Delta Cross Channel Studies: Status and Needs

Status: As of September 14, 2001, all experimental work associated with the Delta Cross Channel (DCC) is proceeding. Six 20-ft Fyke traps are in position and catching upmigrating adult salmon. Hydroacoustic gear has been put into place to track the movements of adult salmon through Georgiana Slough, the DCC and the Sacramento River. Sonic tagging of adult salmon at the Montezuma Slough control structure and near Jersey Point is beginning and we expect to be tagging 20-30 adult salmon each week for the next two months. Acoustic Doppler profilers have been put into place on the north and south forks of the Mokelumne River, near the entrance to Sutter and Steamboat sloughs and in permanent sites around the DCC. Installation of sonic tracking stations along all migratory pathways through the delta will be completed by early next week. Mobil sonic tracking boats are being equipped and crews trained to follow the small-scale movements of adult fish released from the Montezuma control structure. Juvenile salmon studies are scheduled to begin October 29 and all fish, permits, equipment, and personnel are expected to be ready.

Background: The influence of different flow regimes on the straying and delay of upmigrating salmon is one of the most significant issues concerning operations of the DCC and any future diversions off the Sacramento River. Large number of adult salmon moving upstream this year and tagging programs are in place as part of other studies; deferring DCC experiments would greatly reduce the likelihood of success. The recently completed peer review by the DCC scientific review panel commented that the ability to manipulate central delta flows by changing gate operations is a significant tool for rapidly answering technical questions in support of policymaking. Technical staff of environmental groups and urban water users have strongly supported experimental manipulation of the DCC gates.

In response to concerns expressed by the water project operators, experimental gate operation schedules have been revised to reduce the likelihood of experimental impacts on water supply operations. The gates were operated in August to block 25% of the water that would have passed through the DCC by closing the gates during every other nighttime flood tide. Proposed September operations have been aborted by project agencies. October operations are the subject of this memo.

Needs: Calibration of the Mokelumne River current profilers, requires gate closures over 2-4 flood tides (ideally during spring tides). These closures do not need to be consecutive, but the USGS crews need a week's warning. This area is acknowledged by the modelers as an area least accurately represented in the DSM2 model. Accurate flow data can be expected to improve accuracy of this model, which at present is underpredicting EC at Holland Tract and overpredicting at Jersey Point.

Studies on adult salmon require substantially different flows through the DCC in September vs October. The DCC biologists believe that reducing DCC flows by half for 3 weeks is the minimum needed to see a measurable change in fish behavior. DWR is presently modeling the risk such an operation would pose to water deliveries. Such an operation in September was modeled as putting about 10000 acre-feet at risk. Higher outflow requirements in October may reduce that value.

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