

CALFED POLICY MANAGEMENT GROUP

April 11, 1997

Operation Study Summary

Revision, 4/11/97

I. BASE CASE

Assumes a project operation under the Delta Accord that allows exports to be equal to the San Joaquin River flow at Vernalis or 1,500 CFS whichever is greater.

	<u>APRIL 15-30</u>	<u>MAY 1-15</u>
Vernalis Flow	5,200 CFS	5,000 CFS
Exports	5,200 CFS	5,000 CFS

Operation analysis assumes a hydrology at 90% exceedence April through September and a 70% exceedence October through March.

Water allocations to CVP and SWP contractors are based upon the capability of the 2 projects to meet the Bay - Delta standards supported by operation of upstream project reservoirs, accretions within the river systems, and capability of system facilities south of Delta.

Both projects assume 100 percent of contract allocation for purposes of this analysis.

The SWP storage in San Luis Reservoir fills in February 1998

II. Delta Smelt Biological Opinion

(Issued March 7, 1995, issued to the Bureau of Reclamation and Department of Water Resources for the operation of the Central Valley Project and State Water Project)

Two studies (Delta Smelt A and B) have been done which assume strict implementation of the Delta Smelt Biological Opinion by reducing exports to the level required by the Biological Opinion for a WET YEAR classification. One study assumes a Delta standard (the export/inflow ratio) can be modified in accordance with the Delta Accord. The other does not include this assumption.

The assumed Spring pulse flow/export operation is:

	<u>APRIL 15-30</u>	<u>MAY 1-15</u>
Vernalis Flow	5200 CFS	5000 CFS
Exports	1500 CFS	1500 CFS

The resulting Spring export reduction is 213,000 acre-feet.

Additional information:

If the water year classification were modified to ABOVE NORMAL to decrease the effect the extreme January flood values have upon the classification and, therefore, more accurately represent current water conditions, the resulting required export reduction would be less but, more importantly, the operation would be very close to the proposed Vernalis Adaptive Management Plan (VAMP).

San Joaquin River flows may be augmented with acquired water pending current discussions with San Joaquin valley water districts. This augmentation may increase the spring export reduction impact but may also provide increased Delta smelt protection by reducing the incidental take of Delta smelt at the export facilities.

Delta Smelt (A): No Export/Inflow Ratio adjustment.

Exports are reduced in the spring per the Biological Opinion and modifications of the Export/Inflow Ratio are not allowed.

Pros:

- Meets Delta Smelt opinion as specified in March 7, 19975 opinion under classification of a WET year using the San Joaquin Valley index.
- Requires no additional coordination through year for export/inflow ratio modification.
- Avoids potential impact to fish from export/inflow modifications.

Cons:

- Make-up pumping will be extended through beyond March 1998.
 - Decreases the possibility of providing interruptible supply to SWP contractors
 - Increases the possibility of a low delivery allocation being made in December-February.
- Make up of 213,000 AF removes all other flexibility from CVP and SWP operations for addressing further uncertainties in 1997, such as incidental take.

Delta Smelt (B): Export/Inflow Ratio adjustment.

Export/inflow ratio is adjusted to allow for higher export levels.

Pros:

- Will allow for make up of SWP share of impacts to be accomplished by end of February 1998.
 - Restores the possibility of providing interruptible supply to SWP contractors to the Base Case level.
 - Restores the delivery allocation to the Base Case level.
- May provide for additional flexibility if make-up period must be extended through March 1998.
- Restores opportunity in March 1998 to accommodate unforeseen biological needs in 1997.

Cons:

- Increases risk to other species in months when export/inflow ratio is adjusted December and February, especially adult Delta smelt, spring run, and winter run salmon.

III. Vernalis Adaptive Management Plan

Provides for an experimental approach to evaluate the relationship between San Joaquin River flows and export pumping and the impacts on fish species.

Two studies (VAMP A and B) have been done which assume the Spring pulse flow/export operation shown below. One study assumes a Delta standard (the export/inflow ratio) can be modified in accordance with the Delta Accord. The other does not include this assumption.

	<u>APRIL 15-30</u>	<u>MAY 1-15</u>
Vernalis	5700 CFS	5700 CFS
Exports	2250 CFS	2250 CFS

The resulting Spring export reduction is 168,000 acre-feet.

VAMP (A): No Export/Inflow Ratio adjustment.

Exports are reduced in the spring per the VAMP and modifications of the Export/Inflow Ratio are not allowed.

Pros:

- Advances the negotiations regarding San Joaquin water rights responsibilities for the Delta.
- Meets one of the targeted Vernalis flow-to-export ratios of the experiment.
- Exports within 60 CFS of Delta smelt Biological Opinion under an ABOVE NORMAL year classification.
- Provides for 45,000 AF less impacts than Delta Smelt option.
- Allows greater flexibility than the Delta smelt studies for CVP and SWP operations to meet further uncertainties in 1997.

Cons:

- Exceeds export objectives in Delta smelt Biological Opinion under a WET year classification.
- Extends make up of CVP and SWP impacts into beyond March 1998.
 - Decreases the possibility of providing interruptible supply to SWP contractors
 - Increases the possibility of a low delivery allocation being made in December-February.

VAMP (B): Export/Inflow Ratio adjustment.

Export/inflow ratio is adjusted to allow higher export levels.

Pros:

- Will allow for make up of SWP share of impacts to be accomplished by end of February 1998.
- Allows SWP to maintain certainty of deliveries to its water users.
 - Restores the possibility of providing interruptible supply to SWP contractors to the Base Case level.
 - Restores the delivery allocation to the Base Case level.
- May provide for additional flexibility if make up period must be extended through March 1998.
- Restores opportunity in March 1998 to accommodate unforeseen biological needs in 1997.

Cons:

- Increases risk to other species in months when export/import ratio is increased. December and February, especially adult Delta smelt, spring run, and winter run salmon.