

## Environmental Water Account Operations

### Quin/Speer Subgroup Scenario

#### Key Assumptions used in Scenario

Default operation used as the basis for this scenario includes: Accord + AFRP (upstream and in-Delta) + New Trinity Flow Requirements + Joint Point of Diversion + 200 TAF groundwater storage (operated for SWP water supply).

Banks Pumping Plant exports may be increased to 8,500 cfs at the discretion of the EWA Manager. The increased capacity is used to facilitate temporal-shifting of exports for increased environmental protection. In this scenario, Banks Pumping Plant increases to 8,500 cfs were not used to supplement water supply.

EWA Assets used in this scenario:

300 TAF groundwater storage account.

50 TAF surface storage account.

100 TAF available purchase each year.

EWA Manager may shift exports and flows to provide protections beyond AFRP base.

#### Environmental Benefits

All AFRP actions implemented.

New Trinity Flows implemented.

Additional export and outflow temporal-shifting (100 to 500 TAF per year) provided for increased environmental protection, based on real-time monitoring and salvage information.

#### Water Supply Impacts

Water supply benefits in the default operation due to Joint Point of Diversion and 200 TAF Kern Water Bank are displayed below:

<i>(Impacts in TAF per year)</i>	Long-Term Average	Critical Period Average
Relative to Accord + All AFRP + Trinity	100	70
Relative to Accord + Upstream AFRP	-100	-120

While water supply deliveries were maintained in the 1984 to 87 simulation, SWP and CVP storage deficits exceeded EWA assets by up to 230 TAF. Additional EWA assets would be required to avoid reductions in project water supply allocations.

Some nominal additional water supply benefits could be obtained by using 8,500 cfs Banks Pumping Plant capacity for SWP and CVP use. This would likely provide some increase in long-term average deliveries (on the order of 50 TAF), but only minimal increase in critical period deliveries.

#### Conclusions

Summary results of this simulation are displayed in Figure 1. Four years were simulated, with the hydrologic sequence of wet year, dry year, wet year, dry year.

The simulation was only conducted once, without fore site as to hydrological or biological

conditions. Additional experience would lead to more efficient operations and use of assets. In this simulation the 100 TAF purchase option was only exercised once, in the final year. Based on this gained experience, the purchase option would be exercised more frequently in a rerun of the simulation.

Improvements in both environmental protection and water supply benefits are provided in this scenario relative to the Accord + All AFRP + Trinity baseline.

Increasing Banks Pumping Plant capacity to 10,300 cfs would provide flexibility for additional water supply benefits and environmental protection.

Additional assets will be required to provide the assumed level of protection and increase water supply benefits above the Accord + Upstream AFRP baseline. These assets would be required to produce 150 to 300 TAF of water in dry years. Assets could take the form of additional storage, water recycling and conservation savings reallocated to the Delta. purchase options, or combinations.

## Ag/Urban Scenario

### Key Assumptions used in Scenario

Default operation used as the basis for this scenario includes: Accord + Upstream AFRP + Joint Point of Diversion + 10,300 cfs Banks Pumping Plant capacity + 400 cfs intertie between the Delta-Mendota Canal and the California Aqueduct.

First priority for use of Joint Point of Diversion, increased Banks Pumping Plant export capacity, intertie, and use of ground water recharge facilities is for water supply.

EWA Assets used in this scenario:

300 TAF groundwater storage account.

50 TAF surface storage account.

100 TAF available purchase each year.

EWA Manager may shift exports and flows to provide in-Delta AFRP actions and additional environmental protections.

### Environmental Benefits

All AFRP actions (upstream and in-Delta) are implemented, with the exception that the July export reduction action is implemented only in dry and critical years.

Additional water supply available for environmental purposes (beyond in-Delta AFRP actions) averages about 130 TAF in non-wet years.

### Water Supply Impacts

Water supply benefits in the default operation due to Joint Point of Diversion, 10,300 cfs Banks Pumping Plant capacity, and 400 cfs intertie are displayed below:

<i>(Impacts in TAF per year)</i>	Long-Term Average	Critical Period Average
Relative to Accord + All AFRP + Trinity	400	300
Relative to Accord + Upstream AFRP	200	110

This simulation assumes a Banks Pumping Plant capacity of 10,300 cfs and does not consider the impacts of new Trinity flow requirements. Using Year 1 assumptions of 8,500 cfs Banks Pumping Plant capacity, no intertie, and accounting for implementation of new Trinity flow requirements, water supply deliveries are decreased in the order of 100 TAF in both long-term and critical period averages.

### Conclusions

In this simulation the 100 TAF purchase option was exercised in over 80 percent of years.

This scenario did not consider impacts due to new Trinity flow requirements. However, after accounting for Trinity impacts and considering adjustments for those facilities not available in Year 1, this simulation confirms the primary conclusions of the Speer/Quin Subgroup scenario. Improvements in both environmental protection and water supply benefits could be provided through implementation of a EWA of this magnitude, relative to the Accord + All AFRP + Trinity baseline. Additional EWA assets would be necessary to provide additional environmental protections.