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Boutwell, J.E., and D. Sisneros, 2006. *Water Born Debris Removal Evaluations using a Traveling Screen at the Tracy Fish Collection Facility, Tracy, California*, Tracy Fish Collection Facility Studies, Volume 33, U.S. Bureau of Reclamation, Mid Pacific Region and Denver Technical Service Center, 45 pp.

The traveling screen; a rotating, belt type, mechanical screen was built to remove the invasive Chinese mitten crab, Eriocheir sinensis, at the Tracy Fish Collection Facility (TFCF). Because the screen has been demonstrated to be fish friendly during mitten crab removal (1996–1999), it was natural to test the traveling screen as a general debris removal device. The goals of this study were to determine if the screen could be used to remove debris flowing through the primary fish guidance louvers to the secondary fish guidance louvers, and also to determine if improvements to the debris removal system could be made to improve collection and transport of collected debris to the debris hauling truck. Three different evaluation techniques were used to determine the effectiveness of the traveling screen to remove debris: (1) The addition of known amounts of debris, introduced upstream of the traveling screen, compared to the debris recovered by the traveling screen. (2) Overnight collection of debris in which the traveling screen was operated, on average, 15.5 hours per night. (3) Ten-minute debris collections within the below ground circular holding tank, coinciding with routine fish counts being made every 2 hours at the TFCF. Two hundred sixty-one fish were collected by the traveling screen during these three different evaluations. Of this total, 210 were dead, and 173 (66 percent) of these dead fish had been dead long before being collected, indicated by old injuries and decomposition of the body. The traveling screen has proven to be effective at removing green vegetative debris greater than 189 mm (7.4 inches) and woody debris greater than 105 mm (4.1 inches) in length or longer from the secondary channel. The experiments presented in this report demonstrate the effectiveness of the traveling screen, especially during routine cleaning operations and when debris loading is heavy.