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Testimony of Richard Morat
Harm to estuarine aquatic resources from the BBID diversion of 2,067 acre-feet from the intake channel to the Banks Pumping Plant during the period June 13, 2015 to June 25, 2015

Numerical fish numbers presented herein are from:
http://www.dfg.ca.gov/delta/apps/salvage/SalvageExportChart.aspx?Species=3&SampleDate=10%2f18%2f2015&Facility=2

This website provides data on fish salvaged at the Skinner Delta Fish Protective Facility in a chart format.

Salvage data from the Skinner Delta Fish Protective Facility (SDFPF) associated with the Banks Pumping Plant located within Clifton Court Forebay is, because of close proximity with the Byron Bethany Irrigation District (BBID) intake, the best indicator of fish likely present in the waters taken in by BBID. The SDFPF (since 1968) diverts (salvages) some fish using a louver-bypass system from water being pumped into the California Aqueduct. The diverted fish are periodically monitored (identified, counted and measured) and trucked to release sites in the western Delta. This facility mitigates just some of the impacts of the export operation. Even with salvage, exports contribute to increased mortality of much aquatic life in the estuary, and Clifton Court Forebay in particular is a site of acute predation on many fish species of small size.

While the numbers of fish salvaged at the SDFPF are not the numbers lost due to the BBID diversion of 2,067 acre-feet over 13 days, they are an indication of fish abundance in a given volume of water in the vicinity of the BBID diversion point during similar diversion times. Comparing water export volume and salvage at Banks to the diversion volume at BBID on the same day would be indicative of what fish would have been lost at BBID once adjusted for volume differences. The BBID intake does not have a screening/salvage operation and no data on entrainment directly at BBID is available for this period. From past studies scientist understand that export facilities adversely impact fish populations from the zone of influence by 1) entrainment, 2) impingement, 3) losses associated with the salvage process, 4) indirect losses by drawing fish from normal locations in the estuary and moving them towards and some to the Banks Pumping Plant/SDFPF and subjecting them to abnormally high predation along the way, especially in Clifton Court Forebay, and 5) disrupting estuarine fish habitat by causing water quality and flow changes. Fish suffer mortality in a natural system but mortality is generally much greater in an altered system.

Data are presented herein for just 3 species of fish salvaged at the SDFPF during the June 13-25, 2015 period; striped bass, threadfin shad, and splittail. Additional data for striped bass salvaged on June 22, 1993 and splittail salvaged on June 14, 1995 is presented herein. Total fish salvage (all species) for all of 2014 is also presented.

Striped bass. Daily salvage ranged from zero to 153 fish during the June 13-25, 2015 period. A total of 305 striped bass were salvaged. Daily water export from the Banks Pumping Plant ranged from 373 to 725 acre-feet during this period.

Threadfin shad: Daily salvage ranged from 2 to 1,824 fish during the June 13-25, 2015 period. A total of 3,430 threadfin shad were salvaged. Daily water export from the Banks Pumping Plant were as reported for striped bass above.

Splittail: Salvage during this period was reported only for June 18, 2015 when 4 splittail were salvaged. Daily water export from the Banks Pumping Plant were as reported for striped bass above.

To put some context on the low fish abundance during the June 13-25, 2015 period, on June 22, 1993 276,870 striped bass were salvaged at the SDFPF during an export volume of 4,000 acre-feet for the day. On June 14, 1995 166,476 splittail were salvaged at an export volume of about 9,000 acre-feet.

During the June 13-25, 2015 period daily diversions at the BBID intake is reported in the Board's complaint to range from 71 to 242 acre feet and total 2,067 acre-feet for the period.

From the IEP Newsletter (ww.water.ca.gov/iep/docs/IEP_Vol28_1.pdf) one can read that in 2014 the SDFPF reported record low total fish salvage (all fish species combined) with 236,846. For one day in 1993 more striped bass were salvaged at the SDFPF than all fish combined in Water Year 2014. Unbelievable but true. Further in the newsletter one can read that in Water Year 2014 threadfin shad represented 26.7 % of the total salvage, striped bass 12.3 % and splittail less than 0.1 %.

The February 2015 TUCP allowed the CVP/SWP to reduce the quantity of water provided for Delta outflows and inflows by over 800,000 acre-feet, allowed the projects to export 1,500 cubic-feet per second when the water quality and flow requirements were not being met, and maintain water in upstream reservoirs for use later in the year and for better water temperature control. Protection of fish habitat and populations in the estuary has and is still suffering during this relaxation of protection.