

THE RESOURCES AGENCY OF CALIFORNIA  
DEPARTMENT OF FISH AND GAME  
MARINE RESOURCES REGION

REPORT FOR THE MONTH OF OCTOBER 1973

Broadbill swordfish landings continued strong through the month of October, with the price paid to the fisherman averaging \$1.35 per pound.

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On October 13, Marine Wardens working with the cooperation of the Orange County Harbor Department personnel, apprehended a lobster fisherman with nearly 5,000 undersized lobster tails aboard his commercial fishing vessel. The tails were seized, the fisherman booked, and criminal proceedings instigated. Proceedings have also been commenced to forfeit the vessel used in the offense.

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Tows made during the October N. B. SCOFIELD cruise revealed a strong showing of "0" year class shrimp in Area A. Trawling was conducted in 50 to 80 fathoms off the Klamath River and from 50 to 65 fathoms off the Smith River. This 1973 year class appears to be much stronger than last year's 1972 year class at this time last year.

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## 1. WILDLIFE PROTECTION

- A. Canneries: During the first week of October, water conditions in Fish Harbor were poor with a reported zero oxygen content. Consequently all canneries reduced their anchovy reduction operations by one-third capacity. On the fifth of October, all anchovy reduction was halted until water conditions improved. The water cleared up by the twenty-first and the anchovy fleet again sailed on small limits (40 tons). The next four days' catches averaged approximately 1,000 tons a day.

Landings of mackerel from Cortez Bank were approximately 700 tons for the month.

Albacore fishing appears to be virtually over for the season and many of the boats are planning to fish in Mexican waters where good skipjack fishing is reported. Many of the large seiners are returning to port to unload their catches of tuna and get repair work done before the tuna season reopens on the first of the year.

All cannerymen are working overtime to process imported skipjack from Japan. All freezers are full and all docks are loaded with containers waiting to be unloaded.

- B. Market Fish: Broadbill swordfish landings continued strong through the month of October with the price paid to the fisherman averaging \$1.35 per pound. With the exception of broadbill, southern California markets are largely dependent upon fish from without the state.

Weather permitting, drag boats were delivering average loads of Dover sole and some black cod in central California.

The lobster season opened slow and landings to date have been scarce, although indications are that fishing is improving.

- C. Sportfish: Although yellowtail fishing remains fair in the San Diego area, the majority of landings are now turning to rockfish. Those boats still engaged in surface fishing are making good catches of big bonito.

The San Francisco Bay area experienced a tremendous run of striped bass with some partyboats making an average of two trips per day with limits for all passengers. The use of live bait appeared to be one of the big reasons for the excellent catches.

- D. Weather: Although heavy swells curtailed abalone fishing, both sport and commercial, the weather south of Point Conception was generally favorable for fishing operations.

North of Point Conception, poor weather interfered with fishing operations, both sport and commercial.

- E. Law Enforcement: On October 13, Marine Wardens working with the cooperation of the Orange County Harbor Department personnel, apprehended a lobster fisherman with nearly 5,000 undersized lobster tails aboard his commercial fishing vessel. The tails were seized, the

fisherman booked, and criminal proceedings instigated. Proceedings have also been commenced to forfeit the vessel used in the offense.

Additionally, 57,989 pounds of yellowfin tuna were seized from the fishing vessel WESTPOINT. The seized fish were sold to a local processor for \$14,207.31. The reason for the seizure was violation of the 15% tolerance regulation. This case is now pending in San Pedro Municipal Court.

The appearance of large amounts of undersize salmon during the last stages of the salmon season made increased surveillance of landing docks necessary and the phenomenal run of striped bass also necessitated additional patrol.

The opening of the lobster season brought about a large number of complaints relative to trap robberies and lobster stealing. Due to the high price of lobster, we expect this type of violation to increase.

- F. Pollution: During the reporting period, marine wardens investigated twenty-one pollution incidents. Industrial sources were responsible for ten spills amounting to 800 barrels of pollutants; merchant vessels accounted for three spills totaling three barrels of oil pollution; Navy vessels spilled four barrels of oil in five different incidents; and unknown sources accounted for three spills of approximately two barrels.

There were two successful prosecutions in Long Beach; one formal complaint was filed for a chemical pollution incident that occurred in Los Angeles Harbor. Civil penalties of \$2,625 were awarded to the Department for a pollutant spill occurring in July within Coyote Creek, Santa Fe Springs.

## 2. BOTTOMFISH

### A. Fishery

Flatfish: The trawl fleet fished in various depths from 18 to 914 meters (10-500 fathoms) in October. Dover sole was the primary species in landings. The fleet made good catches of Dover sole off Cape Blanco, Oregon, Trinidad Head, Point Arena, Bodega Bay, Point Montara, and Point Sal from 549 to 914 meter depths (300-500 fathoms). Landings of Dover sole have increased substantially at Santa Barbara and Morro Bay. Landings of English, petrale, and rex sole were generally light during the month. Starry flounder, sanddabs, and sand sole were noted in the markets in fair quantity.

Roundfish: Trawl landings of rockfish were moderate at most ports. Bocaccio, chilipepper, and yellowtail rockfish were the predominant species. Smaller quantities of shortspine thornyheads occurred in landings at northern ports. Significant quantities of large jack mackerel were landed at Monterey and utilized for animal food. Trawl captains reported jack mackerel catches off Point Sal and San Simeon during past months that suggest a northerly movement to the Monterey area.

Two Monterey gill-netters began to fish for rockfish during the month; another vessel is prepared to begin. Four longline boats were also fishing rockfish from Monterey in October.

## B. Research

Flatfish: Age and size composition samples of flatfish landings were obtained at major ports. Logbook data for September were edited.

Four Dover sole tag returns from 1969 and 1971 releases were processed; all were caught near release areas.

Groundfish data were organized and submitted for PMFC and INPFC use.

Roundfish: Longline and gillnet vessel captains were interviewed at Monterey to obtain fishing effort information.

Rockfish were sampled for species composition at major ports. Measurements of rockfish and lingcod were also obtained.

Data obtained while aboard the R. T. SESKAR were organized and a cruise report was submitted for duplication.

## 3. SHELLFISH

### A. Fishery

Crab: Season closed statewide.

Shrimp: No ocean shrimp landings were reported in Areas A, B-1, and C during October. Statewide landings to date total 1,222,456 pounds. A total of 3,074,540 pounds were landed last season. The season closed October 31.

San Francisco Bay shrimp fishermen are making good catches in the Suisun Bay, Petaluma Creek and Alviso areas.

Oysters: Good prices and demand are combining to enable oystermen to harvest larger quantities of oysters than normal in the Drakes Estero and Tomales Bay areas. Summer mortality was low and there is a good supply of oysters on the beds.

### B. Research

Crab: A large part of the month in central California was spent in working up the data collected during the September crab cruise. During that cruise 7,369 crabs (consisting of 2,729 crabs of the year, 2,600 adult males and 2,040 adult females) were caught. Most of the adult crabs were caught in traps while all of the crabs of the year were caught by trawling. The average sizes of the crabs caught in the traps were 166.3 mm for legal-sized males (159 mm or greater), 147.1 mm for sub-legal males, and 143 mm for females.

In northern California the majority of the month was spent on crab cruise 73-S-6. At the time of writing the cruise was still in progress. Preliminary reports indicate a good showing of the 1972 year class. Most of which have not reached legal size.

Shrimp: Tows made during the October N. B. SCOFIELD cruise revealed a strong showing of "0" year class shrimp in Area A. Trawling was conducted in 50 to 80 fathoms off the Klamath River and from 50 to 65 fathoms off the Smith River. This 1973 year class appears to be much stronger than last year's 1972 year class at this time last year.

#### 4. ABALONE

Project personnel attended the annual diver recertification school. During the school we were able to reexamine our green abalone tagging site at the northwest end of Santa Catalina Island. Eighteen tagged green abalone shells were recovered, 17 were attributed to tagging mortality and one to natural mortality. The single natural mortality had grown 2.5 mm in length and .5 mm in width in less than 2 months at liberty.

One day was spent assisting our Mariculture Laboratory in obtaining spawning stock from the Lion Rock area. We dove from shore after the MOLLUSK broke down 2 miles south of Morro Bay. Repairs were made under the new engine warranty.

Approximately one week was spent setting up the San Clemente stratified random sampling program and an alternate at Santa Cruz Island.

#### 5. LOBSTER

The lobster season began Wednesday, October 3. By the end of the month, 221 lobster fishing permits were issued by the Long Beach and San Diego offices. This year, we requested the fisherman to estimate the number of traps that will be fished. Thus far, the sum exceeds 16,000 traps for the 221 applicants.

The first lobster sales are ex-vessel \$1.70/lb. for small lobster, \$1.50/lb. for bulls, and a few, direct to consumer sales at \$2.00/lb. and \$2.50/lb. Retail is \$3.50/lb. live, and \$7.50/lb. split tails. (Live Maine lobster is retailing at \$4.20/lb. locally).

Interviews with fishermen show we are experiencing a poor opening month. Santa Catalina Island, Palos Verdes Peninsula and Point Loma are especially slow. The first logbook return from the island claims a catch of 0.65 lobster per trap day.

Overflights and surface surveys, from Mexico to Point Conception are in progress to locate trap concentrations. On the flight of October 2-4, 3600 trap buoys were seen. Surface surveys verify the low trap count and indicate fishermen are setting about 20 percent of the traps claimed in the permit applications.

Project personnel accompanied Marine Patrol aboard the P/B MARLIN in lobster patrol activity off Palos Verdes Peninsula and in Santa Monica Bay. An underwater search located one illegal lobster trap off Marina del Rey and 5 on the Santa Monica breakwater. An additional 25 lobster traps, left from last season, were located and destroyed off the Santa Monica breakwater.

A three day lobster cruise was completed at Catalina Island. A total of 385 lobsters was captured in 2 nights of fishing, measured and returned to the water. Night diving for lobster proved unsuccessful with only 17 being taken. Twenty lobsters were returned to Long Beach for tagging experiments.

On October 13, a load of nearly 5,000 lobster tails was seized by Marine Patrol at Sunset Aquatic Park. Project personnel assisted Marine Patrol by measuring 1,095 tails.

#### 6. MARICULTURE RESEARCH AND DEVELOPMENT (Bartlett Project M64R)

Pacific oysters spawned at Granite Canyon last month (both F-2 generation oysters and control oysters), achieved moderate sets by mid-October. Sets of commercially acceptable concentrations (20+ spat/cultch) were achieved with 66% of the F-2 oysters and 67% of the control oysters. The F-2 oysters set in 26 days and the control oysters set in 20 days. Samples of F-2 and control spat were planted in Elkhorn Slough on October 25, and in Drakes Estero on October 29.

Efforts to isolate the factor(s) responsible for unusually high Pacific oyster larval mortality at Pacific Mariculture's hatchery (Pigeon Point) continued during the month. Pacific oyster breeding stock from Pigeon Point and Tomales Bay were spawned at Granite Canyon. Progeny from these spawnings are being cultured at Granite Canyon and Pigeon Point. Identical procedures are used at both locations; except food sources (Granite Canyon algae vs. Pigeon Point algae) and water types are altered to possibly identify contamination sources. Pacific Mariculture has contributed a biologist to conduct the research at Granite Canyon.

Work on developing techniques for holding and spawning Pismo clams was initiated. Pismo clams (25) were dug from a beach near Moss Landing, and are being held at Granite Canyon in a sand bed equipped with a sub-sand filter and a continuous flow of raw sea-water. Spawning experiments will commence in early November.

With cooperation of abalone project personnel, another sample of red abalone breeding stock was obtained from the Diablo Canyon area. They are being conditioned for spawning. No successful abalone spawnings occurred during the month.

A leak was discovered in our main 20,000 gal storage reservoir in late September. Inspection disclosed that the polyethylene liner had torn allowing shipworms to penetrate the redwood, causing minor damage. A bypass water line was rigged and the storage tank drained. We anticipate replacing the old tank liner with a more durable "Hypalon" rubber liner.

Three school groups toured the laboratory during the month.

7. MARINE RESOURCES PATHOLOGY

The fish samples collected from the Gulf of the Farallones near the site of the proposed San Francisco sewer outfall were processed during October. Abnormalities were noted only among the English sole with 2 of 397 fish examined having epidermal tumors.

Samples from south Humboldt Bay collected in late September were processed. English sole predominated the catch and 5 of 317 fish were noted with epidermal tumors.

Trawl samples are currently being collected from northern California from the area near the Oregon border to Eureka.

Samples of seed oysters (*Crassostrea gigas* and *Ostrea lurida*) were submitted by International Shellfish Enterprises for histological examination. Samples of adult oysters (*C. gigas*) and clams (*Tapes semidecussata*) were received from Pacific Mariculture, Inc. for histological examination.

8. SPECIAL STUDIES PROGRAM

Most of the month was spent on finalizing the sea otter report including proofreading, completion of figures, and incorporating editorial suggestions. Final typing of the report is under way.

Ames attended diver recertification at Catalina Island during the first week of the month.

Equipment maintenance, equipment inventory, and Monterey office management activities occupied much of the remainder of the month.

9. PELAGIC FISH

A. Fishery

<u>Landings in tons</u>	<u>January 1 - October 31</u>				
	<u>1973*</u>	<u>1972</u>	<u>1973*</u>	<u>1972</u>	<u>10 yr. mean 1962-1971</u>
<u>Species</u>					
Anchovy	12,629	12,795	78,809	49,519	20,801
Mackerel, jack	1,028	324	8,313	23,970	25,415
Mackerel, Pacific	-	8	4	34	5,548
Sardines	-	9	61	144	1,828
Squid	<u>70</u>	<u>31</u>	<u>4,761</u>	<u>9,931</u>	<u>8,440</u>
TOTAL	13,727	13,167	91,948	83,598	62,032

\*Estimated. Accumulated landings are revised monthly.



## B. Fishery Research Monitoring

Anchovy: Early in the month, anchovy fishing was very good in Monterey Bay. Landings dropped somewhat during the second half of the month due to bad weather and fleet effort on squid. Granting a request made by the Monterey fishing industry, the Fish and Game Commission raised the northern season quota from 10,000 to 15,000 tons.

During the first week of October, San Pedro fishermen found numerous dense schools in the San Pedro channel and landed nearly 6,000 tons that week despite daily boat limits of 30-55 tons. However, due to water quality problems in Fish Harbor, the canneries cancelled all orders for anchovies on October 5. Fishing for anchovies did not resume until October 21, and since then the processors have given smaller orders forcing strict limits on the boats. The fishermen have been receiving \$47.50 per ton for their anchovies.

Jack Mackerel: There was some effort on mackerel throughout the month, and a few boats had good success at Cortes Bank. The price for jack mackerel is now \$100 per ton.

Live Bait: Live bait fishermen, after experiencing a difficult summer, are again enjoying good fishing in all areas along the coast. The availability of anchovies is good in both quantity and quality. Los Angeles Harbor, plagued with small fish for many months, produced large anchovies during the last week of October. The abundance of bait coupled with low demand has relieved much of the pressure on the bait haulers and enabled them to meet their commitments with little difficulty.

## C. Biological Studies

Jack Mackerel Tagging Program: Poor mackerel fishing curtailed tagging operations this month. There were three jack mackerel tag returns from Cortes Bank that showed no movement over an average of 2 months liberty. Jack mackerel eye lens samples for protein electrophoresis were procured from central California and Baja California, Mexico.

## D. Fisheries Resources Sea Survey (M63R)

The annual fall acoustic survey of anchovies off southern California and northern Baja California was conducted October 2 - 25. Good weather and operating conditions permitted excellent coverage of the region.

Preliminary analysis indicates a new record high population level for surveys made during this time of year. Sonar transects totaling approximately 1500 linear miles recorded 8,678 anchovy schools. Anchovies were distributed more widely both coastwise and seaward than during any previous fall survey with sizeable concentrations located off northern Baja California and Santa Barbara and offshore in San Nicolas and Santa Cruz Basins. School behavior also was unusual with near-surface schools much denser and closer to the surface than usual. Schools in Santa Barbara channel were extremely large with some exceeding 1000 tons in biomass. Availability for commercial fishing in this area was exceptionally high.

Valuable information on school packing density was obtained by visual observations and oscilloscope readings of echo sounder detections on a wide range of densities.

Sea Survey Data Analysis: In view of recent legislation requiring population estimates of the Pacific sardine unpublished and partially collated catch-effort data for the years 1954-1960 were re-examined in the quest for more information on relative densities of this fishery.

The rest of the month was spent in the preparation of papers for the CalCOFI Conference.

## 10. BIG GAME FISH

### A. Albacore - Research

Life History: Age and growth--nearly 1,000 length measurements and 200 scale samples were taken at Terminal Island this month. Also, 100 fish trucked here from out of State were measured. There were proportionately more albacore shorter than 70 cm (age II and younger) in this month's sample than in September.

Migration--Project personnel collected several tags recovered by fishermen. Few of the tags released this year have been recovered. Most of the tagged fish were caught near the original tagging area and had been released 1 or 2 years earlier.

Population Dynamics: A format for punch cards was agreed upon, and copies will be distributed to Oregon and Washington. Work began on additional formats and modification for some of our albacore computer programs. Approximately 340 logs have been received to date from fishermen landing fish in California, compared to 642 for the same period last year. More than 200 logs were received this month; the sudden influx of logs indicates that many boats are tying up for the season.

### Fisheries

Sport: Sport fishing was limited to a few boats out of Morro Bay, and catches were as high as seven fish per angler. Weather was important in shutting down the sport fishery at the end of October.

Commercial: During the month, the last of the boats fishing north of California headed into port. Although albacore were reported from the Pioneer Sea Mount south, most fishing centered off Morro Bay and Avila. Bait boats enjoyed the best fishing, with high catches of over 500 fish per day (average about a ton per day). Although a few jig boats caught as many as 100 fish in one day, fishing generally was poor and most of the fleet quit for the season. Due to the unavailability of albacore, inclement weather, and a lack of fishing effort, the typically good fishing off Monterey never developed this month.

B. Bluefin Tuna - Research

Life History: Age and growth--One length-weight-scale sample was obtained from bluefin caught in July in Mexican waters and landed at Terminal Island canneries.

Fisheries

Sport: Poor fishing for bluefin during October was experienced by southern California anglers. Preliminary figures indicate that 18 bluefin were landed in September by partyboat anglers bringing the cumulative catch for this year to 4,926. The cumulative catch for the same period in 1972 was 1,452 bluefin.

Commercial: No bluefin tuna caught during October has been landed this month.

C. Pacific Bonito - Research

Population Structure: A total of 186 eye lenses was collected this month for population analysis by electrophoresis.

Life History: Age and growth--Eleven weight-length-otolith samples were collected from bonito landed at the Terminal Island canneries.

Migration--In October, 13 tags were returned. The R/V KELP BASS returned from a 4-day trip in southern California waters. Due to dense fog, fishing time was restricted to a day and a half. Project personnel tagged and released 16 bonito, ranging in size from 51 to 66 cm and belonging to the I and II age groups.

Resource Management: Partyboat sampling--In October, 66 bonito were measured. They ranged in size from 35 to 76 cm. Preliminary results indicate that anglers caught more than four age groups this month, with I year old bonito providing 54 percent of the catch. Fishing effort was 42 percent less in September than in August, while the catch (30,833) was 67 percent less in September than in August (92,570). The abundance index (57.69) for September indicates that anglers found bonito less abundant than during August when the index was 100.

Market Sampling--One length-frequency sample was taken from the fresh fish markets in San Diego. The 62 fish were in the 37 to 78 cm range.

Fisheries

Sport: Sport catches of bonito declined greatly this month.

Commercial: Over 1500 tons were landed. The large seiners caught up to 400 tons from Mexican waters, while the local San Pedro fleet caught over 1300 tons from Oceanside to Santa Barbara. Ninety percent of the bonito caught off Mexico was landed in San Diego.

D. Billfishes - Research

Resource Management: Market sampling--Broadbill swordfish landed at the fresh fish markets were sampled in October. The 53 fish measured ranged from 109.8 cm - 190.2 cm in carcass length and weighed from 86 - 360 pounds.

<u>Weight group</u>	<u>October</u> <u>% weight composition</u>	<u>September (70)</u> <u>% weight composition</u>
100 lbs.	11	1
100-150	15	11
151-200	30	32
201-250	27	36
251-300	9	9
300	8	11

Fisheries

Sport: Eight broadbill were reported caught by the angling clubs. This is some improvement over the four fish landed by sportsmen in October, 1972.

Commercial: Clearer skies and more "spotter" planes contributed to an increase in the number of broadbill caught, but an abundance of small fish resulted in a decrease in the total weight landed and brought the average weight per carcass below 200 pounds. The ex-vessel price fluctuated between \$1.25-\$1.35 per pound, and an estimated 600 fish were landed in southern California markets during October.

E. Barracuda - Research

Life History: Migration--A total of 143 barracuda was tagged and released aboard southern California partyboats in October. Two tagged barracuda were recovered, bringing the total number recovered to forty. Both of the October tags were recovered north of their release point.

Resource Management: Partyboat sampling--Samplers aboard partyboats during September measured a total of 163 barracuda. These fish ranged in size from 48 to 80 cm total length and II to VII+ years in age.

Preliminary results indicate that age groups II through V provided nearly 96 percent of the partyboat catch.

Figures for October are incomplete; however, the fishing effort in September was 42.3 percent lower than during August and anglers caught 91.6 percent fewer barracuda. In addition the abundance index of 0.22 for September indicates that partyboat anglers found barracuda less abundant than during August when the abundance index was 1.35.

About 88 percent of the barracuda caught aboard partyboats during September were shorter than the legal limit and were released.

Market sampling--No barracuda were sampled in October at the fresh fish markets.

#### Fisheries

Sport: Barracuda sport action continued to decline during October with sporadic catches being made off Redondo Beach and San Diego.

Commercial: No action

#### F. White seabass - Research

Life History: Migration--Early in the month 8 small (32-37 cm) seabass were tagged and released by our partyboat samplers. One of these fish was recaptured 5 days later near the release area.

Resource Management: Partyboat sampling--White seabass caught by the partyboat anglers were sampled in October. The 13 fish measured ranged 32 to 78 cm in length and I to V years in age.

Preliminary results indicate the presence of 4 age groups of white seabass in the catch this month, with groups I and II providing 85% of the total. By comparison, no 1- or 2-year-old fish were sampled in September; however, these age groups accounted for over 60% of the August samples.

Figures for October are incomplete; however, the fishing effort in September was 42 percent less than in August, but anglers caught almost as many white seabass. In addition the abundance index of 0.012 indicates that partyboat anglers found the seabass more abundant in September than during August.

Market sampling--White seabass landed at the fresh fish markets were sampled in October. The 8 fish measured ranged 101 to 123 cm in length and VIII to XIII+ years in age. Preliminary results indicate that age groups X and XI contribute more than 60% of the catch.

#### Fisheries

Sport: Sporadic catches of small fish occurred.

Commercial: All of the fish seen this month came from the grounds off San Diego or Mexico.

#### G. California Yellowtail - Research

Resource Management: Partyboat sampling--Yellowtail caught by the partyboat anglers were sampled in October. The 534+ fish measured ranged 45 to 111 cm in length and 0 to XII+ years in age.

Preliminary results indicate that anglers set their hooks in 13 age

groups of yellowtail this month, with groups II, IV, V, and VI providing over 75 percent of the catch. By comparison, these age groups contributed about 68 percent in September and only 48 percent in August.

Figures for October are incomplete; however, the fishing effort in September was 42 percent less than in August and anglers caught 51 percent fewer yellowtail. In addition, the abundance index 0/0.26 for September indicates that partyboat anglers found yellowtail less abundant than during August.

Market sampling--One sample of 32 fish was obtained from confiscated yellowtail brought in by a seiner. These fish were age I and II, while samples for September included fish of age group I through VIII.

### Fisheries

Sport: Action slowed everywhere, and by the end of the month the only landings of yellowtail were made in San Diego.

Commercial: Very little activity.

## 11. SPORTFISHING IMPROVEMENT PROJECT

Representatives of State universities, National Marine Fisheries Service and the Department rejected the redbfish, *Sciaenops ocellata*, as a candidate for introduction into California marine waters. Aside from the lack of sufficient information, the redbfish was eliminated on other counts. Redfish, particularly the young, would not find the proper habitat here and the strong possibility that they would move south into Mexican waters, might create additional problems with Mexico. Severe competition with the corbina was also anticipated.

A new program seeking answers to the problems of planting salmonids in southern California lowland streams, bays and estuaries has been launched. Anadromous Fisheries Branch has provided a guide outlining many factors that must be considered, these based upon experience in northern California and elsewhere.

Sportcatch Assessment: Scheduled sampling of the anglers bag in Orange County required 32 man days.

Sampling data forms have been revised, and special sampling equipment has been constructed for use on piers.

General: The first southern California fishing map is being printed; work on the Los Angeles County-Santa Catalina Island map is underway. Comments were prepared on public recommendations for angling regulation changes.

B. Central California Marine Sportfish Survey

Preparation is underway to initiate the kelp bed-juvenile sportfish studies. Several dives were made in the Carmel Bay area to choose research areas, and aerial photographs of the kelp beds in Carmel Bay were taken on October 16.

Aging, meristic, maturity, and food analysis studies on kelp greenling are continuing.

Project data were supplied to Abalone Project regarding proposed abalone legislation.

12. ENVIRONMENTAL SERVICES

A. Water Quality Activities

Waste Discharge Requirements: Six proposed requirements were received for review. Concurrence was expressed for all of them.

Report Reviews: A pre-draft of EPA's EIS for the City of San Francisco Waste Management Plan was reviewed. Informal comments were transmitted to the staff of the State Water Resources Control Board.

Addendum for Proposed Sewage Systems, (Humboldt) County Services Area #3 was received for review and found to adequately answer concerns expressed during the EIR review.

Bioassay Laboratory: Standard form "C", NPDES Waste Discharge permit was filed with the Central Coast Regional Board at their request. On October 15, the Central Coastal Zone Commission issued a construction permit for the laboratory.

Public Hearings: The Public Utilities Commission's hearing regarding San Diego Gas and Electric Company's Encina Unit #5 draft EIR was attended. The Department's comments regarding inadequacies in the EIR were presented in addition to requesting the Commission to withhold certification of the project until the State Water Resources Control Board acts upon a related Thermal Plan exception request.

Pollution Control Activities: Violations of waste discharge requirements by fish processing plants in the Fish Harbor area of Los Angeles Harbor occurred during the first half of the report period according to the Regional Water Quality Control Board. Water quality problems in the area have been predicted to occur when anchovy reduction to fish meal exceeds plant capacity. A decrease in the amount of fish processed has improved the water quality, however, the Regional Board has referred the case to the Attorney General's office for prosecution.

Miscellaneous: Pre-development water quality sampling designs were discussed with DFG staff for the Bolsa Chica Biological Reserve.

Meetings were attended with Southern California Edison Company regarding their Long Beach Combined Cycle Plant marine monitoring studies required by the State Coastal Zone Conservation Commission.

This study will be one of the most extensive ever undertaken for a west coast power plant.

## B. Water Development Activities

Army Corps of Engineers: Twelve Public Notices were acted upon (San Francisco District 6, Los Angeles District 6). Pumpout facilities were recommended for a mooring facility in Humboldt Bay.

The Corps submitted a proposed letter of permission to expand P.G.&E.'s oil tanker mooring capacity at Moss Landing. Marine Resources Region's recommendations suggested submission of this proposal through the regular Public Notice procedure.

A project report and Environmental Impact Statement to dredge the main channels of Los Angeles Harbor indicate benefits will offset possible environmental damage. The reports indicate possible loss of the bait fishery within Los Angeles Harbor. The report also anticipates improved water quality by containment of polluted bottom mud within proposed land fill areas. Tidal flow studies have not been completed that varify the anticipated improvements. These studies will be reviewed to assure fish and wildlife needs are properly assessed.

Follow-up investigations of dredge spoil disposal at Crescent City was conducted. The limited damage to tidal areas appears to be short term. Investigations will continue.

EIS and EIR activities: Reviews were completed for Van Camp's San Diego Cannery; Mandalay Pt. offshore fuel loading facility; Bodega Bay Aquaculture facility (Univ. Calif.); City of Santa Cruz Wharf Expansion; and a Vessel Traffic Control System for San Francisco Bay. All of the reports were found adequate in their presentation and no objections were presented.

Coastal Zone Commission: Information developed for ASBS purposes was forwarded to the North Coastal Zone Commission for their use. The State Commission meeting in Eureka and the San Diego Commission meeting in San Diego were attended.

Miscellaneous: The Department's position regarding Coastal Area Plan, San Diego County, was presented at a hearing conducted by the Comprehensive Planning Organization of San Diego County.

## 13. INSHORE FISHERIES HABITAT EVALUATION AND MONITORING

Finishing touches were made on the two remaining contract reports for the Regional Water Quality Control Boards. The remainder of the month was spent on abalone and lobster research.

## ENVIRONMENTAL AND BEHAVIORAL STUDIES OF COASTAL SPORTFISHES

One day was spent recovering some chain from the rocky Point area. This chain will be utilized by the Kelp-Sportfish Project (F27R)



to prepare additional substrate in Abalone Cove.

Dan Odenweller presented a talk to approximately 200 divers taking the Los Angeles County Advanced Diver Certification program.

The rest of the month was spent proofing the galleys for the Offshore Fishes bulletin and in catching up on office paper work.

Our project work force was reduced by one-third when Richard Moe resigned to accept a position as station scientific leader for one year at Palmer Station, Antarctica.

With assistance from the Kelp Project, Odenweller made a one day sheephead collection at Catalina Island.

We spent two days at Horseshoe Kelp surveying the experimental tire reef unit and the surrounding rock reef area. These tires have been in place since May of this year and show relatively little encrusting invertebrate growth, while those placed off Ventura had dense growths of hydroids in only one month.

We briefly surveyed the Hermosa Beach WCB reef. Embiotocid perch were the most numerous fish at the rock pile, while the concrete shelters appeared to attract sand bass and perch in nearly equal numbers.

With assistance from the northern California sportfish survey and Marine Patrol, we dove on the Santa Cruz pier tire reef. On May 19, 1500 tires were placed on the seafloor just south of the pier. To date, embiotocid perches and juvenile rockfish are the most numerous fish. *Macrocystis* sp. is growing on the tires. Tires placed under the pier two years ago have no kelp growth.

#### 14. KELP PROJECT

A total of 164 adult *Macrocystis* plants was transplanted by project personnel from healthy kelp beds on Catalina Island to the Abalone Cove study site on the Palos Verdes Peninsula during October transplant operations.

About 1700 adult *Macrocystis* plants have been transplanted to Abalone Cove by project personnel since January 1973. This represents a total biomass of approximately 50,000 pounds. According to Dr. North 3000 juvenile *Macrocystis* plants were transplanted to the study site by researchers from CalTech. Most of these plants, only 2 to 8 feet in length, have been badly damaged by kelp grazing fishes and will probably not survive. However, nearly all of the adult plants brought in during Departmental transplant operations are thriving and, according to Dr. North, have given rise to about 200 young plants.

About 140 feet of heavy chain were salvaged by project personnel with the help of divers from the southern California sportfish project.

This chain was transported to Abalone Cove aboard the KELP BASS, laid out in Abalone Cove and used to anchor transplants during October operations.

The new project vessel, a 23 foot Penn Yan inboard, has been officially named the HALFMOON after a common southern California kelp bed fish. The boat, having been operational for one month, has been found quite seaworthy, an excellent dive boat and appears to be quite satisfactory for project work.

Two days were spent at Catalina by project personnel surveying kelp beds for possible locations to obtain transplants and to collect opaleye and halfmoon for life history studies.

15. DIABLO CANYON ECOLOGICAL SURVEY (P.G.&E. Contract S1902)

The Diablo Canyon site was visited twice during the month. On October 11 and 12, the intertidal study areas at and around the plant site were inspected and photographed by Gotshall and Laurent. On the 12th, two dives were made off the Patrol Boat RAINBOW. The first dive was made on a permanent transect and the second made to collect adult red and black abalone for the Marine Culture Laboratory temperature tolerance studies. The second trip to the Diablo site took place from the 27th to the 31st and was to complete this season's subtidal work. The rest of the month was occupied by the Mendocino Studies Final Report.

Our boat, SEBASTES, underwent major engine overhaul during the month in Morro Bay.

## 16. MARINE FISHERIES STATISTICS

### A. Source Documents

The following source documents were edited: September cannery, July trawlers and shrimp, and September marine sport catch logs.

Editing is in progress on the following source documents: July market, August and September bait, October cannery and marine sport catch.

The September marine sport catch letter was prepared and mailed. The September striped bass list was provided to anadramous fish investigations. Delinquent partyboat lists were prepared and sent to enforcement personnel and delinquent letters were sent to boat operators.

Copies of partyboat logs were provided to an owner and copies of landing receipts for two boats were prepared for Captain Cribbs.

### B. Machine Data Processing

Routine reports tabulated were: June statistical; 1972 annuals for bonito, bluefin tuna, lobster and sablefish; September marine sport catch series; September processor; September cannery; jack mackerel and anchovy reduction.

Special reports completed were: sablefish and rockfish catch by gear for Tom Jow; training report I through June for Jim White; kelp greenling deck for Tim Farley and commercial salmon sampling deck for Linda Fry.

### C. Licenses and Registrations

Master list changes were sent to Sacramento and the field offices. The October list of unregistered boats making deliveries was prepared and distributed to enforcement personnel.

### D. Information

Routine statistical reports were decoded and distributed. The September tuna letter and June cumulative landings by area report were prepared and distributed.

Xerox copies of landings by statistical block were made for five blocks from 1967 through 1971 for Dames and Moore in Santa Barbara.

Work continues, as time is available, on statistical block data for 80 blocks for the Ventura - Santa Barbara - San Luis Obispo Counties Coastal Commission.

## F. NMFS Commercial Fisheries Survey

Preparation of mailing labels for the questionnaire survey is nearing completion. Envelopes for mailing have not yet been received. Arrangements for cover letters and folding have been made.

## 17. VESSELS

ALASKA: The ALASKA conducted an anchovy survey off Baja and southern California, October 2-25, 1973.

N. B. SCOFIELD: The N. B. SCOFIELD conducted a crab study cruise off northern California, October 1-31, 1973.

KELP BASS: The KELP BASS conducted the following cruises during October; three-day diver evaluation class off Catalina Island; four day kelp transplant cruise, Catalina Island to Palos Verdes Peninsula; four day bonito tagging cruise off Santa Barbara City; three day lobster study off Catalina Island; and a three day abalone study off San Clemente Island.

## 18. MISCELLANEOUS

### A. Meetings, Talks and Visitors

- October 1-3 -Gates and staff attended 24th Tuna Conference, Lake Arrowhead.
- October 1-3 -Department divers participated in a 3-day diver's recertification school at Santa Catalina Island.
- October 2 -Jow gave a talk on bottomfish resources of the San Francisco area to the San Francisco Mayor's Committee on Preservation and Beautification of Fisherman's Wharf.
- October 5 -Haaker presented a talk to the Orcas Diving Club describing Kelp Project efforts and accomplishments.
- October 6 -Frey, Hubbard, and Young attended OFPA meeting, Long Beach.
- October 10 -Approximately 25 students from North Salinas High School were briefed on Departmental activities, Monterey.
- October 10 -Gates, Kaneen and Frey met with Amin Zarur, Jefe de la Oficina de Pesca, San Diego, and Ignacio Felix, Jefe de Cetro de Promocion Pesquera, El Sauzal, to discuss fishery regulations and informal cooperative research, San Diego.
- October 15 -Haseltine and Kelly attended the Central California Coastal Zone Commission meeting to provide information on the proposed Granite Canyon landscaping plan -- Santa Cruz.

- October 16 -Ebert, Haseltine and Kelly met with Dave Leighton, to tour the California Marine Associates abalone hatchery, and discuss progress of spot prawns being reared in their ponds--Cayucos.
- October 16 -Gates and staff met with sports representatives and County officials regarding artificial reef program--Long Beach.
- October 16 & 17 -Collins and Wild met for editing the sea otter report--Monterey.
- October 17 -Laurent attended initial meeting of Marine Scientists of Monterey Bay at the Naval Post-graduate School in Monterey.
- October 17 -Frey attended CalCOFI Committee meeting at La Jolla.
- October 17 -Carlisle met with Monte Taylor of Exxon--Long Beach.
- October 17-18 -Gates attended Regional Manager's/Headquarters staff meetings--Sacramento.
- October 18 -Carlisle discussed beach erosion problems with Steve Smith of the Corps of Engineers--Long Beach.
- October 19-21 -Gotshall participated in Underwater Parks Advisory Board meeting concerning the proposed Carmel Bay Underwater Park--Asilomar.
- October 21 -Miller attended the Pacific Coast Championship Skindiving competition meet at Montana De Oro State Beach.
- October 23 -Gates attended AIFR biologists dinner meeting, San Juan Capistrano.
- October 24 -Gates, Young, representatives of NMFS and various universities met to discuss introduction of exotic species into California waters--Long Beach.
- October 26-27 -Carlisle attended the Bio-Sonar and Marine Mammal Conference--Menlo Park.
- October 25 -Duffy attended Ventura County Fish and Game Commission meeting--Oxnard.
- October 29 -Greenhood, Frey, and Petrovich met with fishermen and processors to discuss proposed herring regulations--Monterey.
- October 30 -Carlisle attended a deep water port meeting--San Luis Obispo.
- October 31 -Gates met with Rothschild regarding State/Federal Program--Long Beach.

B. Personnel

- August 30 -James MacDowell, Fish Culturist, Mariculture Research and Development, Granite Canyon, separated.
- September 10 -Ella Norman, Senior Account Clerk, Marine Fisheries Statistics, Long Beach, on leave-of-absence.
- September 28 -Maxine V. Hicks, Clerk Typist II, Administration, Long Beach, separated.
- September 28 -Raymond Hinton, Ship's Cook, Research Vessels, San Pedro, separated.
- September 28 -Esther Thom, Key Data Operator, Marine Fisheries Statistics, Long Beach, separated.
- October 1 -John Long, Ship's Cook, Research Vessels, San Pedro, appointed.
- October 11 -Linda K. Budd, Key Data Operator, Marine Fisheries Statistics, Long Beach, appointed.
- October 12 -Jack Farley, Account Clerk II, Marine Fisheries Statistics, Long Beach, transferred to State Hospital.
- October 17 -Judy Stary, Clerk Typist II, Administration, Long Beach, appointed.
- October 11 -Joseph R. R. Ally, Junior Aquatic Biologist, Pelagic Fisheries, Long Beach, appointed.



Doyle E. Gates  
Regional Manager

A. ARREST REPORT

Number of persons arrested as compared to same periods last year:

166	203
<u>Same Month Last Year</u>	<u>Current Month</u>
2576	2967
<u>Total Arrests Same Period Last Year</u>	<u>Total Arrests This Year</u>

Remarks - To explain any marked changes in above totals \_\_\_\_\_

Fines paid.....	<u>\$4,814.00</u>	<u>\$7,063.00</u>
	Same Month Last Year	Current Month
Total fines to date.....	<u>\$84,766.00</u>	<u>\$93,525.00</u>
	Same Period Last Year	Same Period This Year

Remarks - To explain any marked changes in above totals \_\_\_\_\_

Jail days served.....	_____
Jail days suspended.....	<u>40</u>
Cases Dismissed.....	<u>9</u>
Cases in which all of fine was suspended.....	<u>46</u>
Juvenile cases turned over to juvenile authorities or parents contacted.....	_____
Hunting licenses revoked by court.....	_____
Hunting licenses suspended by court.....	_____
Sport fishing licenses revoked by court.....	_____
Sport fishing licenses suspended by court.....	_____

Summary: Following is the number of violations prosecuted against type of violation.

Hunting, no license.....	_____	Angling, no license.....	<u>108</u>
Waterfowl.....	_____	No inland stamp.....	_____
Deer.....	<u>1</u>	Trout.....	_____
Pheasant.....	_____	Striped Bass.....	_____
Resident small game.....	_____	Other inland fish.....	<u>4</u>
Doves and pigeons.....	_____	Angling more than one rod.....	_____
Mountain lion.....	_____	Clams and shellfish.....	<u>52</u>
Bear.....	_____	Commercial abalone.....	<u>1</u>
Raptors.....	_____	Commercial lobster.....	<u>1</u>
Loaded gun in car.....	<u>1</u>	Commercial fish.....	<u>4</u>
Baited pond shooting.....	_____	Commercial fish records.....	_____
Protected nongame birds, fully protected, rare or end species	_____	Ocean sportfish.....	<u>21</u>
Litter.....	_____	Pollution (5650) (Oil).....	<u>7</u>
Public shooting area trespass.	_____	"    "    (Other).....	_____
Trespass (2016-18).....	_____	Stream obstruction (5948).....	_____
Prohibited species.....	_____	1601-1602.....	_____
		Miscellaneous.....	<u>3</u>
		TOTAL . . . . .	<u>203</u>

B. ASSISTANCE TO OTHER LAW ENFORCEMENT AGENCIES

- 1. Number of cases filed by Wildlife Protection officers for violation of Penal or other code sections.....
- 2. Number of cases filed by Wildlife Protection officers for city or county ordinances.....
- 3. Number of cases turned over to federal agencies for filing.....
- 4. Number of cases of assistance to other agencies resulting in filing of charges (not included in 1, 2, or 3 above).....
- 5. Number of cases involving felony charges.....
- 6. Section 151 Harbors & Navigation Code           \$2625.00                     1            
Total Fines Paid cases

C. DEER ACCIDENTALLY KILLED

- 1. Road kills by motor vehicles
- 2. Kills from other causes (railroads, canals, dogs, etc.)

D. HUNTER SAFETY REPORT

- 1. Hours spend on Hunter Safety Training.....
- 2. Hunter Safety classes attended.....
- 3. Hunter Safety instructors contacted.....
- 4. Hunter Safety instructor applicants interviewed.....
- 5. Hunter safety instructor training classes conducted.....
  - a. Number of instructors attending.....
- 6. Public agencies (law enforcement agencies, recreational departments or districts, schools, etc.) contacted about Hunter Safety.....
- 7. Private organizations (service clubs, Boy Scouts, sportsmen clubs, etc.) contacted about Hunter Safety.....
- \*8. Expenses charged to Federal Aid W58H1 during report period....
- \*9. Mileage charged to Federal Aid W58H1 during report period....  
 \*Regional Hunter Safety Coordinator Federal Aid W58H1 Employees only.
- 10. Narrative report of highlights in Regional Hunter Safety activities. (Use space below or additional sheets):