



Robert W. Schoning



John L. Baxter

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SCHONING NAMED NMFS DEPUTY DIRECTOR

Oregon State Fisheries Director Robert W. Schoning has been named NMFS Deputy Director. He assumed his duties on Sept. 10.

Mr. Schoning will work with NMFS Director Philip M. Roedel on all aspects of fishery research and development on national and international levels.

He is well known as a fishery scientist and administrator. He was Oregon's fisheries director since 1960. Before that, he had served as Director of Research for the Oregon Fish Commission.

Extensive Background

Mr. Schoning, 48, holds a bachelor of science degree in fisheries from the University

of Washington. He has done graduate work in fisheries and mathematics.

He is known for his writings on salmon and fishery subjects of the Pacific Northwest. He is a member of professional and conservation organizations.

The new NMFS Deputy Director is a member of the U.S. Department of State Fishing Industry Advisory Committee, chairman of the Pacific Salmon Inter-Agency Council, member of the Oregon Committee on Natural Resources, and advisor to the American Section of the International North Pacific Fisheries Commission.

BAXTER JOINS NMFS DIRECTOR'S STAFF

On Sept. 7, John L. Baxter, chief of the Marine Resources Branch, California Department of Fish and Game, assumed his duties as special assistant to NMFS Director Philip M. Roedel.

He will work in the areas of State-Federal relationships and recreational-commercial allocation problems. He will serve too as Executive Secretary of the Marine Fisheries Advisory Committee.

Mr. Baxter, 46, holds a bachelor's degree in wildlife conservation from the University of California at Berkeley.

Director Roedel said: "Mr. Baxter brings a wide background of fisheries research and administrative work to his new assignment, having served for 20 years with the California Department of Fish and Game in positions of increasing responsibility."

He is a member of the American Institute of Fishery Research Biologists and the American Fisheries Society, and a research fellow of the Marine Life Research Program, University of California at San Diego. From 1966 to 1970, he was editor-in-chief of the California Department of Fish and Game Fish Bulletins. He has written many publications on California fishery matters.

U.S. FOOD SITUATION

Prices for food to be consumed at home in 1971 probably will average around 3% above 1970. In 1970, the increase was 5.1%. The price uptrend in away-from-home eating will continue -- but at a slower pace than last year. The index of all food prices is expected to average around 3½% higher for 1971. This information is contained in 'National Food Situation', Aug. 1971, published by U.S. Department of Agriculture.

Grocery Store Prices

Food prices at grocery stores increased in second quarter of 1971 following a year of relative stability. In first quarter, food prices at grocery stores were up less than 1% from a year earlier. But in April-June they jumped more than 2% to a level 2½% percent above a year earlier. This was largely because of shorter supplies and higher prices for fresh vegetables, and the continued strength in prices of fish, fats, and oil products.

Consumer expenditures for food increased 2% in second quarter to an annual rate of \$119.7 billion. Further increases are likely as population, prices, and per-capita consumption continue to rise. An expected, large gain of 8% in consumers' after-tax income for 1971 will help expand demand. Food spending for 1971 may total 5½-6% above \$114 billion of 1970.

Per-capita food consumption likely will show another significant increase this year. Meat products, mainly pork, will provide nearly all the increase. The fish prospect is for slightly lower consumption.

Fishery Products

The U.S. market for fishery products remained strong during first-half 1971. Sales of some major species fell slightly, but this was attributable primarily to shorter supplies. Conditions indicate a seller's market

in most sectors. Prices have advanced sharply in the face of tighter supplies of shellfish and finfish.

Supplies of most shellfish are running below a year ago. Imports and domestic landings are down. Declines in shrimp imports particularly affect the market. To meet market requirements, despite drop in imports and domestic production, suppliers have trimmed sharply the inventories of frozen shellfish since the first of the year. The availability of stored supplies has made possible the same level for shellfish consumption as a year ago.

Similarly, supply shortages have affected the groundfish industry this year (mainly cod, haddock, and flounder). Imports, which account for over four-fifths of these products, are off from a year ago. Unlike shellfish, however, the groundfish industry did not have relatively large inventories to start this year. Thus, prices have advanced significantly. Groundfish sales are down from a year ago.

Halibut sales in first-half 1971 were consistent with last year. There were few price changes. Halibut production likely will be lower this year. Pressure on prices may build because of reduced supplies. Frozen salmon sales have improved over a year ago, and prices have been firm. Inventories have dropped sharply since the first of this year, but they are still above normal.

Canned salmon movements have been on a par with last year, but the 1971 pack likely will be below a year ago. So prices will move up. Canned tuna movement has picked up considerably since early 1971. Prices are expected to average higher than a year ago.

On balance, a slight decline in per-capita fish consumption is expected in 1971 after 3 consecutive years of increase. Shorter supplies and higher prices are mainly responsible.



FOOD FISH SITUATION

Total supplies of canned salmon during the first 6 months of 1971 were 2.7 million standard cases, 18% higher than the same period in 1970. The higher level was caused primarily by higher inventories at the start of 1971 carried over from the 1970 pack.

Anticipations of a smaller 1971 pack caused stocks to move at a slower percentage rate than in 1970. Inventories of red salmon have been large, while pink-salmon inventories have been a good deal less than in 1970. This was the reverse of the situation in first-half 1970.

Wholesale prices of red, chum, silver, and king salmon remained firm during January-June; prices of pinks, with shorter stocks, rose somewhat. Consumption has been slightly higher than last year despite firm and rising prices.

By Sept. 10, the pack of salmon was about a third below 1970. Reds ran extremely late; pinks in Southeastern Alaska did not appear in substantial quantity until early August.

In second-half 1971, supplies of salmon most likely will be considerably shorter than in 1970. Expected increases in prices for red and pink salmon were delayed because of the price freeze. Because of the smaller pack, a larger percentage of $\frac{1}{2}$ - and $\frac{1}{4}$ -pound cans will probably be marketed.

SARDINES

Supplies of sardines have been only slightly below 1970 levels. Low inventories car-

ried into 1971 were almost offset by slightly higher imports and a higher domestic pack in first-half 1971. Sources of sardine imports changed--marked by sharp increases from Japan and continued declines from the Republic of South Africa.

Increases in herring landings for human consumption in most exporting countries indicate that U.S. sardine imports will be higher in the next 6 months. If the pack in second-half 1971 is close to last year's, consumption during July-December 1971 may about equal 1970's.

TUNA

Landings of tuna for first-half 1971 were slightly higher than for 1970 period. A considerably larger percentage of skipjack was caught.

Through May, imports of fresh and frozen tuna, particularly skipjack, were up sharply over last year; imports of canned tuna were down slightly.

For first-half 1971, total production of canned tuna was 6% higher than 1970. Tuna prices at all levels of distribution were much higher.

Landings of skipjack probably will continue to increase and to help overcome shortages of yellowfin. The pack likely will be a little larger in 1971 because greater supplies of skipjack will help maintain production.

--Morris R. Bosin
Clemens B. Bribitzer
Paul R. Beauchemin
NMFS Current Economic
Analysis Division

SHELLFISH SITUATION

The trends of the first 3 to 4 months of 1971 generally continued as supplies of shellfish, except northern lobsters, were lower than January-July 1970. Lower imports again were a major factor in the overall decline. Only imports of northern lobsters gained--boosting total quantity available above 1970.

Calico scallops rose fractionally; other species recorded lower landings than in 1970.

Declines in inventories of frozen shellfish have been extremely sharp this year. As in first months, heavy inventory withdrawals continued because lower imports and landings were unable to meet market needs.

During first 7 months of 1971, consumption of shellfish was generally lower than in 1970. The declines were not so sharp as the decreases in imports and landings would indicate. Despite record prices, consumption has remained high. Sufficient supplies were removed from inventories so sales declines were only moderate.

As a result of the continuing shortage of supplies and high demand, prices of domestic and imported shellfish have remained above those paid in 1970 for all but a few categories.

The outlook for shellfish during August-October was somewhat clouded by the possibility of a dock strike on the East and Gulf coasts on October 1 and the President's new economic policies.

--Richard S. Surdi
Donald R. Whitaker
NMFS Current Economic
Analysis Division

FDA ASSURES FISH EATERS

The Food and Drug Administration has given new assurance that deep-water food fish are safe to eat, Dr. Robert M. White, NOAA Administrator, said Sept. 21.

Dr. White released a statement by Dr. Charles C. Edwards, FDA Commissioner:

"With the exception of swordfish, the FDA continues to find no hazard to the consuming public from mercury contamination in deep-water food fish. . . . To assure that fish containing excessive mercury residues are not entering the market, a nationwide testing program, including inspection and spot analysis, is being maintained by the industry and the Food and Drug Administration."

Market Maintains Strength

Dr. White also revealed that NMFS statistics show that the overall U.S. market for fishery products maintained its strength during the early months of 1971. There was a "seller's market" in most sectors.

Prior to the wage-price freeze, he said, prices generally were advancing sharply. Supplies were short in many instances. Despite the supply condition, NMFS projects 1971 U.S. per-capita fish consumption only two-tenths of a pound less than last year's 11.4.

"This indicates to me," Dr. White said, "that the American people have exercised good common sense in continuing to enjoy a delicious food which is nutritious and wholesome."



STUDY TUNA'S TEMPERATURE PREFERENCE AND SENSING

A 3-year study will seek to learn where tunas are to be found in the ocean and why they prefer to be there. This was announced on Sept. 7 by Dr. Frank J. Hester, director of Hawaii laboratory, NMFS Central Pacific Fisheries Research Center.

Principal investigators are Dr. John J. Magnuson, University of Wisconsin, and Drs. Andrew E. Dixon and William H. Neill, NMFS.

The 3-year study will be funded jointly by NMFS and the University of Wisconsin.

Water temperature is an important factor in the distribution and behavior of tunas. But no one knows how important it is, or how tunas detect temperature, and the degree of their sensitivity to it.

2 Approaches to Problem

There will be two approaches to the problem: One will study fish behavior in temperature gradients. A circular tank will be constructed at the NMFS Kewalo Basin. In the center of the tank will be a concentric cylinder to create a donut-shaped swimming space equipped with heat exchangers and precise thermostats.

Temperatures within the donut will be uniform, but the experiment will be so constructed that the swimming rate will regulate the temperature rate change with respect to time. The fish will swim through a gradient of temperature in time--the faster he swims, the faster the temperature is changed. Direction of swimming will control the direction of temperature change.

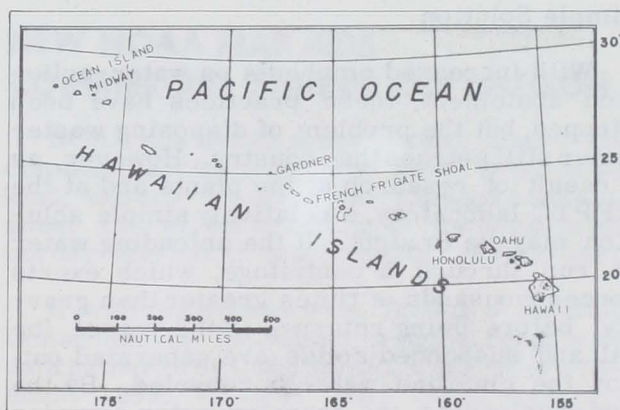
Electrophysiological Approach

The second approach to the perception of thermal gradients by fish will be electrophysiological. There will be space, holding tanks, and services for electrophysiological work. The temperature receptors of the tunas will be sought and studied.

Many believe that a fish senses temperatures on his body surface, his skin; the investigators, however, have postulated that a likely location of temperature sensors in fish is the olfactory rosettes--in his nose.

"Fish sniff." explained Dr. Magnuson. "A Pacific bonito previously tested was found to take a noseful of water every 75 seconds, or every 55 meters swum," he said.

The scientists hope to locate the primary thermal receptors and learn the ways in which these receptors contribute to temperature-oriented behavior. If the olfactory apparatus is sensitive to temperature, the fish, by sniffing, has the advantage of intermittent sampling. This would be a more effective way of sampling the gradual thermal gradients in the sea, Dr. Magnuson explained.



Results Will Be Useful

The study results will be compared with known water temperatures and oceanic distribution of fishes reported in the literature. They should be of special interest in Hawaii because they may improve the predictability of good and bad fishing years for the local fishery. Knowing more about the movements of yellowfin and skipjack tunas can be very important in Hawaii and throughout the entire Pacific.



NMFS HELPS INDUSTRY REDUCE WATER POLLUTION

A serious problem of the menhaden fishmeal industry is disposing of the water used during the unloading of fish from a vessel. The NMFS Atlantic Fishery Products Technology Center (AFPTC) in Gloucester, Massachusetts, is working with the industry to solve it.

In the unloading process, water is pumped into the vessel's hold. Then the mixture of fish and water is pumped out by large, specially designed vacuum pumps. The water is separated from the fish and pumped back to the vessel to continue unloading. As the water is recycled, it becomes contaminated with fish slime, blood, and fish oil. In the past, disposal of the unloading water was a simple matter--either it was dumped directly into the harbor, or it was put aboard a barge and dumped a short distance offshore.

Simple Solution

With increased emphasis on water-pollution abatement, these practices have been stopped, but the problem of disposing wastewater still plagues the industry. However, as a result of research at the plants and at the AFPTC laboratory, a relatively simple solution may be in sight. If the unloading water is run through a centrifuge, which exerts forces thousands of times greater than gravity, before being returned to the vessel, the oil and suspended solids are separated out, and the clarified water is recycled. By the end of unloading, the recycled water contains sufficient dissolved solids (primarily protein) to make it economically feasible to recover them. Also, the solids and the oil separated by centrifuging are introduced into the normal process stream, thus increasing the yield of fishmeal and oil.



EXCELLENT CHANCES FOR MAJOR FLORIDA SPORTFISHERY TO DEVELOP

There are excellent chances for the development of major offshore sportfishery off Florida's west coast, reports NMFS Tropical Atlantic Biological Laboratory (TABL), Miami. The prediction follows "Operation Loop," a 3-day exploration conducted in June by the Florida State University System Institute of Oceanography with NMFS support.

Excellent Fishing

Twelve sport fishing vessels and the NMFS 'Oregon II' steamed from St. Petersburg-Tampa area about 100 miles offshore to edge of Loop Current. Fishing was excellent there. Numerous gamefish were landed. One 200-pound blue marlin was boated; another large marlin was hooked but lost.



ARTIFICIAL REEFS ATTRACT FISH

Artificial fishing reefs are being built increasingly in marine waters to attract and concentrate fish. Nearly all below-surface structures--wrecked ships, aircraft, bridges, docks, and other materials--supply cover or a footing for the growth of crustacea, mollusks, and seaweeds, and produce a good sportfishing reef.

Artificial reefs have been built off San Francisco and Malibu Beach, Calif., Hawaii, Japan, and elsewhere. These reefs were made from autobodies, pilings, concrete rubble and pipes, beer cases, streetcars, and old refrigerators. In selecting materials, the builders choose materials that are resistant to rapid corrosion, cost little, are available, and are cheap to handle, transport, and anchor.

NMFS Reefs

In 1966, the NMFS Marine Game Fish Research Laboratory at Sandy Hook, N.J., began to build and study artificial reefs. Old auto tires were readily available and suitable.

In 1969, the Sandy Hook Laboratory began to favor scrap auto tires as reef-building materials. Marine scientists developed two tire

units that can be carried offshore in any-size boat. These units enable the individual sportsman to share in reef building.

Tire Units

One unit is a single tire with a 15-pound concrete ballast weight wedged between the sidewalls. The second is a 4-foot-high stack of 7 or 8 tires held together with two $4\frac{1}{2}$ -foot lengths of $\frac{3}{8}$ -inch reinforcing rod (projecting through aligned holes drilled in each tire). These are anchored firmly in concrete ballast that completely fills the space between sidewalls of the base tire.

Autotires have several advantages: readily available, do not decompose, corrode, rust, give off toxic substances and so are not pollutants. If the tires are placed properly, they will not be moved around or scattered by storms.

Unlike old car bodies, previously used to build artificial reefs, rapid corrosion is not a problem with concrete ballasted auto tires.

Usually, financing is a problem because it is difficult to promote private subscriptions. The problem of marking or buoys the reefs can be troublesome--but, without a buoy marking, it is difficult or impossible for fishermen to find the reefs.

VIMS Involved

Scientists and engineers of the Virginia Institute of Marine Science have been advising on projects to establish effective artificial fishing reefs. VIMS believes properly constructed and placed artificial reefs enhance sport fishing. It points out that the State's Marine Resources Commission must approve use of state bottoms for such structures. Similar clearance must be obtained from the Corps of Engineers, the U.S. Coast Guard and, sometimes, the U.S. Navy because metallic reefs can hinder submarine detection.



SHELLFISH SANITATION WORKSHOP IN OCTOBER

The Seventh National Shellfish Sanitation Workshop sponsored by Food and Drug Administration will be held in the Department of Health, Education, and Welfare North Building, 330 Independence Avenue, S.W., Washington, D. C., October 20, 21, and 22, 1971. Representatives of Federal and State Shellfish Agencies, the shellfish industry, foreign governments, and the academic community will participate.

For more information contact:

Division of Shellfish Sanitation (BF-230)
Food and Drug Administration
200 'C' Street, S.W.
Washington, D.C. 20204



NEW NOAA MAP AIDS COMMERCIAL FISHING OFF OREGON

NOAA has issued a sea-bottom map to aid commercial fishing. The map, first of its kind, covers an area off Oregon reaching about 120 miles north from the California border and out to sea to depths of 1500 feet.

It was prepared by NOAA's National Ocean Survey (NOS) and is based largely on data gathered by Commerce Department ships since 1889. Oregon State University furnished additional data.

What Map Shows

The map shows through different patterns the various sediments of the sea bottom--including mud, sand, rock, and muddy sand. Dr. Hyman Orlin of NOS said: "The map was prepared as a service to the fishing industry. Not only do some species of fish tend to congregate at certain depths, but they also prefer particular bottom cover. A knowledge of the characteristics of a region will reduce the fisherman's reliance on chance and increase his catch."

The map also portrays the topography of the sea bottom. It contains Loran lines that

enable fishermen to determine their position at sea. Previously, Orlin explained, fishermen had to consult two publications--a bathymetric map and a nautical chart--to determine the sea bottom's topography and their position. "Now we've furnished one map which will suffice for both purposes, with a portrayal of bottom sediment included as an additional assist."

INDEX OF WORLD PORTS IS UPDATED

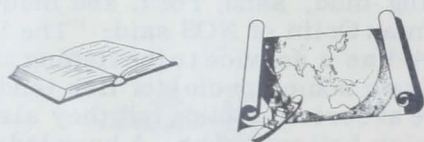
The U.S. Naval Oceanographic Office has published, in cooperation with the Navy's Military Sealift Command (MSC), an updated version of the "World Port Index." This contains useful information on 7,000 world ports.

The Index will help navigators and operations officers aboard ships and shore-based managers planning operations.

It includes data on tides, pilotage, loading and discharging facilities, maximum draft accommodations, port depths, chart number references, and available port services.

Available Soon

The loose-leaf index (Pub. 150) soon will be available to the public for \$3 (without binder) from NAVOCEANO's Chart Sales Desk, Suitland, Md. 20390, and from its authorized sales agents in principal seaports around the world. It also can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.



COAST GUARD EXTENDS SHORT-RANGE COASTAL RADIO MONITORING

The Coast Guard is extending its short-range coastal radio monitoring facilities. The program will provide "better distress, safety, and command and control VHF-FM (Very High Frequency-Frequency Modulation) communications coverage" for boats in coastal and major inland waters. The waters are those in which the Coast Guard has primary Search and Rescue (SAR) responsibilities.

The Coast Guard will add to existing facilities 100 new transceiving sites that will be organized into nets or zones with centralized control points. These unmanned sites, now 25 to 50 miles apart, will be channeled into a central net control through leased telephone lines and radio links. This will minimize number of trained operators needed to maintain watches throughout the system; it will relieve small stations of radio watch responsibilities.

The New Network

The new network will provide coastal coverage of the VHF-FM distress frequency (channel 16) to at least 20 miles offshore for the entire coastline of the continental United States. Large bodies of inland waters, such as Chesapeake Bay, Puget Sound, Long Island Sound, and the U.S. waters of the Great Lakes also will be completely covered. Over 50 sites are scheduled for completion by early 1972; the entire system should be working by 1975.

Also, the Coast Guard plans to equip its rescue aircraft with marine band VHF-FM radios and direction finders. Wide-area coverage will then be available to help locate distressed craft.

A pamphlet entitled "Marine Communications Pamphlet for the Boating Public" will be available in November 1971 from Coast Guard District Offices in Boston, New York, Cleveland, Portsmouth, Miami, New Orleans, St. Louis, Long Beach, San Francisco, Seattle, Honolulu, and Juneau (Alaska).