**Tracy Research Technical Report Abstract**

* ***Tracy Technical Bulletin 2015-2***
Cathy Karp and Judy Lyons. 2015. *Evaluation of Fish Behavior Upstream and Downstream of the Mitten Crab Traveling Screen at the Tracy Fish Collection Facility.* May 2015. 25pp.

The Bureau of Reclamation Tracy Fish Collection Facility in central California was designed in the mid-1950s to divert, collect, hold, and return salvaged fish to the Sacramento-San Joaquin River Delta. A vertical traveling screen was installed in the secondary louver channel in 1999 to remove the invasive Chinese mitten crab (Eriocheir sinensis) before they were concentrated into the fish holding and release components. Studies at that time found that the screen efficiently removed crabs while allowing some fish passage through the secondary channel. Using controlled experiments, fish passage in the secondary channel was further evaluated while the traveling screen was in operation. These experiments suggested that using the screen to remove entrained aquatic debris did not significantly reduce secondary channel louver efficiencies. In fact, louver efficiency was high (>75 percent) in all experiments. However, the number of experimental fish that were released but not recovered (and therefore not participating in the experiment) was generally high (42.5 percent), even in best conditions of higher velocity and screen raised out of the flow (39.4 percent). This suggests that a fish crowding system may help to move fish through the primary channel bypasses and secondary channel. No recovered experimental fish were injured. These data suggest that a vertical traveling screen can be used during periods of high debris while allowing for safe fish passage.