Tracy Research Technical Report Abstract

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The Tracy Fish Collection (TFCF) was designed in the mid-1950’s to salvage young striped bass and young migrating chinook salmon from flows being exported in the Delta Mendota Canal. Concern over endangered species, such as the delta smelt, prompted our addressing the problem of predation in the TFCF. The predator removal program was directed at improving the overall salvage efficiency by removing the larger predators that had become permanent residents within the TFCF. Special emphasis was placed on removing predators from the secondary channel where fish tend to concentrate and smaller fish may be most vulnerable to predation. A total of 65 drawdowns during 1991 and 1992 yielded 6,549 striped bass (1,805 pounds) and 4,800 white catfish (346.1 pounds). This program successfully prevented the buildup of large predatory fish and has become a regular management activity. This study revealed that fish predators tend to accumulate within the TFCF, and, further, many small fish are easy prey for these fish. Recent 1993 data at TFCF also shows predation by striped bass on immature salmon. Based on the results of this study, we recommend that predator removals using drawdowns of the secondary louver sump become part of the regular facility operations and that they be conducted at least monthly when water temperatures are cool enough to avoid stressing the fish, or when fish are observed in either the primary or secondary channels. Structural modifications may also aid this effort should be investigated so that fish are efficiently moved from one location to another, and so that the louvering function is interrupted for only short periods. Recent evaluations have indicated that predators remaining in the outlet of the bypass pipes may be flushed into the secondary where they can be netted, or into the holding tanks for removal. We suggest that additional studies be conducted to determine methods to flush fish from the bypass outlets to assist in removing potential predatory fish from the area. Structural modification in the bypass pipe between the secondary channel and holding tanks should also be evaluated to reduce potential buildup of predatory fish.