
## Additions to the Fleet of U. S. Fishing Vessels

A total of 107 vessels of 5 net tons and over received their first documents as fishing craft during April 1950--22 more than in April 1949. Alaska led with 29 vessels, followed by Washington with 17 vessels and Florida with 15 vessels, according to the Treasury Department's Bureau of the Customs.

During the first four months of 1950, a total of 249 vessels were documented, compared with 260 during the same period in 1949.

Vessels Obtaining Their First Documents as Fishing Craft, April 1950

| Section | April | | Four mos. ending with Apr. | | Total |
|---|---|---|---|---|---|
| | 1950 | 1949 | 1950 | 1949 | 1949 |
| | Number | Number | Number | Number | Number |
| New England | 5 | 1 | 12 | 3 | 35 |
| Middle Atlantic | 7 | 7 | 12 | 21 | 44 |
| Chesapeake Bay | 8 | 2 | 22 | 17 | 87 |
| South Atlantic and Gulf | 30 | 23 | 93 | 108 | 369 |
| Pacific Coast | 27 | 22 | 66 | 52 | 327 |
| Great Lakes | 1 | 6 | 4 | 21 | 38 |
| Alaska | 29 | 24 | 40 | 36 | 96 |
| Hawaii | - | - | - | 2 | 5 |
| Unknown | - | - | - | - | 1 |
| Total | 107 | 85 | 249 | 260 | 1,002 |

Note: Vessels have been assigned to the various sections on the basis of their home port.

## ECA Procurement Authorizations for Fishery Products

The Economic Cooperation Administration did not announce any new procurement and reimbursement authorizations for fishery products (edible and inedible) during June this year. There was one cancellation of a previous authorization--$1,250,000 authorized for Greece for the purchase of salted fish from Canada (including Newfoundland). In this instance, Canada could not supply the type of salted fish desired by Greece.

From April 1, 1948, through June 30, 1950, total ECA procurement authorizations totaled $28,286,000 ($16,296,000 for edible fishery products, $10,450,000 for fish and whale oils, and $1,540,000 for fish meal). Of the total authorizations for fishery products, $8,945,000 was used for purchases in the United States and Possessions ($6,822,000 for canned fish and $2,123,000 for fish and whale oils).

In addition to the usual edible and inedible fishery products, during June ECA authorized $5,000 for the purchase of fish glue from the United States and Possessions for delivery to the Netherlands (not included in the totals given above).

In a further move to promote increased dollar exports from Marshall Plan countries and thereby help to close the dollar gap, the ECA in June announced the undertaking of a special study of import and export financing procedures in the United States and abroad. The study will have as its object recommendations for improvement of export credit facilities in Europe and import credit facilities in the United States, with special emphasis on the financing of inventories from which quick deliveries can be made to dollar markets. All credit aspects of European exports to dollar markets from the financing of the raw materials in the producing countries to final distribution through wholesale and retail channels in the United States will be covered.

Trade between the Marshall Plan countries reached a postwar peak in March this year of 126 percent of prewar volume. In the June issue of its bimonthly publication Recovery Guides, ECA listed the new trade peak as one of the significant developments in Western Europe's efforts to narrow the dollar gap. It was pointed out that by purchasing from each other, the Marshall Plan nations are able to cut down the quantity of goods they would otherwise have to buy in dollar areas. Other important developments reported during the period since the Western European countries revalued their currencies in September 1949, were a rise in the Marshall Plan countries' foreign trade, an increase in hard-currency reserves, a new postwar peak in Western Europe's industrial output, and a decline in the U. S. trade surplus.


THE ABOVE POSTER, SUBMITTED BY PIERRE GAUCHAT OF SWITZERLAND, WAS AWARDED SECOND PRIZE AND THE FOREIGN CURRENCY EQUIVALENT OF $1,000 IN AN INTRA-EUROPEAN MARSHALL PLAN POSTER CONTEST SPONSORED BY ECA.

ECA called significant the reappearance for the first time since the war's end of a deficit in the U. S. trade balance with Latin America and the overseas sterling area. The recovery agency said this development "opens up the possibility for a resumption of the prewar multilateral trading pattern by which Western Europe earned dollars with which to cover part of its dollar deficit with the United States."

Included in the lists of import license requests (covering the purchase of equipment from the United States under ECA financing) which have received preliminary approval from the Italian Government, were the following: 5 marine engines (140 to 155 h.p.) with an approximate value of $5,700 and 50 outboard motors

for fishing boats with an approximate value of $16,000. These lists were released in June, and although the items were approved by the Italian Government, these purchases have not yet been approved by ECA.


## New Assistant-Chief Position Established for Branch

Responsibilities of the Fish and Wildlife Service in administering an expanding program of commercial fishery activities have made it necessary to establish an additional assistant-chief position in the Branch of Commercial Fisheries, the U. S. Department of the Interior announced June 26.

This new position was filled in June by the transfer of Fred F. Johnson, from Honolulu, T. H., where he had served as assistant director of the Service's Pacific Oceanic Fishery Investigations since August 1948. Previous to that assignment, he had been assistant regional director in the Service's regional office in Portland, Oregon, for six months. Johnson, who has an extensive knowledge of the fishing industry and fishery economics, returns to a position which he formerly held for 13 years.

Richard T. Whiteleather is the other assistant chief of the Service's Branch of Commercial Fisheries. Andrew W. Anderson is chief of the Branch.

## Federal Purchases of Fishery Products

DEPARTMENT OF THE ARMY, April 1950: Fresh and frozen fishery products totaling 993,562 pounds (valued at $434,940) were purchased during April this year by the Army Quartermaster Corps for the U. S. Army, Navy, Marine Corps, and Air Force for military feeding (see Table). April purchases were up 20 percent in quantity and 3 percent in value as compared with March. However, April purchases this year were down 28 percent in quantity and 11 percent in value as compared with the corresponding month a year earlier.

Purchases of Fresh and Frozen Fishery Products by Department of the Army
(April and the First Four Months, 1949 and 1950)

| Quantity | | | | Value | | | |
|---|---|---|---|---|---|---|---|
| April | | January-April | | April | | January-April | |
| 1950 | 1949 | 1950 | 1949 | 1950 | 1949 | 1950 | 1949 |
| lbs. | lbs. | lbs. | lbs. | $ | $ | $ | $ |
| 993,562 | 1,386,475 | 3,562,406 | 5,340,704 | 434,940 | 487,851 | 1,622,400 | 1,820,823 |

Total purchases for the first four months this year were below the corresponding period in 1949 by 33 percent in quantity and 11 percent in value.

## Fish and Wildlife Service School-Lunch Program

A series of fish cookery demonstrations, designed to increase fish consumption in school-lunch programs and show better methods of fish preparation, will be held this fall in Connecticut, Rhode Island, and Mississippi by home economists and fishery marketing experts of the Fish and Wildlife Service.

Working in cooperation with state boards of education and the state supervisors of the school-lunch programs, the Service home economists and marketing experts will demonstrate different methods of preparing fish and will talk on local fish marketing conditions and problems of supply. About 20 demonstrations are planned in Mississippi and 8 in Rhode Island, during October; and 10 or 12 demonstrations in Connecticut, during November.

In the demonstrations, the home economists make use of local species of fish, when available. The fishery marketing experts, having previously surveyed the area, describe the fish which are available, discuss prices, markets, and other problems of distribution, and act as expediters between producers, local markets, and the schools which purchase the fish.

School-lunch demonstrations in California, where work has been done for two years, will continue this fall--centering in the Los Angeles area. The group will hold several demonstrations in the San Francisco area after the first of the year.

Following demonstrations in Virginia schools last year, the use of fish in a sample survey of 126 schools indicated an increase of more than 100 percent. Similar results were noted in Georgia, Massachusetts, North Carolina, and California. Occasional demonstrations also were held last year in Maryland, Florida, Tennessee, Mississippi, and Washington.

The Service's new film on the use of fish in the school lunch program, Food for Thought, will be shown in conjunction with this year's demonstrations.

## Fishery Biology Notes

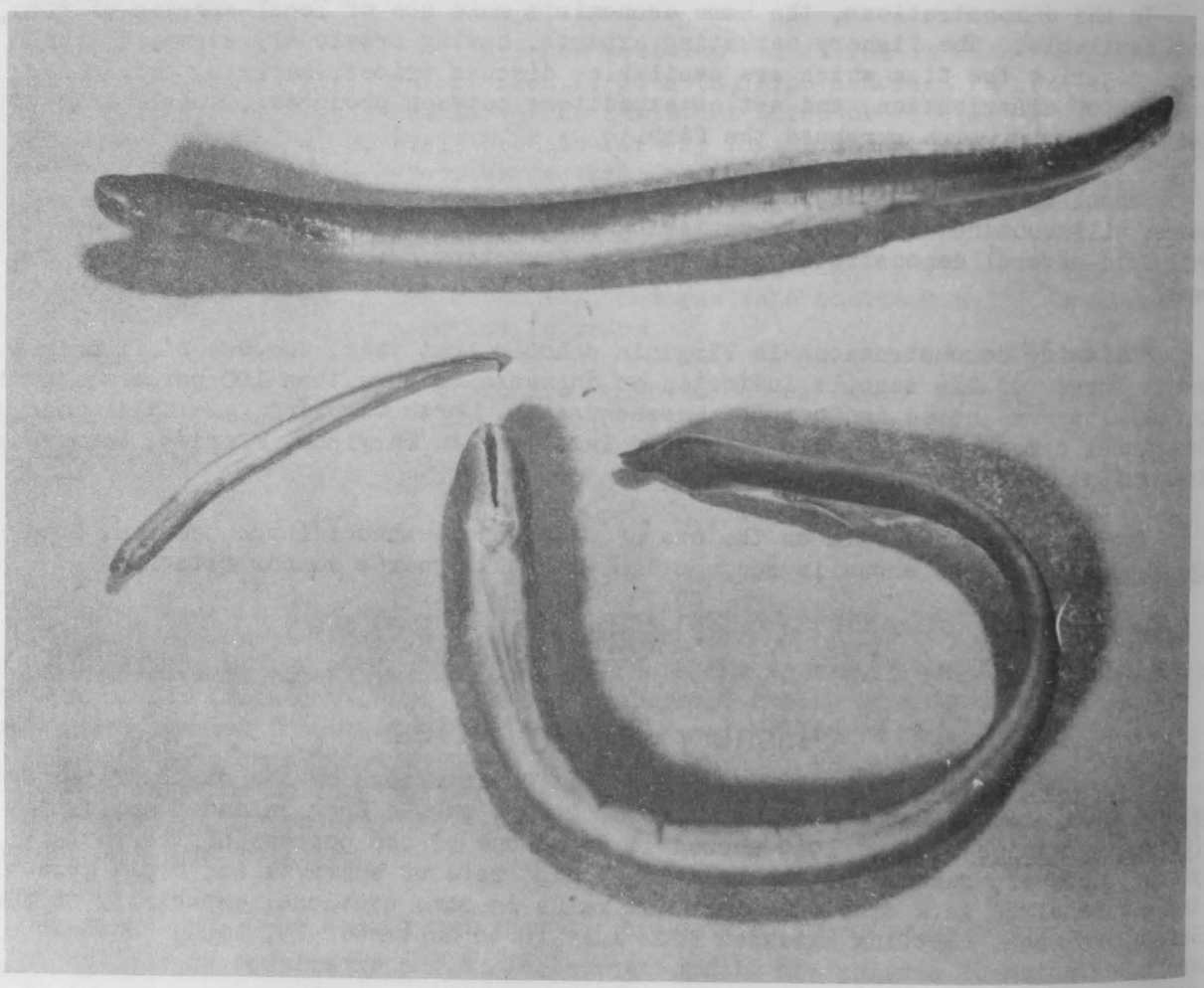
1949 LONG ISLAND SOUND OYSTER SET POOR: Observations by the staff of the Service's Shellfishery Laboratory at Milford, Conn., on the Long Island Sound oyster (Ostrea virginica) set of 1949 showed it to be one of the poorest of the past 15 years. However, because of the relatively high rate of survival and rapid growth, the set resulted in a crop of commercial value in some sections, especially in the Bridgeport area. Setting extended from July 10 to September 15, 1949. Such an early beginning of setting was without precedent in the experience of the laboratory.

From an ecological viewpoint, it is important that the set was rather light regardless of the comparatively high temperature of the water. This shows once more that the departure of the temperature above the normal does not necessarily guarantee a good set of oysters in Long Island Sound.

## Great Lakes Fishery Investigations

PROGRESS OF SEA LAMPREY INVESTIGATIONS: Prior to the establishment of the sea lamprey investigations as part of Great Lakes Fishery Investigations in October 194[illegible] the Fish and Wildlife Service had been able to carry out only scattered and short-term studies of the problem. Since that time, great progress has been made in the organization of a long-term program for the development and testing of methods of controlling this parasite and operations have actually been started on the important phases of that program, according to a June 20 progress report.

An enlarged central office has been established in Ann Arbor, Michigan, and in order to place trained observers as near as possible to the "trouble centers" of the Great Lakes, field stations have been set up at Hammond Bay, near Rogers City,



LARVAL FORMS OF THE SEA LAMPREY OF THE GREAT LAKES. UPPER - SIDE VIEW OF UNTRANSFORMED LARVA ABOUT 4½ INCHES LONG. CENTER - EARLY EYELESS STAGE, ABOUT 1¾ INCHES LONG. LOWER - SAME AS UPPER, BUT VENTRAL VIEW SHOWING UNTRANSFORMED MOUTH PARTS.

Michigan, on Lake Huron; Marquette, Michigan, on Lake Superior; and Sturgeon Bay, Wisconsin, on Lake Michigan. The first named of these stations is the operating

headquarters for the sea lamprey work, but the staff of the other two stations will contribute to special phases of the sea lamprey studies.

The sea lamprey investigations may be divided broadly into the following phases: development and testing of control devices and procedures, including the accumulation of reasonably exact data on costs of installation and operation of various devices; extension of studies on the life history and habits of the sea lamprey with a view toward determining better the vulnerable stages of the life history; surveys of streams to ascertain the distribution of sea lamprey runs, the extent of available spawning grounds and larval habitats,...; studies of species subject to attacks by sea lampreys to learn the incidence of attacks and the effects on abundance.

Control Devices and Techniques: PHYSICAL BARRIERS: Inasmuch as mechanical devices--weirs, traps, dams,...--for the blocking and/or capture and destruction of spawning-run sea lampreys at the time of their entrance into streams tributary to the Great Lakes constitute the only proven effective means for controlling the sea lamprey, the Service's first year's program is concentrating on that type of structure. The major center of activity for this work is the northern part of the lower peninsula of Michigan where weirs and traps have been installed in each of the 12 streams in an experimental control zone extending from Waugachance Point at the west end of the Straits of Mackinac to Alpena, Michigan. These structures are making it possible to capture the entire spawning run on this stretch of shore. As of June 9, 20,251 spawning migrants have been captured in the area.

On Lake Superior a weir is in operation on Pendill's Creek, a tributary of Whitefish Bay, but because of the colder water and the consequently later run, only three lampreys have been captured.

Through a cooperative arrangement with the Wisconsin Conservation Department, 5 weirs are in operation in streams of that State tributary to Lake Michigan. Materials and technical advice on the construction of these structures were supplied by this Service. Through June 1 the Wisconsin weirs took 13,406 sea lampreys.

Another and similar cooperative agreement with the State of Indiana lead to the installation of a weir in Trail Creek, a tributary of southern Lake Michigan. Many lampreys were taken but damaging floods necessitated the weir's removal.

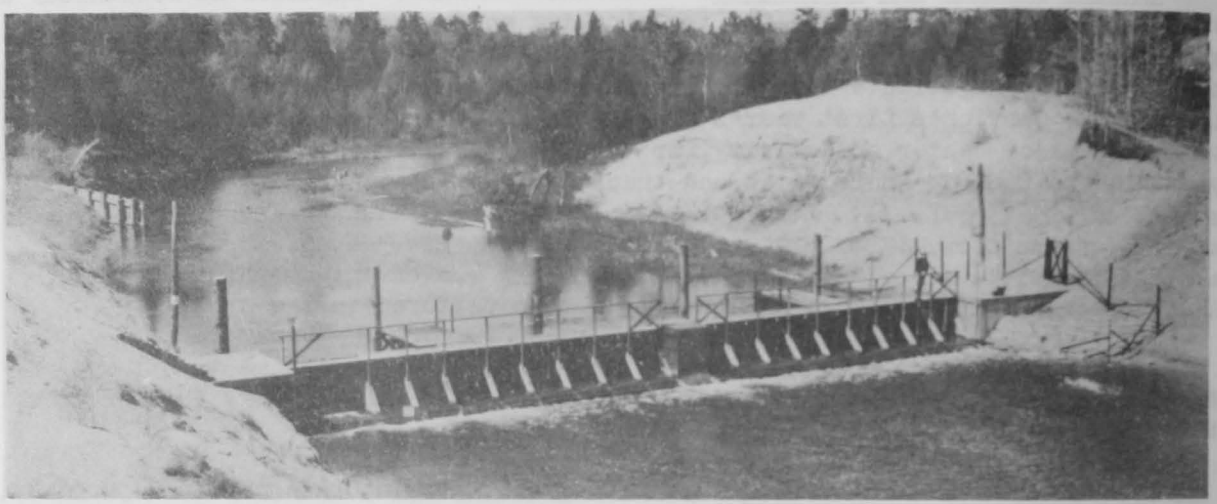
These numerous weirs are serving two purposes. First, they are achieving a certain measure of control, particularly in the section of shore where all streams are blocked. Second, they are providing information and experience on the type of construction needed under various stream conditions and are yielding data on the cost of installation and operation of the various structures.

In cooperation with the Michigan Department of Conservation, experiments are being made in the Black River, a tributary of northern Lake Michigan, on the possibility of using low barrier dams to block spawning-run sea lampreys but at the same time permit the free upstream movement of rainbow trout. This type of structure has the advantage of requiring little attention and hence of having a low cost of operation. Early reports on this barrier dam are highly encouraging.

As an adjunct of studies of barrier dams, it is important to know the fate of spawning-run sea lampreys that find their upstream movement blocked and are forced to return to the lake. Accordingly, an experiment has been initiated in which

more than 3,000 sea lampreys were tagged in the mouth of the Cheboygan River, a stream containing an impassable dam a short distance above its mouth. These lampreys are being recovered by fishermen and in our own structures in neighboring streams.

As a preliminary to a proposed early extension of the previously-mentioned control zone to include all of the United States shore of Lake Huron and part of northern Lake Michigan and the possible ultimate extension of these zones throughout the Great Lakes, engineers of the Service are conducting studies to determine the type of construction and the approximate cost of physical barriers in streams characteristic of the Great Lakes. Information from these engineering investigations will be used for the estimation of the total cost of a control program based entirely on physical barriers.



A WEIR INSTALLED BY THE FISH AND WILDLIFE SERVICE ON THE OCQUEOC RIVER, MICHIGAN, FOR BLOCKING, CAPTURING, AND DESTROYING SPAWNING-RUN SEA LAMPREYS.

OTHER CONTROL STRUCTURES: In view of the high construction, maintenance, and operational cost of physical barriers, the possible usefulness of other types of barriers is being checked. To carry out this highly specialized and technical work, an engineering contract has been let for the development of electric, sonic, light, and electromagnetic devices that may serve to block or destroy spawning-run migrants or kill young sea lampreys enroute downstream to the lake.

The Service plans also to install and test a commercially available electric screen which the manufacturer offers to guarantee as effective for the blocking of spawning-run lampreys without harm to or interference with the movements of fish.

INTRODUCTION OF AMERICAN EELS: In aquarium experiments conducted by staff members, American eels have proved themselves to be predators on larval sea lampreys. Experiments have been planned in natural streams to determine whether the introduction of eels might prove useful as a control measure. These experiments are to include observations on the effects of eels on native fish as well as sea lampreys.

Studies on the Sea Lamprey: These investigations are designed to gain information on the life history, habits, and physiology of the sea lamprey that might contribute toward the development of more effective control methods. Some of this work is being carried out by the Service's staff and some through cooperative arrangements with universities.

Facilities are being prepared at the Hammond Bay Fishery Laboratory for experiments on the toxicity of various substances to young lampreys. The problem here is to discover a specific toxicant and methods of applying it in natural streams so as to destroy larval lampreys with a minimum of damage to fish.

Counts continue to be made and biological data collected on sea lampreys taken in weirs in order that the Investigations may be able to determine immediately any significant change in the numbers in the runs and in the lengths, weights, and sex ratio...of lampreys.

Stream Surveys: Two fully equipped stream survey parties of four men each are now in the field for the purpose of examining all streams tributary to Lake Superior on the United States side and streams flowing into Lake Michigan on the south shore of the Upper Peninsula of Michigan and in the upper part of Wisconsin. The objectives of these survey parties include an appraisal of the current distribution of lamprey spawning runs, a cataloging of streams in which runs might become established, the estimation of the extent of spawning grounds and habitat for young sea lampreys, and the measurement and study of possible sites for weirs and other control structures. This work will be assisted by spot checking by staff members of the Marquette and Sturgeon Bay field stations.

Studies of Fish Attacked by the Sea Lamprey: Although seemingly every species of fish in the upper Great Lakes is subject to attack by the sea lamprey, and damage by that parasite to whitefish, suckers, walleyes,... is increasing to an alarming extent, the lake trout is by far the species that has suffered the greatest harm to date. Annual losses to fishermen as the result of declines in the production of this species in Lakes Huron and Michigan can be estimated conservatively as close to 2-1/2 million dollars. Only in Lake Superior is the lake trout still reasonably plentiful, and even there predation by sea lampreys appears to be increasing.

Because of the importance of saving the lake trout in Lake Superior and of attempting the early rehabilitation of the stocks in Lakes Huron and Michigan, a full-time biologist has been assigned to the investigation of the species with particular reference to its relationship to the sea lamprey. Biologists at the Marquette station are now carrying out observations on the incidence of scarring of lake trout and other species by the sea lamprey.

The drastic decline in the production of lake trout has led to such a shifting of fishing pressure to other species as to threaten them with overfishing. In recognition of this danger, a close watch is being kept on those fisheries both by careful statistical studies of trends of abundance and by direct biological investigation. The staff at Sturgeon Bay, Wisconsin, for example, is devoting much attention to the vitally important fisheries of Green Bay, in which area fishing intensity has increased tremendously.

Research Vessel: Specifications and plans have been completed for a new 60-foot vessel, construction of which is scheduled to begin in the immediate future. Contract for this vessel has been awarded. When this boat is placed in operation it will be possible to study certain aspects of the sea lamprey's life cycle on which only fragmentary information is available now. It will be possible also to experiment on possible methods of capturing and destroying lampreys during their lake life, especially in the fall and winter when they appear to be concentrated off the mouths of streams.

The vessel will permit test-netting as a check on the abundance of lake trout and other species and to collect much needed data on the biological, physical, and chemical conditions in lakes that affect the distribution and abundance of lake trout and other fish.

International and Interstate Cooperation: The Great Lakes Sea Lamprey Committee, now in existence for several years, has served as a means of coordinating research and control activities by this Service, the Great Lakes States, and the Province of Ontario. The Chief of Great Lakes Fishery Investigations serves as chairman of the Committee.

Despite the usefulness of the Committee as a general coordinating body, a more detailed coordination and integration of activities than can be had through the Committee is needed to effectuate the type of cooperative project of which numerous examples were cited earlier in this report and which are planned for subsequent seasons. Accordingly, separate conferences have been held with officials of the Province of Ontario and of the States of Michigan and Wisconsin in which numerous specific questions of cooperation have been discussed and many solved. Participation by Michigan and Wisconsin in the sea lamprey program is greatly restricted by the limited funds allotted to that work by these States.

## Gulf Exploratory Fishery Program

"OREGON" LOCATES LITTLE TUNA, SHRIMP, AND FLATFISH: Tuna were located by the Oregon, the Service's Gulf Exploratory Fishery Program vessel, on its second cruise. After the Oregon left Pascagoula, Mississippi, on June 8, the vessel worked east of the Mississippi River mouth near the 100-fathom curve and south to Dry Tortugas. It was necessary to return to Pascagoula on June 17 for repairs to the main engine. The cruise was continued on June 22 and was concluded on June 29.

Tuna Observations: Little tuna, Euthynnus alletteratus, were taken on trolling lines frequently between Pascagoula to Tortugas, inside the 100-fathom curve, but the maximum number taken from any one school was six. Those taken south of the latitude of Tampa, Florida, were larger (average weight 11 pounds) than specimens taken farther north, off Pascagoula and Pensacola.

A school of a larger species of tuna was sighted about 45 miles southeast of Pensacola feeding along a drift of sargassum weed, where small fish and invertebrates are extremely abundant, but the fish were too wild to approach. These fish were believed to be the Atlantic blackfin tuna. The presence of the sargassum interferes with the conventional methods of tuna fishing as practiced in the Pacific and also effective trolling.

Both the little tuna and the blackfin tuna are of commercial interest, but the latter are believed to be of particularly good quality. Observations on these two Gulf tunas indicate that they feed in small schools and, at this season at least, are often found to be gorged with small fish and squid.

Shrimp Observations: Shrimp trawl drags were made at two stations in depths from 16 to 120 fathoms, but commercial species were not taken at depths of over

50 fathoms. A few specimens of Peneus duoarum (brown-spotted shrimp) were taken in a drag in 28 fathoms near Dry Tortugas and both P. duoarum and P. aztecus (brown or grooved shrimp) were obtained from hauls made in about 15 fathoms off Mobile. In this area approximately 30 percent of the shrimp were P. duoarum which were appreciably larger than the P. aztecus from the same drags.

Other Observations: A single set with a long line on the bottom in 105 fathoms produced only a few sharks, but many of the lighter hooks were torn off.

All four drags with a shrimp trawl in 100 to 120 fathoms produced a few flatfish, Paralichthys sp. This indicates the need for further investigation of the possibilities for use of an otter trawl for fish in the deeper Gulf waters.

Two specimens of a fish related to the tilefish were secured. These fish, Caulolatilus sp., are large enough to be of commercial interest if obtainable in quantity.

"OREGON" ON CRUISE NO. 3: A series of stations extending into the Gulf of Mexico along the 88th or 89th meridian southward of Pascagoula as far as the 26th parallel will be worked by the Oregon, the Service's Gulf Exploratory Fishery Program vessel. The vessel left on July 11, and the cruise will be divided into two or three parts, with return to Pascagoula for installation of loran and other equipment.

Shrimp trawl drags will be made during the day and night at intervals of about 5 fathoms in depths to about 200 fathoms. Navigating equipment will be checked, and a bathythermograph (plots temperatures against pressure to depths of 150 fathoms) is now available aboard the Oregon.

## Indo-Pacific Fisheries Council Meets in Australia

The Indo-Pacific Fisheries Council held its Second Annual Meeting at Cronulla, N. S. W., Australia, from April 17 to 28, 1950. The Council's purpose is bringing together administrators and technicians from the various nations of southeastern Asia and areas of the western and southwestern Pacific in order to discuss fisheries problems and to coordinate programs for the development of aquatic resources of the Indo-Pacific Region. The immediate aim is to increase production which in turn will improve the food supply and diet of the indigenous people.

The meeting was attended by 35 representatives of 11 of the 14 Member Governments of the Council. Representatives were also present from SCAP, UNESCO, and the South Pacific Commission, according to a May 26 news release from the Council. The United States delegates were O. E. Sette, Director of the U. S. Fish and Wildlife Service's Pacific Oceanic Fishery Investigations, and Charles Butler, Chief of POFI's Technological Section.[1/]

The Council Area stretches from Hawaii to Pakistan and from Korea to Australia. Japan is included in the geographical sector comprising the additional land masses of Indo-China, Formosa, China, and Korea. The importance

1/ See Commercial Fisheries Review, May 1950, pp. 91-2.

of developing the fisheries of this vast region is emphasized by the shortage of agricultural production necessary for feeding the great density of population in the Indo-Pacific area.

The work of the Council is conducted by two technical committees; one dealing with technology and the other oceanography and biology. The Natural Resources Section of SCAP reports that the discussions by these committees at the second annual meeting emphasized the need of basic information on the fisheries of member nations of the Council to provide a practical plan for maximizing aquatic production. The latter objective is complex, involving conservation or proper utilization of the resources, modifications in the operations of gear, and technological improvements in the handling of fisheries products. Social and economic aspects also must be considered in the development of an industry upon which people depend for their livelihood or partly for their subsistence. Various phases of this over-all program are to be weighed against the need to effect immediate improvements in the food supply without jeopardizing the future sustained productivity of the fishing grounds.

Considerable interest was shown in the possibility of introducing into local areas types of fishing gear and modifications of fishing operations which had proved successful in increasing or maintaining high levels of catch in other countries. Introduction of such nonindigenous gear will have to be adjusted to social and economic structures of the local communities and accompanied by a program of education in conjunction with government assistance and financial support. Some failures have already been experienced by introducing highly mechanized types of Occidental fishing gear in some southeast Asia countries without proper consideration of local conditions and the ability or desire of the local fishermen to adopt the new methods.

The Council showed interest in obtaining direct technical assistance for its member nations from the Four-Point Programs for economic development which are being proposed for different parts of the world.

The Council also organized plans to standardize procedures and equipment in the conduct of scientific fisheries studies, to permit greater usefulness of such data by research units operating in different areas but on problems of related interest.

At meetings of the technical committees, information was presented on Japanese fisheries. These presentations featured descriptions and methods of operations of various types of gear and the manner by which fisheries production in Japan has been restored to a level comparing favorably to that of the prewar period within present SCAP-authorized fishing areas. The contribution of the Japanese fishing industry in maximizing production and thus significantly contributing to the economic recovery of Japan was of special interest to the delegates of the southeast Asia nations. Proper development of their own fisheries will contribute significantly to the solution of complex economic problems.

## North Atlantic Fishery Investigations

"ALBATROSS III" AIDS IN GULF STREAM OBSERVATIONS (Cruise No. 36): The Albatross III was one of six vessels which cruised along the Gulf Stream from off Nantucket to near the Grand Banks making simultaneous observations of the location

and features of the Gulf Stream from June 6-19. This operation was under the direction of the U. S. Navy Hydrographic Office and other ships participating included vessels of the Woods Hole Oceanographic Institution, the Canadian Navy, and the U. S. Navy.

All of the vessels maintained regular observations of ocean temperature, weather, wind velocity, position, and ocean currents while they were zigzagging along the northern edge or Cold Wall of the Gulf Stream. Findings indicated that the Gulf Stream follows a rapidly changing, meandering course and sends off eddies, two of which were located and surveyed.

In addition to the oceanographic observations, the Albatross III of the Service's North Atlantic Fishery Investigations trolled for surface fish. Only 5 dolphin were caught, all in the Gulf Stream west of longitude 63°00'. In addition, several tuna-like fish were lost and schools of tuna-like fish sighted in this same area. However, most of the fishing was conducted east of the 63°00' line where no fish were caught or sighted. Apparently some factor other than temperature influenced the migrations of these fish, for temperatures in the Gulf Stream were substantially the same east of 63°00' as they were where the fish were taken.

## North Pacific Exploratory Fishery Program

"JOHN N. COBB" LOCATES FIRST ALBACORE TUNA OF THE SEASON: The first albacore tuna of the season was located and caught on June 18 by the John N. Cobb, the Service's North Pacific Exploratory Fishery Program vessel. A relatively small quantity of the tuna were taken at a position approximately 485 miles west of Cape Blanco, Oregon (42° 12' N., 135°05' W.), according to a radio message from the vessel. The vessel is on a four-month cruise in the offshore waters of the North Pacific to locate commercial concentrations of albacore tuna; determine their pattern of abundance; trace their general migration in the waters off Oregon, Washington, and Southeastern Alaska; and determine the most effective means of capturing the tuna commercially.

Based on scientific information obtained during last year's albacore tuna exploration in the North Pacific, combined with all available data on currents, water temperatures, and climatic conditions in the area, the vessel's fishery engineers were able to predict that albacore tuna could be expected in the area indicated above in its early stage of inshore migration.

The John N. Cobb is now attempting to follow the migration pattern of the albacore as they move northward, and to determine when the tuna will be in areas within reach of the commercial fishing vessels of Oregon and Washington.

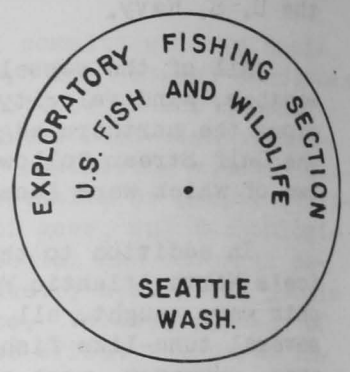
Each day at 2:00 p.m. (Pacific Standard Time), the vessel broadcasts its findings to the fleet on 2616 KC.

"JOHN N. COBB" TAGGING ALBACORE TUNA: In order that the direction and speed of the albacore movements in the North Pacific area may be determinded more accurately, a number of these fish encountered offshore are being tagged by the John N. Cobb, the Service's North Pacific Exploratory Fishery Program vessel. If returns can be obtained, they will be of great assistance in keeping the vessel on the albacore as they move during the season, and also will permit more accurate advice to the commercial fleet as to good fishing locations for this species. The

vessel is now tagging albacore off southern Oregon and will continue to tag fish for several months in waters along the coasts of Oregon, Washington, British Columbia, and Alaska.

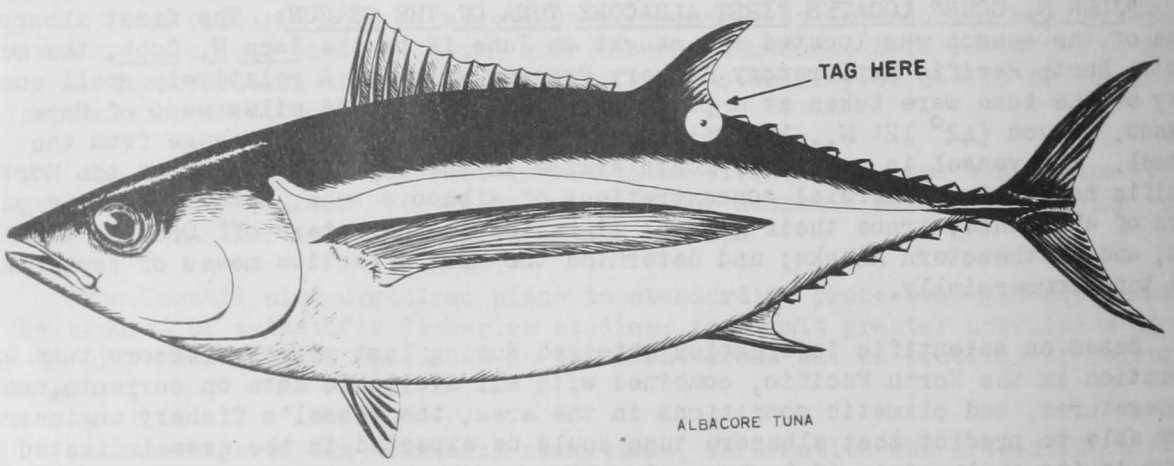

NO.1. NUMBERED TAG (YELLOW) 9/16" DIAMETER

The tags used consist of two plastic discs which are slightly larger than ½ inch in diameter. The discs, one yellow and one red, are placed on both sides of the second dorsal fin (top fin), and are joined together with a nickle pin which pierces the lower part of the fin near the body of the fish.




NO.2. INFORMATION TAG (RED) 9/16" DIAMETER

If found by fishermen or plant operators, both discs should be mailed to the following address: Exploratory Fishing and Gear Development Section, Fish and Wildlife Service, 2725 Montlake Boulevard, Seattle, Wash. The following information should accompany the tags: (1) where caught; (2) date caught; (3) length and weight; and (4) remarks as to damage to fish from tag.




ALBACORE TUNA

THE TAG DISCS ARE PLACED ON BOTH SIDES OF THE LOWER PART OF THE SECOND DORSAL FIN (TOP FIN), AND ARE JOINED TOGETHER WITH A NICKLE PIN.

## Pacific Coast Halibut Season Shortest on Record

The halibut season on the West Coast this year was the shortest on record. This year's closing date ended halibut fishing in the North Pacific after 66 days of fishing, compared with 73 days in 1949, 72 days in 1948, and 109 days in 1947.

The closing of the halibut season in Areas 1A, 3, and 4 at 12 midnight, July 5, 1950 (announced on June 15 by the International Fisheries Commission) terminated all halibut fishing on the Pacific Coast of Canada and the United States,

including Alaska, except for incidental halibut catches. Permits for the retention and landing of halibut caught incidentally to fishing for other species with set lines in any area will become invalid at 12 midnight, November 15, 1950, when the closed season for all halibut fishing starts.

Areas 1B and 2 were closed at midnight June 1, 1950 (see Commercial Fisheries Review, June 1950, p. 21).

The halibut season opened on May 1 and the quota again was 54 million pounds (see Commercial Fisheries Review, May 1950, pp. 34-5).

## Pacific Oceanic Fishery Investigations

"JOHN R. MANNING" TESTS WEST COAST PURSE SEINE IN LINE ISLANDS REGION (Cruise 2): Testing a West Coast purse seine in the Line Islands region was the primary purpose of the John R. Manning's second cruise. The area in which net could be operated was found to be limited by weather, with the lees of the Islands offering the best conditions. Fishing at Kingman Reef, Palmyra Island, Washington Island, Fanning Island, Christmas Island, and Jarvis Island, the vessel's staff observed that schools of tuna were found to be rather fast moving and erratic, but on several occasions schools were seen which might be caught by this gear. Two sets were made on yellowfin tuna. The first set was at Fanning Island on May 8; the second was at Christmas Island on May 13. Both sets were unproductive, but fish did remain in the net for a longer period of time during the second set. The average time spent for each set was 2½ hours, beginning with the running out of the seine until the net and all gear was secure aboard again.

Over a period of 43 days, 308 hours were spent surface trolling in the near vicinities of the islands--7 surface-trolling lines were fishing most of this time. The yield of this gear was:

| Species | No. of Fish | Total Weight | Species | No. of Fish | Total Weight |
|---|---|---|---|---|---|
| Yellowfin tuna... | 881 | 29,590 | Barracuda..... | 3 | 26 |
| Oceanic skipjack. | 14 | 130 | Rainbow runner.... | 48 | 120 |
| Black skipjack... | 1 | 24 | Numerous sharks... | - | - |
| Wahoo..... | 181 | 5,838 | | | |

Best trolling catches were made at Kingman Reef, followed by Washington and Palmyra Islands.

Stomachs, gonads, and size-frequency data on tunas were taken to contribute to life-history studies. Bathythermograph sections were taken between Kingman Reef and Oahu both on the outward and homeward-bound runs and bathythermograph casts were also made at intervals on the fishing grounds.

Night lighting in the lagoons at Kingman Reef and Palmyra Island, and at the outside anchorages at Christmas and Fanning Islands, yielded no results in the way of tuna bait. Fair quantities of small mullet were observed on the beaches at Palmyra Island, but there would be some difficulty transporting them to a fishing vessel because of the lack of small-boat passages in the lagoon.

The vessel left Pearl Harbor, T. H. on April 17 and returned to port on June 14.

"JOHN R. MANNING" TO FISH TUNA WITH PURSE SEINE (Cruise No. 3): Experimental fishing operations with a tuna purse seine will be conducted in the waters of the Phoenix Islands by the John R. Manning, research vessel of the Service's Pacific Oceanic Fishery Investigations. The vessel left Pearl Harbor about July 15 and is expected to return to port about September 25, 1950. Efforts of the vessel will be directed toward developing effective techniques for using purse-seine equipment in the capture of tunas. While both yellowfin tuna and skipjack occur in that region, it is not known whether or not they are susceptible to present methods of seine fishing. Further, efforts will be directed toward estimating the commercial abundance of tunas in the Phoenix Islands. The John R. Manning will work in conjunction with the Henry O'Malley in an attempt to capture tuna schools with a seine after the latter has stopped the school and concentrated the fish by chumming them with live bait.

In addition, a number of secondary projects will be carried out. On the return voyage the John R. Manning will sail via Kingman Reef and spend a week there in trolling operations to determine whether this type of fishing is as productive in the fall as it was found to be in the spring and early summer when the vessel previously operated at Kingman Reef. Bathythermograph observations will be taken throughout the trip, the tunas caught will be used in biological studies, and records will be kept of the fish caught by trolling throughout the trip. Weather observations will be radioed to the Navy and Weather Bureau four times daily.

"HENRY O'MALLEY" COMPLETES THREE-WEEK CRUISE IN HAWAIIAN WATERS (Cruise No. 3): The Henry O'Malley, one of the research vessels of the Pacific Oceanic Fishery Investigations, completed a three-week cruise in Hawaiian waters on June 8. The primary purpose of the cruise was to develop techniques for the use of mainland-type equipment in local skipjack (aku) fishing, and to gather information on the catching rate of this equipment for evaluation of exploratory fishing in new areas.

The baiting operations were not successful. Only 158 buckets of bait were taken during the entire cruise. Of the total, 100 buckets were mosquitofish taken in Pearl Harbor, and according to local fishermen, are poor bait for chumming up a school, although such bait is said to be quite valuable in holding a school once it is chummed to the boat. Much of the other bait taken was small in size and losses by fish passing through the overflow screen were experienced. Due to the lack of bait, only 10 schools were fished out of approximately 45 apparent schools sighted. Of the 10 schools fished, only two were chummed to the boat, and a total of 18 skipjack were taken. Local sampans baiting in the areas visited by the research vessel were also experiencing difficulties in obtaining sufficient bait to carry on their commercial operations.

All schools sighted and fished were small, fast, and erratic. The size of the vessel and its maneuverability made fishing these fast schools difficult. Local sampans were more successful in their fishing, but according to the captain of the sampan Olympic, they too were having difficulty in fishing the small, fast schools.

Secondary missions accomplished during the cruise were the taking of bathythermograph observations during the scouting for tuna; the collecting of biological specimens during night-lighting operations; the collecting of stomachs, gonads, morphometric data and vertebrae from pole-and-troll-caught fish.

The eruption of the volcano, Mauna Loa, on the island of Hawaii, while the vessel was in the vicinity, proved to be an excellent opportunity to augment the POFI fish collection which is used for reference in identifying contents of

tuna stomachs. The hot lava pouring into the sea caused large numbers of fish to die and come to the surface. One day was spent in collecting these fish from the waters adjacent to the lava flows.

"HENRY O'MALLEY" TO CONDUCT EXPLORATORY TUNA-FISHING OPERATIONS NEAR CANTON ISLAND: Primarily to conduct exploratory tuna-fishing operations near Canton Island and other islands of the Phoenix Group, the research vessel Henry O'Malley of the Service's Pacific Oceanic Fishery Investigations left Honolulu on July 1 for a 2½-month trip (Cruise No. 4). On this cruise to the Leeward and Phoenix Islands, the vessel will ascertain the abundance and availability of surface tuna schools, and the feasibility of employing live-bait fishing methods now in use on the mainland. Bait resources in the Phoenix Islands will be employed to determine the practicability of basing a fishery in that area using the bait which can be found locally.

The early part of the voyage will be concerned with examining the abundance of tuna bait fish at French Frigate Shoals, Lysan Island, Pearl and Hermes Reef, and Midway Island. If bait is available at any of these places, an attempt will be made to determine the feasibility of transporting and using it in tuna fishing in the Phoenix Group.

In the Phoenix Islands, the Henry O'Malley will work in conjunction with the other two POFI vessels. The Henry O'Malley will work with the John R. Manning in attempting to hold tuna schools with live bait, while the latter vessel traps the fish with a purse seine.

In addition, the Hugh M. Smith will conduct oceanographical survey work, and will engage in flagline fishing near Canton Island for a limited time in mid-July.

"HUGH M. SMITH" SAILS TO COMPLETE COLLECTION OF MID-SUMMER HYDROGRAPHIC DATA (Cruise No. 5): In order to complete mid-summer hydrographic sections across the equatorial counter-equatorial current system to compare with similar sections taken in mid-winter on Cruise No. 2, the Hugh M. Smith sailed from Honolulu on June 16 on its fifth cruise. The vessel will operate in the vicinity of Pearl and Hermes Reef, Canton Island, and Jarvis Island, and is expected to return to Honolulu on August 9.

A series of hydrographic stations will be occupied. At each station plankton hauls also will be made, and determinations will be made of oxygen and dissolved nutrient materials. These data are being collected for determination of the position and extent of the counter-equatorial current, the degree of upwelling along the current boundaries, and the effect thereon on the productivity of the region, which is believed to be of fundamental importance to the tuna fisheries of the region.

Attempts will be made to catch live bait at French Frigate Shoals and Pearl and Hermes Reef. The bait caught will be transported to Canton Island for use by the Hugh M. Smith and the Henry O'Malley in fishing for tuna.

The Hugh M. Smith, one of the research vessels of the Service's Pacific Oceanic Fishery Investigations, will fish with long lines in the vicinity of Canton Island during the latter part of July, in addition to other incidental operations and observations.

FISHERY RESEARCH LABORATORY COMPLETED IN HONOLULU: In July, construction was completed on the fishery research laboratory in Honolulu, T. H., which will

house the research activities of the Service's Pacific Oceanic Fishery Investigations.

Occupying a site adjacent to the campus of the University of Hawaii, the new laboratory is the largest Federal laboratory of its kind outside the continental United States. To conform with typical Hawaiian architecture, the new building is of hallow concrete block construction, two stories high, and surrounds a court with lanais which face the court. Wings to provide additional space extend outward from the rear. The floor area, including lanais, is approximately 16,000 square feet.

Special scientific apparatus for conducting extensive biological and oceanographic research is now being installed in the laboratory, which will be formally dedicated with an "open house" in the fall when it has been fully equipped.

Laboratory research is supplementing or paralleling the exploratory investigations now being conducted at sea by the three vessels of the program--the Henry O'Malley, the Hugh M. Smith, and the John R. Manning.

## Pacific Salmon Fisheries Commission

SOCKEYE FISHING IN OFFSHORE CONVENTION WATERS OF THE NORTH PACIFIC FOR 1950: Meeting June 19-20 in Washington, D. C., the International Pacific Salmon Fisheries Commission reaffirmed and clarified the action taken in Vancouver, B. C., on February 6 this year, regarding sockeye fishing by United States and Canadian fishermen in offshore convention waters of the North Pacific for the 1950 season, a Commission press release reported.

The Commission defined the period of closure of sockeye fishing in convention waters outside the Bonilla-Tatoosh line as being from July 1 through August 31. It was the Commission's view that its duties relating to the protection and rehabilitation of the Fraser River sockeye under the International Treaty did not require, for the 1950 season, any controls in these outside waters beyond August 31.

At its February meeting in Vancouver, B. C., the Commission considered and discussed with its Advisory Committee the need for controlling sockeye fishing in these offshore convention waters in order to fulfill the Treaty requirements. These considerations included the following:

1. The Commission's two primary responsibilities under the Treaty are (a) to assure rehabilitation and maximum production consistent with conservation and (b) to obtain equal division of the catch between the two countries.

2. The Commission has carefully worked out methods for determining the catch escapement ratios in relation to increased efficiency of gear and increased intensity of the fishery. These methods must be followed in order to receive a proper escapement to the spawning grounds. Previous years have shown beyond question that substantial catches of sockeye salmon can be made in outside waters, but it does not seem possible, at least with present methods, to interpret the effect of such catches with any degree of accuracy. Hence the entire escapement schedule of the Commission would be imperiled if these offshore catches are allowed at this time.

3. The fishing fleets of both countries have now demonstrated that they are fully capable of taking more than the entire allowable catch of sockeye in inside waters alone.

4. Identification of the various races of sockeye is not possible in the offshore area and scientific control of the catch-escapement ratios would require reduced catch allowances to guarantee sufficient escapement. The Commission is endeavoring to allow maximum utilization on a sustained yield basis and this could not be done with the offshore operation.

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## South Pacific Fishery Investigations

PILCHARD SPAWNING MORE INTENSE OFF LOWER CALIFORNIA IN APRIL: Examination has been completed of plankton collections from the April cruises of the three vessels working on the cooperative Pacific sardine research program being conducted by the Service's South Pacific Fishery Investigations in cooperation with the Scripps Institution of Oceanography, the California Division of Fish and Game, and the California Academy of Sciences.

These data indicate that pilchard spawning, much more intense in April than in March, was in the area between Cedros Island and Pt. Abreojes off Baja California. However, spawning extended farther north in April than in March, reaching a point off Santa Monica in southern California. The distribution of pilchard larvae in April was similar to the distribution of eggs, but extended only as far north as San Diego.

The distribution of anchovy larvae was similar to the distribution of pilchard eggs.

April collections contained 11,519 fish larvae, including 30 or 40 species. Besides pilchards and anchovies, there were large numbers of jack mackerel, hake, saury, lantern fish, and other lesser-known species.

The three vessels have completed their June cruises.

## Service Conducts Fish-Cooking Demonstrations for California Institutions

A concerted bid to encourage the greater use of fish in the institutional market was made by the U. S. Fish and Wildlife Service during the months of April and May 1950.

In a series of demonstrations, professional fish-cookery methods were shown at 11 California State hospitals, prisons, and homes, representing 35,000,000 hot meals annually. The demonstrations, arranged through the cooperation of the California Department of Corrections, Youth Authority, and Department of Mental Hygiene, were conducted at the following points:

| | |
|---|---|
| Veterans Home of California - Yountville | Agnews State Hospital - Agnew |
| Stockton State Hospital - Stockton | Modesto State Hospital - Modesto |

| | |
|---|---|
| Preston School of Industry - Waterman | Norwalk State Hospital - Norwalk |
| Calif. School for the Deaf - Berkeley | Patton State Hospital - Patton |
| Camarillo State Hospital - Camarillo | Pacific Colony - Spadra |
| Nelles School for Boys - Whittier | |

These institutions were visited in a three-week field tour in April by a home economist and a fishery marketing specialist of the Service's staff. Coverage included considerably more than these 11 units, as other nearby institutions (San Quentin and Folsom Prisons, Langley-Porter Clinic of San Francisco, the California School for the Blind, Pine Grove Camp, and Fricot Ranch School) sent representatives to the demonstrations. The units covered represented three-fourths of California's 48,000 institutional patients and inmates. A visit was made also to the Napa Hospital. Service-prepared fish cookery pamphlets were left for units not represented.

The Home Economist from the Service's Seattle Laboratory conducted the demonstration of five recipes considered most adaptable to use in the institutions: A fish loaf, using canned salmon; baked fillets cooked with lemon juice and chopped onion; baked fillets in tomato sauce; breaded baked fillets; and tuna salad. Cooks and nutritionists present also were shown how to make a lamaze sauce for use with the loaf and the salad.

The groups were told about the types and forms of fishery products available, how to tell if fish is in good condition, and how to care for fish prior to cooking. Many questions were answered during the demonstrations and afterwards while the audiences were tasting the prepared dishes.

Because most of the institutions participating prepare such a large number of meals, they are necessarily limited in the variety of ways they can cook and serve fish. Much of their fish, also, must be free from bones. Some of the larger institutions have only large steam-jacketed kettles to use in cooking fish stews and chowders for the patients, but rotary ovens which are used for preparing baked dishes are also available in others. The State of California is remodeling the kitchens of many of the institutions and will soon have rotary ovens for all large-scale operations. During several of the demonstrations, the fish loaf and fillets were baked in these rotary ovens with excellent results.

The recommended recipes were received enthusiastically by the institution staffs. Cooks tasted the dishes studiously and almost invariably selected one as "the one I will try next time we serve fish." Most demonstrations were held in kitchens with all kitchen staff members present.

From the reaction of the audiences, results are expected to be as good as those of a demonstration given last November at the Los Angeles Veterans Administration Center. Two recipes shown at that point, which proved popular among the Center's patients, have since been recommended for use in all the VA's western installations.

California's penal, mental, and youth institutions serve about 35 million hot meals a year (not including breakfasts). In some institutions considerable fish is used. In the Youth Authority, for instance, where the use of foods and planning of menus are closely supervised, the total is about 24 pounds per year per person, figured in marketed products.

In the mental hospitals, consumption of fish is lower, with meal planning left largely to the discretion of the local food supervisors. Fish in some form was being served about once a week in such institutions.

During the course of the demonstrations and in a special visit with the State purchasing officer, procurement problems were discussed. All fish used are purchased by the institutions under competitive contract. The institutions were fairly well satisfied with the fish being received, but they expressed a need for quality safeguards that would permit them to place more reliance on supplies of fresh and frozen fish. Most institutions felt that they had to be "hardboiled" in returning fresh or frozen fish of questionable quality if they were to receive good supplies consistently. As almost all of the institutions are located several hours to a day's trip from the suppliers, return of these supplies means an inconvenient last-minute change in menu.

The State purchasing office recognized that better quality safeguards are desirable and expressed a desire for fresh or frozen fish specifications that might help to insure delivery of satisfactory supplies. A need for institution-sized cans of sardines and salmon was also emphasized. Each use of these products now requires the opening of several hundred small cans.

The Service's program will be continued during the balance of 1950 and in 1951, covering schools, and public and private institutions.

--Clarence R. Lucas, Fishery Marketing Specialist,
Branch of Commercial Fisheries.

## U.S. Army Needs Fishery Personnel

The Department of the Army needs certain qualified civilian employees. There are presently a number of openings for Fishing Area Inspectors for duty in Japan for a period of 24 months.

EDUCATION AND EXPERIENCE: Applicant must be a duly licensed Ship's Officer (Captain or First Mate) or have the Naval equivalent thereof with thorough knowledge and experience in navigation. He must have had experience at sea on small vessels (less than 1,000 gross tons), preferably fishing vessels.

QUALIFICATIONS: Applicant should be between the ages of 21 and 50 years, in good health, and with physical endurance to be able to withstand rigors of constant 30-to 50-day inspection on small Japanese fishery inspection vessels. Desirable but not essential qualifications are a knowledge of radio-telegraphy, experience in dealing with Orientals, experience in patrol work and law enforcement at sea.

This position pays an annual salary of $4,600. Housing is provided the employee without cost, and meals are procured at approximately $35 to $40 per month. Dependent housing is not authorized for this position.

Applicants should apply to: E. J. Henning, Representative, Overseas Affairs Branch, Civilian Personnel Division, Department of the Army, 139 Centre Street, New York 13, N. Y.

# U. S. Firm Planning to Operate Whaling Fleet 1/

A United States firm, with offices in New York City, is planning to operate a whaling fleet for the first time in more than a decade. Since the middle of December, negotiations have been held between the United States firm and a German firm in Hamburg on the operation of a whaling fleet for the benefit of Germany, a January 18 American consular dispatch from Hamburg reports.

The mothership of the whaling fleet, formerly the T-2 tanker Herman F. Whiton, is undergoing conversion in Kiel, Germany. With a crew up to 325, the vessel is scheduled to have a capacity to process 4,000 whales rendering 25,000 tons of oil. In addition, 10 corvettes are being converted to "killer" boats. The fleet should be ready for the next whaling season, which commences in December.

1/ Also see p.44 of this issue.

# U. S. Pack of Canned Alewives, 1949

The 1949 pack of canned alewives totaled 111,994 standard cases, valued at $469,398 to the canner (Table 1)--a decline of 9 percent in quantity and 27 percent in value as compared with the previous year. Although the pack was the

Table 1 - Pack of Canned Alewives by States, 1949
(Quantity in Standard Cases 1/ and Value to the Canners)

| State | Quantity | Total Value | Avg. Price Per Std. Case |
|---|---|---|---|
| | Std. Cases 1/ | $ | $ |
| Maryland | 67,828 | 295,021 | 4.35 |
| Virginia | 44,166 | 174,377 | 3.95 |
| Total | 111,994 | 469,398 | 4.19 |

1/ "Standard cases" represent cases of various sizes converted to the equivalent of 48 cans of 15 ounces each per case.

smallest since 1943, it was greater than for any year prior to 1943 (Table 2). The biggest decline occurred in the Maryland pack. Practically the entire pack was canned in 15-ounce cans. Alewives were canned in 7 plants in Maryland and 9 plants in Virginia.

Table 2 - Pack of Canned Alewives, 1940-49
(Quantity in Standard Cases 1/ and Value to the Canners)

| Year | Quantity | Total Value | Avg. Price Per Std. Case | Year | Quantity | Total Value | Avg. Price Per Std. Case |
|---|---|---|---|---|---|---|---|
| | Std. Cases | $ | $ | | Std. Cases | $ | $ |
| 1949 .. | 111,994 | 469,398 | 4.19 | 1944 .. | 135,995 | 793,254 | 5.83 |
| 1948 .. | 123,134 | 639,356 | 5.19 | 1943 .. | 112,472 | 619,213 | 5.51 |
| 1947 .. | 139,816 | 779,150 | 5.57 | 1942 .. | 77,232 | 399,555 | 5.17 |
| 1946 .. | 193,980 | 1,180,197 | 6.08 | 1941 .. | 42,156 | 153,269 | 3.64 |
| 1945 .. | 131,062 | 753,769 | 5.75 | 1940 .. | 24,486 | 72,070 | 2.94 |

1/ "Standard cases" represent cases of various sizes converted to the equivalent of 48 cans of 15 ounces each per case.

Canners received an average of $4.19 per standard case for the 1949 pack, compared with $5.19 in 1948, $5.57 in 1947, and $6.08 in 1946.

# U.S. Production of Menhaden Products, 1949 (Revised)*

Additional data, which became available after the June issue of the Review was published, indicates that actual receipts of menhaden by manufacturers of menhaden products in 1949 amounted to 1,072,630,265 pounds (1,600,940,694 fish). This was larger than the previously published figures.

Table 1 - Manufacturers' Receipts of Menhaden and Production of Menhaden Products, 1949 1/
(Quantity and Value to the Manufacturer)

| States | Menhaden Utilized | Products Manufactured | | | | |
|---|---|---|---|---|---|---|
| | | Dry Scrap and Meal | | Oil | | Total |
| | Pounds | Tons | Value ($) | Gallons | Value ($) | Value ($) |
| New Jersey | 157,582,459 | 16,620 | 2,549,391 | 1,570,065 | 714,605 | 3,263,996 |
| New York and Delaware | 249,684,210 | 2/ 25,303 | 2/ 3,763,875 | 2,428,176 | 1,100,000 | 4,863,875 |
| Virginia | 126,430,336 | 15,100 | 2,417,735 | 739,442 | 292,971 | 2,710,706 |
| North Carolina | 227,679,400 | 2/ 23,016 | 2/ 3,421,841 | 751,687 | 259,901 | 3,681,742 |
| Florida | 54,919,900 | 6,070 | 1,006,765 | 259,834 | 93,262 | 1,100,027 |
| Mississippi, South Carolina, Louisiana, and Texas | 256,333,960 | 27,284 | 4,653,732 | 2,544,707 | 946,771 | 5,600,503 |
| Total | 3/ 1,072,630,265 | 113,393 | 17,813,339 | 8,293,911 | 3,407,510 | 21,220,849 |

1/Does not include the production of menhaden condensed solubles. Revised.
2/A small production of acidulated scrap has been included with the production of dry scrap and meal.
3/1,600,940,694 fish.

CORRECTION: In the last paragraph of the article "Manufacture of Meal and Oil Utilizes Half of the Fisheries Catch" on p. 24 of the June 1950 Commercial Fisheries Review, the menhaden catch in 1949 was actually 1,073 million pounds instead of the quantity shown.

*Revises the 1949 statistics as published in Commercial Fisheries Review, June 1950, pp. 26-7.

## Wholesale and Retail Prices

WHOLESALE PRICES, MAY 1950: Wholesale prices of edible fishery products during May were only 1.0 percent lower than the previous month, but 6.3 percent below May 1949, according to the Bureau of Labor Statistics of the Department of Labor. The fish and shellfish (fresh, frozen, and canned) wholesale index for May was 94.5 percent of the 1947 average (Table 1).

Prices of fresh and frozen fishery products during May were 1.4 percent below April this year, but 11.1 percent higher than in May 1949.

Although the drawn, dressed, or whole finfish subgroup index during May was only 1.1 percent below April, there were substantial price declines among the fresh-water and fresh halibut items which make up this subgroup. The decline in the prices of fresh lake trout, whitefish, and yellow pike followed the general seasonal trend which takes place during May in the fresh-water fisheries because of increased production in the Great Lakes. With the opening of the Pacific Coast halibut season on May 1, fresh halibut prices were slightly lower than the prices for frozen halibut during April when cold-storage stocks of this item had reached a very low point. To compensate for all price declines in this subgroup, fresh king salmon prices rose during May, while fresh drawn haddock prices remained steady at the April level. Prices for drawn, dressed, or whole finfish in May this year were still 12.9 percent higher than in May 1949. Except for lower prices quoted on whitefish and yellow pike in New York City, May 1950 prices for all other items in this subgroup were higher than May 1949 prices.

Table 1 - Wholesale Average Prices and Indexes of Fish and Shellfish, May 1950, with Comparative Data

| GROUP, SUBGROUP, AND ITEM SPECIFICATION | POINT OF PRICING | UNIT | AVERAGE PRICES ($) | | | INDEXES (1947 = 100) | | |
|---|---|---|---|---|---|---|---|---|
| | | | May 1950 | Apr. 1950 | May 1949 | May 1950 | Apr. 1950 | May 1949 |
| ALL FISH AND SHELLFISH (Fresh, Frozen, and Canned) | | | | | | 94.5 | 95.5 | 100.9 |
| Fresh and Frozen Fishery Products: | | | | | | 99.1 | 100.5 | 89.0 |
| Drawn, Dressed, or Whole Finfish: | | | | | | 104.8 | 106.0 | 92.8 |
| Haddock, large offshore, drawn, fresh | Boston | lb. | .09 | .09 | .07 | 97.2 | 95.0 | 70.2 |
| Halibut, Western, 20/80 lbs., dressed, fresh or frozen | New York City | " | .33 | .35 | .32 | 97.2 | 103.2 | 92.5 |
| Salmon, king, lge. & med., dressed, fresh or frozen | " " " | " | .52 | .46 | .50 | 126.3 | 112.2 | 123.2 |
| Lake trout, domestic, mostly No. 1, drawn (dressed), fresh | Chicago | " | .46 | .69 | .42 | 101.5 | 151.9 | 91.1 |
| Whitefish, mostly Lake Superior, drawn (dressed), fresh | " | " | .41 | .58 | .38 | 119.1 | 166.5 | 110.4 |
| Whitefish, mostly Lake Erie pound net, round, fresh | New York City | " | .50 | .63 | .52 | 113.9 | 141.5 | 117.1 |
| Yellow pike, mostly Michigan (Lakes Michigan & Huron), round, fresh | " " " | " | .29 | .38 | .31 | 67.7 | 88.4 | 72.5 |
| Processed, Fresh (Fish and Shellfish): | | | | | | 89.4 | 91.9 | 81.7 |
| Fillets, haddock, small, skins on, 20-lb. tins | Boston | lb. | .29 | .30 | .25 | 104.7 | 106.4 | 89.1 |
| Shrimp, lge. (26-30 count), headless, fresh or frozen | New York City | " | .62 | .64 | .54 | 88.9 | 92.9 | 77.9 |
| Oysters, shucked, standards | Norfolk area | gal. | 3.50 | 3.50 | 3.50 | 86.2 | 86.2 | 86.2 |
| Processed, Frozen (Fish and Shellfish): | | | | | | 103.4 | 102.5 | 93.9 |
| Fillets: Flounder (yellowtail), skinless, 10-lb. boxes | Boston | lb. | .35 | .40 | .24 | 113.0 | 127.5 | 75.9 |
| Haddock, small, 10-lb. cello-pack | " | " | .26 | .26 | .20 | 118.8 | 116.2 | 91.9 |
| Rosefish, 10-lb. cello-pack | Gloucester | " | .20 | .20 | .21 | 98.2 | 101.0 | 106.5 |
| Shrimp, lge. (26-30 count), 5- to 10-lb.bxs. | Chicago | " | .68 | .64 | .64 | 98.4 | 92.9 | 92.6 |
| Canned Fishery Products: | | | | | | 87.6 | 88.0 | 119.0 |
| Salmon, pink, No. 1 tall (16 oz.), 48 cans per case | Seattle | case | 14.58 | 14.53 | 22.66 | 95.0 | 94.7 | 147.7 |
| Tuna, light meat, solid pack, No. ½ tuna (7 oz.), 48 cans per case | Los Angeles | " | 14.25 | 14.25 | 16.15 | 92.7 | 92.7 | 105.1 |
| Sardines (Pilchards), California, tomato pack, No. 1 oval (15 oz.), 48 cans per case | " " | " | 5.50 | 5.50 | 7.50 | 61.5 | 61.5 | 83.9 |
| Sardines, Maine, keyless oil, No. ¼ drawn (3¼ oz.), 100 cans per case | New York City | " | 7.00 | 7.38 | 8.75 | 68.6 | 72.3 | 85.8 |

A substantial drop in fresh headless shrimp prices during the month, because of the usual seasonal increase in production, was responsible for the decline of 2.7 percent in the processed fishery products index as compared with April. However, this subgroup index was still 9.4 percent higher than for May the previous year. In May this year, shrimp prices were 14.1 percent higher and fresh haddock fillet prices 17.5 percent higher than in May 1949.

Frozen processed fishery products prices during May were 0.9 percent higher than April and 10.1 percent higher than in May a year ago. Price increases in frozen haddock fillets and frozen shrimp were offset by declines in frozen flounder and rosefish fillets.

The May index for canned fish was 87.6 percent of the 1947 average--0.5 percent lower than April and 26.4 percent below May 1949. Lower prices quoted for canned Maine sardines were mainly responsible for the decline in this subgroup. Canned pink salmon prices increased slightly during May, while prices of canned tuna and California sardines remained at the same level as in April this year.

RETAIL PRICES: Between April 15 and May 15 this year, retail food prices on the average continued to rise. The retail food price index on May 15 was 200.3 percent of the 1935-39 average, 3.3 percent higher than on April 15, but 1 percent lower than a year earlier (see Table 2).

For all fish and shellfish (fresh, frozen, and canned), the retail index on May 15 was 293.2 percent of the 1935-39 average, 1.4 percent below April 15 and 7 percent lower than on May 15, 1949.

Table 2 - Retail Price Indexes for Foods and Fishery Products, May 15, 1950, with Comparative Data

| Item | Base | Indexes | | |
|---|---|---|---|---|
| | | May 15,1950 | Apr.15,1950 | May 15,1949 |
| All foods | 1935-39 = 100 | 200.3 | 196.6 | 202.4 |
| All fish and shellfish (fresh, frozen, and canned) | do | 293.2 | 297.4 | 315.4 |
| Fresh and frozen fish | 1938-39 = 100 | 270.6 | 276.0 | 254.5 |
| Canned salmon (pink) | do | 327.8 | 328.2 | 458.4 |

From mid-April to mid-May, retail prices for fresh and frozen fishery products only dropped 2 percent; however, on May 15 they were 6.3 percent higher than in mid-May 1949. Prices of canned pink salmon in mid-May this year were only slightly below the previous month, but were still 28.5 percent lower than on May 15, 1949.

RETAIL PRICES FOR CERTAIN FISHERY PRODUCTS: The retail prices shown in Tables 1 and 2 were collected by the Department of Labor's Bureau of Labor Statistics on March 15, 1950, as supplemental prices to be used in the revision of the Consumers' Price Index.

Table 1 - Retail Prices of Canned Tuna, California Sardines, Shrimp, and Pink Salmon in Ten Cities, on March 15, 1950

| City | Canned Tuna (Fancy Solid Pack, light meat, 7-oz. can) | | Canned Sardines, Calif. (In Tomato Sauce, 15-oz. can) | | Canned Shrimp, (Wet-Packed, whole, 5-oz. can) | | Canned Pink Salmon 1/ (No. 1 Tall, 16-oz. can) | |
|---|---|---|---|---|---|---|---|---|
| | Average Price | Range of Prices | Average Price | Range of Prices | Average Price | Range of Prices | Average Price | Range of Prices |
| | Cents | Cents | Cents | Cents | Cents | Cents | Cents | Cents |
| Butte | 45.2 | 39 - 50 | 23.1 | 19 - 29 | 50.8 | 43 - 55 | 46.2 | 43 - 53 |
| Cedar Rapids | 38.1 | 29 - 53 | 22.4 | 15 - 35 | 48.5 | 39 - 65 | 44.1 | 35 - 59 |
| Chicago | 40.1 | 25 - 52 | 22.0 | 12 - 50 | 44.3 | 35 - 75 | 42.7 | 34 - 69 |
| Dallas | 44.8 | 37 - 59 | 21.9 | 15 - 35 | 47.4 | 43 - 59 | 41.0 | 35 - 59 |
| Denver | 42.9 | 39 - 50 | 20.4 | 17 - 28 | 50.1 | 46 - 69 | 43.5 | 37 - 63 |
| Jacksonville | 41.7 | 34 - 49 | 22.3 | 20 - 29 | 46.4 | 41 - 55 | 43.7 | 39 - 59 |
| Providence | 34.9 | 29 - 49 | 21.5 | 17 - 31 | 43.6 | 34 - 69 | 40.6 | 35 - 59 |
| San Francisco 2/ | 42.2 | 36 - 49 | 20.7 | 15 - 32 | 47.6 | 42 - 58 | 49.9 | 40 - 63 |
| Scranton | 42.3 | 33 - 49 | 21.5 | 15 - 31 | 48.9 | 41 - 69 | 43.9 | 35 - 65 |
| Washington | 41.6 | 37 - 53 | 21.6 | 17 - 33 | 49.9 | 39 - 63 | 42.6 | 35 - 59 |

1/The only one of the group collected regularly on the 15th of each month and which has been included in the retail food price index.
2/Based on incomplete sample of price quotations. Not directly comparable with prices for previous months.

Table 2 - Retail Prices of Frozen Rosefish (Ocean Perch) and Haddock Fillets in 56 Cities, on March 15, 1950

| City | Frozen Rosefish (Ocean Perch) Fillet (Prepackaged, 1 lb.) | | Frozen Haddock Fillet (Prepackaged, 1 lb.) | | City | Frozen Rosefish (Ocean Perch) Fillet (Prepackaged, 1 lb.) | | Frozen Haddock Fillet (Prepackaged, 1 lb.) | |
|---|---|---|---|---|---|---|---|---|---|
| | Average Price | Range of Prices | Average Price | Range of Prices | | Average Price | Range of Prices | Average Price | Range of Prices |
| | Cents | Cents | Cents | Cents | | Cents | Cents | Cents | Cents |
| United States | 40.4 | 25 - 79 | 49.0 | 33 - 79 | Milwaukee | 36.1 | 29 - 43 | 50.5 | 39 - 63 |
| Atlanta | 39.3 | 33 - 49 | 51.1 | 43 - 59 | Minneapolis | 36.7 | 29 - 48 | 50.8 | 35 - 62 |
| Baltimore | 40.9 | 35 - 49 | 49.8 | 39 - 65 | Mobile | 38.8 | 34 - 44 | 46.4 | 44 - 58 |
| Birmingham | 33.4 | 29 - 39 | 42.8 | 35 - 48 | Newark | 39.1 | 35 - 41 | 50.1 | 39 - 56 |
| Boston | 38.8 | 35 - 45 | 46.3 | 39 - 55 | New Haven | 40.1 | 35 - 50 | 48.4 | 45 - 55 |
| Bridgeport | 37.5 | 34 - 39 | 48.6 | 43 - 54 | New Orleans | 46.9 | 39 - 61 | 55.8 | 41 - 65 |
| Buffalo | 38.0 | 31 - 49 | 44.3 | 35 - 55 | New York | 39.0 | 35 - 49 | 47.6 | 39 - 69 |
| Butte | 49.2 | 47 - 55 | 55.3 | 49 - 59 | Norfolk | 37.9 | 33 - 49 | 46.5 | 43 - 59 |
| Cedar Rapids | 40.4 | 36 - 45 | 49.2 | 45 - 55 | Omaha | 39.1 | 33 - 49 | 46.8 | 39 - 59 |
| Charleston, S.C. | 38.9 | 33 - 45 | 47.4 | 33 - 55 | Peoria | 43.5 | 35 - 59 | 48.3 | 39 - 59 |
| Chicago | 40.8 | 29 - 70 | 49.8 | 39 - 71 | Philadelphia | 39.1 | 32 - 49 | 48.3 | 39 - 65 |
| Cincinnati | 38.3 | 32 - 54 | 47.7 | 39 - 65 | Pittsburgh | 38.7 | 31 - 49 | 44.1 | 37 - 53 |
| Cleveland | 42.5 | 33 - 79 | 49.1 | 39 - 79 | Portland, Me. | 37.7 | 35 - 39 | 51.7 | 45 - 55 |
| Columbus | 38.0 | 32 - 55 | 45.6 | 39 - 55 | Portland, Oreg. | 2/ | 2/ 2/ | 2/ | 2/ 2/ |
| Dallas | 41.6 | 33 - 57 | 49.1 | 43 - 59 | Providence | 41.5 | 35 - 55 | 47.6 | 39 - 59 |
| Denver | 41.9 | 35 - 60 | 49.8 | 42 - 63 | Richmond | 40.0 | 33 - 47 | 49.0 | 43 - 53 |
| Detroit | 39.5 | 29 - 49 | 49.4 | 39 - 59 | Rochester | 37.6 | 31 - 49 | 43.1 | 35 - 55 |
| Fall River | 36.0 | 35 - 40 | 46.0 | 39 - 57 | St. Louis | 41.0 | 35 - 53 | 48.1 | 39 - 56 |
| Houston | 40.4 | 25 - 59 | 55.7 | 45 - 67 | St. Paul | 35.1 | 29 - 49 | 51.2 | 43 - 69 |
| Indianapolis | 40.8 | 35 - 59 | 47.0 | 35 - 59 | Salt Lake City | 50.9 | 43 - 69 | 55.3 | 45 - 73 |
| Jackson | 45.7 | 39 - 55 | 57.0 | 56 - 59 | San Francisco 1/ | 50.5 | 41 - 60 | 56.9 | 41 - 69 |
| Jacksonville | 39.4 | 33 - 49 | 51.1 | 43 - 60 | Savannah | 39.0 | 33 - 49 | 46.7 | 43 - 49 |
| Kansas City | 38.4 | 35 - 49 | 44.8 | 39 - 59 | Scranton | 40.2 | 37 - 53 | 49.5 | 39 - 65 |
| Knoxville | 36.9 | 33 - 39 | 43.4 | 35 - 49 | Seattle | 52.2 | 49 - 58 | 59.0 | 57 - 61 |
| Little Rock | 2/ | 2/ 2/ | 2/ | 2/ 2/ | Springfield, Ill. | 42.1 | 28 - 55 | 46.9 | 39 - 59 |
| Los Angeles | 46.6 | 39 - 59 | 54.8 | 43 - 69 | Washington, D.C. | 40.2 | 33 - 59 | 47.1 | 41 - 59 |
| Louisville | 34.8 | 29 - 45 | 42.6 | 38 - 53 | Wichita | 42.8 | 33 - 59 | 55.4 | 45 - 75 |
| Manchester | 39.8 | 35 - 45 | 45.8 | 39 - 53 | Winston-Salem | 42.2 | 33 - 50 | 48.6 | 39 - 59 |
| Memphis | 47.6 | 44 - 55 | 50.9 | 45 - 59 | | | | | |

1/Based on incomplete sample of price quotations. Not directly comparable with prices for previous months.
2/Insufficient number of quotations to obtain reliable average price or price range.