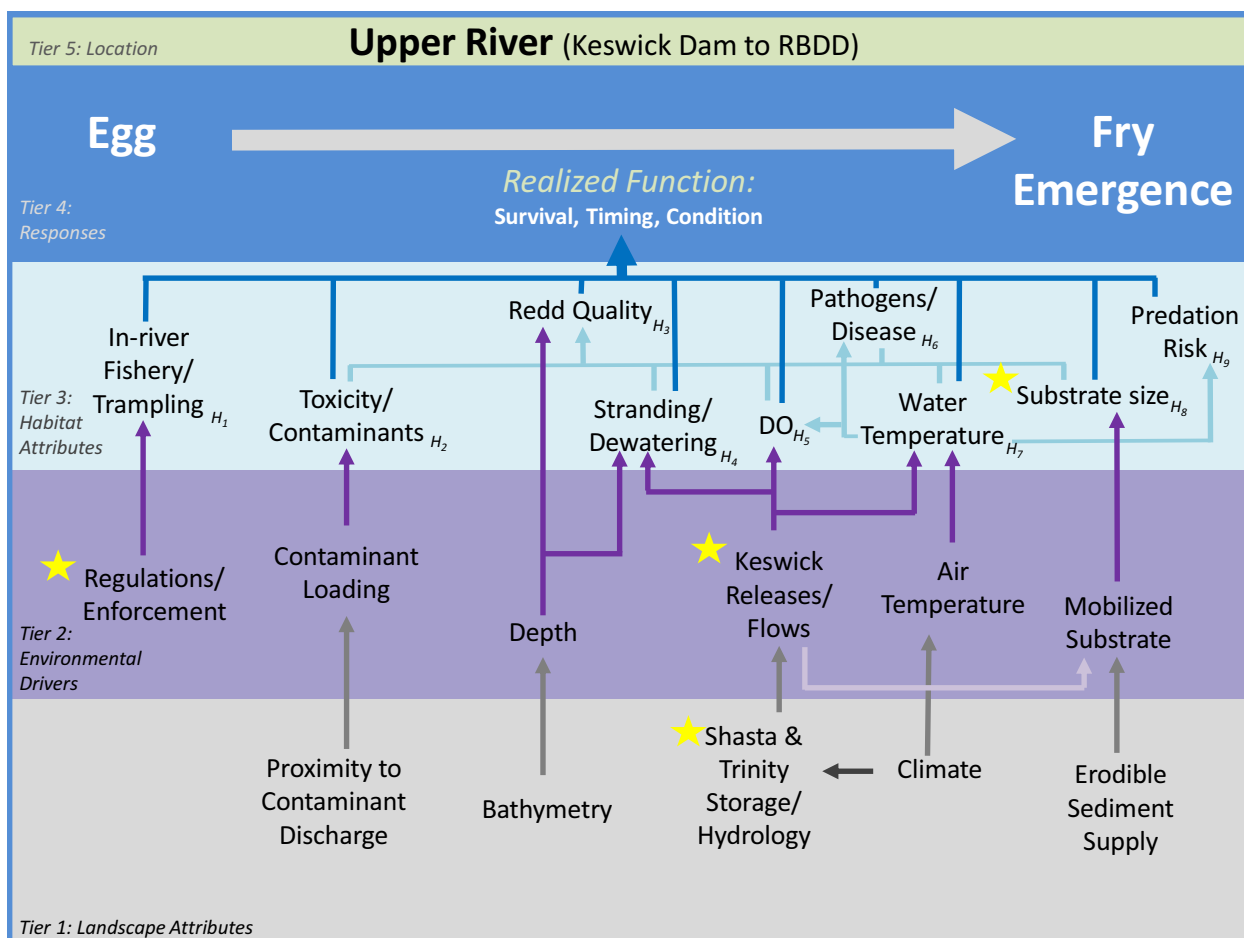


Figure 2. Winter-run Chinook Salmon Conceptual Model (Salmon and Sturgeon Assessment of Indicators by Lifestage (SAIL) Interagency Ecological Program Team, manuscript in press)

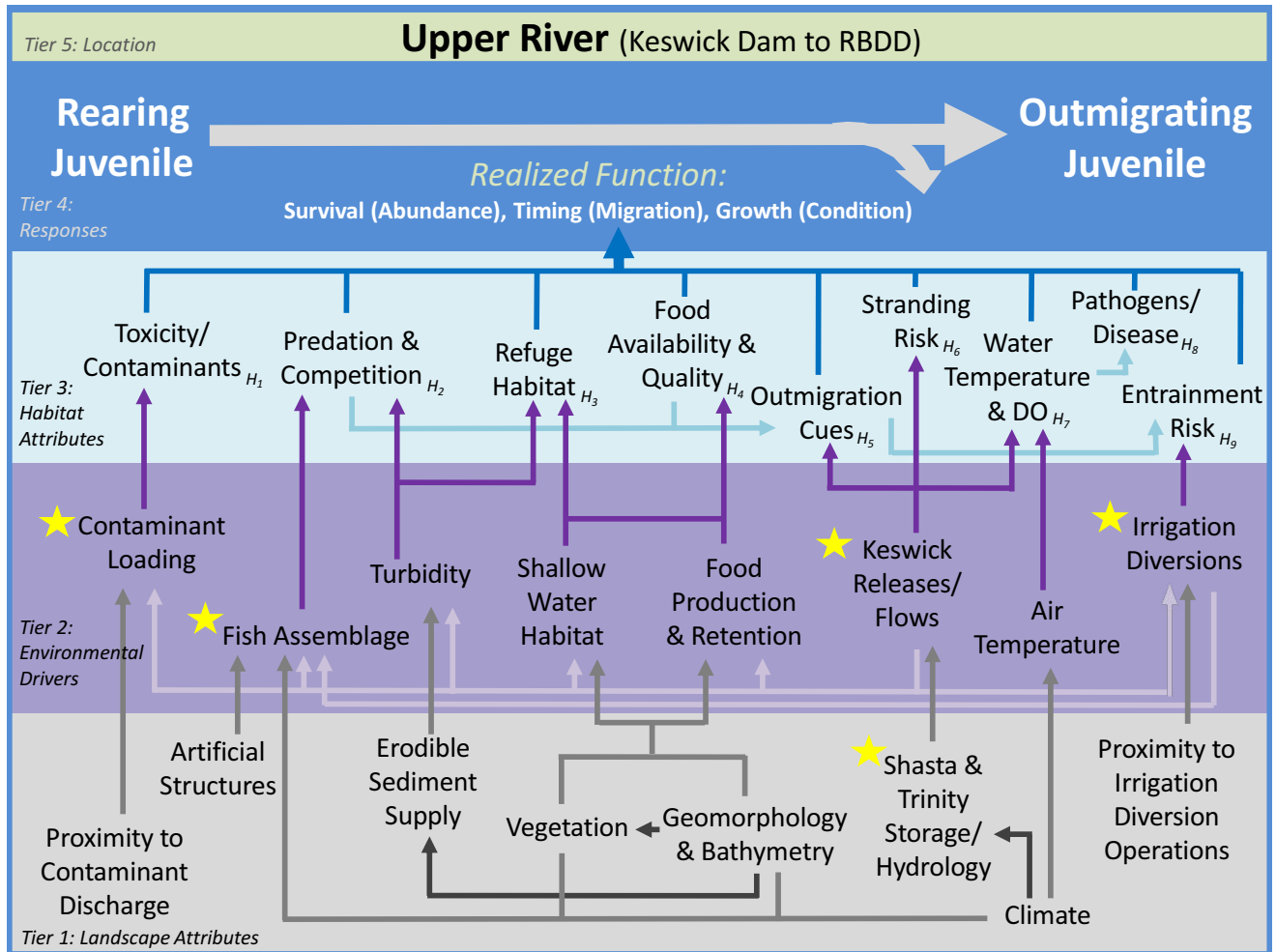


Figure 3. Winter-run Chinook Salmon Conceptual Model (Salmon and Sturgeon Assessment of Indicators by Lifestage (SAIL) Interagency Ecological Program Team, manuscript in press)

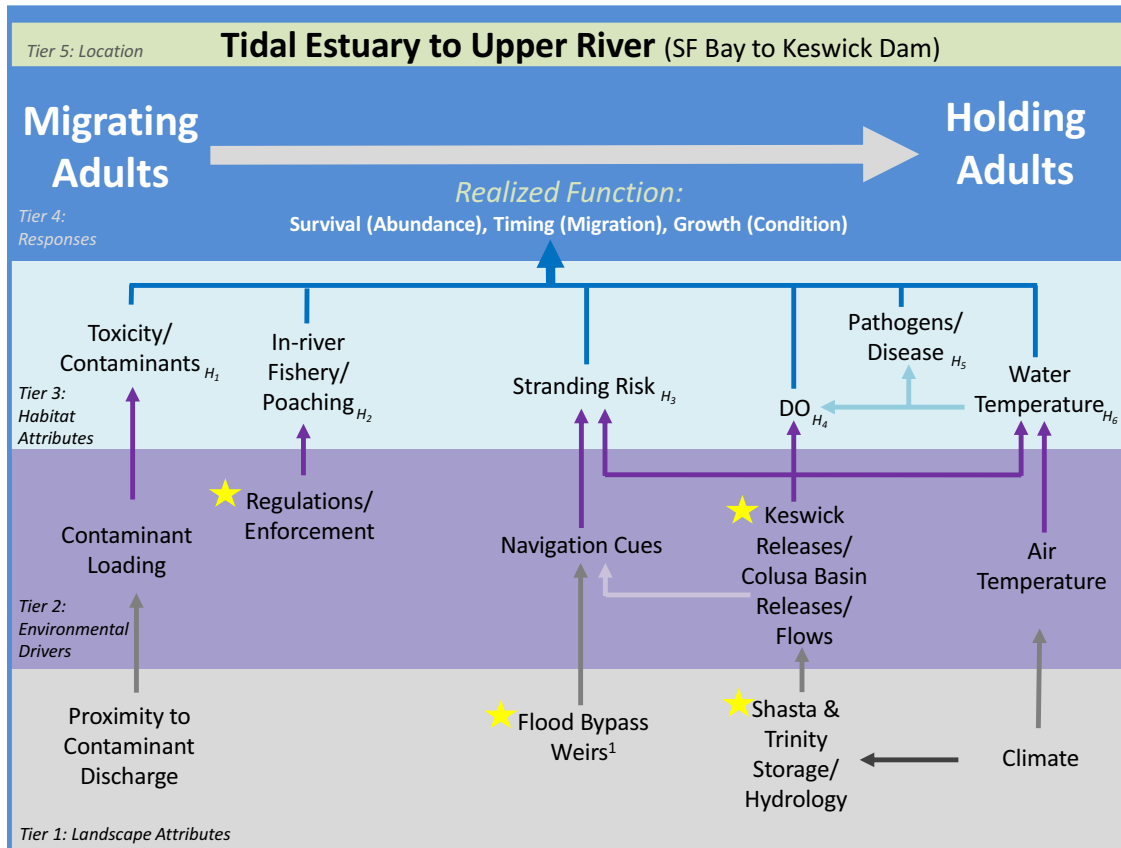


Figure 4. Winter-run Chinook Salmon Conceptual Model (Salmon and Sturgeon Assessment of Indicators by Lifestage (SAIL) Interagency Ecological Program Team, manuscript in press)

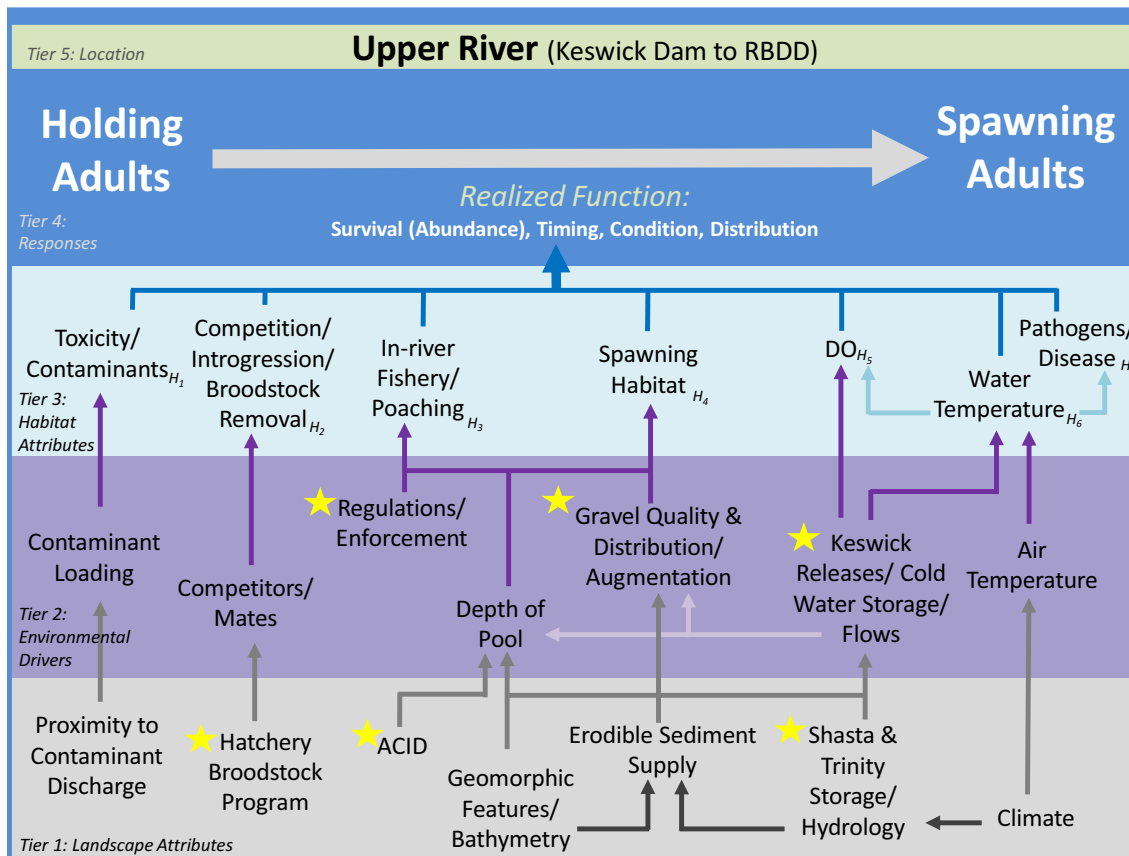


Figure 5. Winter-run Chinook Salmon Conceptual Model (Salmon and Sturgeon Assessment of Indicators by Lifestage (SAIL) Interagency Ecological Program Team, manuscript in press)

Reclamation anticipates that functions will help to achieve biological objectives, based on similar parameters stated in the NMFS Viable Salmon Population guidance. Biological objectives are intended to be trend lines in the right direction for the species. Thus recovery is not a requirement, but we do want to make sure the fish species are not moving towards extinction. As stated in the NMFS Viable Salmon Population (VSP) report, McElhany *et al.* (2000), “four parameters form the key to evaluating population status. They are: abundance, population growth rate, population spatial structure, and diversity. NMFS focuses on these parameters for several reasons. First, they are reasonable predictors of extinction risk (viability). Second, they reflect general processes that are important to all populations of all species. For example, many factors influence abundance, (e.g., habitat quality, interactions with other species, harvest programs, etc.).”

Table 1: ROC on LTO Biological Objectives

Species	Viability Parameter	Description
Chinook Salmon, Steelhead	Abundance	Avoid rapid decreases in cohort replacement rate, and increase in 3-year running average cohort replacement rate, controlled for hydrology
Chinook Salmon, Steelhead	Productivity	Increase number of juveniles exiting the Delta per adult spawner, controlled for hydrology
Chinook Salmon, Steelhead	Spatial Structure	Increased number of river systems observed;
Chinook Salmon, Steelhead	Diversity	Larger number of rearing / spawning / holding locations, controlled for hydrology

Reclamation anticipates a series of actions that are implemented in a tiered approach:

Protect: Predict adverse conditions and implement off-the-shelf contingency plans to address potential extinction risks to fish populations.

Restore: Provide for sufficient numbers of juveniles per adult to enable the rebuilding of fish populations.

Maintain: Operate water projects to support the target numbers of adult returns.

Step 2 - Brainstorm solutions - Day 2

The next step would be to brainstorm solutions and ideas to meet the functions identified in Step 1. These ideas could include items such as: temperature control devices, adjusting releases to the spring from the summer, *etc.* The technical workgroup should encourage creative brainstorming, and during the brainstorming phase all ideas will be considered. No discussion of feasibility or constraints should occur during this phase. Suggested alternatives need not be within the authorization of Reclamation and the DWR. A list of all ideas generated should be provided in the technical workgroup's documentation at the end of this process. Brainstorming is expected to take a half to a full day.

Step 3 - Evaluate - Day 2

In this step, the technical workgroup should evaluate the ideas from Step 2, and consider all of the feasibility, species tradeoff, lifestage tradeoff, and physical constraints that are intentionally ignored in Step 2.

After evaluation, ideas should be refined to be accurate (contribute to meeting one or more biological objectives), predictable, and flexible (allow for operational planning). Some ideas may have more development than other ideas. The technical workgroup should list advantages and disadvantages for each idea. It is hoped that each biological objective, or perhaps lowest level function from the FAST diagram, will have several strong ideas associated with it, to allow for operational flexibility given the wide range of hydrological conditions and other constraints. The workgroups are encouraged to collaborate and to build relationships between the workgroup members that will allow discussions of compromise and consideration of tradeoffs for different life-stages, species and beneficial uses of water. The more consensus the workgroups can build among members of the workgroup and stakeholders, the more likely the objective and set of ideas will become part of an alternative or the proposed action in the ROC on LTO. This is expected to take a full day.

Step 4 - Stakeholder Workshop - Days 3 and 4

The environmental Non-Governmental Organizations, fishing organizations, water users, and power customers are interested parties in this process. Once the technical workgroup has gone through the FAST process and brainstormed ideas, the Point Person should coordinate with the 5-agency team, and the 5-agency team will organize a stakeholder workshop (likely a 1 day workshop) to build on the five agency ideas with thoughts from the wider group of interested participants. The technical workgroup should be prepared to both explain why their functions and ideas are valuable to consider, and to come with an open mind to consider additional ideas if presented by stakeholders.

The stakeholder workshop could use something similar to the “World Cafe” technique (<http://www.theworldcafe.com/wp-content/uploads/2015/07/Cafe-To-Go-Revised.pdf>). Reclamation and the other agencies could provide a facilitator / note taker at each table. Stakeholders would be assigned a table rotation in advance, which will allow every stakeholder to discuss every topic and be in groups with different people in each rotation. Table topics would likely be key sections of the FAST chart initialized with the five agency ideas. Tables could have large pieces of paper for drawing relationships between ideas, and allow each rotation to build on the previous rotations ideas.

Draft Stakeholder Meeting Agenda:

- Introduction - introduction by Point Person (30 mins)
- Operations and Biological Overview (1 hour)
- Table Rotation 1 - 20 mins
- Table Rotation 2 - 20 mins
- Table Rotation 3 - 20 mins
- Table Rotation 4 - 20 mins
- Table Reports to whole group - 20 mins
- Group development of complete FAST chart
- Items below could be a separate workshop / day:

- Brainstorming by stakeholder attendees (with white boards, maps, small group rotation depending on the size of group)
- Report out from brainstorming (if done in small groups)
- Evaluation in small groups
- Synthesis of advantages / disadvantages - all attendees

Step 5 - Evaluate - Day 5

After the stakeholder workshop, the technical workgroup should collaborate to consider the stakeholder ideas, and any adjustments or additional thoughts to the technical workgroup ideas. The technical workgroup should identify advantages and disadvantages for all the ideas. This is expected to take half a day, and include assignment of action items to follow-up with stakeholders on any mitigation, if any, they may have in mind for the disadvantages of their ideas.

Step 6 - Stakeholder Follow-up – Day 6

The technical team should work with the 5-agency team to schedule a 2nd stakeholder workshop, for stakeholders to present refinements of their ideas to address disadvantages. It is possible that stakeholders may have ways to address or mitigate the disadvantages, and these should be considered.

Step 7 - Documentation - call

Finally, the technical workgroup should collaborate to consider the stakeholder ideas and document the entire technical workgroup process and findings. The documentation should include:

1. Functions (FAST diagram)
2. Lower level functions, linked to higher level functions with supporting scientific research/data
3. Biological Objectives (perhaps the same as higher level functions)
4. Large list of initial brainstormed items - including stakeholder input, with all ideas included
5. Advantages and disadvantages of ideas
6. Mitigation ideas for disadvantages
7. Appendix: Documentation of stakeholder follow-up (brief notes)

An example is below:

Objective: Increase productivity

Function: Increase juvenile growth

Ideas to meet the function:

- Increase floodplain inundation frequency and duration by releasing pulses of 2,000 cubic feet per second every 2 weeks for 2 days
 - Advantages:
 - Disadvantages:
 - Refinements to reduce disadvantages:
- Floodplain habitat restoration of 200 acres of habitat near Joe's Slough that inundates at 500 cfs
 - Advantages:
 - Disadvantages:
 - Refinements to reduce disadvantages:

Timeline

Step	Date	Task Description
1	July XX, 2017	Presentation on overall operations for region Identify functions
4	June XX, 2017	Stakeholder Workshop (or after 2 nd workgroup meeting on brainstorming and evaluation)
5	July XX, 2017	Brainstorm Solutions and Evaluate
6	August XX, 2017	Stakeholder Workshop
	August XX, 2017	Evaluation (if needed)
	September 2017	Stakeholder Workshop
7	October 20, 2017	Report drafted and sent to workgroup for review
	November 10, 2017	Workgroup returns report revisions and comments to Point Person
	December 8, 2017	Point Person integrates revisions and sends final report to Reclamation PM

Roles and Responsibilities

The Point Person is responsible for setting up the meeting, determining the time, place, and agenda. They are also responsible for facilitating or finding someone else to facilitate. They promote constructive behavior within the group in collaboration with the facilitator. They guide the team through the process and take the lead in preparing the report.

The Note taker is responsible for taking notes at all technical workgroup meetings. These notes will be very useful for developing the report later on.

Technical workgroup members are responsible for bringing an open, collaborative spirit to this process, participating in the meetings, providing constructive input, being respectful of each other, and writing sections of the report as assigned by the Point Person.

Reclamation will provide training to all of the Point People on the anticipated process, and will provide facilitators.

The 5-agency team is responsible for stakeholder outreach. The 5-agency team will organize and plan the stakeholder workshops, and coordinate with the Point Person and technical workgroups on content.

Staffing

The Clear Creek Technical Workgroup participants will include:

- Ben Nelson – Reclamation (Point Person)
- Mike Hendrick - Reclamation
- Randi Field, Reclamation
- Mike Barry or Aric Lester - DWR
- Teresa Connor or Seth Lawrence or Nancy Snodgrass - DWR
- Charlie Chamberlain – USFWS
- Matt Brown – USFWS
- Brycen Swart – NMFS
- Garwin Yip – NMFS
- Jason Roberts - DFW

Constraints

Existing constraints include:

- Existing water supply contracts
- Existing court mandates
- Existing RPAs
- etc

However, please do not weigh these constraints too heavily. The ROC does include operations, habitat restoration, and construction. The goal of a non-jeopardy BO will mean the existing RPAs are removed or incorporated into the proposed action. Physical infrastructure can be changed. Water Rights orders can be amended through a petition process through the State Water Resources Control Board. Water contracts may have to be revised when long-term

contracts are signed after the ROC on LTO. Consider the feasibility, and the difficulty of changing the existing laws/regulations/infrastructure/etc., and identify these as disadvantages of the ideas, but do not preclude considering an idea just because it would be challenging.

References

McElhany, P., M.H. Ruckelshaus, M.J. Ford, T.C. Wainwright, and E.P. Bjorkstedt. 2000. Viable salmonid populations and the recovery of evolutionarily significant units. U.S. Dept. Commer., NOAA Tech. Memo. NMFS-NWFSC-42, 156 p.