



Meeting: **Reservoir Committee/Authority Board**
Agenda Item 3.1

February 21, 2025

Subject: **Update on CalSim 3 Modeling Efforts**

Requested Action:

Receive an overview of preliminary Project operations modeling results using the recently developed CalSim model platform (commonly referred to as CalSim 3).

Detailed Description/Background:

Efforts have continued to develop a Sites Project operations model in CalSim 3 as part of the process leading to receipt of the aquatics biological opinions for Sites Project operations from USFWS and NMFS later this year. The CalSim 3 platform was used to support the CVP/SWP LTO Reconsultation and needs to be carried forward in the Sites Project federal permitting process. Staff have now reached a stage where there is reasonable confidence in the Sites CalSim 3 model outputs. The team is continuing model development and review/quality control. At the March 2024 Board review of the Sites CalSim 3 model development, the Board requested that Sites CalSim 3 model progress be presented when the effort reached substantial completion which is the stage being reported here.

There are important elements being incorporated into the transition from CalSim 2 to CalSim 3 modeling platform including:

- The Sites CalSim 3 model has different operations for the CVP/SWP (i.e., the new CVP/SWP Reconsultation actions), especially for Shasta Reservoir, as compared to the 2019/2020 reconsultation efforts (which was used in the Sites CalSim II model).
- The current version of the Sites CalSim 3 model relies on different hydrology assumptions which are based on a 2022 median hydrology, whereas the Sites CalSim II analysis used different hydrology sets depending on the purpose/permit requirements.

In addition to these changes, staff have also incorporated the new diversion criteria defined in the Operations Incidental Take Permit (Operations ITP).

With these combined changes, the preliminary results from CalSim 3 are summarized in Table 1.

Table 1. Long Term Average Annual Diversion to Storage and Releases in Preliminary CalSim 3 for Alternative 3B (TAF) – Reclamation Participation at 16 percent

Scenario	Diversion to Storage	Releases
CalSim 3 (ALT 3B v01b)	267	240

Model development is continuing, and it is anticipated that these preliminary results will change. For example, the modeling team is currently working to include a representation of some of the water supply assets being developed as part of the Voluntary Agreements into the Sites CalSim 3 model. Staff have also not yet evaluated what portion of decreased diversion is associated with the Operations ITP diversion criteria versus the transition to CalSim 3 and the new baseline/hydrology set; however, this will be reviewed when the model is complete. As these results are preliminary, it is not yet appropriate to consider how these may change Project costs. However, it is important to remember that the model is a representation of how Storage Partners may use their individual accounts – a more aggressive use of a Storage Partners’ account will result in a lower unit (per acre-foot) cost while a more conservative use will result in a higher unit cost.

The CalSim 3 model has proven to be a challenging model to work with. The Sites team has expanded beyond Jacobs/CH2M to include Stantec and MBK to help complete this effort. Currently, the team is focusing on model development for the Project’s Federal Endangered Species Act consultation process and review/quality control.

Prior Authority Board Action:

March 2024 - Received an overview of preliminary Project operations modeling results using the recently developed CalSim model platform (commonly referred to as CalSim 3).

Fiscal Impact/Funding Source:

The Sites Project CalSim 3 model development can be completed within the Amendment 3 Work Plan total budget.

Staff Contact: Ali Forsythe / Angela Bezzone

Primary Service Provider: Jacobs

Attachments: None