**Tracy Research Technical Report Abstract**

* ***Tracy Technical Bulletin 2017-1***  
  Cathy Karp, Brandon J. Wu, and Kevin Kumagai. 2017. Juvenile Chinook Salmon, Steelhead, and Adult Striped Bass Movements and Facility Efficiency at the Tracy Fish Collection Facility. Tracy Technical Bulletin 2017-1. Bureau of Reclamation, Mid-Pacific Region, 81 pp.

Acoustically tagged juvenile Chinook salmon (*Oncorhynchus tshawytscha*), steelhead (*O. mykiss*), and adult striped bass (*Morone saxatilis*) were tracked at the Bureau of Reclamation’s Tracy Fish Collection Facility under a range of typical conditions to estimate facility efficiency and pre-screen loss. Salvage of 37 released fish (28 Chinook salmon [40.6%]; 9 steelhead [14.8%]) allowed for definitive determination of species-specific behavior. Across all conditions, cumulative primary and secondary louver loss of Chinook salmon and steelhead combined was 7.7%. Facility efficiency ranged from 0 to 75% for Chinook salmon, and from 0 to 100% for steelhead. Pre-screen loss ranged from 0 to 91.6% for Chinook salmon and from 0 to 100% for steelhead. In general, across both species tested, there tends to be an increase in facility efficiency as the number of Jones Pumping Plant (JPP) pumps in operation increase from 1 to 5, which suggests low pumping conditions may be more detrimental to salvage of Chinook salmon and steelhead. However, continued data collection efforts are necessary to elucidate if there is an optimal number of operating JPP pumps that promotes maximum facility efficiency. The high rate of predation upstream of and within the facility, together with observations of striped bass behavior and observations of experimental salmonids being delayed by the trash rack, suggests opening the trash rack would allow resident striped bass to move upstream and leave, while promoting entrance of entrained fish into the facility.