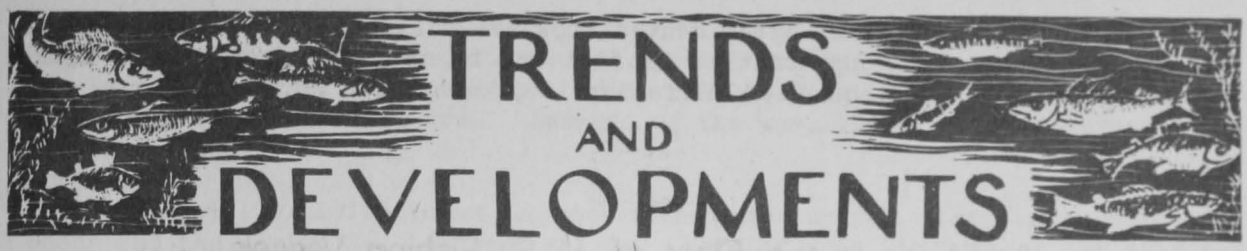


Abstract

SYNERESIS OF AGAR GELS: Fishery Leaflet 307, "Syneresis of Agar Gels," by L. S. Stoloff, formerly of the Branch of Commercial Fisheries, deals with experiments to develop a recommended method for measuring syneresis of agar gels.

The word syneresis was first used by Graham in 1864 to describe the phenomenon of breaking up of jellies on long standing or when disturbed. Since then it has come to mean the separation of any free liquid from a gel regardless of the quantity or the cause.

A technique whereby the free liquid is washed from the gel with carbon tetrachloride and is caught in an improvised measuring tube was used to study this phenomenon.

A considerable number of experiments were conducted to determine factors affecting the amount of syneresis in agar gels. Since there is no uniform relation between physical dimensions of agar gels and the amount of syneresis, it becomes necessary to establish arbitrary conditions for purposes of comparison.

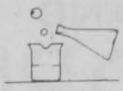
The use of 100 gm. of gel formed in a 250 ml. Erlenmeyer flask has been found convenient. The influence of rate of setting of the gel on syneresis requires that some arbitrary condition of cooling be established to give comparative results. The use of storage temperatures between 30° and 37° C. and a minimum storage period of 24 hours is indicated by the results of experiments.

Since the results also show that the relation of syneresis to agar concentration between one and two percent is apparently the same for all lots of agar, the syneresis at any concentration between these values is representative of the syneresis at any other concentration in this range. For ease in expression, it has been found best to standardize on a concentration of 1.5 percent from which the syneresis at other concentrations in the range of one to two percent can be calculated.

The findings in regard to the increase in the amount of syneresis with increase in the rate of gelation should cause bacteriologists using forced cooling procedures to re-examine the justification thereof.

Recommended Method: Prepare agar sols of 1.50 percent concentration by heating the agar in slightly less than the required amount of water in an autoclave at 15 pounds pressure for 20 minutes. Adjust the final weight to the required amount after the sols have been removed from the autoclave. Cool the sols at 45° C. before placing 100 gm. aliquots in 250 ml. Erlenmeyer flasks. Place the flasks in a 20° C. incubator to cool without forced air circulation. When the gels have set for an hour, stopper and transfer the flasks to the 37° C. incubators where they are stored for a minimum of 24 hours before syneresis is measured. Syneresis may then be expressed in ml. of liquid for these particular conditions.

The complete details of experimental work are published in Fishery Leaflet 307 of this Service. A copy of this Leaflet may be obtained from the Division of Information, U. S. Fish and Wildlife Service, Washington 25, D. C.



Additions to the Fleet of U. S. Fishing Vessels

One hundred thirty-six vessels of five net tons and over received their first documents as fishing craft during June 1948, two more than in the previous month, and four more than in June 1947, according to the Bureau of Customs' Monthly Supplement to Merchant Vessels of the United States. California led with 26 vessels documented, followed by Washington, 19; Florida, 18; and Alaska, 14. A total of 563 vessels received their first documents as fishing craft during the first six months of 1948 compared with 642 during the same period in 1947.

Vessels Obtaining Their First Documents as Fishing Craft

Section	June		Six mos. ending with June		Total
	1948	1947	1948	1947	1947
	Number	Number	Number	Number	Number
New England	6	7	26	25	55
Middle Atlantic	9	4	27	35	64
Chesapeake Bay	6	14	20	36	83
South Atlantic and Gulf	47	43	227	213	486
Pacific Coast	47	47	177	216	415
Great Lakes	7	2	25	17	45
Alaska	14	14	56	88	123
Hawaii	-	-	5	11	27
Puerto Rico	-	1	-	1	1
Unknown	-	-	-	-	1
Total	136	132	563	642	1,300

Note: Data for 1947 have been revised.

Alaska Exploratory Vessel Leaves Seattle

Exploration of Alaska's oceanic waters will be resumed after a lapse of seven years, when a Fish and Wildlife Service exploratory fishing vessel sails from Seattle, Washington, for the Bering Sea on August 23, the Acting Director of the Service announced on August 13.

The exploratory boat will make a preliminary survey for two months to determine the varieties and quantities of fish present in the Bering Sea, south of Nome, between the coast of Alaska and the International Date Line.

During this voyage, fish preservation techniques and new types of commercial fishing gear will also be tested. Results of this cruise will establish a basis for future exploratory work.

The exploratory boat, a 100-ft. motor vessel named the Washington, was transferred to the Fish and Wildlife Service from the Maritime Commission. It carries a crew of 12, including two fishery engineers and a biologist.

This cruise is the introductory phase of the Service's new, long-range Alaska Exploratory Fishing Program, authorized by the 80th Congress. In 1940 and 1941, the Service explored the southeast Bering Sea, leading to the development of the king crab fishery in that area. Because of the war, the exploratory program was discontinued.

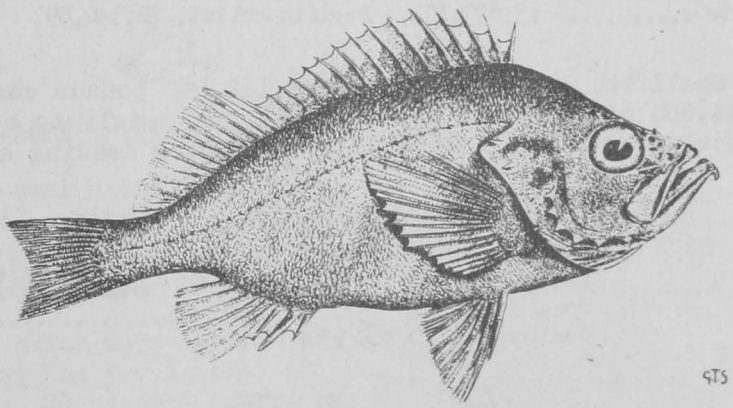
Commercial exploitation of the vast fishery resources in the northeast Pacific Ocean and the Bering Sea has been slight. Lack of specific data on the seasonal occurrence and the abundance of fish in the area, and little knowledge of actual operating requirements have curbed the fishing industry's development. After the Fish and Wildlife Service has explored the region and determined the extent of its fishery resources, the fishing industry will be able to apply the Federal findings to its own commercial operations.

The Service hopes that off-season fisheries can be encouraged in southeast Alaskan waters. Salmon and halibut, the chief ones in the region, are only summer activities.

By October 20, the Washington will be back in Seattle for alterations and refitting for more intensified exploratory work. The vessel will sail to the Bering Sea again in the spring of 1949 for additional exploratory fishing.

"Albatross III" to Estimate Fish Populations

Scientists of the U. S. Fish and Wildlife Service on board the Service vessel, Albatross III, on its fifth cruise, sailed on July 13 from Woods Hole, Mass., to make a census of the fish on Georges Bank. This was the first of a series of cruises to be made this summer to estimate the size of the fish populations. The vessel returned to port on July 21.



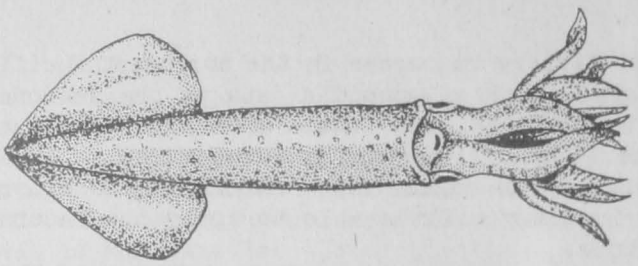
ROSEFISH (SEBASTES MARINUS)

The research vessel made tows with a large trawl net in 36 different areas on the eastern part of the bank. Information was collected on the number, size, and kind of fish taken in each area. The information will be analyzed by statistical methods similar to those used by the various popular radio and political polls. From these and future analyses, the abundance and future supply of fish on the bank will be estimated.

The cruise showed that fish of all species were very scarce in the area of the bank covered. However, some rosefish (redfish), much larger than usual size, were caught. These might be from a stock not yet touched by the fishery.

California Production of Fishery Products, 1947

The total production of fresh-water and salt-water fish and shellfish during 1947 in the State of California amounted to 793,264,905 pounds, less than the previous year's catch by 125,000,000 pounds, according to the Statistical Report on Fresh and Canned Fishery Products, Year 1947, recently released by the California Division of Fish and Game.



OPALESCENT SQUID (LOLIGO OPALESCENS)

Considerable increases were noted for anchovy, bonito, herring, jack mackerel, black and white sea bass, shark, skipjack, yellowfin tuna, yellowtail, and shrimp, while decreases were noted in landings of catfish, sablefish, sardine, clams, spiny lobster, and squid.

The total fish taken amounted to 761,074,063 pounds in 1947 compared to 854,425,916 pounds landed in 1946. The 1947 catch of 255,513,948 pounds of sardines was slightly more than half the 1946 total of 510,759,173 pounds. The fish landings included:

Fish:

Species	lbs.	Species	lbs.	Species	lbs.
Sardine	255,513,948	Albacore	13,145,780	California halibut..	1,782,089
Yellowfin tuna ..	149,066,794	Sole	12,332,749	Northern halibut....	287,912
Jack mackerel....	129,048,318	Salmon	11,428,030	Pacific herring.....	1,654,850
Skipjack.....	52,315,449	Yellowtail.....	9,952,761	White sea bass.....	1,082,792
Pacific mackerel.	46,477,205	Rockfish.....	8,495,202	Broadbill swordfish.	1,009,957
Bluefin tuna	20,837,634	Barracuda.....	2,665,385	Sablefish	902,110
Anchovy	18,940,521	Shark.....	2,637,926	Shad	305,566
Bonito	13,697,171	Pacific cultus.	1,940,597		

Shellfish landings totaled 32,190,842 pounds compared to the 1946 catch of 63,846,950 pounds. The decrease was due mainly to a decline in the 1947 squid production of 23,481,879 pounds. Among the leading shellfish items were:

Shellfish:

Species	lbs.	Species	lbs.
Squid.....	14,542,649	Spiny lobster	1,762,769
Crab.....	10,733,178	Pismo clams (meats)..	1,340,301
Rock crab..	15,225	Shrimp.....	842,773
Abalone....	2,669,950		

Federal Purchases of Fishery Products

DEPARTMENT OF AGRICULTURE, August 1948. No purchases of fish were reported by the Department of Agriculture during August 1948. During August 1947, purchases totaled 117,957 cases of canned fish valued at $361,467.

* * * * *

DEPARTMENT OF THE ARMY, July 1948. Purchases of fresh and frozen fishery products by the Army's Quartermaster Corps for the month of July 1948 for military feeding is not available.

Foreign Fish Marketing Studies

A Fishery Marketing Specialist of the U. S. Fish and Wildlife Service has recently been assigned to the Office of Foreign Agricultural Relations of the Department of Agriculture to conduct special foreign market studies on fishery products. The studies are being conducted under the Research and Marketing Act of 1946. The development of foreign markets for fish is specifically authorized by Public Law 712, which provides funds for Research and Marketing Act operations during the current fiscal year.

The Service specialist, during August, conferred with fishing industry representatives regarding prospective exportable supplies of United States fishery products at meetings in Bangor, Maine; Gloucester, Massachusetts; New York, New York; Terminal Island and Monterey, California; Seattle, Washington; and Easton, Maryland. The conferences provided information essential in planning the reestablishment of commercial fish markets abroad, and the industry's participation in the European Recovery Program.

Mr. Arthur M. Sandberg, the Service's Fishery Marketing Specialist assigned to study foreign production prospects and possible markets for United States fishery products, left the United States for Europe on August 20, and will spend two months in Europe. Upon his return, a report of his findings will be prepared and published.

Fur-seal Production for 1948

A total of 70,142 fur-seal skins were taken in the Government-administered sealing operations on Alaska's Pribilof Islands during the 1948 season. Operations began in late June and closed on July 27.

This year, 8,695 more skins were obtained than in the 1947 operations. Under the provisions of the Alaska Fur-Seal Law of 1944, 20 percent of the skins become the property of the Canadian Government. After dressing and dyeing, the U. S. skins are sold at auction to commercial fur dealers, the net proceeds going to the Treasury of the United States.

The fur-seal herd this year numbered 3,837,131 animals, an increase of 6 percent over the 1947 figures. The census is a computation of all animals, based upon observations of the number of "harem" or breeding bulls, the number of "idle" and "surplus" bulls, the number of animals killed in sealing operations, and mortality factors determined from branding activities.

Because the number of animals available for killing each year has not increased at the same rate as the total herd, the Fish and Wildlife Service is checking this year's figures obtained by the standard census-taking with aerial photography.

A plane flying at an altitude of 1,000 feet photographed every rookery (breeding place) area on the Islands at the time of greatest concentration of animals on shore. The Service is now preparing the photographs in a mosaic which will be enlarged for a verification of the census computations.

Hampton Fishery Market News Office Reopened

Fishery market news service at Hampton, Va., was reestablished and the first Fishery Products Report was issued on August 9. The office, located at 18 South King Street, with Charles D. Stewart in charge, will serve Maryland, Virginia, and North Carolina. It will receive and report landings and production of fishery products at Norfolk, Hampton, Newport News, Phoebus, Crisfield, Ocean City, and other eastern shore points, and in the Beaufort-Morehead City area in North Carolina.

Teletype communication with the New York City fishery market news center has been established to assure close contact with the Service's other market news offices.

Daily Fishery Products Reports and monthly and annual summaries on landings of fishery products and cold storage holdings will be issued.

The Hampton office was originally opened in December 1945. Because of the lack of operating funds, it was closed in May 1947. It is the seventh fishery market news center to be established by the Fish and Wildlife Service since 1938, when the New York office was opened.

International Conference Proposes New Sea Safety Measures

The recent International Conference in London proposed a new Convention on Safety of Life at Sea which will provide for considerable improvements in maritime safety throughout the world, according to the July 1948 issue of the Coast Guard Bulletin.

The proposed Convention, and the Regulations annexed thereto, will come into force upon ratification by 15 delegate nations, 7 of which must have merchant marines of over 1,000,000 gross tons each.

The international sea-safety regulations bring up-to-date the maritime safety matters from the last conference in 1929 and provide for greater passenger and cargo vessel safety.

In general, the changes proposed applied mostly to passenger vessels and cargo vessels.

Among the changes are proposed a new and simplified system of ship-to-shore signals for all stranded vessels, cargo and passenger; and the continuation of the International Ice Patrol with the cost being borne in proportion by the nations who benefit from it the most.

In addition, many improvements have been incorporated which will substantially meet a need that has developed since the last major changes in the Rules of the Road were made in 1889.

Thirty-two nations were represented at the Conference which opened April 23 and closed June 10.

The international safety regulations under which fishing vessels operate and the transporting of fishery products by coastwise steamers from Canada, Newfoundland, and Alaska come under the proposed new Convention.

New Jersey and Delaware Fisheries Survey

A survey of the New Jersey and Delaware marine fisheries by the Service was begun the early part of August.

Statistics on the volume and value of landings, methods of catching, number of fishermen employed, number of fishing craft used, and quantity of fishing gear utilized by fishermen in waters off New Jersey and Delaware during the past year will be collected.

The information will be the basis for determining the condition of these fisheries, and is required by biologists in recommending necessary action to preserve the fishery resources of the area.

The survey will be completed by the end of the year, but the results will not be known until next spring. Two Fish and Wildlife Service Fishery Marketing Specialists, Ray H. Wilson and R. G. Personius, will conduct the survey.

The last survey of New Jersey and Delaware fisheries was made for 1945. It showed a catch of 208,000,000 pounds, valued at $11,000,000 for New Jersey fishermen, and a catch of 169,000,000 pounds, valued at $2,100,000 for Delaware fishermen. No survey was made for 1946 because of the lack of funds.

New Poison Controls Oyster Pests

A practical method of controlling and destroying the dread Japanese oyster drill has been discovered, according to a report issued by the Washington State Department of Fisheries on August 5. This pest was accidentally introduced from

Japan with the early shipments of seed oysters and has become established in the Olympia oyster beds of southern Puget Sound. It causes great damage by its drilling through the shells of the oysters and sucking out the meats.

OYSTER DRILL
(UROSALPINX CINEREUS)

WHITE SLIPPER-SHELL
(CREPIDULA NUMMARIA)

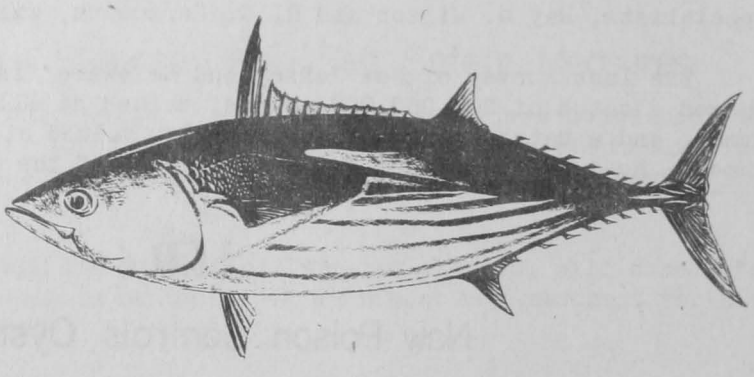
The scientists working at the State Shellfish Laboratory at Gig Harbor, Washington, have discovered that low concentrations of mercuric chloride of corrosive sublimate will kill the drills without harming the delicate oysters. The poison is placed in the dikes, which hold water over the oysters during low tide, and in a short time the pests discontinue their drilling and soon die.

Washington State biologists report that corrosive sublimate will also destroy Crepidula, commonly known as the cup or slipper shell, which competes with the oysters for space and food. The Crepidula multiply rapidly and take the space in the dikes which was meant for the oysters. Growers have often reported removing ten sacks of cups to obtain one sack of oysters.

According to the report, by eliminating Japanese oyster drills and cups, the production of Olympia oysters can be greatly increased.

Progress Report of Central Pacific Exploratory Vessels

Young oceanic skipjack about five inches in length have recently been collected in Hawaiian waters by an observer of the U. S. Fish and Wildlife Service aboard the bait boat Oregon. These are the smallest known oceanic skipjack from this region and indicate that the species must spawn in the vicinity. This discovery may well be of considerable biological importance. Although the location of tuna spawning grounds in the Pacific has long been a mystery, last year saw the collection of extremely young oceanic skipjack off Central America and in the Marshall Islands by Fish and Wildlife Service biologists.



SKIPJACK

The Oregon and the seiner Alaska, both exploratory fishing vessels, will embark on a survey of the tuna fishing grounds around the many outlying islands and banks of the Territory of Hawaii, which are not now utilized by local fishermen. The aims of the survey will be to locate new live bait grounds (see Western Caroline Islands, p. 54 of this issue), new tuna

fishing areas, and to try out the two principal types of West Coast fishing gear in such new areas. Two Service observers aboard the Alaska will accompany and report upon their success.

The two vessels were completely overhauled in Honolulu, following their extended trips in Oceania. During these overhauls, the Service observers have been securing information on live bait and tuna fishing methods around Oahu. Such information should be of value in fishing operations in new regions.

Sardine Management Program

An intensified sardine management program with drastic seasonal quotas has been recommended by marine research biologists of six Pacific Coast governmental agencies, according to the July 14 issue of Outdoor California of the California Division of Fish and Game.

During their tenth annual meeting at the California Academy of Sciences, sardine experts from Canada, Washington, Oregon, and California also heard plans to include the study of oceanography in pilchard research. Coordination of official investigations was urged due to the "sardine failure during the last two years."

Attending the meeting were representatives of the California Division of Fish and Game, Scripps Institute of Oceanography of the University of California, U. S. Fish and Wildlife Service, Fisheries Research Board of Canada, Washington Department of Fisheries, Oregon Fish Commission, and observers from the California Academy of Sciences.

School Lunch Funds Allocated

Funds for the operation of the National School Lunch Program have been allocated to the States and Territories for the fiscal year ending June 30, 1949. Of the $75,000,000 appropriated by Congress, $58,000,000 has been apportioned to the participating States, the District of Columbia, and the Territories of Hawaii, Puerto Rico, the Virgin Islands, and Alaska. The unallocated portion, aside from funds needed for administrative expenses, is available to the Department of Agriculture for the purchase and distribution of specific food to schools participating in the program.

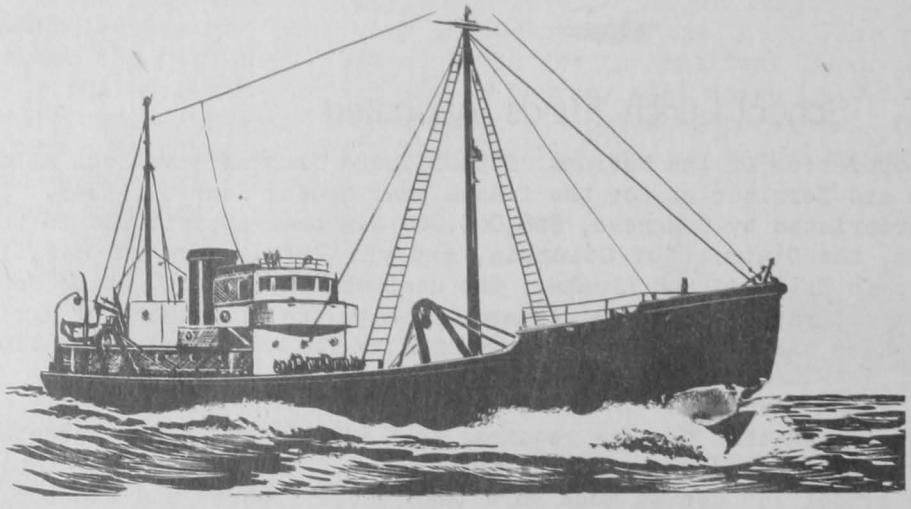
It should be explained that the law requires that all Federal funds accepted must be matched by funds from sources within the States. Therefore, the total amount expended for school lunches is much more than these figures and the total value of the lunches served is even greater. A list of States and Territories, giving apportionments of Federal funds for the year are as follows:

Alabama	$2,176,615	Maryland	$ 652,038	Pennsylvania	$3,372,863
Arizona	314,016	Massachusetts	1,266,211	Rhode Island	205,175
Arkansas	1,493,870	Michigan	2,199,026	South Carolina	1,552,490
California	2,234,556	Minnesota	1,120,928	South Dakota	241,927
Colorado	431,612	Mississippi	2,195,452	Tennessee	1,840,929
Connecticut	479,572	Missouri	1,388,037	Texas	3,516,239
Delaware	77,632	Montana	176,312	Utah	322,312
District of Columbia	151,622	Nebraska	483,898	Vermont	148,563
Florida	955,848	Nevada	29,717	Virginia	1,494,769
Georgia	2,115,473	New Hampshire	198,202	Washington	679,624
Idaho	214,947	New Jersey	1,012,341	West Virginia	1,131,379
Illinois	2,074,435	New Mexico	358,555	Wisconsin	1,159,648
Indiana	1,372,525	New York	3,029,898	Wyoming	99,466
Iowa	937,746	North Carolina	2,512,041	Alaska	11,648
Kansas	737,378	North Dakota	266,645	Hawaii	89,302
Kentucky	1,898,044	Ohio	2,344,665	Puerto Rico	2,112,044
Louisiana	1,634,301	Oklahoma	1,399,047	Virgin Islands	37,006
Maine	380,689	Oregon	470,722		

Fish dealers should contact local school lunch agencies throughout the area they serve to ascertain the extent of their activities. Contacts made by the Fish and Wildlife Service with the U. S. Department of Agriculture indicate a keen interest in fishery products for school lunches. A pilot program to explore the possibilities for the use of more fish in schools was sponsored by the Department of Agriculture last spring.

Shore Processing of Fish Frozen at Sea

A project to freeze fish at sea for later processing on shore is the chief item on the technological research program of the U.S. Fish and Wildlife Service's Branch of Commercial Fisheries for the new fiscal year.



MODERN TRAWLER

Specific recommendations of the fishing industry have been incorporated in the new program.

The recommendations were presented at a conference held in Washington on July 14. Fish and Wildlife Service officials met with representatives of varied fields in the fishing industry at that time.

The practice of freezing fish at sea for later processing on shore has been considered impractical. But preliminary tests, using new techniques, have encouraged the industry to request additional research.

The fish will be frozen aboard fishing vessels soon after catching, and will then be defrosted on shore. At that time, fillets will be cut, refrozen, and stored. If the experiments show that the quality remains high in the fish originally frozen at sea, the Fish and Wildlife Service will then test and recommend new refrigeration and processing methods for the fishing industry.

Fishing vessels will be able to remain at sea for longer periods of time if the tests are successful. Valuable byproducts will be saved because the fish will no longer need to be dressed at sea, and labor and production problems in shore plants will be decreased because of the even supply of frozen fish for filleting.

Another important activity of the new technological research program is a plan to prepare canned sandwich spreads of chum salmon, mackerel, lake herring, rockfish, and pollock for use in the Federal-financed school lunch program. This work may develop another commercial outlet for these species.

Canned fish spreads are now on the commercial market, but they are expensively prepared, and are not suitable for school lunch consumption. Sandwich fish spreads made by the Fish and Wildlife Service have already been used in two Maryland elementary schools, and they were favorably received.

The research work is to be conducted at the Fish and Wildlife Service Laboratories in Seattle, Wash.; Boston, Mass.; College Park, Md.; and Ketchikan, Alaska.

Sockeye Salmon Run Heavier

A substantial increase in the sockeye salmon run this season over previous cycles was announced on August 5 by the Chairman of the International Sockeye Commission. With nine days remaining in this year's legal season on the American side, the total catch already exceeds that of the previous cycle year, 1944, by 10 percent. In 1944, the total season's catch was 435,000 fish. On August 2 of this year, the catch was 490,000 fish. Special closed seasons have resulted in considerable improvement in the escapement of early runs through the Hell's Canyon fishways recently completed by the Commission.

With 25 cents per pound being the price paid by canners, substantial incomes would be received by the many thousands of fishermen now operating on the fishing grounds.

Tests of Canned Fish Spreads

For the past year, a technologist at the Service's laboratory in College Park, Md., has been working up canned sandwich spreads made of fish.

While the general consumer has been able to buy canned meat spread for more than 50 years, spreads made of fish are comparatively new. "Specialty" spreads made of fish are imported from Europe, but they are prepared for a limited, high-priced market.

The canned fish spreads are being made for possible use in the Federal-aided school lunch program. As non-perishable, inexpensive, and ready-to-use products, the canned fish spreads may also give commercial canners a new market.

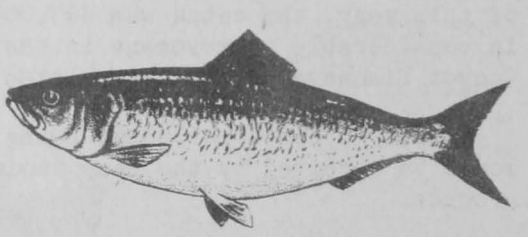
A finished formula for the spread has not been perfected yet, for this work is still in the experimental stage, but the results have been favorable so far. A formula is expected to be ready before the end of the year.

More than 40 species of fish have been tried in canning tests, and it has been decided to use chum salmon, mackerel, pollock, lake herring, and rosefish for large-scale production. These species are inexpensive and are available in large quantities.

Twenty Tagged Shad Recovered

Because of successful U. S. Fish and Wildlife Service tagging operations, scientists now know more about the life of the shad at sea than ever before. The Chief of the Service's Branch of Fishery Biology announced on August 16 that 20 of the 236 shad tagged last August in the Gulf of Maine have been recovered by fishermen in coastal rivers from Georgia to Massachusetts. The sea-dwelling shad were tagged to determine their inshore points of origin.

The shad spends most of its life in oceanic waters, but migrates into fresh water rivers to spawn. Little has been known of these spawning migrations. The results of the tagging operations now show that adult shad school up together in oceanic waters to feed, regardless of their native river habitats. When the spawning period approaches, the schools of shad at sea break up, and the fish return to their native rivers. Eventually, the shad leave the rivers to feed at sea.



SHAD

In cooperation with the Department of Sea and Shore Fisheries of the State of Maine, the shad were tagged by the Fish and Wildlife Service off Mt. Desert Rock in the Gulf of Maine, 17½ miles off the Atlantic Coast. Before the tagging operation was performed, it was unknown that the shad migrated to this area for feeding from different Atlantic coastal rivers. The operation demonstrates the interest which each individual Atlantic coastal State has in the marine shad fisheries.

This was the first tagging operation made to study the dispersion of feeding shad in oceanic waters.

Celluloid discs, specially designed for shad investigations, were attached to the cheeks of the fish with stainless-steel rivets. The tags were numbered,

and contained data as to where and when the shad were released. The tagged shad were removed from purse-seines, in which they were captured while feeding on the surface of the Gulf of Maine's shallow water.

Late in August, at least 1,000 shad were tagged in the same area for additional migrational studies.

Wholesale and Retail Prices

The wholesale index for all commodities on July 17 increased 2.4 percent compared with the previous month, and showed an increase of 13.9 percent over a year ago, according to the Bureau of Labor Statistics, U. S. Department of Labor. The percentage of increase in the wholesale index for foods was even greater than that for all commodities, and was mainly due to increases in meat and fish prices. The wholesale index for foods on July 17 increased 6.2 percent over the previous month, and 15.3 percent over July 12, 1947.

Following the same trend as for other foods, the wholesale prices of canned pink and red salmon also continued to increase during July, and compared with a year ago, canned pink salmon was 41.9 percent and canned red salmon 17.6 percent higher. Both of these items were selling at higher prices during the month of July.

The rate of increase in retail food prices was a little less than the previous month, but the retail food index for 56 large cities reached a high of 216.8 percent of the 1935-39 average as of July 15. As of June 15, the fresh and frozen fish index showed a substantial decline, but as of July 15, this decline was not only canceled, but increased 0.8 percent compared with June 15, and 9.7 percent compared with a year ago. This increase in fresh and frozen fish was mainly due to a strengthening of the frozen fillets market with prices during the first part of July increasing over the previous month. The average retail price of canned pink salmon continued to increase and, as of July 15, increased 0.7 percent compared with the previous month and 28.5 percent over a year ago.

Wholesale and Retail Prices

Item	Unit		Percentage change from--	
Wholesale: (1926 = 100)		July 17,1948	June 12,1948	July 12,1947
All commodities	Index No.	168.9	+2.4	+13.9
Foods	do	191.2	+6.2	+15.3
Fish:				
Canned salmon, Seattle:		July 1948	June 1948	July 1947
Pink, No. 1, tall	$ per doz. cans	5.418	+2.8	+41.9
Red, No. 1, tall	do	6.649	+3.9	+17.6
Cod, cured, large shore, Gloucester, Mass.	$ per 100 lbs.	14.50	0	+ 7.4
Retail: (1935-39 = 100)		July 15,1948	June 15,1948	July 15,1947
All foods	Index No.	216.8	+1.3	+12.3
Fish:				
Fresh, frozen, and canned	do	301.6	+0.8	+15.7
Fresh and frozen	do	253.9	+0.8	+ 9.7
Canned salmon:				
Pink	¢ per lb. can	53.5	+0.7	+28.5