Southern California Fisheries Research and Management Project

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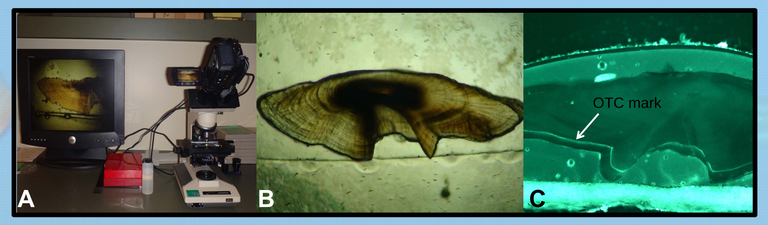
Project Mission: To collect and analyze essential fishery information (EFI) to be used by managers and the Fish and Game Commission to make informed management decisions regarding southern California state-managed finfish.

Bass Age and Growth



Otoliths are removed from Kelp Bass and Barred Sand Bass heads collected by staff or donated from fishermen on commercial passenger fishing vessels (CPFVs). Staff are in the process of ageing over 800 Kelp Bass and 600 Barred Sand Bass.

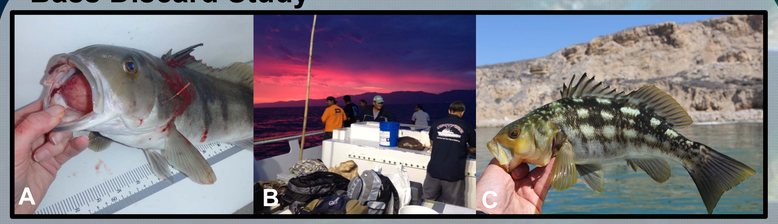
(A) Microscope and monitor used for reading otoliths, (B) sectioned and mounted Barred Sand Bass otolith, and (C) Oxytetracycline (OTC) marked otolith for age validation. OTC was injected into the fish and the arrow indicates where it was assimilated into the otolith.

Bass Reproduction

Batch fecundity, spawning fraction, and other reproductive parameters are determined for the basses. This information can be used in stock assessments to estimate population abundance. Over 600 Kelp Bass and 350 Barred Sand Bass gonads have been examined.

(A) A ripe female Kelp Bass gonad, (B) a gonad being prepared by one of our scientific aides, and (C) histology slide of female gonad with several oocyte stages labeled; Migratory Nucleus (MN), Post Ovulatory Follicle (POF), Vitellogenic (VTG III) and Hydrated (H).

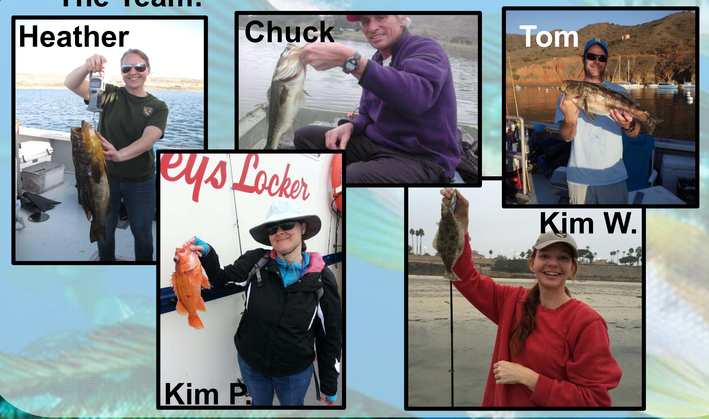
Bass Discard Study



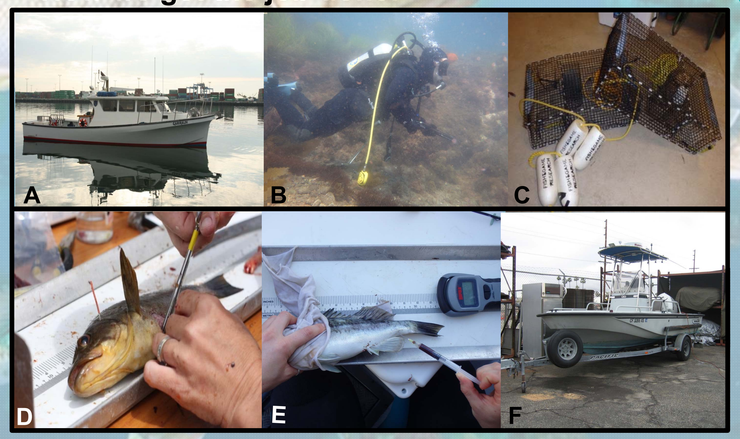
In March 2013, new regulations for minimum size (14 in.) and bag limit (5 fish in combination) went into effect for the saltwater basses. To better understand the effectiveness of the new regulation changes, staff rides aboard CPFVs to measure discarded Kelp Bass and Barred Sand Bass, and record barotrauma incidents and mortality. Over 3,700 discarded bass have been measured by staff.

(A) Barred Sand Bass with an everted stomach from barotrauma, (B) sunset cruise aboard a CPFV, and (C) typical Kelp Bass caught and released.

The Team:



How we get the job done:



We use department research vessels to collect fish using a variety of fishing gear, including spear guns while scuba diving. Blood is collected and the fish are dissected to remove gonads, livers, and otoliths. (A) R/V Garibaldi, (B) staff scuba diving, (C) fish traps, (D) Kelp Bass dissection, (E) blood collection, and (F) our project's 19' Boston whaler.

Who we work with:

Internal Collaborators:

- Diving Safety Program
- Northern/Central California Fisheries Research & Management
- Marine Fisheries Statistical Unit
- Recreational Fishing Data Project
- California Recreational Fisheries Survey
- Research Vessel Operations Project
- Invertebrate Management Project
- Law Enforcement Division

External Collaborators:

- The Bay Foundation
- SCRIPPS Institute of Oceanography
- CSU Long Beach
- Coastal Angler Tagging Cooperative
- Fish and Game Commission

Surf Fish Population Study

Data from beach seining at several southern California beaches will be used to describe spatial and temporal changes in surf fish abundances and sizes.

(A) Biologists hauling in the beach seine used to sample surf zone environment, (B) setting up our 30 m seine, and (C) measuring one of over 35,000 fish and 48 species that were caught during the three year plus period.

California Halibut Research and Data Collection

In collaboration with The Bay Foundation, our project has been exploring a non-lethal method for determining sex in California Halibut using a portable ultrasound machine. (A) Staff testing the ultrasound to determine sex, (B) an ultrasound image showing a male gonad structure, and (C) the portable ultrasound unit.

We are also actively collecting EFI data (length, weight, sex and otoliths) from the commercial and recreational fisheries in southern California, from Santa Barbara to San Diego. EFI is being gathered for use in a future update to the California Halibut stock assessment.

Otoliths collected from sampled Halibut are being used for age and growth analyses being done by the Northern/Central Fisheries Research and Management Project in Monterey.

White Seabass

We continue to conduct the White Seabass FMP annual review with the White Seabass Scientific Constituent Advisory Panel. In recent years, the White Seabass fishery has needed no regulatory changes and populations remain stable.

Accomplishments

Since the last all staff meeting in 2011, numerous publications, reports, and presentations have been produced on Barred Sand Bass, Kelp Bass, California Halibut, Spotfin Croaker, White Croaker, Yellowfin Croaker, California Corbina, and California Sheephead. These accomplishments have greatly expanded our knowledge of important state-managed finfishes and led to implementation of needed regulatory changes for the saltwater basses. The hard work and accomplishments of the SCFRAMP have expanded the Department's scientific capacity, enhanced communication, education, and outreach, and developed/enhanced many partnerships.