

The Resources Agency of California
Department of Fish and Game
Marine Resources Operations
California State Fisheries Laboratory
Terminal Island, California

Cruise Report 64-S-3 -- Albacore
Prepared by Herbert W. Frey

- Vessel:** N. B. SCOFIELD
- Dates:** Departed from Los Angeles Harbor, May 25, 1964 and returned June 23.
- Locality:** The high seas off California and northern Baja California; out to 600 miles offshore between the latitudes of Guadalupe Island and Monterey (lat. $29^{\circ} 00'$ to $36^{\circ} 30'$ N. and to long. $130^{\circ} 00'$ W.).
- Purpose:**
1. To intercept the albacore migration and determine its route into the mainland fishing grounds.
 2. To collect physical and biological data which may be related to albacore occurrence.
 3. To tag and release albacore.
- Results:**
1. (a) Some 3,100 miles were scouted during daylight hours, using surface trolling gear.
(b) Fifty-seven albacore were caught during the cruise. The first was taken in 59.9° F. water on June 9, about 540 miles west of Pt. Buchon; four more, averaging 11 pounds, were caught June 18, approximately 360 miles west of San Diego in 59° to 60° F. water; the remainder, averaging 14 pounds were taken June 20 through 22, about 20 to 30 miles south of San Juan Seamount.
 2. (a) Stomachs from 52 specimens were either empty or contained such food items as squid, sauries, and larval fish. Trematodes and copepods were collected from the stomachs and gill chambers. Most of the fish were two years old, although an age I fish was taken along with six that were three years old.
(b) Sea temperatures were obtained at regular intervals by bucket thermometer, while the thermograph provided a continuous record. The temperatures ranged from 57.4° F. (14.1° C.) northwest of San Juan Sea-

mount to 68.4° F. (20.2° C.) at the most southerly point of the cruise west of Guadalupe Island.

- (c) Seventy-eight bathythermograph casts to 450 feet were made at approximately 40-mile intervals. The slides were read, coded, and forwarded to the National Oceanographic Data Center via U. S. Bureau of Commercial Fisheries Radio Station WWD.
 - (d) A water sample, for salinity determination, and the temperature was obtained at 10-meters by a Nansen bottle cast at each BT station.
 - (e) Weather observations were recorded every six hours and radioed to the U. S. Weather Bureau via station WWD.
 - (f) Eleven night light stations were occupied while the vessel drifted on sea anchor. Pacific sauries (Cololabis saira) were observed at every station, in numbers ranging from four or five individuals to schools of several hundred. A juvenile jack mackerel (Trachurus symmetricus), several species of lantern fishes (myctophids), and several kinds of larval fish were also taken. The more common invertebrates collected included coelenterates, amphipods, heteropods, tunicates, and salps. Fifth-eight adult jack mackerel and four immature blue sharks (Prionace glauca) were caught on hook and line.
 - (g) The black-footed albatross (Diomedea nigripes) was the most commonly sighted bird. An osprey (Pandion haliaetus carolinensis) was noted on May 30, approximately 300 miles southwest of Point Sur, California. Other birds observed were Beal's Petrel (Oceanodroma leucorhoa), red-billed tropic bird (Phaethon aethereus), and the common tern (Sterno hirundo hirundo). Several porpoise schools were also observed, and Japanese glass floats were recovered in various areas.
3. Five albacore, ranging in length from 62 to 71 cm., were marked with FT-1 dart tags and released.

Personnel: Richard B. Mitchell, CDFG, Vessel Captain
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