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The Harvest From the Sea

ALTHOUGH fishing is one of the oldest industries in the Sixth District, many Southerners believe that its potential income-producing capacity has not yet been reached. They believe that if the improvements already started are carried further, the industry can be a factor in raising the South's income to the national level. Moreover, this gain can come from utilizing existing resources rather than from introducing an industry wholly unrelated to the area's natural resources.

Each District state except Tennessee has direct access to the waters of the Atlantic Ocean or the Gulf of Mexico, along a general coast line measuring 1,791 miles. When the shore line of every bay and inlet is included, the total shore line increases to 19,457 miles. Florida's alone, measured on this basis, amounts to 8,426 miles, and Louisiana's to 7,721 miles. Georgia can claim 2,344 miles; next comes Alabama with 607 and Mississippi with 359 miles. The discussion that follows relates only to the five coastal states, although the people of Tennessee get some income from inland fisheries.

Most fish are confined to the waters of the gently sloping portion of the ocean floor, called the continental shelf, or to the bays and inlets of the coast. In these waters, off the coast of the District states, abounds a greater variety of fish and shellfish than anywhere else off the shores of the United States.

The continental shelf is wide along a great deal of the coast and far out along the Florida Keys. The deeply indented bays, the coastal marshes and inland lagoons, especially along the coasts of Louisiana, Mississippi, and Alabama, provide ideal growing conditions for oysters, as well as shelter for the young shrimp and fish that come in from the open sea to grow to maturity.

The Catch

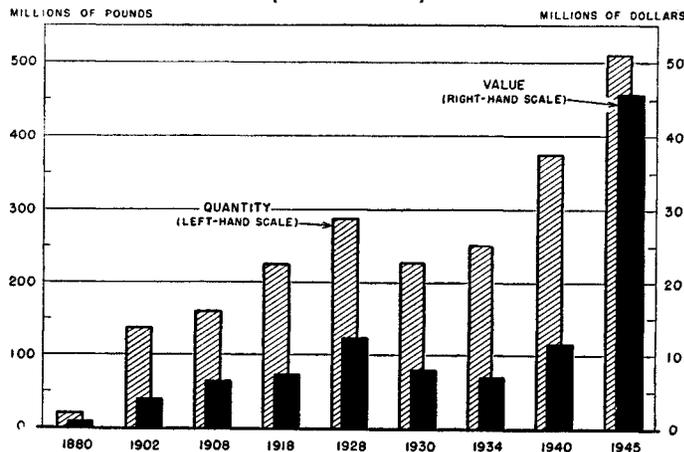
Out of these District waters, 45 million dollars' worth of fish and shellfish were caught in 1945, the latest year for which there are detailed statistics. About two-thirds of this income came from shellfish and the rest from what are classified as fish. Wartime conditions, of course, were still limiting fishing activities in 1945. Incomplete statistics indicate that by 1948 the total value of the catch may have increased to over 50 million dollars.

A comparison with the value of certain agricultural crops grown in the five states helps place the value of this harvest from the sea in perspective. In Louisiana, fishermen get more from their catch than the farmers get from any crop except cotton, rice, and sugar cane. Fishermen in the five states sell

their catch for more than farmers get for the total peach or pecan crop and for twice as much as the Irish potato crop brings.

SHELLFISH. Southern fishermen get the greater part of their income from shellfish. The latest comprehensive statistics—those for 1945—place the value of shrimp sold by District fishermen at over 18 million dollars. Preliminary figures for 1948 show a yield for Louisiana alone of almost 19 million dollars, one of over 600,000 dollars for Alabama, and one of 850,000 for Mississippi. In 1945 shrimp caught by Florida fishermen were valued at almost 2 million dollars and by Georgia fishermen at over one million. Of the 191-million-pound catch recorded for that year, District fishermen claimed 156 million pounds, or 82 percent.

QUANTITY AND VALUE OF COMMERCIAL CATCH
Sixth District Fishermen
(Selected Years)



The quantity of fish and shellfish caught by fishermen in the states of Alabama, Florida, Georgia, Louisiana, and Mississippi has risen from 24 million pounds in 1880 to over 500 million today. The value of the catch grew from 1.3 million dollars in 1880 to 45.7 million in 1945. Between 1940 and 1945, the catch increased only 38 percent in quantity, but 300 percent in value. Over one-third of the gain in value was due to an expansion in the shrimp business, but rising prices of other fresh fish also swelled returns.

Next to shrimp, oysters bring in more revenue than any other type of fish or shellfish. The most recent figures place the value at between 4 and 5 million dollars. Louisiana is credited with 3.1 million dollars for 1948, followed by Alabama with almost 600,000 dollars, and Mississippi with a yield of between 400,000 and 500,000 dollars. The value of the yield in Florida in 1945 amounted to 788,000 dollars, and

the revenue from oysters in Georgia was more than nominal.

FISH. The United States Fish and Wildlife Service lists almost 60 varieties of fish being caught commercially off the shores of the Sixth District states. Seven varieties, however, account for 75 percent of the total fish sales excluding shellfish. Mullet, caught principally by Florida fishermen, yielded 28 percent of the total returns in 1945. Other important varieties include Spanish mackerel, sea trout, menhaden, catfish, groupers, and red snappers. When six other varieties are added, including drum, pompano, bluefish, and flounders, the list accounts for over 90 percent of the total fish sales excluding shellfish.

MENHADEN. The most important fish on the basis of the volume caught is not widely known. Nevertheless, the 180 million pounds of menhaden caught and sold in 1945 amounted to 60 percent of the volume of commercial catch. Most of the menhaden is taken from the waters off the Florida, Louisiana, and Mississippi coasts. In 1948, the value of menhaden sold in Louisiana alone exceeded a million dollars, over twice the value reported for 1945, and in Mississippi, menhaden brought almost a million dollars.

COMMERCIAL CATCH IN THE SIXTH DISTRICT STATES

State	Number of Species	Pounds Caught* (000)	Value to Fishermen* (000)	Number of Fishermen**	Number of Vessels**	Most Valuable Fish*
Alabama	26	12,556	\$ 2,157	1,167	66	Shrimp
Florida	67	243,846	18,836	8,902	203	Mullet
Georgia	19	21,398	1,350	1,126	148	Shrimp
Louisiana	24	209,108	24,382	6,253	486	Shrimp
Mississippi	17	80,450	2,589	1,669	215	Menhaden
Total		567,358	\$49,314	19,117	1,118	

*1948 data for Alabama, Louisiana, and Mississippi; 1945 data for Florida and Georgia.

**1940 data for Florida; 1945 data for other states.

Source: U. S. Fish and Wildlife Service.

This fish is used primarily for the manufacture of meal and oil. Meal made from menhaden, very high in protein content, is fed to hogs and poultry. The oil has industrial importance in the manufacture of paints, varnishes, insect sprays, and soaps, and as a lubricant for certain specialized uses. It is also used to fortify poultry feeds with vitamins.

The sea provides another harvest along the Florida Gulf Coast in the sponges found near Tarpon Springs. Sponges taken in 1945 were valued at over 3 million dollars.

Processing and Marketing the Catch

In the District, little attention has been given to the processing of edible fish, except shellfish, before they are sent to market. The greater part has been marketed fresh, and "in the round," that is, without any preparation whatsoever. Only small amounts have been canned or frozen in the past.

FRESH FISH. Each type of fish has its special appeal to certain local markets, but the largest markets for most types are west of the Mississippi and south of the Ohio River. Spanish mackerel and southern bluefish, for example, have a strong demand in New York and in the eastern states, not only because of their fine flavor, but also because they are caught during the season when many types of fish are absent from northern waters. The market for groupers, on the other hand,

is almost entirely in the South. Some species of fish are so prized by the local market that the limited quantity caught never reaches distant points.

Marketing fish fresh without any preparation or storage has disadvantages. The volume of the catch can vary not only from season to season, but also from day to day. Heavy catches may be made of certain species during short periods. Even were it physically possible for the fresh fish markets to handle all the catch at such times, attempting to market it might send the price tumbling.

One way to avoid these marketing problems is to process the fish into fillets and other forms, then package, quick-freeze, and store it until the market can absorb it. The market is thus not only stabilized but widened. Market surveys show, moreover, that fish so packaged are more likely to appeal to housewives living in inland areas who are unfamiliar with fish and who hesitate to buy the fresh product.

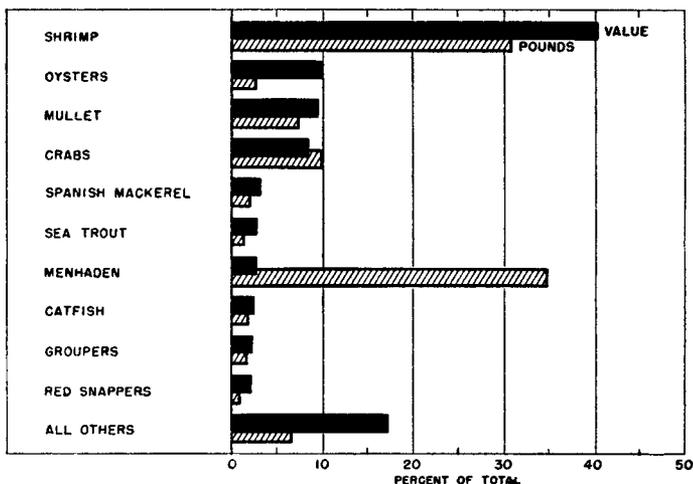
MEAL AND OIL. The menhaden industry is, of course, entirely different. The fish has little value in itself and consequently a sizable industry has been created to process it. According to the latest census data, there are approximately 60 fish by-product plants in the District states. Many of these plants process menhaden.

At one time, menhaden processing was concentrated in New England, but because of the longer fishing season in the South, many of the newer plants are there. In the District, plants are found in Florida, Louisiana, and Mississippi.

Boats generally from 85 to 150 feet long and carrying a crew of around 20 men supply the plants. Some of these boats venture as far as 100 miles into the Gulf, although occasionally large schools of fish may be found near the shore. When they arrive at the plants, the vessels may carry as many as a million fish weighing approximately a pound each.

The load is transferred from the boats by a mechanical or a hydraulic lift. Processing begins immediately. The fish are cooked to break down the oil cells; machines then grind

PRINCIPAL SPECIES OF FISH AND SHELLFISH CAUGHT BY SIXTH DISTRICT FISHERMEN, 1945



District waters yield numerous varieties of fish and shellfish, of which 75 are caught commercially. Three-fourths of the total returns, however, come from nine varieties. Many varieties not shown in the chart, including pompano, bluefish, and flounders, are popular and command comparatively high prices.

the cooked fish and press out the oil and water. After the oil is separated from the water, somewhat as cream is separated from milk, it is passed into storage tanks and the residue is dried and ground into meal.

In recent years not only have methods of extraction been improved, but means have been found to utilize what were formerly waste products. For example, the water from which the oil has been removed is put through a condensation process to extract what is called fish soluble. This soluble, a brown gummy substance full of vitamins, is used to fortify poultry feeds. One manufacturer has gone so far as to extract the odor and use it as a gas to fire his boilers.

SHELLFISH. In contrast with other types of fish, most of the shellfish caught in District waters are processed before they are marketed. Oysters marketed fresh are usually shucked before being shipped. Louisiana and Mississippi together produce canned oysters valued at almost four-fifths of the total United States production. Biloxi, Mississippi, in fact, is considered the world's center for canned oysters.

VALUE OF MANUFACTURED FISHERY PRODUCTS
Sixth District States, 1940 and 1946
(Thousands of Dollars)

Product	Alabama		Florida		Georgia		Louisiana		Mississippi	
	1940	1946	1940	1946	1940	1946	1940	1946	1940	1946
Shrimp.....	*	*	31	n.a.	335	n.a.	5,225	6,288	1,239	3,094
Oysters.....	109	n.a.	104	n.a.	15	n.a.	1,336	1,280	1,191	1,663
Menhaden....	...	...	1,488	843	...	...	*	*	*	*
Mullet.....	*	*	73	n.a.	...	...	...	...	...	...
Crabs.....	28	n.a.	264	n.a.	65	n.a.	433	1,887	61	n.a.
Miscellaneous	423	705	1,512	990	17	25	891	1,252	524	1,209
Total**	560	842	3,472	2,305	431	440	7,885	10,707	3,015	6,027

*Included in miscellaneous.
**Totals for 1946 include 1940 data for products not reported in 1946.

n.a. Not available.
Source: U. S. Fish and Wildlife Service.

Until recent years most consumers got their shrimp out of cans, and practically all of this canned shrimp came from the District states. Louisiana and Mississippi marketed the major share, although shrimp canning was also important in Alabama and Georgia.

The war limited production of canned shrimp because of a reduced labor supply and a shortage of cans and, therefore, a greater proportion was marketed either fresh or frozen than in earlier years. A decided consumer preference for frozen shrimp, which are cleaned and beheaded before shipping, continued after the war. Shrimp are still canned in considerable quantities, but the latest statistics show that about three times as many are frozen. The total production of canned shrimp in 1947, amounting to seven million pounds, was less than a third of what it was in 1933.

There are a number of advantages inherent in the processing and marketing of frozen shrimp. During the late summer months and the fall, the catch may be extraordinarily heavy. If shrimp were marketed fresh, the dealers would be compelled to dump it on the market for any price it would bring. Now, the dealer can freeze the product and sell it whenever the fresh supply is low and prices are more favorable.

A new shrimp processing business has been developed during the last eighteen months. The shrimp are not only cleaned, they are dipped in batter, ready to be cooked, after which

they are frozen. So successful has the process been that shipments are being made by truck as far away as California.

Records for 1945 and 1946 show that some shrimp is frozen every month of the year, but the heaviest freezings come during September, October, and November. Withdrawals from stocks are lowest during those months. On the other hand, withdrawals are heaviest during March, April, and May, when the catch is light and when comparatively small amounts are being frozen.

Increased demand for the frozen product raised the average price paid to fishermen from 3.5 cents a pound in 1937 to 11.2 cents in 1945. Preliminary figures for 1948 indicate an average price of over 20 cents. The sustained demand has also absorbed at good prices the increased catch of jumbo shrimp from the newly discovered grounds off the Florida Keys.

Fish and Finance

The fishing industry, like any other, needs both long- and short-term credit. Long-term credit is used chiefly to finance the purchase of equipment. Short-term credit is needed to finance individual fishermen at the start of the season and during slack periods, and to help packers and wholesalers carry inventories. Many commercial banks provide, directly or indirectly, much of the credit required. A successful loan program, of course, requires an intimate knowledge of the industry, an ability to appraise accurately the value of the vessels, and a successful record of judging the general credit worthiness of the borrowers.

A survey made in late 1946 of member bank commercial and industrial loans showed that only about 10 percent of the amount of loans made to the fishing industry was outstanding for over a year. Today a survey might show a somewhat larger proportion of long-term loans because more new equipment is being purchased.

LONG-TERM CREDIT. The wide variety of fishing done in the District waters means, of course, that equipment needs which require long-term financing also vary considerably. In southern Louisiana, for example, one banker states, "A crab fisherman needs little more than a skiff, a ball of fishing twine, and some bait." The shrimp fisherman in that area who does his fishing in the shallow bays, bayous, and lakes can use a boat only 35 to 45 feet long, costing from 3,000 to 6,000 dollars. If the shrimp fisherman goes out in the Gulf of Mexico some distance from the shore, he must invest around 25,000 dollars in a boat at least 50 feet long and powered by a Diesel engine of from 125 to 175 horsepower. Menhaden boats, still a different type, may cost from 75,000 to 100,000 dollars.

Most of the smaller boats are owned by individual fishermen and are purchased without any financing by banks. Loans that banks make seldom run beyond three years and are secured by chattel mortgages at around 60 percent of the value of the boat. Repayments are made in instalments. The chief risk involved in this type of lending, according to some bankers, is the possibility that when the catch is not up to expectation, the fishermen may be unable to make payments regularly.

Packing companies or wholesalers who own many of the larger craft have the advantage of a better credit standing

than the small fishermen. Bank loans on these vessels also are generally made for not more than three years and are to be repaid in instalments. In some areas local capitalists in conjunction with experienced captains may own the boats, which are either leased to the packing companies or operated independently. Bank financing may not be necessary.

Oyster fishing in southern Louisiana requires a somewhat different type of financing. Practically all the oysters harvested there are taken from cultivated and privately leased beds. The oysters are dredged off reefs, where otherwise they would develop into the long, narrow, and irregularly shaped "coon oysters" of no market value. Oysters taken from these reefs and planted in beds grow to market size in from eighteen to twenty-four months.

Such an operation not only requires an investment in boats, camps, and equipment, but also ties up funds during the period when the oysters are growing. One banker places the minimum investment for such operations at from 10,000 to 15,000 dollars, although larger operators require considerably more. Where oysters are taken directly from the reefs to canneries, as in some areas of the District, a smaller investment of from 3,000 to 5,000 dollars is necessary.

SHORT-TERM CREDIT. Although for most species the fishing season is longer in southern than in northern waters, there are

still seasonal needs for credit. The individual fishermen thus require funds to supply their boats and to furnish allowances for crew members until the catch can be made and marketed. Moreover, even during the regular season the size of a prospective catch is uncertain and there may be periods when boats return empty or with very small catches.

According to bankers in different coastal regions of the District, wholesalers and packers usually finance individual fishermen, because they are in a better position to understand the credit needs of the fishermen and to check on their operations than the banks. After the season begins, the fishermen generally repay the advances with one-third of the value of the catch until the debt is liquidated. If the catch is small, repayments may be adjusted downward.

Even wholesalers and packers with substantial investments in plants and equipment and working capital may need additional working capital during certain months to carry inventories. The general credit standing of the borrower may be enough security when the loan is small. Larger loans are secured by warehouse receipts on inventories of the frozen shrimp or fish. Advances are made on the basis of from 60 to 90 percent of the market value of the inventory, depending on market conditions. Maturities seldom exceed 90 days, and the average runs from 30 to 60 days.

Menhaden processors have been able to secure funds by immediate sale of most of their product. Frequently the entire season's output is contracted for before the season starts. It is possible to process a boatload of menhaden, sell it, and have the oil on its way to the buyer within forty-eight hours. Once the product is shipped, the processor often draws a sight draft which may be discounted with his bank if necessary.

Problems of the Industry

The history of the fishing industry resembles that of many of the other extractive industries. Resources at first were close at hand and abundant, and were exploited without much thought of complete utilization or of future supply. Most persons, if they thought anything about it, probably believed, implicitly, the old saying that when one fish is taken out of the sea, two others take its place.

Overfishing, water pollution, and industrialization, however, have cut production from bays, inlets, and sounds along many parts of the coast of this country. New grounds and new devices for catching the fish have had to be found. Technical advances have made fishing possible farther and farther away from shore, but the result has often been, as a writer in the *London Economist* says, ". . . to make one fish swim where two swam before."

The industry in the District has not been free from such troubles. The waters of some bays which formerly yielded a good harvest of shrimp, oysters, and crabs, for example, have become so polluted that they are no longer productive. Overfishing in the inshore areas has reduced the supply of shrimp, and taking oysters without planting has reduced oyster production in some places.

Recognition of these problems has led state governments to start conservation programs and to regulate the industry in the hope of developing it on a sustained-yield basis. Each District state has a commission charged with administering

MEMBER BANK LOANS TO THE FISHING INDUSTRY* Sixth District, November 1946

Asset Size of Borrower :	SIZE OF LOAN AND ASSET SIZE OF BORROWER					
	Wholesalers			Other Than Wholesalers		
	Percent of Total Loans		Average Loan	Percent of Total Loans		Average Loan
	Number	Amount		Number	Amount	
Under \$50,000	64	24	\$1,342	62	3	\$ 765
\$50,000 - \$250,000	36	76	7,482	31	40	18,750
\$250,000 and Over	..	..	..	6	57	53,000
All Sizes	100	100	\$3,535	100	100	\$14,391

SECURITY AND REPAYMENT METHODS

Type of Security :	Percent Distribution of Number of Loans		
	Wholesalers	Others	All Types
Warehouse receipts.....	7	8	8
Chattel mortgage on boats and other equipment	29	67	40
Endorsement.....	32	..	22
Unsecured.....	21	17	18
Other.....	11	8	12
	100	100	100
Method of Repayment :	Percent Distribution of Number of Loans		
Single payment.....	64	50	60
Instalment.....	36	50	40
	100	100	100
Repayment Period :	Percent Distribution of Number of Loans		
Demand.....	18	8	15
30 days or less.....	18	17	18
30 days to 90 days.....	21	..	15
90 days to 6 months.....	29	25	27
6 months to 1 year.....	3	42	15
1 year and over.....	11	8	10
	100	100	100

*Based upon reports of 10 banks in coastal areas of Florida, Georgia, Louisiana, and Mississippi.

state laws for the benefit of the industry, and interstate compacts help to enforce the laws. These activities promise to prevent recurrence of many past abuses.

Other problems, however, are facing the industry. Its development has been slow, partly because of a lack of knowledge and partly because of a failure to apply existing knowledge. Exploration in the South Atlantic and Gulf waters has been comparatively limited. Little is known of the fish that grow there—where they are found in greatest numbers, their life histories, how large a fishing industry they can support, and what conservation measures are necessary to keep the industry on a sustained-yield basis. There is also a lack of knowledge on the most efficient methods of utilizing the fish. Development of a wider market and reduction of its seasonal character as well as a solution to some production problems are other obstacles yet to be overcome by the industry.

Considerable progress in eliminating these difficulties has already been made by private enterprise and by government. Typical of such progress are the developments in and around Pascagoula, Mississippi.

Progress at Pascagoula

Pascagoula, located on the Gulf of Mexico, approximately 40 miles west of Mobile, came into national prominence during the war as the location of one of the nation's most important shipbuilding plants. Over 10,000 persons worked in shipyards there at the peak of war employment, more than the total population claimed by Pascagoula and Moss Point, the neighboring city, in 1940.

The war's end, of course, brought a sharp drop in employment, but Pascagoula and Moss Point now are by no means ghost towns. The Ingalls Shipbuilding Company, built as a permanent installation, completed several ships after the war and is now constructing a prototype cargo vessel for the Maritime Commission. Moreover, there are other permanent industries including a knitting mill, a large paper and pulp plant, three plywood and hardware products mills, and two yards constructing small craft. But one reason for the sustained economic activity has been the increased activity in the fishing industry.

MENHADEN. A menhaden processing plant was established by the Wallace M. Quin Company in Pascagoula as early as 1938. Now there are three other companies operating plants—the Standard Fish Meal Company, the Fish Meal Company, and Tuna, Incorporated, all located in Moss Point. The four plants employ approximately 1,800 workers during the normal seven-month season.

Although modern methods of extraction contrast sharply with methods of only a few years ago, many persons feel that industrial research can advance the industry still further. One company believes this so strongly that it has set up a modern research laboratory costing several thousand dollars.

According to this company, any industry attempting to secure a uniform product must have production controls, something neglected at many menhaden processing plants. Variations in the length of time it takes to process the fish after they are caught, for example, may result in products differing markedly in chemical analysis and sometimes may mean a loss to the processor. Industrial research can help establish

control methods that may make it possible to compensate for variations in raw materials and in processing conditions. Moreover, industrial research can add many uses for the complex product which is extracted in the form of fish oil.

TUNA. Rarely does an industry migrate from the West to the South. Yet just such a development is taking place in the Pascagoula-Moss Point area. Of equal significance are the steps the manufacturer is taking to integrate an activity new to the region with the existing menhaden industry and to iron out some of the seasonal fluctuations connected with fish processing.

Except when war limitations were in effect, the production of canned tuna has expanded every year since it was first started in 1911. By 1939, canneries were processing 82 million pounds and in 1948, production reached 125 million pounds. Practically all the canning is done on the Pacific Coast, for the most part at San Diego, California.

To meet the ever-increasing demand, fishermen have gone farther and farther away from the waters off the California coast where tuna was originally found. This has been made possible by the fact that tuna clippers are now equipped with modern refrigeration plants that enable them to remain offshore for extended periods. Some tuna is now taken during a limited period of the year along the Oregon and Washington coasts, but in recent years the principal fishing ground has been in the neighborhood of the Galapagos Islands, several thousand miles to the south, off the coast of Ecuador, and also many miles to the east. When a tuna clipper reaches these grounds, it is almost due south of the point where the Mississippi empties into the Gulf.

Even before the war, the idea of establishing a tuna packing industry on the Gulf Coast had been fermenting in the minds of men connected with the tuna industry on the Pacific Coast. After the war, rumors of the then novel idea reached W. B. Herring, President of the Pascagoula-Moss Point Bank. The business community decided to investigate and sent Hermes Gautier, member of the state legislature, and Mr. Herring, now President of the Mississippi Bankers Association, to the Pacific Coast to view operations there. The trip was sponsored by the Jackson County Board of Supervisors, the Pascagoula Port Commission, the Pascagoula and Moss Point Chambers of Commerce, and the state of Mississippi.

Visiting plants on the Pacific Coast, Mr. Herring and Mr. Gautier met a representative of a group of boat owners who appeared interested in the move. The Mississippi men pointed out that a route from the fishing grounds through the Panama Canal to Pascagoula would be over a thousand miles shorter than the route to California. Other factors too were favorable to the location. Not only would a plant located in Pascagoula serve the growing southern market, but it would also be nearer the midwestern and eastern markets, which take the greater part of canned tuna. Finally, the labor supply in the Pascagoula-Moss Point area was adequate.

These points were decisive to the West Coast operators. More as a token of good faith than anything else, businessmen in the Mississippi community donated a 5,000-dollar plant site in Moss Point.

The new group, known as Tuna, Incorporated, are intro-

ducing many new ideas into the industry. First, they plan to change the seasonal character of the packing by freezing the catch before it is brought in and storing it to be processed as needed during the year. But, strangely enough, the company has started its tuna packing operations by constructing a menhaden processing plant. The inedible portions of tuna are customarily processed into fish meal and other by-products. The new group decided to use the same plant for processing menhaden. This plant is now in operation. Because the owners' boats are under contract to supply tuna to West Coast operators for the present season, canning will not begin until next year.

When in full operation, this enterprise will require an investment of approximately 400,000 dollars in the menhaden plant and tuna cannery, in addition to 1.5 million dollars in boats. It is expected that 160 fishermen will be needed to operate the six menhaden and six tuna vessels and 200 persons to operate the cannery and menhaden plant.

EXPLORATION. Presently, no tuna are taken from Gulf waters in commercial quantities, but many persons believe they could be found if a complete scientific exploration were made. This year a step has been taken that promises to fill some of the gaps in the knowledge of these waters. Two vessels—the *Alaska* and the *Oregon*—have now been assigned by the United States Fish and Wildlife Service to the Gulf of Mexico. The *Alaska*, based at a Texas port, serves as a biological laboratory. Pascagoula is the home port of the *Oregon*, an exploratory vessel. The program includes not only discovery and delineation of new fishing grounds but collection of adequate data upon which to base the conservation measures necessary for a sustained yield.

The state of Mississippi, recognizing the necessity of augmenting knowledge of marine life in the Gulf waters, has also established the Gulf Coast Marine Laboratories at Ocean Springs. The laboratories were originally set up by a group of biologists and other scientists sponsored by the Mississippi Academy of Science. The results were so promising that the state has appropriated money for the laboratories and placed them under the supervision of the Mississippi Institutions of Higher Learning.

SOFT-SHELL CRABS. What can be done by adding ingenuity to existing knowledge is also demonstrated by an enterprising man who is making a year-round business out of soft-shell crabs. The soft-shell crab, prized by some fish gourmets, is not a distinct species, as sometimes supposed, but rather a crab that has just shed its hard shell. Because the exact moment when a crab will discard its shell is unknown and a new shell forms in a comparatively short time, the crab must be taken just at molting time. Formerly, soft-shell crabs were taken by men who waded around in the bays in search of crabs in the shedding stage. The cold water during many months of the year confines this type of fishing to a few warm summer months.

Under the present system, which is new at least to that area, the crabs are caught from boats and placed in beds—small, half-submerged, wooden platforms. The crabs are fed, carefully watched by the expert, and transferred from one bed to another until they are ready to shed their shells. The comparatively warm waters make for rapid growth. This operation, although on a small scale, provides work for approximately 30 people on a year-round basis.

SHRIMP. Fishermen in Jackson County, of which Pascagoula is the county seat, in 1945 caught over a million pounds of

shrimp, valued at 129,000 dollars, and shrimp fishing is still active there. Because there is no canning plant in Pascagoula, modern quick-freezing and marketing methods have been particularly helpful. Shrimp received in the early morning are cleaned, beheaded, packed in containers, and sent on their way to Mobile within a few hours. At Mobile they are quick-frozen and either shipped to inland markets or stored.

Present processing and marketing methods have been especially profitable to the small operator, according to a local shrimp dealer with over thirty years' experience. Formerly the entire catch was sent to wholesale markets in New York or New Orleans to be sold at any price the market would bring. Sometimes when the catch was heavy, shipments would be made at a loss. Storage methods now make it possible to sell the shrimp only when it will bring a profitable return.

A Recipe for Progress

There are many communities along the shores of the District states where total returns from fishing are greater than in Pascagoula. Developments at Pascagoula may not be identical with those elsewhere, because within any region conditions vary from place to place. Yet wherever progress has been made, in other areas or even in other industries, many of the elements of success are the same.

Future progress in the fishing industry requires adequate knowledge of resources and of their uses. That realization has led to a program of research by both government and business interests. There also appears to be a realization that progress means change, and a willingness to try new methods. There is a realization that continuing steps must be taken to put the industry on a sustained-yield basis; conservation has already been instituted and is being promoted. Finally, there has been a recognition of the advantages that can be gained from wholehearted cooperation between private business and government.

CHARLES T. TAYLOR

Bank Announcements

On July 17 the Monroe County Bank, Monroeville, Alabama, was admitted to membership in the Federal Reserve System. The officers of this bank are J. B. Barnett, President; C. H. McCall and A. J. Smith, Vice Presidents; John B. Barnett, Jr., Cashier; and A. L. Johnson, Assistant Cashier. The bank has total resources amounting to \$2,178,600 and capital accounts amounting to \$203,600.

The Bank of Albany, Albany, Georgia, a non-member bank, began remitting at par on July 1. The officers of this bank are W. D. Owens, President; W. Ray Houston and B. B. Ivey, Vice Presidents; L. M. Jordan, Cashier; and Ray S. Mock, Henry A. Floyd, Wilbur Bedenbaugh, and Mary T. Harris, Assistant Cashiers. This bank has capital accounts in excess of \$200,000 and total deposits amounting to \$3,774,000.

On July 11 the Albany Trust and Banking Company, Albany, Georgia, also began remitting at par. This bank has total resources amounting to \$1,355,000. The officers of this bank are C. L. Neuman, President; P. J. Brown, Vice President; W. H. Burt, Vice President and Trust Officer; and George W. Hughey, Jr., Cashier and Assistant Trust Officer.