Tracy Research Technical Report Abstract

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Fausch, K., 2000. *Reducing Predation Mortality at the Tracy Fish Test Facility: Review and Analysis of Potential Solutions.* January 2000. Tracy Fish Collection Facility Studies, Volume 12. U. S. Bureau of Reclamation, Mid Pacific Region, Denver Technical Service Center, and Colorado State University. 18 pp + Figures.

This report reviews the available published literature on fish predator crowding methods and methods for separating predator and prey by sorting into size classes. Mathematical relationships reported on fish predation and commercial grading of fish were then used to analyze the available data on the sizes of fish collected at the TFCF to evaluate and propose alternative sorting criteria to minimize predation. This analysis was intended to provide a starting point for designs of louvers and graders to reduce predation in the TFCF and the planned Tracy Fish Test Facility. The analysis shows that effective application of mechanical crowding through a leaky louver and grader system predation may substantially reduce predation. The intial design of crowders and louvers should be refined by first measuring body depths and lengths of potential prey fishes encountered at the TFCF. Once appropriate designs are developed, these designs should then be tested in prototype with several target fish species in the Denver Laboratory facility followed by field tests of the resulting technology at the TFCF.