

Sites Project and Modeling Update and Discussion

10/26/20 (9:00 AM – 10:00 AM)

draft Meeting Notes

Initial discussions centered around modeling and large-scale project updates. Examples of updates include:

1. Reservoir size reduced from 1.8 to 1.5 MAF
2. Diversion capacities:
 - a. Glenn Colusa Canal: 1800 cfs
 - b. Tehama-Colusa Canal: 2,100 cfs
3. No Delevan diversion, pipeline, or outfall
 - a. Utilize existing pumping plants facilities at Red Bluff and Hamilton City
 - b. Releases to T-C Canal to the CBD
 - c. New 1,000 cfs release point near Dunnigan
4. Alternative 2 includes a new 1,000 cfs outfall near Tyndall Landing
5. Releases reduced from 1,500 to 1,000 cfs
6. Updates to CalSim II model. In the question and answer session, it was stated that CalSim II utilized the 82-year time-step for planning.
7. Model Assumptions overview

To consider more extreme conditions in the future, drier and/or wetter scenarios based on input will be a part of sensitivity analyses.

The US Bureau of Reclamation (Donna G) asked about Reclamation's overall role and Shasta exchange. Specifically wondering if the results reflect the potential Shasta exchange. It was clarified that currently results do not reflect a full exchange. It was also acknowledged that a 91K AF exchange may show an uptick for dry and critical dry years.

Additional information regarding meeting details can be found in the materials delivered by Sites Integration (John Spranza).

Sites Joint Aquatics Workshop #1

10/26/20 (10:00 AM – 12:00 PM)

draft Meeting Notes

Workshop #1 32 participants

Kristal Davis-Fadtke, CDFW
Ken Kundargi, CDFW
Jonathan Williams, CDFW
Mike Hendrick, ICF
Jerry Brown, Sites Authority
Ryan Davis, Reclamation
Melissa Dekar, Reclamation
~~Dan Cordova, Reclamation~~
Russell Perry, USGS
~~Doug Jackson, QEDA~~
Cyril Michel, NMFS
Matt Johnson
Erica Meyers, CDFW
Mike Beakes, Reclamation
Paige Uttley, CDFW

Felipe LaLuz, CDFW
~~Zachary Kearns, CDFW~~
Chris Fitzer, ESA
Jason Hassrick, ICF
Noble Hendrix, QEDA
Marin Greenwood, ICF
Evan Sawyer, NMFS
John Spranza, Sites Integration
David Vogel, Natural Resource
Scientists, Inc
Andrew Huneycutt, CDFW

Jim Lecky, ICF
Erin Heydinger, Sites Integration
Steve Micko, Jacobs
Rob Leaf, Jacobs
Monique Briard, ICF
Rick Wilder, ICF
~~Ali Forsythe, Sites Authority~~
~~Cathy Marcinkevage, NMFS~~
Steven Schoenberg, USFWS
Erica Meyers, CDFW
Suzanne Manugian, Reclamation

Introduction

John Spranza of the Sites Integration team gave a summary of where the Sites Project updates and goals moving forward. The hope is to revise the project and that collectively we can hit the restart button in terms of communication and collaboration with state and federal regulatory and resource agencies, colleagues, and NGOs. This includes this meeting's effort to share current modeling results relevant to the Sites Project with up-to-date assumptions.

A general schedule overview was given. Per the Water Storage Investment Program (WSIP) requirements, the goal is for updated EIR and EIS to be released in July 2021. ICF (Marin G and Rick W) gave an overview of modeling results to date and analytical strategies. Currently, far field effects are the focus of the analytical tools and discussions related to this workshop. Examples include looking at effects on the Sacramento, Feather, and American rivers in addition to the Delta. Specific effects will consider temperature, dewatering risk, habitat capacity, risk of juvenile stranding, and flood plain inundation. A point of emphasis is migration and flow-survival relationships.

Initial reviews of modeling outputs for upstream effects shows limited changes in flows in Clear Creek and Trinity, Stanislaus, and American rivers. There were some changes in flows in the Sacramento River and Feather River in some months and water year types. In the Feather River, there are negligible changes in flows in the low flow channel (where most of the spring-run rearing and spawning occurs),

but there are greater changes in flows in the high flow channel. Noble Hendrix of QEDA gave an overview of the preliminary OBAN model results related to Sites. Example of output looks at lower temperatures showing better survival relationships in spawning reaches. The Henderson model has been developed but has not been incorporated into the lifecycle model yet.

Science Review

Cyril Michel – In his presentation entitled “Juvenile salmon survival thresholds in the Central Valley”, he acknowledged that multiple studies have shown that increased flows leads to increase survival of salmonid outmigrants. However, what is not known, is whether there are non-linear thresholds that describe these flow/survival relationships. From a water and fisheries management perspective, this is valuable information.

The key river stretch Cyril looked at is from the mouth of Deer Creek on the Sacramento downstream to the Feather River confluence. It is known that survival is relatively low in this river stretch, especially during low flows. Of particular interest and focus of this presentation were flows during the Spring period, when spring-run and fall-run Chinook salmon out-migrate. As part of his study, ‘bins’ of tagged fish vs flows were utilized as part of a mark-recapture survival model. Some key findings include a minimal threshold of 4,300 cfs (as measured at Wilkins Slough) at which low survival is strongly correlated. Another key finding is that 10,700 cfs (as measured at Wilkins Slough) is where survival seems to peak. There is an approximate 17 x increase when comparing the survival at 4,300 cfs to 10,700 cfs. Water temperatures appears to be the mechanism underlying low survival at the 4,300 cfs threshold. It is important to note this study only looked at smolt-sized fish and not parr of fry, which would likely yield different results because they need to rear in the river.

When considering winter-run Chinook salmon, it is uncertain if a similar study would demonstrate temperature as the driving force, though flows in winter of around 10-11 k cfs at Wilkins Slough may still be an important survival metric. This is an important water management consideration as this is when Sites will be diverting water. A question moving forward is how to establish Sites operational criteria that are linked to identified key flow thresholds at Wilkins Slough and tie these into listed species impacts. A key issue remains that daily data is not available, so we need to rely on monthly data. This creates difficult real-time operations and water management decisions.

Russell Perry (USGS) – Gave an overview on STARS real-time predictions related to Sites. The real-time predictions to be updated by USGS daily flow, DCC operations, and CA-NV River Forecast Center. His Bayesian Mark-Recapture Framework utilized 2,700 acoustic tagged late-fall Chinook salmon. The goal was to simultaneously estimate travel time, survival, and routing. Inflows at Sutter and Steamboat sloughs, Georgiana Slough, and the Delta Cross-Channel were analyzed in respect to fish routing.

STARS real-time predictions analyses were utilized as part of CA WaterFix (2017), Fremont Weir Notch Scenarios (2018), ROC on LTO (2019) and the DWR Incidental Take Permit (2019).

Next Steps and Action Items

1. Diversion Criteria Distribution. Delivered by John Spranza on 10/27/2020.
2. Coordinate the feasibility and possible execution of the STARS model on Sites.
3. Next meeting date: The week of the 23rd of November, very likely 10-12 on the 23rd. I will confirm with the team and send out an invite in the next day or so.
4. Determine the proportion of days and reversal of flows at Georgiana Slough.
5. To the extent possible, provide materials to state and federal agencies in a manner to provide review time prior to providing input.
6. Input on initial model results requested (INSERT DATE)
7. Refine operations on the Feather River and further integrate existing SWP and CVP operations into Sites.

DRAFT