**Tracy Research Technical Report Abstract**

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Craft, D., Housewright, R., and J. Fields. 2004. *Semi-Continuous Water Quality Measurements at the Tracy Fish Collection Facility, Tracy, California, April 2002 to March 2003*. Tracy Fish Collection Facility Studies. Volume 26. U. S. Bureau of Reclamation, Mid-Pacific Region and Denver Technical Service Center. 43 pp.

Water quality variables including temperature, pH, dissolved oxygen, electrical conductivity, oxidationreduction potential, and turbidity were measured at 30-minute intervals using a calibrated Hydrolab Datasonde 4a multi-probe in the Old River at the Bureau of Reclamation's Tracy Fish Collection Facility, located in the south Sacramento-San Joaquin River Delta, California. This report summarizes the third year of baseline water quality data collection covering the period from April 1, 2002, through March 31, 2003. The water quality data were compared to local meteorology, hydrology, tides, export pumping at State and Federal pumping plants, fish salvage at the TFCF, and temporary barrier installation and removal schedule data. Third-year water quality data showed responses to increased runoff in the Sacramento River and continued drought in the southern Central Valley. Annual ranges (with median values in parentheses) were 8.2 to 26.9 °C. (17.7 °C) for temperature, 195 to 1,020 :S/cm (400 :S/cm) for conductivity, 4.04 to 12.5 mg/L (7.94 mg/L) for dissolved oxygen, 279 to 773 mV (581 mV) for redox potential, 4.60 to 8.67 (7.52) for pH, and < 5 to >150 NTU (17.6 NTU) for turbidity. As with the previous 2-years' data, the most significant influence on water quality appears to be tides, the status of nearby temporary channel barriers, and the operation of the Delta Cross Channel gates near Walnut Grove, California. When barriers are installed and the Cross Channel gates are open, from April through October, daily variations and maximum EC are much lower than when higher conductivity water from the San Joaquin River flows relatively unimpeded to the TFCF.