

TRENDS AND DEVELOPMENTS

Additions to the Fleet of U. S. Fishing Vessels

A total of 24 vessels of 5 net tons and over received first documents as fishing craft during February 1955 (see table), according to the U. S. Bureau of Customs. This was 41 vessels less than during the same month of last year--a decrease of 63 percent.

In the Gulf section only 5 vessels were documented for the first time as fishing craft, compared to 32 during the same period a year ago. The New England States, Chesapeake States, and Gulf States each had 5 additions to their fishing fleets followed by the Pacific section with 4, Alaska with 3, and the South Atlantic section with 2.

During January-February 1955 only 42 vessels were documented as fishing craft, compared to 121 vessels for the corresponding period in 1953--a decrease of 65 percent.

U. S. Vessels Obtaining First Documents as Fishing Craft, February 1955 and Comparisons

Section	February		Jan. -Feb.		Total
	1955	1954	1955	1954	
	(Number)				
New England	5	1	5	1	23
Middle Atlantic	-	-	1	-	15
Chesapeake Bay	5	11	9	19	93
South Atlantic	2	12	6	17	119
Gulf	5	32	8	67	313
Pacific	4	7	6	11	117
Great Lakes	-	1	-	2	6
Alaska	3	1	7	4	27
Hawaii	-	-	-	-	1
Puerto Rico	-	-	-	-	2
Unknown	-	-	-	-	1
Total	24	65	42	121	717

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



California

YELLOWFIN AND SKIPJACK TUNA TAGGED BY "N. B. SCOFIELD" (Cruise 55-S-1): A total of 549 yellowfin tuna, 28 skipjack tuna, and 1 yellowtail was tagged

Fish Tagged by N. B. Scofield, January 5-March 1, 1955				
Area	Yellowfin Tuna	Skipjack Tuna	Yellowtail	Total
	(Number of Fish)			
Baja California	-	-	1	1
Mexico	237	-	-	237
Nicaragua	16	-	-	16
Costa Rica	97	7	-	104
Cocos Island	-	2	-	2
Panama	199	19	-	218
Total	549	28	1	578

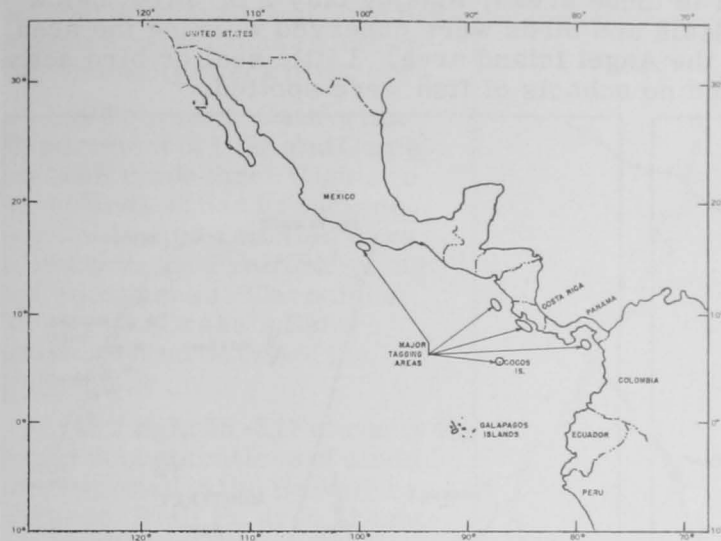
offshore from Mexico and Central America by the California Department of Fish and Game's research vessel N. B. Scofield. The 2-months' cruise, completed March 1, was also designed to further delineate the spawning range of yellowfin and skipjack;

collect small yellowfin and skipjack for age determinations and stomach analysis; collect postlarval tunas for aquarium observations; make limited oceanographic observations; and collect specimens of other species for further study.

Extensive night light collections were made and among the specimens identified were several postlarval yellowfin tuna. Further studies were to be made on these.

Several small yellowfin were preserved whole for age analysis and scale samples were saved from others. Stomach samples and morphometric measurements were taken from various sizes of yellowfin and skipjack.

Postlarval yellowfin were successfully kept alive in an aquarium for as long as two weeks. A rapid rate of growth caused them to outgrow the aquarium and death resulted.



M/V N. B. Scofield Cruise 55-S-1, January 5-March 1, 1955.

Surface temperature observations were made during the entire cruise and nine bathythermograph casts were made off Mexico.

Several hundred other specimens were saved alive or preserved frozen or in formaldehyde. These were to be identified and disposed of to various interested institutions and agencies.

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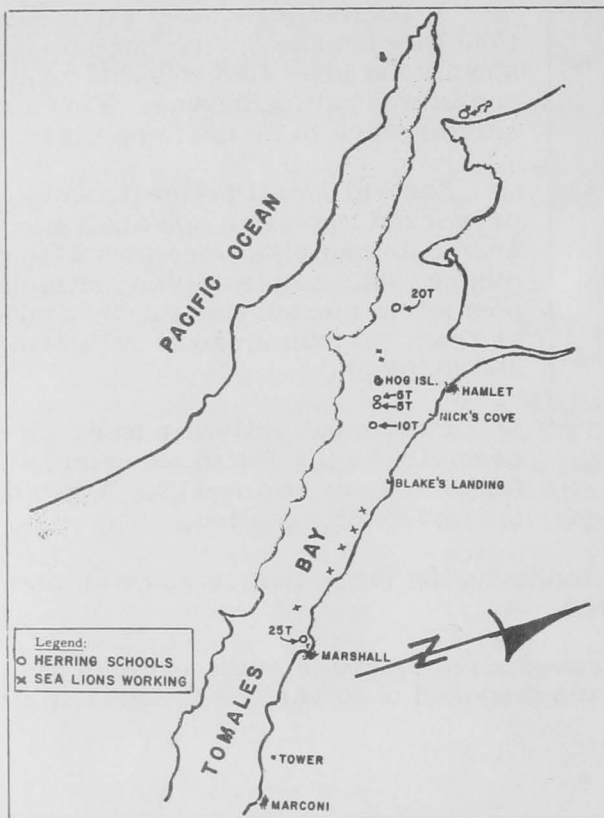
PACIFIC HERRING SPAWNING SCHOOLS OBSERVED FROM AIR (Airplane Spotting Flights 55-1 and 55-2): Five schools of Pacific herring (*Clupea pallasii*) were located in the Tomales Bay area by a California Department of Fish and Game plane on January 27 (Flight 55-1), and estimates were made of their volume. The one inshore school at the mouth of the Bay was not seen due to high water turbidity outside the breaker zone. Seals and shore birds were extensively working the localized area and gave evidence that a school was present.

The flight was made (1) to determine if the potential spawning schools of Pacific herring known to be present in Tomales Bay would be visible from the air; (2) to locate the visible schools and estimate the approximate size of the school; and (3) to make observation as to the feasibility of using aerial methods in spawning-population estimation and tracing the movements of the major schools of fish.

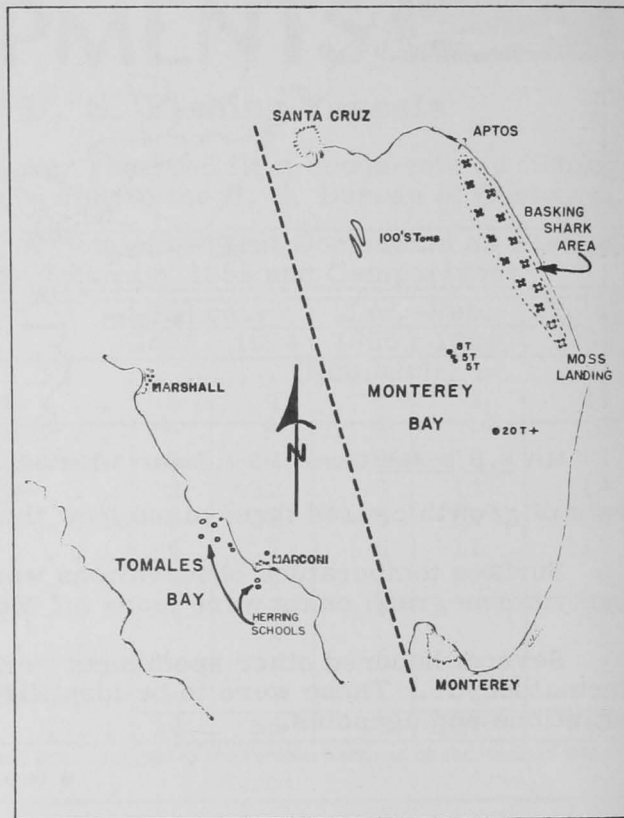
The Bay water was turbid and visibility in the water was restricted to a few feet below the surface. Due to their tendency to migrate to greater depths during the midday hours (negative phototrophism), the number of herring present was probably far in excess of the number seen. The persistent morning fog restricted operations to the midday hours but early morning and late evening flights are planned for the future for further tests on this method of fishery survey.

Flight 55-2 was made in two parts on February 4 to observe and estimate the extent of herring spawning schools in the Tomales and San Francisco Bay areas. Also to observe the extent of inshore fish life in the area from Bodega Bay to Monterey.

On the first section of the flight (0800-1130 P.S.T.), no schools were seen in the areas of N. San Francisco Bay, San Pablo Bay, and Carquinez Straits. Extreme turbid water conditions exist in these areas, making only 2 or 3 feet below the surface visible from the air. Seals and birds were observed working the area between Line Pt. and Belvedere in the Angel Island area. Little seal or bird activity was observed in Tomales Bay and no schools of fish were spotted.



Airplane Spotting Flight 55-1, Beechcraft 4758 N, January 27, 1955.



Airplane Spotting Flight 55-2, Beechcraft 4758 N, February 4, 1955.

On the inshore flight from Bodega Head to Halfmoon Bay no schools, or evidences of birds or seals working any localized areas, were found.

An inshore flight covering Monterey Bay was made in the second section of the flight (1330-1630 P.S.T.), and resulted in the spotting of 6 schools of anchovies and 74 basking sharks.

Four schools of anchovies were observed off Moss Landing and two just south of Santa Cruz. All schools off Moss Landing were accompanied by bird activity. The two schools south of Santa Cruz were over 100 tons each and were well below the surface. All 74 basking sharks were counted between Aptos and Moss Landing, within $1\frac{1}{2}$ miles of shore.

Eight schools of herring were seen in Tomales Bay and all schools observed evidenced rapid movement as none of the schools would stay in the visible range for any period of time.

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PACIFIC HERRING SPAWNING INTENSITY CHECKED WITH AID OF AERIAL OBSERVATIONS (Aircraft Spotting Flights 55-3, 55-4, and 55-5): After spawning along rocky shore lines, the eggs of the Pacific herring (*Clupea pallasii*) are exposed at the low-tide level and suffer heavy predation by shore birds. This results

in concentrations of birds in the areas where spawning has taken place and enables aerial observers to locate the spawning areas and estimate their shoreline extent. This information is relayed to ground personnel who then make a spawning-intensity check of the area.

In February, California Department of Fish and Game aircraft made three flights to shorelines of San Francisco, San Pablo, and Tomales Bays to observe the Pacific herring spawning areas. Carquinez Straits and Drake's Estero were covered on two of the flights only.

On Flight 55-3 (February 4), heavy concentrations of birds were spotted in the Belvedere, Tiburon, Bluff Pt. area. Lighter concentrations were off Sausalito, Richmond-San Pablo areas. In Tomales Bay light concentrations of birds and three schools, possibly of herring, were spotted. No activity in any other observed areas.

Heavy bird concentrations were noted on Flight 55-4 on February 17 off Tiburon and Bluff Pt. Light off Sausalito and Richmond, San Pablo area. Heavy concentrations off Hog Island in Tomales Bay. (See map.)

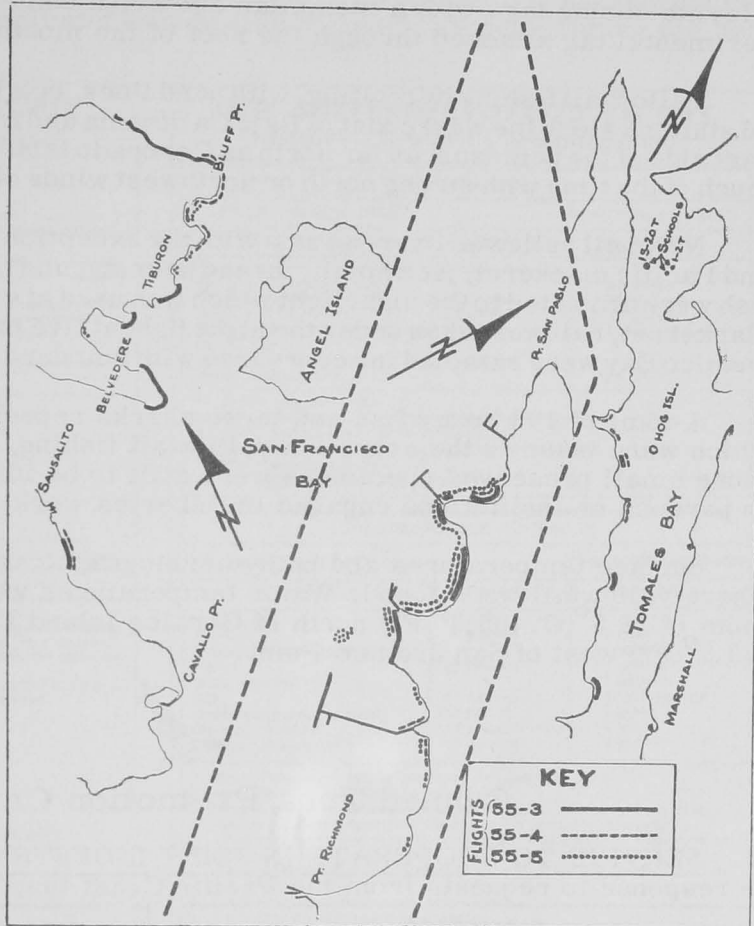
Flight 55-5 on February 22 showed heavy concentrations east of Tiburon and off Richmond, San Pablo area; light concentration in other areas. No shoreline bird activity was observed in Tomales Bay or Drake's Estero.

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YELLOWTAIL FREEZING SHRINKAGE TESTS BY "YELLOWFIN" (Cruise 55-Y-1): An experiment to determine the shrinkage of yellowtail due to freezing was one of the objectives of a 34-day cruise completed at Los Angeles on February 13 by the California Department of Fish and Game's research vessel Yellowfin. In addition, 367 yellowtail were tagged; specimens were collected from the Gulf of California for comparison with yellowtail from Southern California and the west coast of Baja California; and an unsuccessful attempt was made to collect yellowtail juveniles.

Shrinkage resulting from freezing can only be determined by first measuring fish on board ship where freshly-caught specimens are available. Seventy-four yellowtail were used in an experiment to determine this loss. Fresh fish were measured, frozen for periods of from one to ten weeks, thawed, and remeasured. At least one fish from each 100-mm.-size group was frozen and thawed twice. Significant shrinkage appears evident although the experiment is not yet completed. This information is necessary to complete the yellowtail growth studies.

A total of 76 yellowtail specimens was saved frozen. Of these, 31 from the Gulf of California represent the first specimens obtainable for racial studies.



Aircraft Spotting Flights 55-3, 55-4, and 55-5, February 4, 17, and 22, 1955.

Tagging resulted in 367 fish marked: 18 in the Gulf of California and 349 on the Pacific side of Baja California. No yellowtail were found north of latitude 26° 21.6' N. Vinylite-tubing tags with a monofilament-nylon center were used on all fish. An experimental tag attached through the roof of the mouth was tried on four fish.

Yellowtail fishing by trolling, with hand lines, or with rod and reel was attempted at 26 stations along the west coast of Baja California and in the Gulf of California along the east side of the peninsula as far north as Coronado Island. The weather was unfavorable much of the time with strong north or northwest winds of gale force.

No small yellowtail were seen. With the exception of bait species (anchovies, jack and Pacific mackerel, jack smelt, thread herring, and flatirons (Harengula), very few fish were attracted to the night light which was used at every opportunity. Using the blanket net, bait was taken under the night light at five localities. Sardines taken at San Juanico Bay were sampled in accordance with standard survey cruise procedure.

A total of 108 boney fish and three sharks representing 35 different species, which were taken in the course of yellowtail fishing, were saved frozen. A few more small preserved specimens were still to be identified. The fish will be given to persons or institutions engaged in fisheries work.

Surface temperatures and bathythermograph casts were taken at each station where yellowtail were found. Water temperatures were generally cold with a maximum of 18.5° C. (65.3° F.) north of Geralbo Island and a minimum of 15.3° C. (59.5° F.) west of San Juanico Point.



Canned Tuna Promotion Campaign

SERVICE TO COOPERATE IN JOINT INDUSTRY-GOVERNMENT CAMPAIGN:
In response to requests from the Pacific Coast tuna canning industry, Secretary of

SPECIAL FISHERIES BULLETIN

MARKETING

Department of the Interior Fish and Wildlife Service

TUNA

SUPPLIES

PLENTIFUL & ECONOMICAL

U.S. Government Suggests USE TUNA NOW

The United States Department of the Interior, the Department of Agriculture, and the Tuna Industry, are encouraging the greater use of tuna. Tuna will be included by the Department of Agriculture in its plentiful foods coverage during May and June.

TWO GOVERNMENT-TESTED RECIPES
ESPECIALLY FOR SCHOOL LUNCH USE

MOLDED TUNA SALAD

100 Portions	Ingredients	Portions	Cost
17 7-ounce cans	Tuna		
5 ounces (1 cup)	Gelatin		
1½ gallons	Tomato Juice * †		
½ cup	Vinegar		
8 ounces (1 cup)	Grated Onion		
8 ounces (1 cup)	Sugar		
3 tablespoons	Salt		
2½ pounds (2 quarts)	Shredded Carrots		
3 pounds (1 gallon)	Shredded Cabbage		
5 ounces (1 cup)	Chopped Green Pepper		
1 quart	Mayonnaise or Salad Dressing		
Portion: 1 piece 3 x 3 x ¼ inches. Provides 1 ounce protein-rich food, ½ cup vegetable.			Total cost Cost per portion

1. Drain and flake tuna.
2. Soften gelatin in 1 quart of cold tomato juice. Add seasonings to remaining juice and heat to boiling.
3. Dissolve gelatin in hot juice; cool.
4. Combine vegetables, mayonnaise, and tuna. Stir into gelatin.
5. Pour into 4 pans (12 x 18½ x 2 inches). Chill until firm.
6. Cut into pieces (3 x 3 inches) and serve on salad greens.

*Strained canned tomatoes may be used to make the tomato juice.

TUNA À LA KING

100 Portions	Ingredients	Portions	Cost
26 7-ounce cans	Tuna		
2 pounds (2 quarts)	Chopped Celery		
1 gallon	Water		
¼ pound (2 cups)	Sifted Flour		
½ cup	Salt		
1½ pounds (1½ quarts)	Dry Milk* †		
1½ gallons	Water and Celery Liquid *		
2 dozen	Hard-Cooked Eggs, Chopped		
2 pounds (1 quart)	Chopped Pimiento		
Portion: ½ cup. Provides 3 ounces protein-rich food.			Total cost Cost per portion

1. Drain and flake tuna.
2. Cook celery in boiling water until tender. Drain and save liquid.
3. Combine flour, salt, and dry milk. Sprinkle over warm water and beat until smooth.
4. Place over hot water and cook until thick and smooth, stirring occasionally.
5. Mix in celery, egg, pimiento, and tuna. Heat thoroughly.
6. Serve on split biscuit, toasted bun, or corn bread, using a 4-ounce ladle, (½ cup) to measure portions.

* 1½ gallons of fluid milk may be used in place of the dry milk and water.

Note: Additional tuna recipes may be obtained by consulting Fish Recipes for School Lunches, published by the Fish and Wildlife Service, United States Department of the Interior, Washington 25, D. C.

TUNA BULLETIN NO. 2

the Interior McKay announced April 11 that the Fish and Wildlife Service would cooperate in a joint industry-Government promotion campaign designed to move into trade channels the liberal supplies of canned tuna now on hand. The nationwide campaign got under way early in April and was geared to reach its peak during the period of June 2-11.

TWO GOVERNMENT-TESTED RECIPES ESPECIALLY FOR SCHOOL LUNCH USE

TUNA WIGGLE

100 Portions	Ingredients	Portions	Cost
34 7-ounce cans	Tuna		
12 ounces (1 pint)	Chopped Onion		
1 pint	Water		
1 1/2 pounds (1 1/4 quarts)	Sifted Flour		
1/2 cup	Salt		
2 1/2 pounds (2 1/2 quarts)	Dry Milk * 1		
2 1/2 gallons	Water *		
1 1/2 gallons	Cooked Peas, Drained 1		
Portion: 1/2 cup. Provides 2 ounces protein-rich food, 1/4 cup vegetable.		Total cost	Cost per portion

1. Drain and flake tuna.
2. Cook onion in boiling water until tender. Drain.
3. Combine flour, salt, and dry milk. Sprinkle over warm water and beat until smooth.
4. Place over hot water and cook until thick and smooth, stirring occasionally.
5. Mix in vegetables and tuna. Heat thoroughly.
6. Serve on split biscuit, toasted bun, or corn bread.

* 2 1/2 gallons of fluid milk may be used in place of the dry milk and water.

TUNA PIE

100 Portions	Ingredients	Portions	Cost
34 7-ounce cans	Tuna		
2 pounds (2 quarts)	Sifted Flour		
1/2 cup	Salt		
1 1/2 pounds (1 cup)	Tuna Oil or Melted Fat		
2 1/2 gallons	Water		
3 quarts	Cooked Sliced Onion		
3 quarts	Cooked Chopped Celery		
3 quarts	Cooked Sliced Carrots		
2 1/2 gallons	Cooked Diced Potatoes		
2 quarts	Pastry Mix		
Portion: 1 cup. Provides 2 ounces protein-rich food, 1/4 cup vegetable.		Total cost	Cost per portion

Note: Additional tuna recipes may be obtained by consulting Fish Recipes for School Lunches, published by the Fish and Wildlife Service, United States Department of the Interior, Washington 25, D. C.

TUNA BULLETIN NO. 3

TWO GOVERNMENT-TESTED RECIPES SUGGESTED FOR RESTAURANT & INSTITUTIONAL USE

TUNA SALAD

YIELD: 100 PORTIONS PORTION: 5 OUNCES

INGREDIENTS	WEIGHTS	MEASURES
Tuna	42 cans (7 oz. each)	
Eggs, hard-cooked, diced	8 pounds	2 1/2 dozen
Celery, chopped	2 1/2 pounds	1 1/2 gallons
Sweet pickles, diced	3 pounds	1 1/2 quarts
Mayonnaise or salad dressing		1 1/2 quarts
Salt to taste		
Lettuce	4 pounds	1 dozen
Eggs, hard-cooked, sliced		

1. Drain tuna and flake.
2. Combine tuna, egg, celery, pickles and mayonnaise. Chill.
3. Clean and separate lettuce leaves.
4. Use a No. 6 scoop (2/3 cup) to measure portions.
5. Place salad on lettuce leaf.
6. Garnish salads with egg slices.

TUNA AND NOODLE CASSEROLE

YIELD: 100 PORTIONS PORTION: 9 1/2 OUNCES

INGREDIENTS	WEIGHTS	MEASURES
Tuna	42 cans (7 oz. each)	
Noodles	6 pounds	9 quarts
Tuna oil & melted shortening		1 1/2 quarts
Flour	1 1/2 pounds	1 1/2 quarts
Milk, scalded		3 gallons
Salt	1 1/2 ounces	3 tablespoons
Green peppers, chopped	2/3 pound	1 pint
Onions, chopped	2/3 pound	1 pint
Cheese, grated	2 pounds	2 quarts

1. Drain tuna, save oil for white sauce, and flake.
2. Cook noodles according to directions.
3. Heat fat, stir in flour and mix until smooth. Remove from heat. Add this fat-flour mixture slowly to the hot milk, stirring constantly with a wire whip until mixture is smooth. Cook 5 to 10 minutes or until thickened.
4. Cook pepper and onion in salted water until tender, drain. Add to white sauce.
5. Combine tuna, noodles and white sauce.
6. Pour into well-greased baking pans.
7. Sprinkle with cheese.
8. Bake in a moderate oven, 375° F., for 40 to 45 minutes.

TUNA BULLETIN NO. 4

Although record stocks of canned tuna were available, leaders of the industry were confident that this high inventory can be substantially reduced during the campaign, since canned tuna fits so well into warm-weather menus. With a stock of this versatile canned food on her pantry shelf, the housewife can provide her family with a variety of quick and easy-to-prepare summer meals. With the low prices now prevailing, canned tuna presents an especially good bargain for summer use.

In order to move the canned tuna stocks as rapidly as possible, the campaign will be directed toward both the institutional and home-consumer markets. The industry is planning the preparation of point-of-sale and other merchandising aids for use in encouraging increased consumption of canned tuna.

The Fish and Wildlife Service will aid the industry's promotional efforts through special work with schools, institutions, and food-trade groups. In addition, informational and educational activities will be increased so as to attract greater consumer attention. The Service will also work closely with the U. S. Department of Agriculture in this campaign.

Canned tuna is available in a number of styles of pack. The solid pack consists of tuna loins packed in oil; the chunk pack, as the name implies, is a pack of chunks in oil; the grated pack is the grated or shredded portion of the tuna loin; the flake pack is the broken or mixed segments of the loin. Many specialty packs are

also available, such as "tonno" consisting of solid-meat tuna packed in olive oil; tuna paste, which is excellent for hors d'oeuvres and canapes; and baby-food packs. For the past several years a "dietetic" pack has been put up for those persons who must avoid salt in their diets. Practically all of these styles of pack are available in white meat, light meat, or dark meat. The imported stocks, which come primarily from Japan, are generally packed in brine rather than in oil.



Cans--Shipments for Fishery Products, January 1955



Total shipments of metal cans for fish and sea food during January 1955 amounted to 4,743 short tons of steel (based on the amount of steel consumed in the manufacture of cans), compared to 4,131 short tons in the same month a year earlier. This represents stocking for future fish canning operations since canning activity in January 1955 was at a low level.

Note: Statistics cover all commercial and captive plants known to be producing metal cans. Reported in base boxes of steel consumed in the manufacture of cans, the data for fishery products are converted to tons of steel by using the factor: 23.0 base boxes of steel equal one short ton of steel.

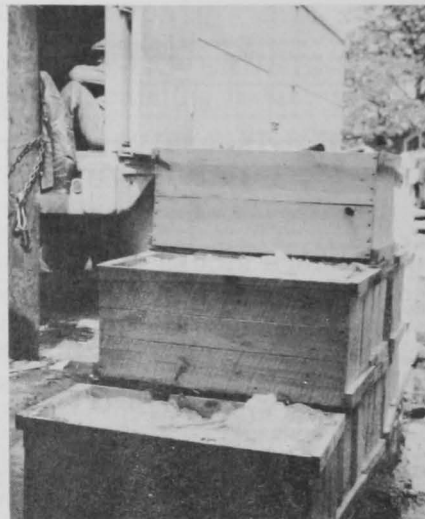


Chesapeake Bay

FISHERIES TRENDS, 1954: Finfish: The most important development in the Chesapeake Bay fisheries in 1954 was the exceptionally good season enjoyed by the menhaden industry. The catch of 294 million pounds of menhaden was an all-time record for the number of boats involved. There were less than 20, several of which worked only part time. Much credit for this success was given to the scouting planes. If doubts existed as to their efficiency, they were dispelled in 1954. Their future as an indispensable adjunct to the boats for scouting purposes seemed assured.

Next in abundance were alewives, which arrived in such quantities at the canners' docks that some had to be refused for lack of handling space. These were processed by the menhaden plants. When all catch records are tabulated it is expected that 1954 will be an exceptional year for ale-

wives also. The alewife industry, however, was not cheered by this abundance as markets have been steadily shrinking. Aside from unpredictable and temporary alleviations like the last war or the recent pilchard shortage on the West Coast, the packers have found the going difficult and profits small. During 1954 five additional plants closed down.



Iced boxed sea bass, scup, and fluke ready for loading on a truck at Hampton, Va. Fish is destined for New York Fulton Fish Market.

Other commercial finfish like shad, striped bass or rockfish, croaker, sea trout, spot, flounder, and butterfish followed their usual pattern of abundance in one

area and scarcity in another. For example, the Potomac, normally a good shad river, suffered one of its poorest seasons; the York, not noted for overwhelming catches, one of its best.

Croaker appeared in random catches, but sold at low prices. Ten years ago the demand was such that croaker was the money fish of the Chesapeake. With persistent scarcity during ensuing years it has become virtually the forgotten fish.

Striped bass or rockfish catches although not overabundant managed to keep that species a fairly dependable standby in the Chesapeake Bay during 1954. Prices were among the highest for any fish, especially during the cold weather. Striped bass support one of the few winter fisheries of the Chesapeake.

Spot and sea trout were last on the list of fish--aside from those brought in from the ocean by trawlers--to be present in quantity. But they were as usual subject to sporadic runs and did not support organized fishery.

Scup or porgy was the leading ocean fish landed at Chesapeake Bay ports in 1954. Next in abundance was sea bass, but in only one-third the volume. Other species, generally, were landed in the same volume as the previous year. Mackerel gill-netting shrank to a mere token of its size of a few years ago.

Clam Fishery: One outstanding ocean fishery, surf-clam dredging, continued unabated, even increasing its yield to the limit the market would allow. The beds, which lie off Ocean City, Md., showed no sign of exhaustion.

Fresh-Water Fish: In the fresh-water areas of Chesapeake Bay in 1954 some lessening of the carp supply was noted but no distress resulted. There is a demand for only a limited quantity of carp shipped alive during certain periods like the Jewish holidays. Catfish remained in adequate supply for its specialized markets, as was the case with eels. Snapping turtles increased in value as the fishing pressure on the slow-growing animal produced its inevitable results. Demand was spurred for a short while by the introduction of a nationally-distributed frozen canned snapper soup.

Crabs: Crabs were plentiful enough to enable crab-meat pickers to surpass their production of the previous year, which was a good crab year. Soft crabs, though glutting the market briefly, settled down to a rather sparse yield for the balance of the season.

Oysters: Oyster production in the fall of 1954 was good after rather limited activity in the spring. Although the October hurricane damaged oyster beds, boats, and plants, there was swift recovery. In addition, in most of the producing areas the industry was favored by the prime condition of the oyster meats which enabled packers to get greater yield. Prices toward the year's end reached all-time highs, possibly aided by the entry into the Chesapeake market of the frozen-oyster-stew manufacturers.

The great James River seed bed continued to produce pretty much as before, with nearly 2 million bushels caught by the nearly 1,000 tongers working there. Cut off from this market by an official Virginia ruling, Maryland interests endeavored to spur development of seed areas in their own state. Some of them formed corporations in Virginia in order to take up leaseholds for oyster growing there.

Processed Fish: No new fish processing or producing enterprises were set up in the Chesapeake Bay area during 1954, although several established firms embarked on new lines, among which fish sticks predominated. Other specialties, either newly introduced or continued from a previous year, were breaded oysters, crab meat in various forms, frozen-canned packs of raw oysters, cooked shrimp,

oyster stew, and clam soup. Scrap fish canned as animal food showed an increase, but a factory newly equipped to produce this item in the Hampton Roads area hesitated to start operations because of threatened price cutting in the industry as a whole.

Summary: If the Chesapeake Bay fisheries lacked dynamic qualities in 1954 it also failed to show evidence of serious recession. The losses and close-downs in some segments were pretty well balanced by advances in others. No strong progressive tendencies appeared, though a few minor ones offered reassurance.

--James Wharton, Fishery Marketing Specialist,
Branch of Commercial Fisheries,
U. S. Fish and Wildlife Service, Weems, Va.



Federal Purchases of Fishery Products

FRESH AND FROZEN FISHERY PRODUCTS PURCHASED BY DEPARTMENT OF DEFENSE, FEBRUARY 1955: Fresh and frozen fishery products purchases for the military feeding of the U. S. Army, Navy, Marine Corps, and Air Force by the Army Quartermaster Corps in February 1955 amounted to 1.8 million pounds, valued at \$0.8 million (see table). This was a decrease of 15.4 percent in quantity and

QUANTITY				VALUE			
February		Jan. -Feb.		February		Jan. -Feb.	
1955	1954	1955	1954	1955	1954	1955	1954
. . (Millions of Pounds) (Millions of Dollars) . .			
1.8	2.4	3.8	3.8	0.8	1.0	1.6	1.6

12.5 percent in value as compared with January purchases, and lower by 27.4 and 25.5 percent, respectively, than February 1954 purchases.

Army Quartermaster Corps purchases of fresh and frozen fish and shellfish during the first 2

months in 1955 totaled 3.8 million pounds (valued at \$1.6 million) as compared with purchases of 3.8 million pounds (valued at \$1.6 million) for the similar period a year earlier.

Prices paid for fresh and frozen fishery products by the Department of the Army in February 1955 averaged 42.8 cents per pound as compared with 41.4 cents in January and 41.8 cents in February 1954.

In addition to the purchases of fresh and frozen fishery products indicated above, the Armed Forces generally make local purchases which are not included in the above figures. Therefore, actual purchases are somewhat higher than indicated, but it is not possible to obtain data on the local purchases made by military establishments throughout the country.



Fish-Stick Plant Opened in Mobile by U. S. Distributor of Norwegian Fish

A Jersey City, N. J., distributor of Norwegian frozen fillets recently opened a fish-stick plant at Mobile, Ala., according to a March 17 bulletin from the Norwegian Information Service. Initially producing some 100,000 fish sticks a day, the plant can readily be expanded to meet the demand. The Jersey City corporation, which maintains permanent stocks in 20 United States cities, is U. S. sales representative for 35 fish-filleting plants in Norway.

Founded in 1946, the Norwegian parent company is a cooperative sales and marketing organization, comprising most of the filleting plants launched in Norway since World War II. In 1954 about 18,600 metric tons of frozen fillets, with an export value of some Kr. 51 million (US\$7.1 million), was sold to 16 countries, with the bulk going to the United States. Other major buyers included Austria, Switzerland, Israel, and the Netherlands. Meanwhile, new markets are being developed in Australia and Africa.

The Norwegian fillet production consists mainly of cod, wolffish (ocean catfish), ocean perch, halibut, and some pollock. Cod fillets make up the major share of the total frozen fillet output, with haddock and ocean catfish ranking about equal as next in importance in quantity produced. The composition of the Norwegian exports to the United States, however, is somewhat different. In 1952 exports consisted of about 75 percent haddock and ocean catfish fillets, 20 percent cod fillets, and 5 percent ocean perch fillets. Most of the cod fillets were sold in European markets.

Approximately 99 percent of Norway's frozen fillet exports are handled by this sales and marketing organization which consists of primary producers operating on a share basis according to the production capacity. The association pays plants an agreed price for fillets produced, and furnishes wrappings, cartons, and labels, all imprinted with one trade name. The price may be adjusted in accordance with changes in the cost of raw materials.



Gear Research and Development

UNDERWATER LISTENING TESTS FOR SHRIMP CONTINUED BY "POMPANO" (Cruise 7): Further tests with underwater sound gear to determine the practicability of detection or location of commercial species of shrimp by means of passive listening devices were carried out by the Service's gear research vessel Pompano. The vessel made these tests on the Key West shrimp grounds from January 12 to March 18, after which the vessel returned to Miami. Earlier experiments with shrimp in tanks had established that these shrimp do make discernible sounds apparently associated with feeding activities.


Thirty-six tape recordings were made at 11 different stations on the shrimp grounds adjacent to Key West and also in known bad bottom areas northeast of Key West where normal dragging operations are not possible. A 20-foot try net was systematically employed to verify the presence of shrimp in conjunction with the recording work. An analysis and report of these recordings is nearing completion in cooperation with the University of Miami Marine Laboratory.

Attempts to observe shrimp in their natural habitat were hampered by hydroscopic conditions unfavorable to work with underwater lamps at night. It is felt that the presence of the underwater lamps may have had some effect on the activities of the shrimp. Some observations of captive specimens of Pandalus duorarum have shown the shrimp buried in the sand with only the eyes protruding in daylight hours. They would emerge to feed in late afternoon and were seen to again bury themselves. While most shrimp in the tank were observed to be swimming during the hours of darkness, not all shrimp emerged from the sand. No regular pattern could be ascertained for the behavior of the captive shrimp during the period of observations.

During the period March 12-16, with the assistance of the chartered shrimp trawler Miss Ethel W, the underwater television unit was used to observe shrimp trawls in operation. Despite less than optimum water conditions for underwater television operation, reasonably good views from several angles of observation were obtained of a 70-foot semi-balloon trawl and a 40-foot flat trawl. Some photographic record was made of these observations.

From time to time, as opportunity permitted during the work in the Key West area, experiments were conducted with four different types of shrimp traps. Only skeletal evidence was obtained of shrimp having entered some of the traps.

Note: Also see Commercial Fisheries Review, June 1954, p. 14.



Hawaii

COMMERCIAL FISH AND SHELLFISH CATCH, 1954: The commercial fish landings for ocean fisheries in the Territory of Hawaii in 1954 totaled 20.5 million pounds, valued at \$3.7 million ex-vessel (see table), according to a report from the Hawaiian Division of Fish and Game. This was an increase of 9.2 percent in quantity as compared with the previous year. This increase was largely due to the exceptionally large skipjack tuna (aku) catch by boats operating from the islands of Hawaii and Maui. However, there was a slight decrease in value of \$105,000 or 2.8 percent. This was due mostly to the price of skipjack tuna which sold for an average of 12.6 cents per pound in 1954, compared to 13.2 cents per pound in 1953.

Hawaiian Commercial Fish Catch and Value by Species, 1954 and 1953					
Species		1954		1953	
		Quantity 1,000 Lbs.	Ex-vessel Value 1,000 \$	Quantity 1,000 Lbs.	Ex-vessel Value 1,000 \$
<u>English</u>	<u>Hawaiian</u>				
Ocean Catch:					
Amberjack	kahala	68	13	95	18
Big-eyed scad	akule	324	205	314	202
Dolphin	mahamahi	236	77	163	67
Goatfish	weke-ula weke moana kumu	169	100	164	110
Jack crevalle	ulua	215	63	297	94
Mackerel	opelu	274	88	249	93
Sea bass	hapuupuu	40	12	74	21
Snapper:					
Gray	uku	66	24	74	30
Pink	opakapaka	175	71	215	87
Swordfishes	kalekale a'u	1,052	183	953	220
Tuna and tunalike fishes:					
Albacore	ahipalaha	29	5	49	8
Big-eyed	ahi	2,759	672	2,826	761
Yellowfin		526	137	622	157
Skipjack	aku	14,021	1,761	12,059	1,594
Bonito	kawakawa	23	4	25	5
Miscellaneous	-	548	238	620	291
Total Ocean Catch	-	20,523	3,653	18,799	3,758
Pond Catch:					
Clam	olepe	13	3	10	2
Crabs	-	4	2	4	2
Milkfish	awa	16	7	10	4
Mullet	amaama	41	37	30	26
Tenpounder	awaawa	2	1	3	1
Miscellaneous	-	9	5	7	5
Total Pond Catch	-	87	55	64	40
Grand Total	-	20,609	3,708	18,863	3,798

In the flag-line fishery, landings of large tuna (ahi), swordfishes (a'u), and other pelagic fishes such as wahoo (ono) and dolphin (mahimahi) totaled 4.6 million pounds, valued at \$1.1 million. This is a decrease of 1.0 (percent) in volume and 12.1 percent in value as compared with 1953. The disproportionate decrease in value is largely due to the price of tuna (albacore, big-eyed, and yellowfin) which sold for an average price of 24.6 cents per pound, compared to 26.5 cents per pound in 1953.



Gulf of Mexico

ADDITIONAL CONTINENTAL SHELF AREAS NOMINATED FOR OIL AND GAS LEASE SALE: Eleven operators have nominated 595,000 acres of certain submerged lands in the outer-continental shelf off the coast of Louisiana and Texas as potential oil and gas areas they would like to see put up for future bonus bidding, it was announced on March 30 by Secretary of the Interior Douglas McKay.

The nominations, submitted to the Bureau of Land Management in response to a February 8 call, were being studied to determine if another public-lease sale is advisable in the near future, the Secretary stated.

The previous sales, on October 13, 1954, for lands off Louisiana and on November 9, 1954, for Texas, brought bonus bids and first-year rentals totaling \$142.4 million for 114 oil, gas, and sulphur leases embracing 462,000 acres of outer-continental shelf land.

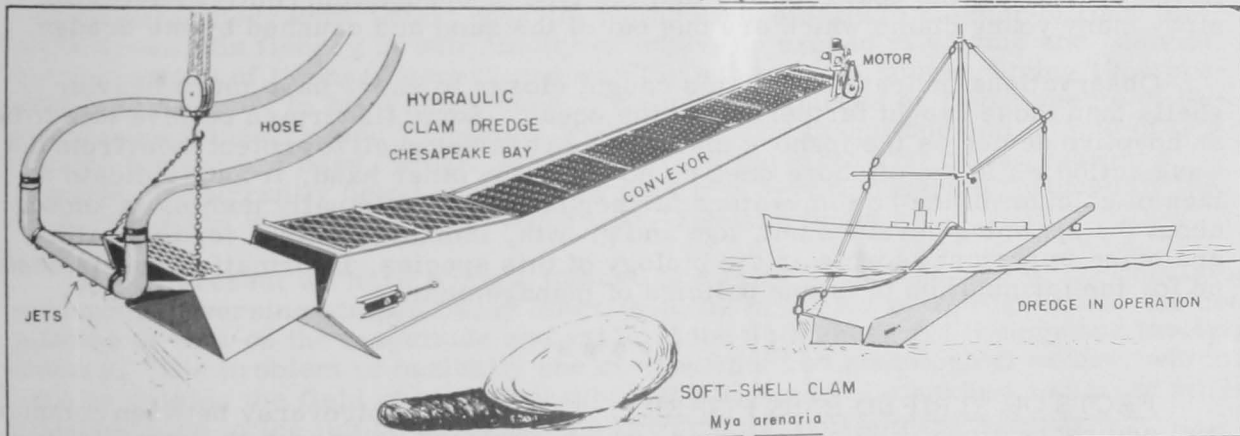
Some 20 million acres in all have been mapped by the Bureau of Land Management's cadastral engineers for potential leasing in the outer-continental shelf area.

Bonus bids are the means provided in the law by which the right to lease is determined in areas where there is competition.



Maryland

SURF-CLAM INDUSTRY AT OCEAN CITY EXPANDS: The Maryland surf-clam fishery, only about five years old, is a new and thriving offshore industry in the Ocean City area, states the March 1955 Maryland Tidewater News of the Maryland Department of Research and Education. The surf clam, *Spisula (Mactra) solidissima*, is



larger than the hard-shell clam, *Mercenaria (Venus) mercenaria*, and has a much thinner shell. The meat, which is white and firm but not too tough to make good chowder, has many and varied uses. Much of the canned clam chowder as well as other canned clam products such as deviled clam and clam juice are now made from this species. The clam is also used extensively as fish bait after being salted or pickled in brine. Cod and certain sport fish are said to feed heavily on them.

The surf clam is distributed in the Atlantic Ocean along the coast from Rhode Island to Virginia in commercial quantities, and in recent years has been exploited extensively. In the northern part of its range there are indications that it is already being depleted and a shift in the fishing from New England to New Jersey and to recently-discovered beds in Maryland, has taken place. These clams are found in sandy beds from 3-70 miles off the coast and in water depths of 20-100 feet or more.

Clams are harvested by dredges of a special type, which are equipped with 2 to 6 jets connected by a fire hose to a powerful water pump on the boat. Water is pumped through these jets as the dredge is being dragged along the bottom. The water

loosens the clams from the sand and the dredge scoops them from the bottom. The widths of the various dredges range from 30 to 60 inches across, and the dredges weigh up to a ton and a half.

The larger dredges may catch as many as 20 bushels of clams at a single drag. Eight dredge boats were operating out of Ocean City in 1952 and many more were

Year	Quantity 1/	Value	Avg. Price
	1, 000 Lbs.	1, 000 \$	¢ Per Lb.
1954	1, 346	168	12
1953	1, 586	185	12
1952	2/ 624	78	12

1/ Based on 12 pounds of meat per bag.
2/ Records lacking from two boats.

working from New Jersey ports. In May 1954 records from 11 boats were received by the Chesapeake Biological Laboratory. The vessels, most of which were formerly in the otter trawl fishery off Ocean City, were converted to clam dredges, and for the past five years have been landing in Ocean City. The best records available for 1951 indicate that the total number landed was 80,000 bushels. Later statistics which

are reported now in bags instead of bushels are shown in table 1.

The skippers of some of the dredge boats already feel that the beds off the Maryland coast are becoming depleted. They base this belief on the fact that it takes them longer to catch a load, and that they are now working beds farther offshore than they did in 1953. Apparently the clams cannot stand heavy exploitation and are declining appreciably in numbers.

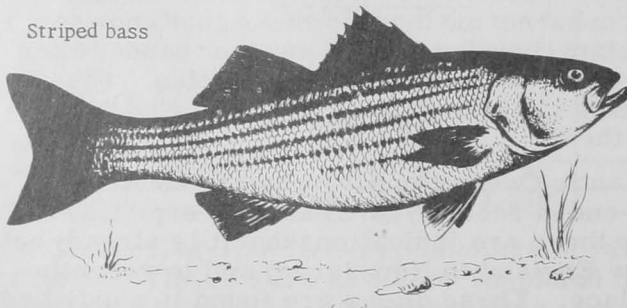
The boats are not equipped to work in water deeper than about 100 feet, so there may be beds of clams farther offshore which are as yet unexploited. Also, they may range and occur in commercial quantities farther south than is now known. It is believed by some of the boat captains that the type of dredges currently employed destroy many young clams which are dug out of the sand and crushed by the dredge.

Observations indicate that clams caught closer to shore have much heavier shells than those caught farther out in the ocean. Some fishermen believe this to be an adaptive device as the inshore clams need a heavier shell to protect them from the wave action while the offshore ones do not. On the other hand, it may indicate a lack of calcium in the bottom waters farther offshore. Virtually nothing is known about the spawning development, age and growth, mortality rates, feeding habits, and other important aspects in the biology of this species, information that is needed for the formulation of future policies of management.

* * * * *

FACTS ON STRIPED BASS FISHERY: The heated controversy between commercial and recreational fishing interests, which occurred prior to and during the current session of the Maryland General Assembly, points out the need for additional basic knowledge of the State's fisheries.

Striped bass



The need is great not only for more biological information but for knowledge of the economic and sociological aspects of its fisheries, reports the March 1955 Maryland Tidewater News, a Maryland Department of Research and Education publication.

1. There is no biological or statistical evidence of depletion of striped bass or "rockfish." The striped bass population apparently is in a normal period of recession between dominant year classes--which may originate from small parent stocks. The trend is steadily upward since earliest records.

2. The amount of gear has decreased since 1951 and all gears are below the 1944-1952 average except for anchor nets.

3. The catch during January-February 1953 of drift gill nets was 5 percent of total 1953 catch; all gears operating during January and February caught 10.7 percent of the total. The fish command a high price and are in peak market demand.

4. No change in catch per yard of netting since 1947 (nylon is cleaner, more rot-resistant, lighter--but no stronger in water--actually loses some of breaking strength).

5. Striped bass move into deep water to a stable winter habitat which is relatively unaffected by the sudden temperature changes characteristic of shallow water in winter. Striped bass feed actively during the winter; stomachs examined contained croaker, menhaden, spot, shrimp, and crabs.

6. No systematic collection of records of the sport fisherman's catch of striped bass is currently being made, but fragmentary data indicate it to be quite considerable, and in some cases it has been reported equal to or in excess of the catch of commercial gears. The sport fisherman has a tremendous stake in the fishery resources of the Bay, as indicated by a preliminary economic survey by the Department (Resource Study Report No. 4). Value may be traced through bait, tackle lodging, food, special clothing, and miscellaneous other expenditures.

7. Records of commercial fishing indicate only the "dock-side" value--and do not include the "associated" values--(cordage companies, boatyards, marine hardware, truckers, refrigeration plant, wholesale merchants, etc.).

8. In addition to the licensed commercial fishing and the sportsman, a large unlicensed fishery with "short nets" is taking a considerable number of fish. In some areas this fishery is sufficiently extensive to exceed in volume and restrict the operations of licensed gears, and was the subject of a survey during 1954 presented in a report to Maryland Board of Natural Resources by Departments of Research and Education and Tidewater Fisheries. The magnitude and effects of this fishery for striped bass, which is conducted for the most part on the spawning grounds, is currently being studied as a part of a 3-year program financed by the U. S. Fish and Wildlife Service with Dingle-Johnson funds.

9. At present we have no data indicating a need for any change in the regulatory measures governing striped bass, other than the initiation of a program for the compilation of data on the magnitude and value of the unlicensed net fishery and the sport fishery. The problem is basically one of economic and sociological nature, which is usually outside the field of our research, but which must be studied and given fullest consideration in the future development of sound conservation practices.



Newly-Designed Outboard-Powered Oyster Boat

A specially designed 26-foot outboard-powered oyster boat will be used when the oyster sequence of the Outboard Motor motion picture, produced by the U. S. Fish and Wildlife Service in cooperation with Evinrude and Johnson, Division of the Outboard Marine and Manufacturing Company, is filmed at Menchville, Va., begin-



Side view of outboard-powered oyster boat.

ning April 5. This boat has possibilities not only for oystering, but for many other segments of commercial fishing.



Stern view of outboard-powered oyster boat.

Powered by a 25-horsepower outboard motor, the boat will travel about 16 miles an hour, unloaded. The outboard motor is located in a well in the stern. A small house forward provides shelter in bad weather. The boat, with an 8-foot beam, has a large carrying capacity.

The boat was an outgrowth of research conducted during the course of producing a fishery educational motion picture. The cost was underwritten by the manufacturer of

outboard motors, who are also financing the motion picture. The new boat will also be used for the crab sequence of the same motion picture to be filmed at Crisfield, Md. After the filming, the boat will be used in various typical commercial fishing operations.

The builder says that the boat, including the 25-horsepower outboard motor, can be purchased for approximately \$1,500.



North Atlantic Fisheries Investigations

HADDOCK EGG CONCENTRATION FOUND ON NORTHERN EDGE OF GEORGES BANK BY "ALBATROSS III" (Cruise 58): On a cruise in an area of the Gulf of Maine, Georges Bank, and Browns Bank the Service's research vessel Albatross III found the greatest concentration of haddock eggs on the northern edge of Georges Bank. Very few haddock eggs were found on Browns Bank. The 13-day cruise, completed at Woods Hole, Mass., April 1, was made to determine the distribution of haddock eggs and larvae, temperature and salinity, and the general circulation pattern in the Gulf of Maine and Georges Bank area. Haddock, cod, rockling and plaice eggs, pollock, herring, wrymouth, and mud eel larvae were found.

Approximately 2,500 miles of continuous plankton tows were made at the surface and 10-meter depths with Hardy Plankton Recorders. A total of 214 bathythermograph lowerings, 150 salinity samples, and 15 surface tows with the standard meter net were made. Thirteen samples of eggs were hatched out for identification purposes. A total of 800 drift bottles was released throughout the area.



North Carolina's Commercial Fisheries Production, 1954

The over-all production of fishery products in North Carolina in 1954 declined from that of the previous year both in quantity and ex-vessel value. For the individual species there are a few exceptions to the decline in catch--such as in the white perch and the alewife fisheries of the Albemarle region and in the production of blue crabs. The North Carolina Department of Conservation and Development, Division of Commercial Fisheries, reports the production for 1954 and 1953 in table 1.

In some cases the State arrived at the figures for 1954 through different methods than in 1953. Effective January 1, 1954, taxes were reinstated on shrimp, scallops, clams, and crabs,

and the tax on oysters was extended to include those taken from private grounds. The tax receipts were then used as a measure of production. In 1953 only the oysters (from public grounds) were taxed and all other information on production was obtained from sea food dealers by State Inspectors.

	Unit	Quantity	
		1954	1953
Finfish:			
All fish for food	Pounds	32,003,874	38,898,522
Menhaden for reduction	Number of fish	202,997,700	198,559,333
Shellfish:			
Oysters	State bushels	126,782	160,379
Shrimp	Pounds, heads off	5,202,049	8,970,964
Clams	Bushels	48,332	32,837
Crabs, soft	Dozen	37,971	16,727
Crabs, hard	Barrel	43,646	39,233
Scallops	Gallon	5,315	5,450

SHRIMP: The season for taking shrimp from waters under control of the State of North Carolina was opened on May 19 (except for New River which opened June 15). In contrast to the early and marked success of the 1953 season, 1954 shrimp production got off to a slow start. The Department of Conservation and Development reported a catch of 1.0 million pounds (heads off) for the first six months of 1954 as compared to 3.5 million pounds during the same period the year before. However, during the last half of the year catches returned more closely to normal. State figures record 4.2 million pounds (heads off) for the last half of 1954, compared to 5.5 million pounds for the same period in 1953. But it is well to note that 1953 production was above the average for recent years; the 1954 shrimp catch in North Carolina will appear as having been more successful when compared with years prior to 1953.

In addition to a decline in quantity of shrimp caught in 1954 as compared to 1953, the average ex-vessel price was much lower. Shrimpers were getting as little as 6 cents per pound for small heads-on shrimp (over 50 count), and up to about 25 cents for 21-25 count shrimp. An estimate of the average prices for mixed sizes would be within the range of 15-20 cents (heads on) ex-vessel. In 1953 the returns to the fishermen were at least 50 cents per pound for mixed sizes.

HARD CRABS: Hard crabs were apparently in good supply and readily available to crabbers in North Carolina in 1954. But the market exerted its influence on fishing effort expended. This market factor may have been a more effective regulator of production than was abundance--it is often the important factor in North Carolina's hard-crab production. In the spring of 1953 crabs became scarce in crabmeat picking centers in Virginia and other areas. Buyers and trucks went long distances to pick up hard crabs at prices that went as high as \$10.50 a 100-pound barrel in Carteret County and in some instances even higher. In 1954 fishermen received \$4 a barrel at the most in March and the average was \$3.50. For the first six months of 1953 the North Carolina Division of Commercial Fisheries reported a production of 28,676 barrels of hard crabs; in 1954 for the same period State reports show 9,902 barrels produced. The difference in market is certain to have been one of the important factors in the variance in production during the two periods considered. According to the State report, many more hard crabs were brought in during the latter half of 1953 (33,744 barrels in 1953 as compared to 10,557 barrels in 1954).

ALEWIVES: The alewife run in 1954 was again abundant for the pound-net fishermen of the Albemarle region. In the Chowan River the run started on April 8 and lasted until April 26. As the season began the herring were bringing fishermen \$15 per thousand fish. Early in the run the prices began to drop and went as low as \$2/1000. Just as was the case in 1953, there were times when more herring were available than the processing plants could utilize. The production could have been higher in 1954 if fishing effort had not been restricted by limited demand and plant capacity.

WHITE PERCH: The Albemarle region also had a tremendous white perch run in 1954. Dealers in the Chowan River area reported there were more white perch available than there were for many years in the past. In mid-March the fishermen were getting 15 cents a pound. Then the abundance of the white perch caused the market to go down to 2 cents a pound, and then to no market at all. Again, as in the case of the herring, there were more white perch available than could be sold. Fishing effort was curtailed by oversupply.

OTHER FOOD FINFISH AND SHELLFISH: The 1954 production of all food finfish was less, generally, than it was in 1953. State figures give a total of 32.0 million pounds in 1954, compared to 38.9 million pounds the previous year. In looking back another year the fish harvest in 1953 was considerably below that of 1952 because most fishermen concentrated on the shrimp fishery in 1953. Therefore, it can be seen that the 1954 harvest was not a high yielding one. The weather was also a contributing factor in keeping the production down. High winds in January, February, and March limited the number of days the fishermen could work their gear. The unfavorable weather continued throughout the year and included three hurricanes--the last of these (October 15) caused an estimated \$1½ million in damage to the commercial fishing industry. The usual highly productive fall beach fishery was badly disrupted by the storm when in some cases complete rigs (boats and nets) were destroyed. In addition to the direct effects of the weather, the fish did not appear to be as abundant as in some years. After a summer of low production, the usual rise in abundance in North Carolina waters during the autumn months was not as great as expected. The mullet and spot harvest did not measure up to those of previous years.

MENHADEN: As in recent years the North Carolina menhaden catch in 1954 was close to that of an average successful season. The industry reported, however, that menhaden were very plentiful but once again the production was limited by foul weather.

OYSTERS: Oyster production was low in 1954. The decline was attributed mostly to storm damage. In August 1953 a hurricane caused a high mortality rate in the oyster beds and in October 1954 a severe hurricane again caused similar damage. Due to a good demand at the shucking plants for available oysters during the fall season the price paid for shell oysters was above average in 1954.

CLAMS: According to State figures the clam harvest was somewhat better than it was in the low production year of 1953, but it was still low compared to previous years. Early in the 1954 season hard-clam production was at a very low level. One of the reasons for this was that a Carteret County firm, which in past years supplied shucked clams to a major soup company, did not get contract renewal. This temporarily caused a decrease in demand and price. However, later the demand for clams increased, the poor early shrimping caused some vessels to change over to clamming, and the clam production increased for a time.

STATE REGULATIONS AND ACTIVITIES: On March 27, 1954, the North Carolina Board of Conservation and Development adopted a proposal to tighten regulations for the taking of shrimp from State-controlled waters. Under the resolution, any person, firm, or corporation taking shrimp out of State-controlled waters in trawlers or any other type vessel will be punished by fine and have their catches confiscated,

unless the trawlers or boats in question owned by nonresidents pay the State for the usual licenses, taxes, and fees imposed on North Carolina shrimpers. Also, shrimp-ing privileges would not be extended to any nonresident shrimper seeking to operate in the inland commercial waters of North Carolina if the State of which he is a resi-dent and in which his trawler or boat is registered prohibits North Carolina shrimp-ers from operating in the inland waters of that State.

Departing from a policy of planting only oyster shells on oyster grounds in North Carolina, the Department of Conservation and Development extended the oys-ter rehabilitation program in 1954 to include the planting of seed oysters. Over 50,000 bushels were planted early in the year.

In an opinion from the State's Attorney General it was held that: commercial fishing taxes must be paid by owners and operators of all boats using trawl nets for the taking of shrimp in State-controlled waters. Also, no tax shall be levied or col-lected from bona fide residents or citizens of North Carolina who take fish, oysters, clams, scallops, or crabs other than with dredges for his own personal or family's use and consumption.

--Alfred A. Swanson, Fishery Marketing Specialist,
Branch of Commercial Fisheries,
U. S. Fish and Wildlife Service, Beaufort, N. C.



North Pacific Exploratory Fishery Program

PETRALE SOLE TAGGED IN "ESTEBAN DEEP" BY "JOHN N. COBB" (Spe-cial Cruise): Although rough seas hampered the handling of live fish, 2,000 petrale sole from the "Esteban Deep" were tagged with either United States or Canadian tags and released in good condition by the Service's exploratory fishing vessel John N. Cobb on an 11-day cruise completed April 1. Most of the tagged petrale sole were released on the surface. However, in an effort to determine a means of reducing the high mortality rate experienced in previous tagging operations, some of them were lowered to the bottom of the sea in a metal cage which automatically released the fish on the bottom.

This cruise was conducted in cooperation with the State of Washington Depart-ment of Fisheries and the Fisheries Research Board of Canada to obtain informa-tion on the migratory habits of petrale sole. Such information would assist the agen-cies responsible for regulating this fishery in determining the need for giving petrale sole regulatory protection.

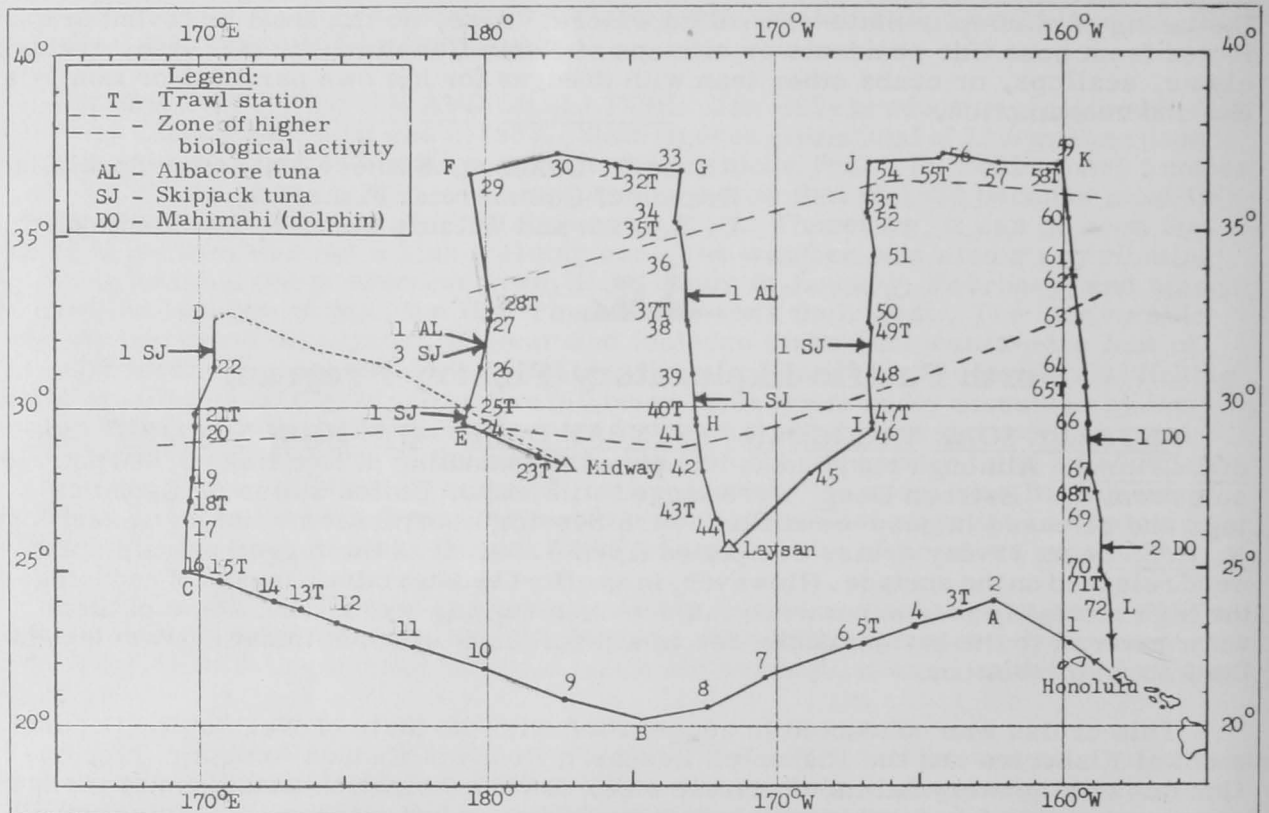
Since the discovery of petrale sole in "Esteban Deep" at depths as great as 1,200 feet in 1953, record catches of this highly-prized bottom fish have been taken from there by United States fishermen. It is believed by fishermen and scientists alike that petrale sole congregate in this area to spawn and are a part of stocks fish-ed on other grounds during other times of the year.

An additional 450 petrale sole were tagged in an area about 45 miles southwest of Cape Flattery. These fish are also a congregation of spawners and are likely to represent stocks of petrale sole fished on other grounds.



Pacific Oceanic Fishery Investigations

OCEANOGRAPHIC OBSERVATIONS NORTH OF HAWAII BY "HUGH M. SMITH"
INDICATE POSSIBLE ALBACORE TUNA FISHING AREA (Cruise 27): Detailed oceanographic observations in waters north of Hawaii by the Service's research vessel Hugh M. Smith gave evidence of potentially rich ocean waters lying between 30° and 35° N. latitude, about 600-1,000 miles north and northwest of Hawaii. The vessel was searching for clues to the location of potential fishing grounds for albacore tuna. This cruise lasted over 1½ months, covered 6,500 miles of the central North Pacific, and was completed February 21 at Pearl Harbor. It is still too early to tell how abundant albacore might be in this region, but the temperature and other characteristics of the waters are favorable over a large area, and the experimental fishing done to date has demonstrated that albacore occur there in some quantity.



Station locations are indicated by number. A "T" following a number indicates a midwater trawl station. Location of fish caught is also indicated. Area between dashed lines shows region of higher biological activity based on field observation of the plankton and midwater trawl hauls. Hugh M. Smith Cruise 27, January 5-February 2, 1955.

In addition to the oceanographic studies, live-bait surveys were made of Midway and Laysan Islands, both of which are in the Leeward Group of the Hawaiian Archipelago. The discovery of new bait resources in the Leeward Islands would be of great assistance to the Hawaiian tuna industry because the catch of skipjack tuna (aku) is limited at times by the inadequacy of the supply of small live-bait fish in the waters around the main islands. Such a discovery would also enable the skipjack fishery to expand its operations over a much broader area than is fished at present. At Midway about 15 schools of iao, 10 schools of aholehole, and 5 schools of piha, all of sizes suitable for use as live bait, were found. At Laysan, however, only 4 schools of aholehole and iao were seen, which means that although Hawaiian-style skipjack tuna sampans would have been able to bait successfully at Midway, they would have failed to do so at Laysan.

Five trolling lines were kept out during daylight hours and a total of 12 fish were caught--2 albacore tuna, 7 skipjack tuna, and 3 dolphin. During daylight hours

a careful lookout was maintained and records kept for tuna schools, bird flocks, scattered birds, and mammals.

A total of 23 trawl stations were occupied with a 6-foot Isaacs-Kidd trawl. On 3 of these stations (Nos. 23, 25, and 28) an additional haul was made with a larger 10-foot Isaacs-Kidd trawl. All trawls were made approximately two hours after sunset. Two night light stations were occupied during hydrographic stations 61 and 66. A 30-minute 100-meter plankton haul was made on each hydrographic station.

Preliminary study of the surface temperatures and the BT data reveals that the region of higher biological activity is closely associated with a region of temperature discontinuity. This latter can be identified by irregularly decreasing surface temperatures and rapid change of temperature both at the surface and at a depth of 900 feet. The temperature discontinuity can also be identified by a change in type of the BT trace. Proceeding south to north, when the trace showing a typically homogeneous surface layer 300-400 feet deep changes to one in which the temperature seemingly changes linearly with depth from 0-900 ft. by about 3° to 4° F., then the region of temperature discontinuity has been reached. A 30-minute 100-meter plankton haul was made on each hydrographic station.

A count was made of the Hawaiian monk seal, a species which is found only in the Leeward Hawaiian Islands. This rare mammal, once thought to be heading for extinction, now appears to be holding its own, with 105 counted on Laysan and 26 on Midway. Of special interest were 11 young seal pups observed on Laysan Island. The monk seal is known to give birth to its young sometime during the winter, but there are few records which indicate the exact time of birth. One of the pups seen at Laysan had evidently been born on the morning of the survey and looked like a large, dark-brown, woolly teddy bear as it huddled against the 500-pound bulk of its mother.



Saltonstall-Kennedy Act Fisheries Projects

ADVISORY COMMITTEE HOLDS FIRST MEETING: Broad policy recommendations adopted by the Fisheries Advisory Committee at its first session on April 28 and 29 were submitted to the U. S. Fish and Wildlife Service, Secretary of the Interior McKay announced May 2.

The Committee recommended continuance of the program launched last year by the Fish and Wildlife Service after the 83rd Congress passed the Saltonstall-Kennedy Act to promote increased production and marketing of domestic fishery products.

Continued emphasis on research and marketing activities in the Service program was urged. The Department's policy of contracting for as much research as possible by educational institutions and private research organizations was indorsed by the Committee.

The Committee after reviewing applications for allocations for Saltonstall-Kennedy funds in the current fiscal year and in the fiscal year beginning July 1, advised against committing substantial amounts for major construction projects.

Assistant Secretary of the Interior Lewis presided over the initial Advisory Committee session which was attended by 16 of the 19 members. He outlined the program of research and marketing development already under way with some \$2,500,000 of Saltonstall-Kennedy funds. He urged the Committee not to become entangled in detailed discussion of individual projects, but to recommend "broad boundaries" for the use of Saltonstall-Kennedy funds.

"It is my belief," Lewis said, "that the greatest good can be accomplished if we gather around the conference table as good partners to discuss with our operating officers--the experts of the Fish and Wildlife Service--the broad outlines of the objectives all of us want to reach. We shall expect you to speak your minds freely."

Senator Saltonstall of Massachusetts, co-author of the Act, urged the Committee to recommend a policy which will see the United States fishing industry go forward well prepared to meet competition from any source.

The Committee recommended that the following criteria be considered by the Department in passing on applications for Saltonstall-Kennedy projects:

- Degree of emergency of extent of distress.
- National scope or degree of application to more than local areas of problems.
- Extent of large scale capital investment.
- Substantiality in value, volume, and employment.
- Extent to which fishery is affected by imports.
- Extent to which results can be obtained in a reasonable time.
- Relative need to fill gaps in knowledge.
- Degree to which industry or states could do the work.
- Relative need for the work and prospects for successful achievement.
- Relation of costs to benefits.
- Effect on balance among major categories of work.

The following members of the Committee were in attendance:

Harold R. Bassett, Salisbury, Md.; Lawrence Calvert, Seattle, Wash.; James S. Carlson, Boston, Mass.; Mark L. Edmunds, Garibaldi, Ore.; David H. Hart, Cape May, N. J.; Leon S. Kenney, St. Petersburg, Fla.; Donald P. Loker, Terminal Island, Calif.; J. W. Mendenhall, Ketchikan, Alaska; J. Richards Nelson, Madison, Conn.; Moses B. Pike, Eastport, Maine; H. F. Sahlman, Fernandina Beach, Fla.; Arthur Sivertson, Duluth, Minn.; Lawrence W. Strasburger, New Orleans, La.; George R. Wallace, Morehead City, N. C.; Earl B. Webster, Brownsville, Tex.; Alphonse J. Wegmann, Pass Christian Isles, Miss. Three members, E. M. Concannon, Chicago, Ill.; Thomas F. Sandoz, Astoria, Ore.; and A. H. Mendonca, San Francisco, Calif.; were unable to attend.

The next meeting of the Committee is tentatively scheduled for the early fall of 1955.

Designed to strengthen the United States commercial fishing industry as a whole, the Saltonstall-Kennedy Act provides that an amount equal to 30 percent of duties collected under the customs laws on fishery products shall be transferred annually for three years from the Department of Agriculture to the Department of the Interior. Expenditures for any one year may not exceed \$3 million.

Some of the major projects already undertaken with funds made available by the Act are:

1. Studies to determine racial characteristics of salmon on the high seas.
2. Research on fluctuation of the California sardine.
3. Study of causes and control of toxic red tide off the Florida coast.
4. Development of voluntary Federal grades and standards for fishery products.
5. Development of chemical index and nutritive value of fish meal and development of new uses for fish oils.
6. Exploration of deep-water fishing grounds in the North Atlantic.

SERVICE ESTABLISHES NEW MARKET DEVELOPMENT FIELD OFFICES:

Four new market development offices for the promotion of fishery products by the U. S. Fish and Wildlife Service under the Saltonstall-Kennedy Act (68 Stat. 376) were opened in April, Secretary of the Interior McKay announced April 14.

Established in accordance with the Act's aim "to promote the free flow of domestically-produced fishery products in commerce," these offices are located in Seattle, Wash.; San Pedro, Calif.; New Orleans, La.; and College Park, Md. Each office is headed by a Fishery Marketing Specialist, as follows: Seattle, Roy Stevens; San Pedro, S. Ross Hatton; New Orleans, Michael Weissman; and College Park, Hall P. Mefford.

The Seattle office will supervise work done in the states of Washington, Oregon, and Idaho. Work in California, Nevada, Utah, and Arizona will be directed from the San Pedro office. The New Orleans office will have charge of a working area composed of Louisiana, Mississippi, Alabama, Kentucky, and Tennessee. From College Park the work in Maryland, Virginia, West Virginia, Delaware, Pennsylvania, and New Jersey will be supervised.

The new offices will work to develop markets for fishery products through close contact with: school-lunch programs; locker-plant operators; private and public institutions; restaurants; hotels; press, radio, and television food editors; and other similar interests concerned with the marketing and consumption of fish and shellfish.



South Carolina's Commercial Fisheries Production, 1954

SHRIMP: Shrimp in 1954 were produced in South Carolina in about the same quantity as in 1953. According to the State Division of Commercial Fisheries in Charleston, a tally early in February 1955 of incomplete reports from the industry showed that 2.8 million pounds of heads-off shrimp were taken by fishermen in South Carolina in 1954 (table 1). It is believed that a final figure would approximate the 2.9 million pounds of heads-off shrimp reported by the State for the previous year.

Table 1 - South Carolina Shrimp (Heads off) Production by Months, 1949-54

Month	1954 ^{1/}	1953 ^{2/}	1952	1951	1950	1949
	(1,000 Pounds)					
January	-	-	14	-	-	28
February	-	-	-	-	-	-
March	28	4	20	60	-	58
April	20	12	10	5	2	4
May	124	47	173	3	212	393
June	395	253	203	36	357	569
July	406	582	260	224	605	448
August	^{1/} 377	553	267	304	672	449
September	^{1/} 762	612	554	717	862	653
October	^{1/} 515	476	484	569	664	512
November	^{1/} 134	271	189	124	303	433
December	^{1/} 28	56	57	30	23	192
Total	2,789	2,866	2,231	2,072	3,700	3,799

^{1/} Preliminary.
^{2/} The sounds and rivers in Beaufort County were opened to shrimp trawling in the fall of 1953 for the first time since World War II.

Although the quantity of shrimp caught was about the same during the last two years, there can be no comparison of the net financial

return to the shrimpers. The price decline in 1954 to much below that of the high-level returns of 1953 was, of course, as effective in reducing the successfulness of the season to the industry in South Carolina as in North Carolina and elsewhere. After the 1955 season the fishermen generally were disappointed in the 1954 returns.

FINFISH: It is believed the over-all production of food finfish in 1954 was considerably below that of the previous year. Although there are as yet no data available, the conclusion is based on the destruction and damage done to the haul-seine fishery of Horry and Georgetown counties by the hurricane of October 15. The haul-seine crews on the beaches of these two South Carolina counties usually produce quantities of mullet and spot which in some years run into millions of pounds. The most productive period is usually October-December and in 1954 fishing in this area was almost nil. In Beaufort County a haul-seine crew had considerable success with spotted sea trout catches which may have brought finfish production in that county to a relatively high figure.

HARD CRABS: There seems to have been no scarcity of crabs, but here again the low prices resulted in less effort and, although there are no production figures available at this time, it is probable that the total production of crabs from South Carolina waters during 1954 will be less than in 1953.

--Alfred A. Swanson, Fishery Marketing Specialist,
Branch of Commercial Fisheries,
U. S. Fish and Wildlife Service, Beaufort, N. C.



"Shrimp Please" Film Wins Recognition

The Service's most recent motion picture, Shrimp Please, produced in cooperation with the shrimp industry of Louisiana and Mississippi, has been awarded a Certificate of Acceptance by the Film Council of America. A jury of motion picture experts, viewing the best in sales and public relations motion pictures produced in the United States in 1954, has selected the industry-Government produced film Shrimp Please as an outstanding example of a film that accomplishes its public relations and sales purpose. Shrimp Please will be shown during the Golden Reel Assembly on April 4-8 at the Waldorf Astoria Hotel in New York City in final competition for the "Golden Reel" award.



Filming a drive-in scene for Shrimp Please.

Shrimp Please has also been selected by the Interdepartmental Committee on Auditory and Visual Materials as a United States entry in the Edinburgh International Film Festival and the Venice International Exhibition of Cinematographic Art, both to be held this summer.

Essentially an educational film, Shrimp Please depicts: Gulf of Mexico shrimp-ing operations; shrimp canning, breading, drying, and freezing processes; and the many methods of preparing shrimp for the dinner table. It is a Government-indus-try production, sponsored jointly by the Fish and Wildlife Service and the shrimp industry of Louisiana and Mississippi. The filming was supervised by a motion-picture specialist for the Service's Branch of Commercial Fisheries. The picture has been shown more than 100 times on television, and has proven popular with clubs, schools, and similar groups throughout the Nation.

Shrimp Please, a 20-minute sound, color, 16 mm. motion picture is available on loan, free of charge, from the U. S. Fish and Wildlife Service or from 75 film libraries.



Survey Reveals Breaded Fish Sticks and Shrimp Popular

A recent survey sponsored by the U. S. Fish and Wildlife Service revealed an upswing in domestic consumption of breaded fish and shellfish.

Fish sticks--a new breaded item--and breaded shrimp are popular with families through the Nation, the survey showed.

Of 1,797 housewives responding to questions concerning meals and snacks served in their homes between November 1953 and the same month last year, nearly 37 per-cent stated they had used precooked fish sticks, while about 10 percent said they had purchased uncooked sticks and fried them in their own kitchens. Most of these home-makers said their families preferred the largest size fish sticks, and the 12-ounce package. Most also indicated that their families liked the fish sticks moderately seasoned. The favorite time for fish sticks was mealtime as compared with between-meal snack periods.

The Northeast showed more interest in precooked fish sticks than did any other section of the country. More than 54 percent of the housewives responding to the survey there said they had served this item during the year. In the South precook-ed fish sticks were served in 29 percent of the homes accounted for.

Breaded shrimp showed a somewhat different pattern in the survey. More than 21 percent of the housewives responding, nationwide, stated they had purchased this item uncooked, while about 18 percent said they had bought the breaded shrimp in precooked form. Consumers showed a preference, in most cases, for medium-size shrimp cooked to a light golden brown.

Nearly 26 percent of the southern homemakers reported they had purchased un-cooked breaded shrimp during the year, while about 16 percent of the northeastern housewives claimed they had bought this item during the period.

The survey showed that about 30 percent of the homemakers serving fish sticks were using them to some degree as a substitute for other fishery products. A slight-ly smaller percentage said they were using breaded shrimp for the same purpose. A large majority, however, indicated that their use of these items represented a net addition to their usual fish and shellfish consumption.



U. S. Foreign Trade

EDIBLE FISHERY PRODUCTS, JANUARY 1955: United States imports of fresh, frozen, and processed edible fish and shellfish in January 1955 totaled 54.9 million pounds (valued at \$14.2 million), according to a Department of Commerce summary tabulation (see table). This was an increase of 11 percent in quantity and 1 percent in value as compared with December 1954 imports of 49.4 million pounds (valued at \$14.1 million). But compared with a year earlier, January imports were down 7.3 percent in quantity and 6 percent in value.

United States Foreign Trade in Edible Fishery Products, January 1955 with Comparisons						
Item	Jan. 1955		Jan. 1954		Year 1954	
	Quantity	Value	Quantity	Value	Quantity	Value
 (In Millions of Lbs. & \$)					
<u>Imports:</u>						
Fish & shellfish: fresh, frozen & processed <u>1</u> /	54.9	14.2	59.2	15.1	801.7	202.8
<u>Exports:</u>						
Fish & shellfish: processed <u>1</u> / only (ex- cluding fresh and frozen)	12.2	2.3	4.2	1.0	50.8	13.2
<u>1</u> / Includes pastes, sauces, clam chowder and juice, and other specialties.						

Exports of processed edible fish and shellfish (excluding fresh and frozen) in January 1955 amounted to 12.2 million pounds (valued at \$2.3). This is the largest month's exports for some time because there were substantial exports of canned California sardines as a result of the increased pack last year. Exports of processed edible fishery products in January 1955 rose 97 percent in quantity and 77 percent in value as compared with December exports of 6.2 million pounds (valued at \$1.3 million). This January's exports were up 190 percent in quantity and 130 percent in value as compared with a year earlier.

* * * * *

SELECTED FISHERY PRODUCTS, JANUARY 1955: Imports: United States imports in January 1955 of frozen tuna, canned tuna, canned crab meat, frozen lobster, frozen salmon, frozen swordfish, and fish meal were substantially larger than during January 1954, according to data collected by the Bureau of the Census. January imports of canned bonito, canned salmon, canned sardines, fresh and frozen shrimp and fillets, and blocks of groundfish and ocean perch were considerably less than a year earlier. (See chart 7, p. 79 of this issue.)

Exports: United States exports of canned sardines during January 1955 were equivalent to about one-half the quantity exported during the entire year 1954. Principal country of destination was the Philippines. January exports of fish oils were slightly below those of that month a year ago.

* * * * *

FISH-OIL EXPORTS CONTINUE AT RECORD LEVEL IN 1954: United States exports of fish oils reached a new record volume in 1954 of 70,817 short tons, an increase of 31 percent from the previous high of 1953 (see table), according to the March 21 Foreign Crops and Markets, a Department of Agriculture publication.

Most of the oil, as in previous years, went to Western Europe but a notable increase occurred in exports to Canada. Exports to the Netherlands were nearly five times the 1953 level, but the bulk of this oil probably was transhipped to Western Germany. Exports of United States fish oils to Switzerland and the United Kingdom were up from the year before.

U. S. Fish-Oil Exports by Country of Destination, 1954 and Comparisons					
Destination	1954 ^{1/}	1953 ^{1/}	1952	1951	Average 1935-39
(Short Tons)					
NORTH AMERICA:					
British West Indies	-	-	-	113	12
Canada	7,481	2,108	488	1,734	458
Cuba	105	87	100	71	155
Mexico	107	114	122	63	45
Other	-	1	3	5	59
Total	7,693	2,310	713	1,986	729
SOUTH AMERICA	143	63	38	110	96
EUROPE:					
Belgium-Luxembourg	-	764	8	282	8
France	-	7	149	1,162	19
West Germany	10,481	36,155	6,232	6,050	126
Italy	85	28	220	14	15
Netherlands	43,692	8,913	11,967	6,024	15
Norway	1,102	1,606	-	4,514	10
Switzerland	5,797	3,115	3,140	4,027	15
United Kingdom	1,376	299	-	-	77
Other	27	23	43	-	15
Total	62,560	50,910	21,759	22,073	300
ASIA:					
Philippines, Republic of	229	860	546	744	66
Other	51	37	20	7	24
Total	280	897	566	751	90
OTHER	70	53	3	-	19
Grand Total	2/70,817	54,233	23,079	24,920	1,234

^{1/} Preliminary.

^{2/} Includes 71 tons not designated by destination.



United States Per-Capita Consumption of Fishery Products Up in 1954

Persons in the United States ate one-third of a pound more fish and shellfish each in 1954 than in 1953, the U. S. Fish and Wildlife Service reported April 1. Service and Department of Agriculture statisticians, who cooperated in assembling the data, estimated that total consumption of commercial fishery products in the United States amounted to 1.8 billion pounds, or 11.1 pounds (edible-weight basis) per capita in 1954. This compares with 10.8 pounds per capita in 1953 when our civilian population was almost 3 million less.

The total increase in consumption of fishery products over 1953 amounted to 80 million pounds--equivalent to 150-200 million pounds round weight. Both domestic landings and imports of edible fishery products in 1954 were larger than a year earlier.

Consumption of fresh and frozen fishery products in 1954 increased about 53 million pounds over 1953. Canned products were up 27 million pounds. On a per-

capita basis, the use of fresh and frozen fish and shellfish amounted to 6.1 pounds-- a small increase as compared with the previous year. Canned products accounted for 4.4 pounds per person, likewise a slight increase over 1953. The edible use of cured products, estimated per capita at 0.6 pound, remained the same as in 1953.

The increase over 1953 in the consumption of fresh and frozen fish reflects in part the rapid growth in the demand and production of fish sticks. Civilian demand for canned fish was also maintained at a high level in 1954. The tuna pack was the largest in history, that of canned Pacific sardines was up significantly, and increases also occurred both for salmon and Maine sardines.



Wholesale Prices, March 1955

Wholesale prices for edible fish and shellfish dropped from February to March because of the seasonal increase in catch. The over-all index for edible fish and shellfish (fresh, frozen, and canned) in March 1955 was 100.7 percent of the 1947-49 average (see table)--1.1 percent less than in February and 6.3 percent below March 1954.

Group, Subgroup, and Item Specification	Point of Pricing	Unit	Avg. Prices ^{1/} (\$)		Indexes (1947-49=100)			
			Mar. 1955	Feb. 1955	Mar. 1955	Feb. 1955	Jan. 1955	Mar. 1954
ALL FISH & SHELLFISH (Fresh, Frozen, & Canned)					100.7	101.8	105.7	107.5
Fresh & Frozen Fishery Products:					101.1	103.0	111.6	112.3
Drawn, Dressed, or Whole Finfish:					96.3	100.4	123.9	111.4
Haddock, lge., offshore, drawn, fresh	Boston	lb.	.06	.08	60.3	80.8	159.3	95.4
Halibut, West., 20/80 lbs., drsd., fresh or froz.	New York	lb.	.24	.26	74.8	79.4	85.6	97.0
Salmon, king, lge. & med., drsd., fresh or froz.	New York	lb.	.53	.53	118.0	119.7	125.6	125.8
Whitefish, L. Superior, drawn, fresh	Chicago	lb.	.63	.65	167.3	161.1	125.2	161.1
Whitefish, L. Erie pound or gill net, rnd., fresh	New York	lb.	.65	.48	131.4	96.0	143.5	126.4
Lake trout, domestic, No. 1, drawn, fresh	Chicago	lb.	.63	.65	133.3	133.2	103.5	133.2
Yellow pike, L. Michigan & Huron, rnd., fresh	New York	lb.	.69	.53	161.8	123.1	117.3	146.6
Processed, Fresh (Fish & Shellfish):					104.2	104.3	106.3	114.9
Fillets, haddock, sml., skins on, 20-lb. tins	Boston	lb.	.23	.30	78.3	100.4	153.1	113.1
Shrimp, lge. (26-30 count), headless, fresh	New York	lb.	.62	.58	93.0	91.7	83.8	113.0
Oysters, shucked, standards	Norfolk	gal.	4.75	4.88	117.5	120.6	123.7	117.5
Processed, Frozen (Fish & Shellfish):					96.8	97.4	89.2	110.5
Fillets: Flounder (yellowtail), skinless, 1-lb. pkg.	Boston	lb.	.41	.40	106.0	104.7	98.2	98.2
Haddock, sml., skins on, 1-lb. pkg.	Boston	lb.	.29	.29	89.4	89.4	90.2	105.1
Ocean perch, skins on, 1-lb. pkg.	Boston	lb.	.28	.28	111.8	111.8	111.8	117.8
Shrimp, lge. (26-30 count), 5-lb. pkg.	Chicago	lb.	.56	.56	85.6	86.8	72.5	113.0
Canned Fishery Products:					100.0	100.0	97.2	100.4
Salmon, pink, No. 1 tall (16 oz.), 48 can/cs.	Seattle	case	20.70	20.70	109.6	109.6	104.4	99.1
Tuna, lt. meat, chunk, No. 1/2 tuna (8-1/2 oz.), 48 cans/cs.	Los Angeles	case	12.90	12.90	93.0	93.0	93.0	102.4
Sardines, Calif., tom, pack, No. 1 oval (15 oz.), 48 cans/cs.	Los Angeles	case	7.30	7.30	85.2	85.2	85.2	2/
Sardines, Maine, keyless oil, No. 1/4 drawn (3-1/4 oz.), 100 cans/cs.	New York	case	7.20	7.20	76.6	76.6	71.3	92.6

^{1/}Represent average prices for one day (Monday or Tuesday) during the week in which the 15th of the month occurs. These prices are published as indicators of movement and not necessarily absolute level. Daily Market News Service "Fishery Products Reports" should be referred to for actual prices.

^{2/}Not available.

Prices for large offshore haddock at Boston continued to drop sharply from February to March (down 25.4 percent) and the drop was the main factor accounting for the 4.1-percent decline in the drawn, dressed, or whole finfish subgroup index. Western halibut and salmon prices at New York City were also lower in March, but prices for all fresh-water varieties at both New York and Chicago were higher than in February. Compared to March 1954, prices for haddock, halibut, and salmon were down considerably, while fresh-water fish prices were up. The index for the drawn, dressed, or whole finfish subgroup this March was 13.6 percent lower than a year earlier.



Boxes of iced dragger fish (mostly scup and sea bass) ready for loading on trucks at Hampton, Va., for shipment to New York City.

Fresh haddock fillet prices again dropped sharply from February to March and offset a substantial rise in shrimp prices. Higher shrimp prices were brought about by the drop in production. Oyster prices were down slightly from the previous month. The March 1955 index for the fresh processed fish and shellfish subgroup was down 0.1 percent from February and 9.3 percent from March 1954.

There was practically no change in the index for frozen processed fish and shellfish from February to March. Prices for all items remained the same except that a slight increase for flounder fillet prices was more than offset by a slight drop in shrimp prices. However, March 1955 prices were 12.4 percent below a year earlier because of lower prices for all items except flounder fillets which were slightly higher.

Prices for all items in the canned fishery products subgroup remained the same from February to March in spite of liberal supplies of canned tuna. Stocks of canned salmon, Maine sardines, and California sardines were light. March 1955 canned fishery products prices, however, were down slightly from a year earlier, with higher prices for canned salmon more than offset by lower prices for tuna and Maine sardines. California sardine prices were not quoted in 1954 as the pack was negligible.



Fishery Products Marketing Prospects, April-June 1955

Markets for fishery products during this year's second quarter are expected to be generally steady with some weakness due to local oversupply, according to the Commercial Fisheries Outlook, April-June 1955, issued April 23 by the U. S. Fish and Wildlife Service.

The market for salmon--fresh and frozen--is expected to be steady; supply will be light, and demand good. A firm market is seen for canned salmon, with supply light and demand good.

The market for canned sardines is expected to be steady, with supply moderate and demand good.

A firm market is seen for canned shrimp, with a light-to-moderate supply and a good demand. Fresh and frozen shrimp are expected to have fairly steady markets, moderate supplies, and good demands.

Steady markets are seen for the three leading groundfish species: cod, haddock, and ocean perch. Cod and haddock fillet supplies are expected to be liberal, while the supply of ocean perch fillets will be moderate-to-liberal. Good demand is seen for cod and ocean perch fillets, while demand for haddock fillets will be moderate-to-improving.

Fish sticks, the popular new breaded item, will have a fairly steady market, a liberal supply, and a good demand.

A firm market is seen for frozen swordfish, with supply moderate-to-liberal and demand good.

The market for canned tuna is expected to be unsettled, with liberal supply and a moderate demand.

Firm markets are seen for fresh crabs, fresh crab meat, northern lobsters, spiny lobsters, and scallops. Fresh crabs and crab meat will have light-to-moderate supplies and good demand. The supply of northern lobsters will be moderate-to-liberal, with demand good. Spiny lobsters will show a moderate supply and a good demand. Moderate-to-liberal supply and a good demand is seen for scallops.

Steady markets are seen for fresh-shucked and canned oysters and for fresh clams. Supply for fresh-shucked oysters will be very light and demand will be light. Both supply and demand for canned oysters will be moderate. Fresh clams will show a moderate supply and a good demand.

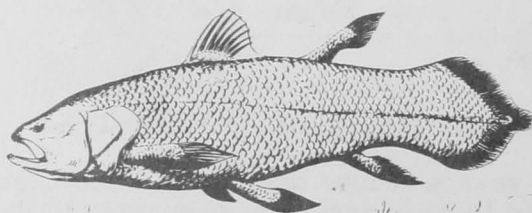
Fish meal and fish oil are expected to show firm markets throughout the quarter. For both supply will be moderate and demand good. A steady market is seen for fish solubles, with supply and demand both moderate.

Commercial Fisheries Outlook, Fishery Leaflet 336x, may be obtained free from the Fish and Wildlife Service, U. S. Department of the Interior, Washington 25, D. C.



NEW COELACANTH FIND

A female coelacanth--the prehistoric "fish with hands"--carrying more than 60 eggs has been caught off the island of Anjouan in the Indian Ocean, says Reuter from Madagascar. The body of the fish, the fifth to be caught in the region, is in perfect condition and scientists expect to gain considerable information on the coelacanth's reproductive system.



Before the recent discoveries, scientists believed the coelacanth, which lived in the sea in large numbers 60 million years ago, was virtually extinct.

--The Fishing News, March 25, 1955.