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SOUTHWEST FISHERIES CENTER

MONTHLY REPORT - DECEMBER 1981

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MONTHLY REPORT - DECEMBER 1981

STATUS OF PUBLICATIONS

Published

Jennings, Jacqueline, James M. Coe, and Walter F. Gandy. 1981. A corral system for examining pelagic dolphin schools. Mar. Fish. Rev. 43(11): 16-20.

Parrish, Richard H., Craig S. Nelson, and Andrew Bakun. 1981. Transport mechanisms and reproductive success of fishes in the California Current. Biol. Oceanogr. 1(2): 175-203.

Surface marine observations are used to infer the large-scale seasonal patterns of ocean surface drift near the coast in the California Current. Reproductive strategies of the most successful coastal fishery species show a pattern of correspondence to the major features of surface transport. In the Pacific Northwest, coastal fish species having pelagic larvae tend to spawn during winter when surface wind drift is generally directed toward the coast, rather than during the more productive upwelling season. In the region of vigorous upwelling off northern California, which is characterized by strong offshore transport through most of the year, there is a paucity of locally spawning species with epipelagic eggs. The fishes spawning in this region have a wide range of reproductive strategies that reduce the planktonic phase of the early life history. Local coastal stocks comprise a minority of the fish biomass in the region. Rather, the fish stocks that harvest the massive productivity of this region are primarily migrating species that

spawn under more favorable drift conditions in the Southern California Bight. Closed gyral circulations in the Southern California Bight and off southern Baja California appear to foster favorable spawning conditions that have led to distinct subpopulations of pelagic fishes.

The apparent dependence of spawning strategies upon surface drift conditions suggests the hypothesis that anomalies in surface drift patterns could be a major cause of the observed wide variations in spawning success of the major fishery species of the California Current region.

Technical Memorandum

Wetherall, Jerry A., and Marian Y.Y. Yong. 1981. Planning double-tagging experiments. NOAA-TM-NMFS-SWFC-13, 44p.

Administrative Reports

Honolulu Laboratory

Polovina, Jeffrey, J. 1981. Planning document for a marine resource assessment of Guam and the Commonwealth of the Northern Mariana Islands. SWFC Admin. Rep. H-81-10.

Translation

Akai, Yuji. 1981. Fluctuating fish prices and their problems... Trends in skipjack tuna supply-and-demand and price (Hendō suru suisanbutsu kakaku to sono kadai...Katsuo no jukyū to kakaku no dōkō). Suisan Sekai 30(7): 28-30. (Engl. transl. by Tamio Otsu, 1981, 7 p., Transl. No. 59; available Southwest Fish. Cent., Natl. Mar. Fish. Serv., NOAA, Honolulu, Hawaii 96812.)

Approved by Center Director

Hunter, John R. and Harold Dorr. Thresholds for filter feeding in northern anchovy, Engraulis mordax. For consideration for publication in CalCOFI Reports.

Lynn, Ronald J., Kenneth A. Bliss, and Lawrence E. Eber. Vertical and horizontal distributions of seasonal mean temperature, salinity, sigma-t, stability, dynamic height, oxygen, and oxygen saturation in the California Current, 1950-1978. For consideration for publication in CalCOFI Atlas.

Ralston, Stephen. The effect of variable hook size on catch in the Hawaiian deep-sea handline fishery. For consideration for publication in Canadian Journal of Fisheries and Aquatic Sciences.

Squire, James L. and Howard Krumboltz. Profiling pelagic fish schools using airborne optical lasers and other remote sensing techniques. For consideration for publication in Marine Technology Society Journal.

Thomas, J.A. and D.P. DeMaster. An acoustic technique for determining haulout pattern in leopard (Hydrurga leptonyx) and crabeater (Lobodon carcinophagus) seals. For consideration for publication in Canadian Journal of Zoology.

HONOLULU LABORATORY

INSULAR RESOURCES INVESTIGATION

Opakapaka Otoliths Examined for Annual Marks

This month Fishery Biologist James H. Uchiyama examined the otoliths of opakapaka, Pristopomoides filamentosus, for the presence of apparent annual marks, as part of a continuing study of the periodicity of growth increments on fish otoliths. These annual marks or "annuli," which consist of an inner opaque zone and an outer hyaline zone on otoliths, are commonly used to age temperate water fishes. However, these marks are often either absent or unusable in fish from more tropical waters.

Uchiyama found that apparent annuli were evident on the otolith of opakapaka and were easier to count on the distal surface of the postrostral half of the sagitta. He also found some variation in the size of otoliths--large fish had smaller otoliths than expected and vice versa--and there were differences in size between right and left otoliths.

Uchiyama counted the apparent annuli on the sagittae to estimate the age and growth rate of the fish. Ninety-three fish ranging in size from 17.6 to 76.3 cm fork length were aged. With the assistance of Research Assistant Darryl T. Tagami, the following von Bertalanffy growth parameters were estimated: $L = 97.73$ cm, $k = 0.31$, $t_o = 0.02$ yr. Mean lengths at several ages were determined: 1 yr = 26.7 cm, 2 yr = 40.1 cm, 3 yr = 64.2 cm, 4 yr = 67.1 cm, and 5 yr = 73.0 cm. These results are in good agreement with the age estimates obtained from counting daily growth rings.

Northwestern Hawaiian Islands Biological Studies Continue

Research Assistant Alan R. Everson began work this month on estimating the fecundity of ehu, Etilis marshi, as part of a continuing study of the biological marine resources of the Northwestern Hawaiian Islands (NWHI). Ehu eggs, from ripe ovaries collected on cruises to the Northwestern Hawaiian Islands by the research vessel, Townsend Cromwell, were separated from the connective tissue of the ovaries using Gilson's fluid. Everson experimented with a volumetric subsampler (van Dalsen, A.P. 1977. An improved technique for subsampling eggs for fecundity studies. Fish. Bull. S. Afr. 9: 6-10) he had assembled and calibrated in order to test and develop a suitable subsampling technique; he also photographed typical examples of ripe ehu eggs.

As part of his continuing study on the food habits of pig ulua, Caranx cheilio, Research Assistant Michael P. Seki completed examination of 64 stomach and spew samples of pig ulua collected in the NWHI. Although some fishes from the stomach and spew samples remain unidentified, most fishes have been identified, at least to family. Major forage items for this species consisted of bothids (11%), congrids (11%), serranids (11%), and tetraodontids

(8%). Rocks, shells, and other "bottom" debris were also found in the stomachs. Beatrice L. Burch, Invertebrate Collection Manager of the Bernice P. Bishop Museum, is aiding in the identification of the crustacean and molluscan fragments in the samples.

Seki also examined six spew samples from hapuupuu, Epinephelus quernus. Ophidiids, gempylids, holocentrids, and some caridean shrimps were found in the samples. In addition, the stomach contents of kahala, Seriola dumerili, collected in the NWHI were examined by Research Assistants Robert L. Humphreys and Steven H. Kramer.

Transfer of Honolulu Laboratory Invertebrate Collection to Bishop Museum Continues

Beatrice L. Burch, Invertebrate Collection Manager of the Bernice P. Bishop Museum, and her staff continued work on transferring the Honolulu Laboratory invertebrate collection to the Museum. The project is under the supervision of Dr. Dennis Devaney of the Bishop Museum and is funded by a grant from the National Science Foundation (see related articles in the September, October, and November 1981 issues of the Center Monthly Report, Honolulu Laboratory section). Specialists at the Smithsonian Institution are assisting in specimen identification.

This month a third shipment of corals comprising 70 specimens collected on 12 cruises of the research vessel, Townsend Cromwell, was sent to Dr. Stephan Cairns, Smithsonian Institution coral specialist. Also included in the shipment were other donated coral specimens from various sources. This shipment included all the Hawaiian deep-water coral material available at Bishop Museum; Dr. Cairns will analyze the corals for a monograph he is preparing.

George Tien and Peter Galloway, assistants at the Bishop Museum, sorted material collected on two TC-32 stations. Tien also catalogued 156 species of corals transferred from the Honolulu Laboratory collection to the Bishop Museum. Dr. James E. Maragos, U.S. Army Corps of Engineers, continued his cooperative work with the Museum in identifying corals, including 20 corals taken from Condor Reef (lat. 8°09.0'N, long. 147°58.0'E) on TC-57.

Foraminifera collected at two stations of TC-81-04 in the NWHI were sorted and identified, including 35 species of foraminifers, primarily Miliolidae. Burch noted an abundance of Neoconorbina floridensis (Cushman) in a sample taken west of Necker Island in 28 fathoms. This species has previously been reported from the Atlantic and from Fiji.

* * * * * * * * * *

Richard N. Uchida, Leader of the Insular Ecosystem Study Task, and Darryl T. Tagami, Research Assistant, have completed an Administrative Report, "Status of groundfish research in the Northwestern Hawaiian Islands," parts of which were presented at the Western Groundfish Conference held in Gleneden

Beach, Oregon, October 18-20, 1981. Uchida also completed a planning document for a proposed survey of the seamount groundfish resources in the central and western North Pacific Ocean. In addition, Uchida (1) participated in a 1-day technical Delphi workshop convened by the University of Hawaii Sea Grant Program's Economic Group to assess socio-economic impacts of fishery development in the NWHI, (2) reviewed the climatology chapter of the Guam/Northern Mariana Islands background document which was prepared by Dr. L. Eldredge of the University of Guam Marine Laboratory, and (3) attended the regular meeting of the Coordinating Council on Research for the Northwestern Hawaiian Islands.

* * * * * * * * * *

Fishery Biologist Reginald M. Gooding has completed a draft of an Administrative Report entitled "Predation on surface and bottom released spiny lobsters in the Northwestern Hawaiian Islands," and is preparing a note on the same subject for publication. Gooding also worked on a report describing the effect on lobster trap catch rates when lobster offal (remains) are in the area of trap sets, and on the narrative report for R/V Townsend Cromwell cruise 81-04.

PELAGIC RESOURCES INVESTIGATION

Preliminary Results of Japanese Fishery Survey Discussed

Tamio Otsu, Chief of the Pelagic Resources Investigation, and James H. Uchiyama, Fishery Biologist, met this month with Makoto Makihara, Japan Marine Fishery Resource Research Center (JAMARC), when the JAMARC-chartered vessel, Shinyo Maru, made a stop in Honolulu during its survey of pomfret (Brama japonica) fishing grounds in the waters north of the Hawaiian Islands (Musicians Seamount). According to Makihara, who is serving as observer aboard the Shinyo Maru, the vessel presently has on board about 20 tons of fish, of which about 7 tons are made up of various species of sharks, 4 tons of pomfret, 3 tons of albacore (Thunnus alalunga), 3 tons of striped marlin (Tetrapturus audax), and about 3 tons of squid (Ommastrephes bartrami).

The vessel uses multifilament gill nets, 150 to 200 mm in mesh size. About 900 shackles are set in each operation, with each shackle measuring about 33 m in length and 10 m in depth. The sets are made at dusk and are hauled over a 6-h period beginning around 11 p.m.

The pomfret and the sharks are both considered underutilized species and are being actively promoted in Japan by JAMARC. At present the demand for these species is not great enough to command good prices.

The Shinyo Maru departed Japan in October and is expected to return home in February. Makihara indicated that the Musicians Seamount area seems to be quite a promising fishing ground for pomfret, particularly during the winter months.

Fish Collected for Olfactory Experiments

The Honolulu Laboratory's research vessel, Kaahele'ale, made four short trips in November to an area off Barbers Point, Oahu, to collect flyingfish, Exocoetidae, and akule (Trachurops crumenophthalmus) which will be used in distilled water rinses for olfactory experiments being conducted by Dr. Kim Holland, Hawaii Institute of Marine Biology, University of Hawaii. An underwater light and dip nets were used to catch the flyingfish and handlines were used to catch the akule. Personnel participating in the cruises were Lt. H.A. Jemison, NOAA Corps, Fishery Biologist Thomas K. Kazama, Research Assistant Richard A. Bierma, Dr. Holland, and R. Yost, University of Hawaii graduate student.

FISHERY MANAGEMENT RESEARCH PROGRAM

1981 Hawaii Landings of Skipjack Tuna Slightly Above 1980 Landings

The December 1981 Hawaii landings of skipjack tuna were estimated at 92 metric tons (MT), which is 6 MT below the December 1980 landings and 60 MT below the 1964-79 long-term average for December. The cumulative landings from January through December were estimated at 2,186 MT, which is 446 MT above the 1980 landings for the same period and 1,846 MT below the 1964-79 long-term average for the same period (Figure 1).

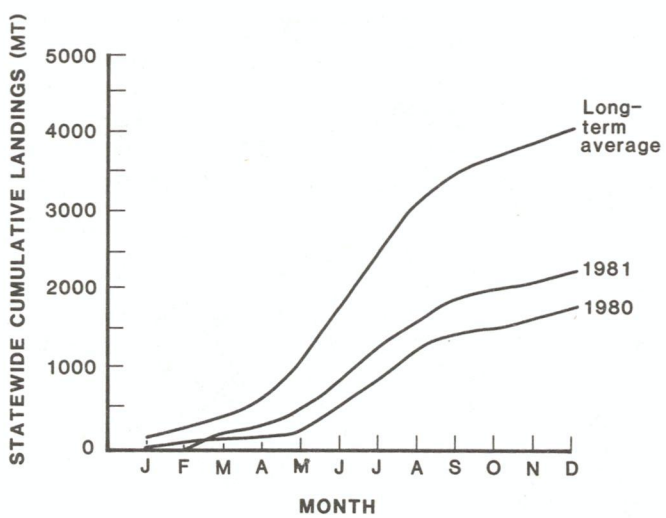


Figure 1. Cumulative landings in the Hawaiian skipjack tuna fishery.

LA JOLLA LABORATORY

Coastal Fisheries Resources Division

Division Chief Attends Research Planning Meetings

This month Dr. Reuben Lasker, Chief of the Coastal Fisheries Resources Division, and Dr. Richard Parrish, Fishery Biologist with the Pacific Environmental Group, Southwest Fisheries Center, served as co-chairmen for a meeting of the study group on large-scale collaborative experiments, a part of the biology panel of Scientific Committee on Oceanic Research (SCOR) Working Group 67, Committee on Climate Change in the Ocean.

During the week of December 7, Lasker was an invited speaker at the Pacific Biological Station in Nanaimo, British Columbia, where he participated in discussions on larval fish research with the scientists stationed there. In addition, Lasker and Oceanographer Dr. Robert Owen presented results of their work on the OPUS (Organization of Persistent Upwelling Systems) cruise of March 1981 to a meeting of principal scientists at the University of Southern California.

COASTAL EASTERN PACIFIC: POPULATION BIOLOGY OF FISHES

Catch Rate of 1981 Anchovy Recruits Being Analyzed

Fishery Biologist John Butler and Laboratory Assistant Susan Longinotti are currently analyzing results from the 1981 anchovy recruit survey cruise on the research vessel, David Starr Jordan, and chartered fishing vessel, Oregon Beaver. (Butler served as Cruise Leader on the Jordan cruise and Ken Mais, California Department of Fish and Game, was Cruise Leader on the Beaver.) The catch rate of juvenile anchovies collected by Mais is the lowest catch rate in 5 years of similar surveys. The catch rate of 1981 recruits was 50 times lower than the highest catch rate (1976) and 10 times lower than the previous low (1977).

The size distribution of the 1981 recruits is unusual (Figure 1) in that recruits collected off southern California have a bimodal size frequency distribution with one peak between 60 and 70 mm, very few fish between 70 and 80 mm, and a large peak between 90 and 100 mm. This distribution was found on both the Jordan and Beaver cruises. The birthdates may be estimated using the size-birthdate key developed by Fishery Biologist Rick Methot. Fish between 40 and 60 mm were probably spawned between April and August 1981 while fish between 90 and 100 mm were probably spawned between December 1980 and February 1981. The hiatus in the size distribution indicates low recruitment from fish spawned in March, which is normally the peak of the birthdate distribution.

The size distribution of fish collected off Mexico is unimodal, with most of the fish between 90 and 100 mm.

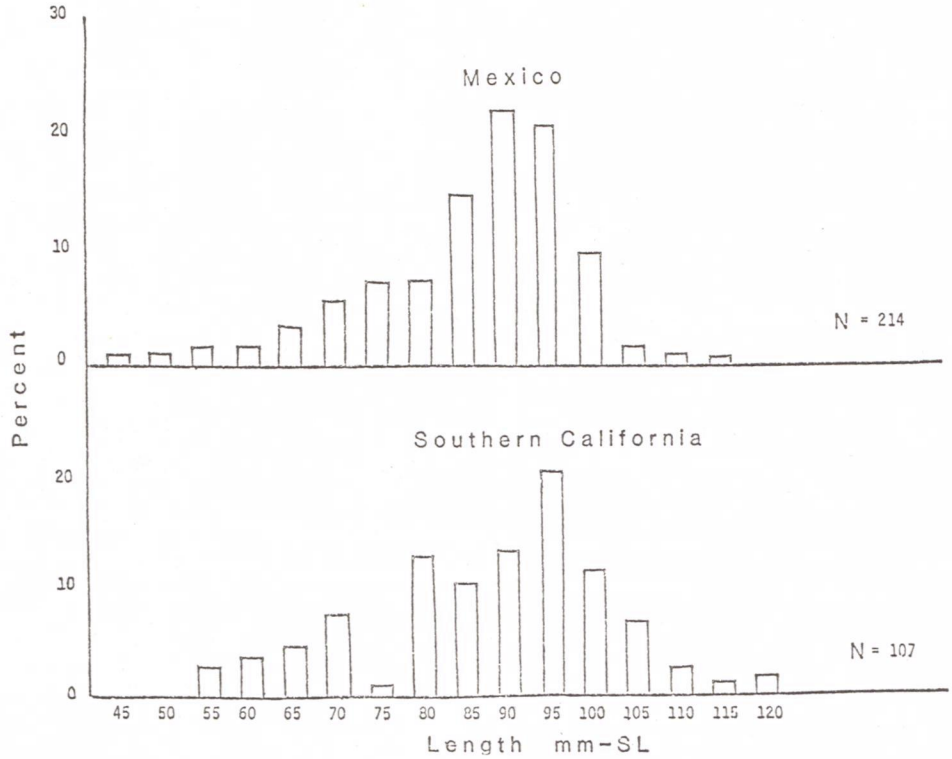


Figure 1. Size composition of 1981 anchovy year class sampled on Cruise 81-X-4 of the F/V Oregon Beaver.

In addition to cruise result analysis, Longinotti is also removing otoliths from juveniles collected on these cruises in order to determine the growth rate and birthdate distribution of the 1981 anchovy year class.

Birthdate Distribution of 1980 Anchovy Year Class Completed

Fishery Biologist John Butler and Laboratory Assistant Susan Longinotti have completed ageing juvenile anchovies of the 1980 year class. The birthdate distribution of 1980 recruits is approximately normally distributed (Figure 1). The mode of the distribution occurs in March, with 55% of the total year class spawned in that month; almost 80% of the juveniles collected off Mexico were spawned in March and 20% were spawned in February. Peak spawning normally occurs earlier to the south and later in north but recruitment during 1980 shows the opposite trend.

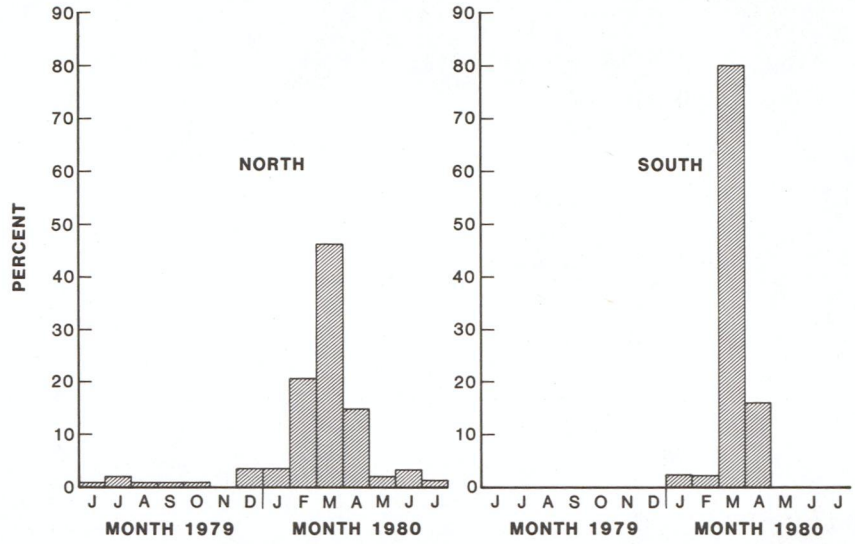


Figure 1. Birthdate distribution of 1980 anchovy recruits off southern California (North) and Mexico (South).

Incidence of Starvation in Jack Mackerel Larvae Studied

As part of an ongoing study to evaluate factors which affect the survival of fish larvae in the sea, Fishery Biologist Gail Theilacker is determining the incidence of starvation-induced mortality of jack mackerel larvae collected about 200 miles off San Diego in the summer of 1980. Theilacker is using laboratory-determined morphological and histological criteria to estimate the incidence of starvation in the sea-collected larvae. Application of the histological criteria to the field samples depends on the success of the field-preservation procedure: if the larvae are not preserved in less than 10 minutes from the time of collection, a postmortem change takes place in the tissues of the fish larvae due to digestion by their own enzymes (autolysis). This change resembles antemortem destruction caused by starvation and larvae displaying this change cannot be graded for incidence of starvation using Theilacker's original histological criteria.

Unfortunately, some of the larvae being studied appear to be undergoing autolysis. Therefore, Theilacker is examining the histology of larvae undergoing autolysis that were collected and processed for a previous laboratory experiment, and she is attempting to establish alternate histological criteria that are not as sensitive to autolysis as the criteria she presently uses. If successful, these alternate criteria will not be as responsive to time of starvation, i.e., the number of days a larva has starved cannot be determined, but it should be possible to determine whether a larva is irreversibly starved.

Oceanic Fisheries Resources Division

MARINE MAMMAL BIOLOGY PROGRAM

Cetacean Reproduction Conference and Workshop Held

The Southwest Fisheries Center was one of the sponsors for a conference entitled, "Cetacean Reproduction: Estimating Parameters for Stock Assessment and Management," held at the Scripps Institution of Oceanography, University of California at San Diego. Registration began the evening of November 27 and papers were presented November 28-30. The International Whaling Commission (IWC) and the U.S. Marine Mammal Commission were co-sponsors with NMFS.

The convenors of the conference, Drs. William F. Perrin and Douglas DeMaster of the Southwest Fisheries Center and Dr. Robert L. Brownell, Jr., of the U.S. Department of Interior, organized the papers and panel discussions into 5 sessions: 1) Review of Cetacean Reproduction, 2) Problems and New Approaches in Methodology, 3) Case Studies of Populations, 4) Are Cetacean Reproductive Rates Density Dependent?, and 5) Behavior, Functional Morphology and Physiology of Reproduction.

More than 60 papers were presented at the symposium by an international group of scientists. Between 150 and 200 persons attended the presentations which concluded on November 30, 1981. (Additional information about the conference is given in the November 1981 issue of the Center Monthly Report, La Jolla Laboratory section.)

Following the symposium, a workshop was held at the Southwest Fisheries Center, La Jolla, California, December 1-7. Attendance was by invitation and included many of the scientists who presented papers at the symposium. The workshop agenda covered a wide range of activities and discussions pertaining to the collection, preparation, interpretation, and use of biological data in cetacean stock assessment and management. The proceedings of both the conference and workshop will be published as a special hardback issue of the IWC Report.

Many of the Southwest Fisheries Center's staff participated in the preparation and conduct of the conference and its outstanding success is a tribute to their hardwork and dedication, according to Drs. Perrin and DeMaster.

Participants in the Cetacean Reproduction Workshop pose on the Center grounds. (Kneeling, left to right) G. Donovan (UK), A. Hohn (US), S. Ohsumi (Japan), D.A. McBrearty (UK), V. Kirby (US), M. Nishiwaki (Japan), T. Takase (Japan), H. Marsh (Australia), N. Miyazaki (Japan). (Standing, left to right) S.A. Mizroch (US), J. Barlow (US), T.D. Smith (US), Y. Rysantsev (USSR), D. Goodman (US), M.V. Ivashin (USSR), J.R. Beddington (UK), C. Lockyer (UK), R.L. Brownell, Jr. (US), T. Kasuya (Japan), J.W. Horwood (UK), E.D. Mitchell (Canada), M.D.K. Kuthalingam (India), S.B. Reilly (US), F.J. Hester (US), R.A. Fredin (US), R.S. Wells (US), W.F. Perrin (US), R.C. Best (Brazil), V.M.F. da Silva (Brazil), A. Collett (France), M.D. Scott (US), W.A. Walker (US), C. Goebel (US), J. Mead (US), U.M. Kozicki (Canada), F. Larsen (Denmark), G. Kirkwood (Australia), H.W. Braham (US), R. Borodin (USSR), P. Chen (China), D. DeMaster (US). (Not shown) K. Benirschke (US), A. Myrick (US), D. Odell (US), D. Sergeant (Canada).

Center Scientists Attend Marine Mammal Conference in San Francisco

Most of the staff working on tuna/porpoise related issues at the Southwest Fisheries Center, La Jolla Laboratory, attended the "Fourth Biennial Conference on the Biology of Marine Mammals," in San Francisco, December 14-18. The following papers were presented at the Conference by Center staff members: "Use of line transect methods to estimate dolphin population abundance in large survey areas" - Dr. Rennie Holt; "Tracking pelagic dolphins by satellite" - Jacqueline Jennings; "A comparison of aerial cameras for small cetacean research" - CMDR Wayne Perryman; and "Gray whale population history: a simulation" - Dr. Stephen B. Reilly. An estimated 800 persons attended the Conference.

MARINE MAMMAL MONITORING AND ASSESSMENT PROGRAM

Preliminary Estimate of Total Dolphin Mortality for 1981 Completed

This month Bruce Wahlen, Biological Statistician, completed monitoring the cumulative incidental mortality of dolphins by U.S. tuna vessels. The total for 1981 is approximately 18,800 animals (95% confidence limit (c.l.), 13,400 to 24,200). The kill of northern offshore spotted dolphin, the largest component of the data studied, was 11,000 (95% c.l., 7,200 to 14,200).

TUNA/BILLFISH RESOURCES PROGRAM

Southern California 1981 Striped Marlin Catch Exceeds Historical Average

Fishery Biologist Jim Squire reports that the southern California striped marlin catch for 1981 was one of the best in recent years, with a catch of 1,547 fish compared to the long-term historical average of 812. The relatively high 1981 catch may be partly attributed to a warming of surface waters from the lower tip of Baja California north to southern California; waters reached temperatures of 70°F or more in these areas. The temperature patterns observed in 1981 were very similar to those of 1963, a year in which over 2,200 striped marlin were landed. Analysis of catch data, 1962-1980, indicates that the average number of striped marlin caught in relation to sea surface temperature patterns was highest when the temperatures were greater than 70°F off southern California and Baja California, Mexico. For temperatures of 70°F or more, the average southern California catch was 115 fish per 2-week period; 68-70°F (88 fish); 66-68°F (59 fish); and 64-66°F (28 fish).

North Pacific Albacore Fishery Model Discussed

On December 2-4, Dr. Sam Bledsoe, contractor with NORFISH, University of Washington, presented a North Pacific Albacore Stock Fishery Model to the Southwest Fisheries Center's Albacore Modeling Steering Group. The group is comprised of Drs. Norm Bartoo and R. Michael Laurs (La Jolla Laboratory), Dr. Richard Parrish (Pacific Environmental Group), and Dr. Jerry Wetherall (Honolulu Laboratory). The model is currently in the developmental stage and is designed to be a tool for testing hypotheses concerning effects of environmental variables on catch-per-unit-effort as well as hypotheses concerning albacore population dynamics and fishery interactions. At present a version using simplified model parameters is being used to develop the numerical representation of various biological, physical and fishery processes. Earl Weber, Fishery Biologist at the La Jolla Laboratory, will work closely with Bledsoe during the research stages to modify the model and its input parameters in order to produce a series of test runs for comparison to actual fishery data.

Status of Atlantic Tuna Fishery Sampling Program

During the period January 1, 1981 to December 31, 1981, six U.S. and three foreign tuna purse seiners fishing in the Atlantic Ocean unloaded in Puerto Rico. Sixty-six composition samples were collected for the SWFC by Inter-American Tropical Tuna Commission personnel. The sampling distribution by species is as follows:

Species	# Vessels sampled	# of samples	# of fish sampled
Yellowfin	9	23	1153
Skipjack	9	30	1502
Bigeye	4	7	211

Foreign-caught Atlantic tunas transshipped to Puerto Rico are sampled routinely for biological information by Biological Technician Eugene Holzapfel, who is stationed in Mayaguez. Data on fork length, weight, and species composition of catches are collected. Results of Holzapfel's sampling during the period January 1, 1981 to December 31, 1981 are as follows:

Species	Gear	# of samples	# of fish sampled	Tonnage sampled (MT)
Yellowfin	Baitboat	8	511	57.88
	Purse Seine	13	907	2363.54
Skipjack	Baitboat	8	402	3279.83
	Purse Seine	7	351	2015.19
Bigeye	Baitboat	7	263	61.80
	Purse Seine	1	36	80.54

TIBURON LABORATORY

FISH COMMUNITIES INVESTIGATION

Members of Predator/Prey Task Participate in Workshop on Food Habits of Fishes

A workshop on studies of food habits in fishes, sponsored by the Moss Landing Marine Laboratories and the University of Washington, College of Fisheries, was held this month in Monterey, California. Investigation Leader Dr. Edmund Hobson chaired a session on behavior of predators and prey, and papers were presented by Fishery Biologists Peter Adams and Tony Chess. Adams spoke on the feeding behavior of the widow rockfish, Sebastes entomelas, and Chess talked about problems in studying shortbelly rockfish, Sebastes jordani, in deeper water.

College Students Help Reduce Backlog of Samples

This month eight biology students from the College of Marin helped members of the Rockfish Analysis Task reduce the number of unanalyzed samples in its collection. The students worked over a weekend with Fishery Biologist Tina Echeverria and Biological Aids Lisa Andrade, Steven Pace, and Pat Guillemot to process 56 samples representing a full year of monitoring interstitial fat; they also made substantial progress in the analysis of gut contents and gonadal volumes.

FISHERIES DEVELOPMENT INVESTIGATIONS

Cruise to Test Trawl for Shortbelly Rockfish Finally Completed

The often-postponed cruise on the chartered fishing vessel, Oregon Beaver, was finally concluded on December 29 when the vessel limped back to Tiburon in the midst of yet another storm. The 7-day cruise, conducted to determine if a small-mesh "off-bottom" trawl could be used to selectively catch shortbelly rockfish and avoid other species, began on November 10, with Tiburon personnel Sus Kato (Cruise Leader) and NOAA Corp. Lt. Pat Rutten aboard the vessel (see related article, November 1981 issue of the Center Monthly Report, Tiburon Laboratory section). After one day of fishing, a series of storms and previous commitments of the vessel forced postponement of the cruise until December 15, at which time Fishery Technician Sennen Salapare replaced Rutten. Four days of fishing with the experimental trawl produced few results and gale-force winds again halted fishing operations.

While in port the reason why no fish were caught even though the echo sounder indicated their presence, was ascertained: the net had been towed sideways because the marks on the towing cables had slipped, making one warp longer than the other. In addition, during the final two days of the cruise it was learned that one of the towing cables was not marked to a sufficient length. On the first and only tow on the next-to-the-last day, 12,000 pounds of fish, mostly small shortbelly rockfish, were caught; however, it was nearly impossible to bring that amount of fish aboard the vessel due to the arrangement of the booms and net reel. Strong winds on the following morning forced the cancellation of planned fishing activities.

The experimental trawl featured a suspended rope which theoretically allows the net to fish up to three feet above the bottom, even when standard bottom otter boards are used. Such a net, in comparison to a midwater trawl, could lower fishing costs considerably because sophisticated electronics would be unnecessary, and horsepower requirements would be much lower. Although the single successful tow indicated that it is indeed possible to catch shortbelly while avoiding other species, the concept may be difficult to apply commercially due to traditional fishing methods and the distributional patterns of shortbelly rockfish.

On a brighter note, it was learned that 18,000 pounds of shortbelly rockfish were sold to a Japanese firm which saw good prospects for marketing it in Japan. The fish were left over from previous trips sponsored by the Tiburon Laboratory which provided market samples of rockfish to several local fish processors.

FISHERIES INFORMATION SYSTEMS AND AUTOMATIC DATA PROCESSING

A Description of PACFIN--The Pacific Coastal Fishery Information Network

For nearly a decade, State and Federal fishing management and research agencies on the Pacific coast have grown increasingly concerned about the need for effective collection, management, and dissemination of fisheries data and information. The establishment of the Coastwide Data Committee in the early 1970's served to identify common data needs and capabilities among the State and Federal entities. Additional demands for data, resulting from Fishery Management Plans formulated by the Pacific Fishery Management Council (PFMC) and the North Pacific Fishery Management Council (NPFMC) to meet the requirements and standards of the Magnuson Fishery Conservation and Management Act, have accelerated the need for coastwide cooperation.

The Pacific Fishery Information Network (PACFIN) is the culmination of efforts which began with the establishment of a Committee on Goals and Guidelines to develop a system to facilitate the exchange of fishery information. This assignment was completed in July 1980 following agreement by participating staffs of the State and Federal agencies, the PFMC, and the NPFMC to implement a fishery information network utilizing data processing facilities of the Northwest and Alaska Fisheries Center (NWAFC), National Marine Fisheries Service, (NMFS) in Seattle, Washington, and the Southwest Fisheries Center (SWFC), in La Jolla, California. The basic system designed for the PACFIN was developed and supported by the SWFC, in consultation with the above-mentioned participants. The final report, under SWFC supervision, provides the basis for the development of the PACFIN. In August 1980, the Committee on Goals and Guidelines changed its name to the Pacific Coast Fisheries Data Committee and began development of PACFIN.

The functions of the Pacific Coast Fisheries Data Committee are to: (1) implement and manage a PACFIN that aggregates summarized State and Federal fisheries data for use by fishery managers, researchers, and associated agencies; (2) provide data management consultation and technical advice to the Councils' Plan Development Teams and participating agencies upon request; (3) establish priorities and coordinate plans to improve the efficiency, effectiveness, and timeliness of data acquisition and delivery with a minimum of unnecessary duplication, and (4) promote the development and implementation of coastwide data collection standards to facilitate the merging of Pacific Coast fisheries data in the PACFIN. It is the intent of the Committee to insure that all required data are available to the Councils, their Plan Development Teams, their Scientific and Statistical Committees, fishery managers, and each participating agency in a form, quality, and timeliness necessary to meet respective fisheries management responsibilities.

The Committee is composed of designated representatives from the Alaska Department of Fish and Game; Washington Department of Game; Oregon Department of Fish and Wildlife; Idaho Department of Fish and Game; California Department

of Fish and Game; North Pacific Fishery Management Council; Pacific Fishery Management Council; Northwest and Alaska Fisheries Center, NMFS; Southwest Fisheries Center, NMFS; Alaska Region, NMFS; Northwest Region, NMFS; Southwest Region, NMFS; and the Pacific Marine Fisheries Commission.

There are currently two major projects within the PACFIN: the Pacific Coast Research System and the Pacific Coast Management System. The Pacific Coast Research System is located at the SWFC in La Jolla. This system presently contains detailed and summarized vessel and landings information from Washington, Oregon, and California for years 1974 through 1976. The system is very valuable in tracking vessel movement along the Pacific Coast. It is envisioned that in FY 82 the system will be expanded to include earlier and later years. The Coast Wide Management System is located at the NWAFC in Seattle, Washington. This system is utilized for regional management of the groundfish fisheries. The Committee is presently expanding this system to include salmon and shrimp fisheries. Summarized groundfish data are communicated monthly to the NWAFC. Several monthly reports are produced on a regular schedule.

The Southwest Fisheries Center hosted a meeting of the Pacific Coast Fisheries Data Committee at the La Jolla Laboratory, December 16-17, 1981. At the meeting the Committee decided that an evaluation of the present Pacific Coast Research System should be made before new data are added. Fred Kellenberger, Data Systems Manager at the SWFC, will send a report of the system to Committee members by March 1, 1982. In addition, the time schedule for the Pacific Coast Management System was revised during the meeting and the following schedule established: groundfish catch data will be placed in the system by early spring 1982, salmon and shrimp catch data by July 1982, and salmon biological data by July 1983.

CALFIN Update

During the month of December, Norm Abramson, Director of the Tiburon Laboratory, Southwest Fisheries Center, met with Gary Smith of the Southwest Region and Mel Odemar and Dick Heimann of the California Department of Fish and Game (CDF&G) to discuss sampling planning activities. Abramson is responsible for the development of a port sampling plan for the California Fishery Information Network (CALFIN). He and Odemar plan to meet in January with CDF&G Senior Biologists to obtain general information on sampling activities and perceived objectives and needs. They will also tour the State to obtain detailed sampling information from CDF&G Port Biologists. These activities will contribute to an inventory of existing sampling operations which is a prerequisite to analysis and future planning.

Members of the Pacific Coast Fisheries Data Committee pose on the Center grounds (left to right): Fred Kellenberger, SWFC; Jerry Lukas, Oregon Department of Fish and Wildlife; Dick Heimann; California Department of Fish and Game; John P. Harville, Pacific Marine Fisheries Commission; Brad Pattie, Washington Department of Fisheries; Larry Six, Pacific Fishery Management Council; Mel Odemar, CDF&G; Gary Smith, Southwest Region; Karen Crandall, Alaska Fish and Game; Harvey Hutchings, NMFS; Dave Pratt, Washington Department of Fisheries; Ken Hall; Oregon Department of Fish and Wildlife; Will Daspit, PMFC; and J. Kenneth Johnson, PFMC.

(Not pictured: Guy Thornburgh, Alaska Fish and Game, and Norm Abramson, SWFC, Tiburon Laboratory).

* * * * * * * * * * * *

On December 21, Data Systems Manager Fred Kellenberger held meetings at the Southwest Region (SWR) with SWR Director Alan Ford, Deputy Director Floyd Anders, and Gary Smith, Chief, Fisheries Management Division, in order to discuss the Fishery Information Network (FIN). Kellenberger also met with the entire staff of the SWR to discuss the FIN concept and objectives.

WPACFIN Update

David C. Hamm, Computer Systems Analyst at the Honolulu Laboratory, reports that significant progress was made during December in the implementation of the Western Pacific Fishery Information Network (WPACFIN). The procurement action to replace the microcomputers that were stolen over Thanksgiving was initiated early in the month, tracked during the month, and approved by the end of the month. Delivery of the equipment is expected by mid-January. Hamm, WPACFIN data base manager, should be able to make field installations in Guam and Saipan on schedule, January 26 - February 10, 1982.

Hamm installed a microcomputer system in the American Samoa Office of Marine Resources (OMR) during the week of December 14-20, and began training OMR personnel. The training went very well, but it became apparent that 7 days were not sufficient to cover all the materials that had been planned; therefore, training was geared to cover only the most important software packages and hardware care and maintenance procedures. Travel restrictions may preclude additional training sessions.

Installation of the hard-wired communications link between the Honolulu Laboratory and the PDP 11/70 at the East West Center, Honolulu, was initiated in December and the completion has been rescheduled to January 8, 1982.

Department of Commerce Approves Computer Services Contracts

Dorothy Roll, Systems Analyst, reports that the Department of Commerce has approved the computer services contract with the University of California San Diego (UCSD) for the La Jolla Laboratory and that with the University of Hawaii (UoH) for the Honolulu Laboratory. The contract period is from October 1, 1981 through September 30, 1982 with the option to renew through June 30, 1983. The dollar limit is $250,000 for the UCSD and $85,000 for the UoH.

Progress on Implementing NOAA Functional Filing System Discussed

On December 15, the Technical Study Group met to discuss progress on the NOAA functional filing system. Attending the meeting were Frances Tonsich, Secretary-Stenographer; Virginia Hostler, Secretary; Emille Cole, Clerk Typist; Dorothy Roll, Systems Analyst; and Mary DeWitt, Editorial Clerk, who substituted for Editorial Assistant Lorraine Prescott. A review of the conversion process indicated that the Oceanic Fisheries Resources Division has been operating under the NOAA system since mid-1979 and the conversion is approximately 75% complete for the Center's other operating groups. In the Technical Support Group, administrative reports are filed sequentially by report numbers within laboratories and manuscripts alphabetically by authors. Roll and Prescott will review the functional codes and assign a code for the administrative reports and one for the manuscripts. Within each code, the filing of documents will remain the same.

Use of Multiplexer Discussed

On December 14, Systems Analyst Dorothy Roll, Mathematician Al Coan, and Fishery Biologist Dr. Norm Bartoo met with Jerry Fitzsimmons, Chief Consultant at the UCSD Computer Center. They reviewed the present and projected data transmission volume and the anticipated strain on the present multiplexer. The multiplexer is the hardware device which allows the bypass of the telephone switchboard direct to the data switch in UCSD's Computer Center for access to the Burroughs, VAX, and CATT systems.

IN MEMORIAM

As an associate of many years and a close friend, I am saddened by the loss of Gerry Howard who died in Long Beach on December 18 after a long and courageous fight against cancer. From 1966 until 1980 when illness forced his retirement, he was the Director of the National Marine Fisheries Service's Southwest Region in Terminal Island. For all of this time he was closely involved with the staff and with research at this Center as a fisheries administrator, adviser, and friend.

Gerry was born in England and went to school in Canada. He received his Bachelor's and Master's degrees in Marine Biology from the University of British Columbia and began his career in fisheries as a scientist for the International Pacific Salmon Fisheries Commission at New Westminster, B.C.

In 1951 he came to San Diego as a Senior Scientist with the newly-formed Inter-American Tropical Tuna Commission, working with the Commission's first Director, Dr. Milner B. Schaefer, as his deputy. When the then Bureau of Commercial Fisheries established the Tuna Resources Laboratory at Pt. Loma for oceanographic and biological research on the tunas of the eastern Pacific Ocean, Gerry was selected as its Director. In 1964, Gerry and his staff moved into the newly-built Fishery-Oceanography Center where he and the late Dr. Elbert H. Ahlstrom shared responsibility for operation of the Center. In 1966, Gerry was designated Regional Director and moved with his family to Rancho Palos Verdes, California.

Gerry was a U.S. Commissioner to the Inter-American Tropical Tuna Commission in La Jolla from 1977 to 1980, a presidential appointment. He maintained his ties with the research community of this area as a Research Fellow and Research Associate of the Scripps Institution of Oceanography. He was a member of Sigma XI, a Fellow of the American Institute of Fishery Research Biologists, and a member of the Pacific Fishery Biologists. In 1946 he received the Armstead Prize in biology from the University of British Columbia.

He is survived by his wife, Phyllis, one son, two daughters, and four grandchildren.

Gerry's passing is a sad loss for us all. He was a good and honest man, a fine scientist and administrator who provided outstanding leadership to his constituents and to the NMFS.

Izadore Barrett

HONORS AND AWARDS

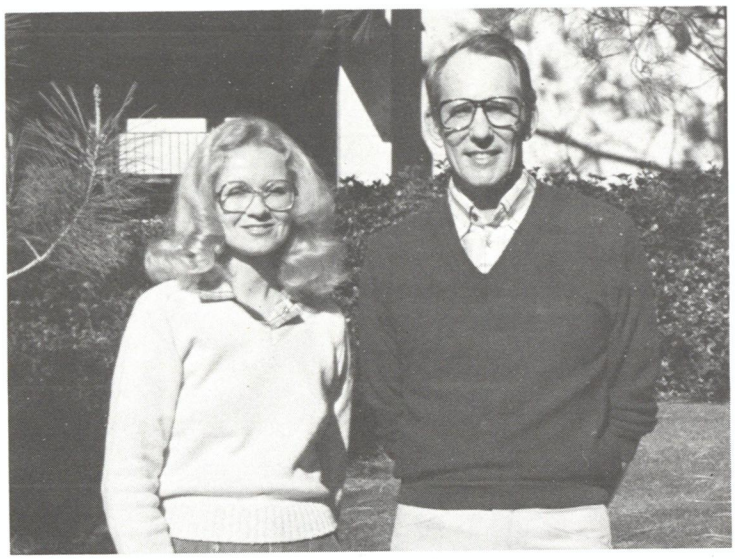
Honolulu Laboratory

In a ceremony at the Honolulu Laboratory this month, Center Director Dr. Izadore Barrett presented length-of-service to the following employees: Melvin J. Dutro, Clerk - 40 years; Alice May Drury, Secretary - 20 years; Bernard M. Ito, Physical Science Technician - 20 years; and Sally H. Kuba, Editorial Assistant - 20 years. Dr. Barrett also presented Special Act Awards to Fishery Biologist Reginald M. Gooding and Biological Technicians Steven H. Kramer, James H. Prescott, Michael P. Seki, and Gordon W. Tribble.

Reginald M. Gooding, Fishery Biologist, was informed in a letter from William G. Gordon, Assistant Administrator for Fisheries, NOAA, that Gooding's paper, "Skipjack tuna, Katsuwonus pelamis, habitat based on temperature and oxygen requirements" (Fish. Bull., U.S. 76(3): 653-662), which he co-authored with Dr. Richard A. Barkley and Dr. William H. Neill, has been given Honorable Mention recognition by the NMFS Publication Advisory Committee.

La Jolla Laboratory

On December 21, Center Director Dr. Izadore Barrett presented awards to the following employees during a general staff meeting:



Special Act Awards - Shari Sitko, General Biologist, and Ben Remington, Executive Officer, (not shown) Length-of-Service Awards: Paul E. Smith, Fishery Biologist - 20 years; and Daisy Gaston-Akinwanile, Budget and Accounting Technician - 15 years.

PUBLIC AFFAIRS

La Jolla Laboratory

On December 10, Fishery Biologist Gail Theilacker spoke to two classes of biology students at Mt. Carmel High School, Poway, California, as part of the Meet the Scientist Program. Theilacker's talk was entitled "Why does a scientist study fish larvae?"

SEMINARS

Honolulu Laboratory

December 3 - David Mackett, SWFC Planning Officer, spoke on "Planning and control of research and development projects."

December 11 - George H. Balazs of the Hawaii Institute of Marine Biology, University of Hawaii, who is presently on an Intergovernmental Personnel Assignment at the Honolulu Laboratory, spoke on "Sea Turtles and their traditional usage in the Tokelau Islands."

La Jolla Laboratory

December 15 - Dr. Robert E. Kearney, Tuna Programme Coordinator, South Pacific Commission, spoke on "Tuna fisheries of the western Pacific and tuna research of the South Pacific Commission."

Tiburon Laboratory

December 3 - Dr. George Monaco, University of California, Davis, talked about the "Current status of sturgeon in the Sacramento-San Joaquin River System" in a seminar sponsored jointly by the Tiburon Laboratory and the Tiburon Center for Environmental Studies, San Francisco State University.

TRAINING

Honolulu Laboratory

August 31-December 14 - Steven Kramer, Michael Seki, and Darryl Tagami, Biological Technicians - "Biometry," University of Hawaii, Manoa.

August 31-December 18 - Robert Humphreys, Research Assistant - "Physical Oceanography," University of Hawaii, Manoa.

La Jolla Laboratory

September 24-December 10 - Frank Ralston, Supervisory Computer Specialist - "Assuring Software Quality," University of California, San Diego.

September 21-December 5 - Tod Foster, Biological Technician - "FORTRAN Programming," University of California, San Diego, Extension.

December 4 - Dorothy Roll, Systems Analyst - "Paper Reduction Act," San Diego, California.

Tiburon Laboratory

November 30-December 4 - William S. Leet, Fishery Biologist - "Fish-finding Systems," Clatsop Community College, Astoria, Oregon.

VISITORS

Hololulu Laboratory

December 7 - Phil Appleyard and Rowena Lawson of the Overseas Development Administration, London, England, visited Laboratory Director Richard Shomura.

17 - Ken H. Hirayama, newly appointed Honolulu representative of the Japan Fisheries Association, visited Tamio Otsu.

23 - Shang Lu of Taiwan Department of Agricultural Production (Fisheries Specialist) met with Sam Pooley regarding marketing in Hawaii.

28 - Dr. Roy Mendelssohn, Pacific Environmental Group, NMFS, Monterey, California, visited various staff members at the Laboratory.

La Jolla Laboratory

December 1 - Marge Oldfield, University of Texas, Austin, Texas.

2-4 - Richard Parrish and Roy Mendelssohn, Pacific Environmental Group, SWFC, Dr. Jerry Wetherall, Honolulu Laboratory, SWFC, and Dr. Sam Bledsoe and Al Lindsey, University of Washington, came to the Center to attend the albacore modeling workshop.

3 - Harold Thurman, Mt. San Antonio College, Walnut, California.

4 - Mike Crow, Southeast Fisheries Center, Miami, Florida.

5 - Dr. Nancy Foster, Deputy Director, Sanctuary Programs Office, Office of Coastal Zone Management, NOAA, met with Dr. Barrett, Center Director.

11 - Dr. Luis Henrique Sequeira de Medeiros, Regional Director of Veterinarian Services, The Azores, and Dr. Adolfo Ribeiro Lima, Regional Secretary for Agriculture and Fisheries, The Azores, came to the Center to meet with Director Barrett.

18 - Gordon Broadhead, Living Marine Resources, Jack Baxter, California Department of Fish and Game, and Elizabeth Venrick, Scripps Institution of Oceanography, came to the Center to attend the Anchovy Management Team meeting.

Tiburon Laboratory

December 1 - Katsuo Saito, Hokkaido Central Fisheries Experimental Station, Hokkaido, Japan.

3 - Cecille Gillette, Tom Moore, and Bob Tasto, California Department of Fish and Game, Menlo Park California.

- Chris DeWees, Sea Grant Program, University of California, Davis.

10 - Don Jester, Art John, and Gene Figueiredo, M/V Sea Valley.

- Gene Fleming, California Department of Fish and Game, Sacramento, California.

- Tom Jow and Phillip G. Swartzell, California Department of Fish and Game, Menlo Park, California.

- Steven A. Schultz, California Department of Fish and Game, Fort Bragg, California.

- Arnold H. Jardstrom, F/V Ocean Challenger.

- Elwin Cox, F/V Norcoaster.

- William A. Sprigg, National Climate Program Office, NOAA/A/CP, Rockville, Maryland.

17 - Timothy Keeney, Senate Appropriations Committee, Washington, DC.

20 - Bruce Wyatt, Sea Grant Program, University of California, Davis.

31 - Sandy Hawes, Southwest Fisheries Center, La Jolla Laboratory, La Jolla, California.

Pacific Environmental Group

December 2-3 - Dr. William Sprigg and Dr. Joe Huang of the National Climatic Program Office, visited Gunter Seckel, Chief, Pacific Environmental Group, to discuss XBT (Expendable Bathythermograph) Monitoring in the Pacific.

8 - Dr. J. Blanton and Dr. L. Atkinson of the Skidaway Institute of Oceanography, visited Andrew Bakun, Task Leader of the Fishery/Environmental Modeling and Forecasting Task, to discuss possible interactions in eastern Atlantic research.

10 - Dr. E. Ursin of the Danish Institute for Fisheries and Marine Research visited Andrew Bakun, Leader of the Fishery/Environmental Modeling and Forecasting Task, to discuss environmental/fishery modeling.

MEETINGS AND TRAVEL

Honolulu Laboratory

December 1-2 - Laboratory Director Richard Shomura participated in the 33rd Western Pacific Regional Fishery Management Council meeting held on Molokai, Hawaii.

4 - Richard Shomura participated in a Sea Grant selection committee meeting at the University of Hawaii.

7 - Richard Shomura attended a meeting at the State Capitol called by the Western Pacific Regional Fishery Management Council (WPRFMC) to discuss spiny lobster and precious coral. Others in attendance included Susumu Ono, Director, Hawaii State Department of Land and Natural Resources; Hideto Kono, Director, Hawaii State Department of Planning and Economic Development; Wadsworth Yee, Chairman, WPRFMC; and Doyle E. Gates, Administrator, Western Pacific Program Office, Southwest Region, NMFS.

11 - Richard Shomura attended a meeting of the CCR/NWHI in the conference room.

14 - Richard Shomura attended a follow-up spiny lobster/precious coral meeting at the Hawaii State Department of Land and Natural Resources.

16 - Center Director Dr. Izadore Barrett spoke to the staff at a general staff meeting.

La Jolla Laboratory

November 25-December 3 - Planning Officer Dave Mackett traveled to Honolulu and Molokai, Hawaii, to meet with Honolulu Laboratory staff and the Western Fishery Management Council on fishery management plans and research planning procedures.

November 27- December 3 - Tom Polacheck traveled from his official duty station in Eugene, Oregon, to attend the Cetacean Reproduction Workshop at the Center.

December 1 - A CalCOFI meeting was held at the Center.

6-9 - Dr. John Hunter and Dr. Ron Rinaldo traveled to Pacific Grove, California, to attend a Stomach Content Analysis Workshop.

7-11 - John Butler traveled to La Paz, Mexico, to present a series of lectures.

8-13 - Dr. William Perrin traveled to Washington D.C. to work at the Smithsonian Institute with A. V. Yablokov on use of nonmetrical variation to define dolphin stock units.

9 - Dr. Izadore Barrett, Center Director, and Herb Frey, California Department of Fish and Game, traveled to Ensenada, Mexico, to hold discussions with representatives of Zapata, Inc.

10 - Center Director Dr. Izadore Barrett attended an Underwater Park meeting.

13-21 - Dr. Rennie Holt traveled to San Francisco, California, to attend the 4th Biennial Conference on the Biology of Marine Mammals, and to Monterey, California, to consult with Terry Jackson at the Naval Postgraduate School.

14-19 - Charles Oliver traveled to Long Beach, California, to obtain re-export permits for attendees of the SWFC's Cetacean Reproduction Workshop, and to San Francisco to attend the 4th Biennial Conference on the Biology of Marine Mammals.

14-19 - Bill Brinkerhoff, Lisa Ferm, Larry Hansen, Aleta Hohn, Jacqueline Jennings, Dr. Doug DeMaster, Dr. Bill Perrin, Frank Ralston, Bruce Wahlen, and Ken Wallace attended the 4th Biennial Conference on the Biology of Marine Mammals in San Francisco, California.

15-16 - David Mackett met with Mel Odemar, California Department of Fish and Game, and Gary Smith, Southwest Region, to discuss State/Federal matters.

15-17 - Dr. Izadore Barrett, Center Director, traveled to Honolulu, Hawaii, to discuss scientific and administrative matters with Richard Shomura,

Honolulu Laboratory Director, and with other Laboratory staff.

17 - Deputy Director John Carr traveled to Tiburon, California, to meet with Mr. Tim Keeney, Congressional Aid, and Norman Abramson, Tiburon Laboratory Director, to discuss future research activities.

17-19 - Fred Kellenberger traveled to Washington, D.C. to attend an EDIS/NGSDC meeting.

18 - An Anchovy Biomass meeting was held at the Center.

20-22 - Fred Kellenberger traveled to Terminal Island, California, to attend FIN and ADP meetings with Southwest Region personnel.

21 - A general staff meeting was held at the Center.

28-31 - Dr. Reuben Lasker traveled to Santa Barbara, California, to attend the annual meeting of the Western Society of Naturalists.

Tiburon Laboratory

December 6-9 - Ted Hobson, Tony Chess, Susan Smith, and Pete Adams traveled to, Monterey, California, to to attend the Fish Food Habits Workshop.

16-17 - Laboratory Director Norman J. Abramson traveled to La Jolla, California, to attend the Fishery Information Network meeting at the Center.

16-23 - Susumu Kato and Sennen Salapare participated in a research cruise aboard the chartered fishing vessel, Oregon Beaver.

PERSONNEL ACTIONS

Honolulu Laboratory

December 7 - Samuel G. Pooley, Industry Economist - Full-time Permanent Appointment.

28 - James H. Prescott, Biological Technician (Fisheries) - Termination, Completion of Appointment.

La Jolla Laboratory

December 7 - Marian Ray, Library Technician - 30-day Temporary Appointment.

- Barry Finzel, Computer Assistant - Temporary Appointment.

13 - Andrew Dizon, Fishery Biologist - Reassignment from Honolulu Laboratory to La Jolla Laboratory.

- Bob Butler, Computer Programmer - Pay Adjustment to Intermittent Status.

- Kathy McKune, Clerk Typist - New Appointment, Promotion.

14 - Amy Kimball, NOAA Junior Fellow - Return to Duty.

- Rick Methot, Fishery Biologist - Full-time Permanent Appointment.

17 - Cindy Thompson, Industry Economist - Termination of Temporary Appointment.

24 - Amy Kimball, NOAA Junior Fellow - Leave Without Pay (Return to School).

27 - Stephen Reilly, Operations Research Analyst - Full-time Permanent Appointment.

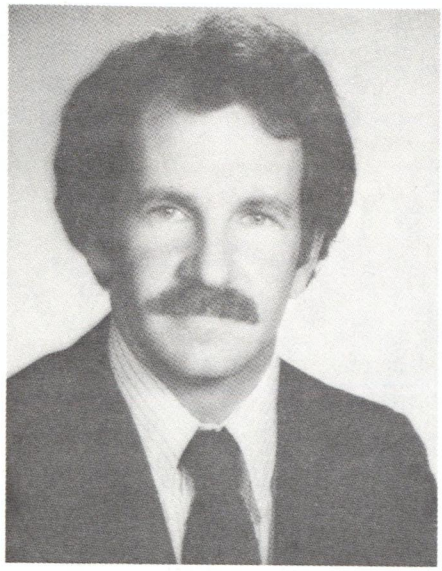
- Gary Stauffer, Fishery Biologist - Full-time Permanent Appointment transfer to Northwest and Alaska Fisheries Center, Seattle, Washington.

28 - Sandra Paez, NOAA Junior Fellow - Return to Duty.

Tiburon Laboratory

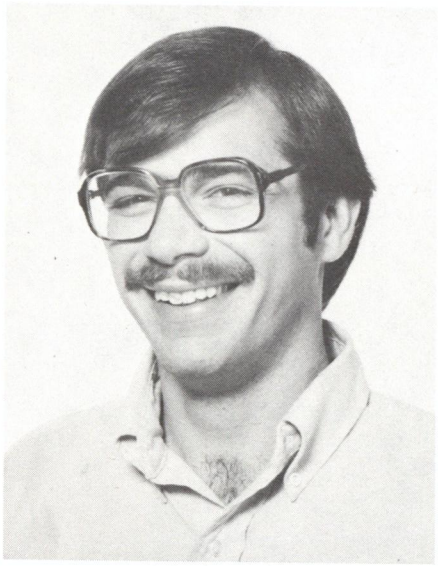
December 8 - Marianna Lindland, Clerk-Stenographer - Resignation.

NEW ADDITIONS TO THE LA JOLLA LABORATORY STAFF



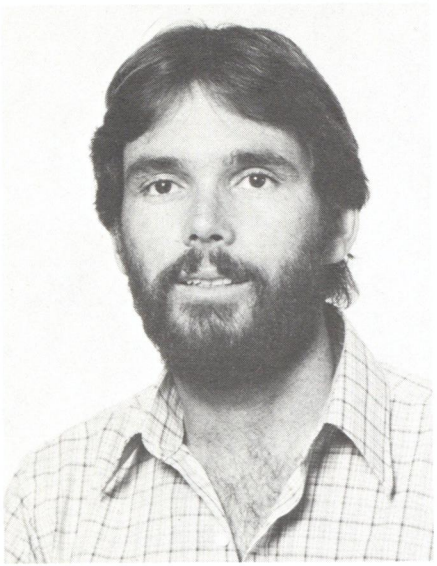
ANDREW DIZON

This month Dr. Dizon transferred to the La Jolla Laboratory after 10 years of service as a Fishery Biologist for the SWFC's Honolulu Laboratory. Dizon began work at the HL in 1971, the same year he received his Ph.D. in Zoology from the University of Wisconsin. The following year, Dizon was placed in charge of all experimental work at the HL's Kewalo Facility, where he conducted pioneering research on the physiology and behavior of tunas. In October 1981 Dizon was awarded the Department of Commerce Silver Medal for his research.



RICHARD METHOT

Dr. Methot joined the Coastal Fisheries Resources Division this month as a Fishery Biologist. He began working with SWFC staff several years ago while he was studying age and growth of anchovy as part of his graduate work at Scripps Institution of Oceanography. During this time Dr. Methot supervised the SWFC's program for analysis of daily growth increments in otoliths; he also initiated studies on juvenile anchovy. Dr. Methot received his Ph.D. from SIO, UCSD, this year and served at the Bodega Marine Lab, UC, Davis, before assuming his present duties at the Center.



STEPHEN REILLY

Dr. Reilly has joined the Oceanic Fisheries Resources Division as an Opera- tions Research Analyst. He served as a Biological Technician at the Lab before resuming his graduate studies. Dr. Reilly received his Ph.D. in Fishery Biology from the University of Washington in June 1981, having conducted research on the popula- tion assessment and dynamics of gray whales. Dr. Reilly was a recipient of the 1981-82 National Research Council/National Oceanic and Atmospheric Administration (NOAA) Post-doctoral Research Fellowship at the La Jolla Lab, and was the first Research Fellow in the Oceanic Fisheries Resources Division.

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