Interagency Ecological Program 2023 Work Plan Element
Adult Striped Bass Survey

Project Manager and Affiliation

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Principal Investigator and Affiliation

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Annual Costs (thousands) and Funding Sources

$279 DWR; $279 USBR

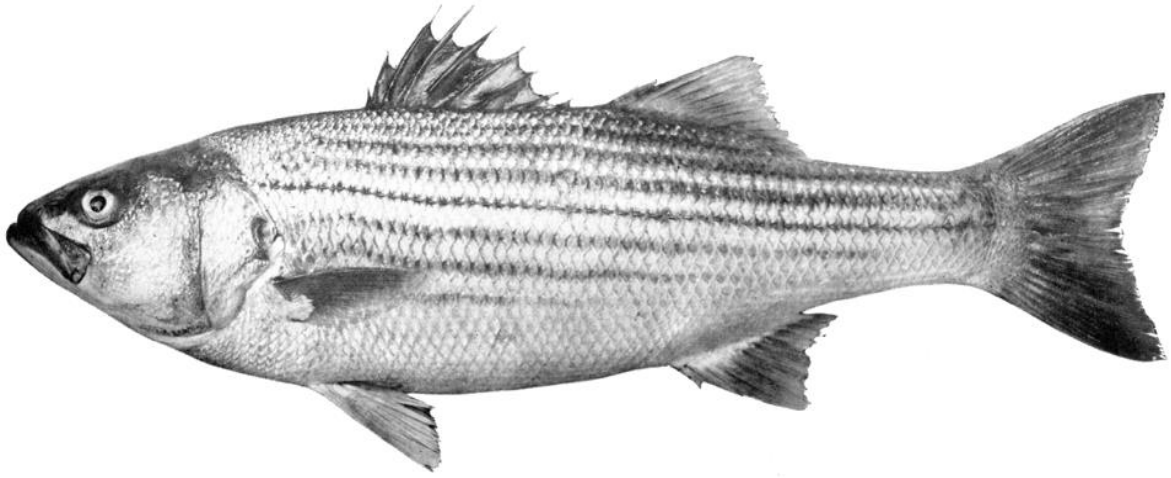

Figure: *1.* The Striped Bass (*Morone saxatilis*)

Description

The adult Striped Bass population study conducted by CDFW has been ongoing since 1969. The goal of the study was to understand the population dynamics of Striped Bass (*Morone saxatilis*) in the San Francisco Bay-Delta Estuary to provide metrics that inform science-based resource management decisions. These metrics include relative and absolute abundance, harvest rate, mortality rate, individual growth rates, and large-scale movement/migration patterns.

Legal-size Striped Bass (>18in FL) captured in either gear is measured for fork-length (FL), sexed by gentle abdomen expression, tagged with high-value reward tags and released in good condition. Sport fish anglers return reward tags by mail and data is entered into a database. We calculate adult Striped Bass abundance using a modified Lincoln-Petersen ratio of tagged fish to untagged fish. We then apply an age-length key to estimate year-class abundance from which we derive vital rates, such as cohort-survival and harvest rate. We also calculate the relative abundance of adult striped bass

from Commercial Passenger Fishing Vessels logs. CDFW's Marine Region compiles the data and we calculate CPUE.

Project goals will be expanded in 2023 to sample the assemblage of adult fishes in the San Francisco Estuary more holistically. Modifications to current striped bass sampling are being explored to represent wider spatial coverage and to capture a wider variety of species and range of sizes.

Need

The Adult Striped Bass Survey fulfills order 4(e) in SWRCB D-1485 and order 11(b) in

D-1641

> ”*to reveal trends in ecological changes potentially related to project operations, permittees shall independently or in cooperation with other agencies or individuals…conduct ongoing and future monitoring surveys as recommended by California Department of Fish and Game and concurred in by the Board concerning food chain relationships and fisheries impacts as they are affected by CVP and SWP operations in the Delta and Suisun Marsh. (Order 4 on pg. 23 and 4(e) on pg. 25) D-1485*.”

by providing the only known measure of adult Striped Bass abundance. Furthermore, proper management of Striped Bass requires knowledge of both young and adult life stages, particularly given annual loss of millions of young at the State and Federal Water Project facilities and a long-term decline of estuary adult Striped Bass. Information on young production was generated with other CDFW IEP sampling efforts including the Summer Townet Survey, Fall Midwater Trawl Survey and State Water Project (SWP) and Central Valley Project (CVP) Salvage Monitoring Surveys. Combined, these projects formed the basis of IEP’s monitoring program that has been in place since 1969.

Objectives

Research Questions:

- How does adult abundance influence recruitment of Striped Bass?
- How does entrainment of Striped Bass in the SWP and CVP impact recruitment of Striped Bass?
- How does recreational angling and harvest of Striped Bass impact adult populations?
- How does predation by Striped Bass impact listed species?

Schedule of Milestones

April-May 2023 – adult population survey is conducted

June 2023 – annual survey report

Continuous – estimates of adult abundance and vital rates are conducted periodically as angler reward tags are returned through-out the year; however, most tags are returned within 3-years of initial tagging.