**Tracy Research Technical Report Abstract**

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Bridges, Brent B., Brandon J. Wu, Rene C. Reyes, Mark D. Bowen, and
Raymond C. Bark. 2019. *Effects of Striped Bass Predation on Salvage of Adult Delta Smelt and Juvenile Chinook Salmon at the Tracy Fish Collection Facility.* Tracy Fish Collection Facility Studies, Tracy Series Volume 45. Bureau of Reclamation, Mid-Pacific Region, 77 pp.

Juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) and adult Delta Smelt (*Hypomesus transpacificus*) are salvaged by the Tracy Fish Collection Facility (TFCF) and can become prey to resident non-native Striped Bass (*Morone saxatilis*). Whole facility efficiency (WFE) was estimated at low pumping rates (1 JPP pump in operation; approximately 26 m3/sec) before and after Striped Bass were removed from the primary and secondary channels. Experiments consisted of releasing 100 marked test fish downstream from the TFCF trash rack and recording the number making it to a TFCF holding tank. In the Delta Smelt experiment, 74 Striped Bass (123 kg) were removed which increased WFE by 34.0%. In the Chinook Salmon experiment, 56 Striped Bass (161 kg) were removed which increased WFE by 35.2%. Predation rates in the primary channel during the Delta Smelt and Chinook Salmon experiments were approximately 0.5% per Striped Bass and 0.6% per Striped Bass, respectively. The Striped Bass collected in the primary channel, secondary channel, and holding tanks were size segregated, with smaller fish collected further downstream.