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STATE OF NEW JERSEY

REPORT

OF THE

Bureau of Shell Fisheries

For the Year Ending October 31st

1906

Embracing the Annual Reports of the State Oyster Commission, the State Oyster Commission for the District of Ocean County, and the Oyster Commission for the District of Atlantic County, and the State Biologist.

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1906.

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Officers and Employes of the State Oyster Commission.

Commissioners.

EDMUND STITES, JR., Port Norris.
JEREMIAH N. OGDEN, Chairman, Bridgeton.
WILLIAM DeGROFF, Keyport.
OGDEN GANDY, Dennisville.

Superintendent and Secretary.

ALONZO BACON, Mauricetown.

Supervising Engineer,

SAMUEL M. SHIELDON, Millville.

Special Officer,

GEORGE C. BELL, Newport.

Captains of Guard Boats.

JAMES BOYLE, Millville.
J. HAMMIT LAKIE, Port Norris.

Office of Commission, Maurice River, New Jersey.
Days of meeting, first Thursday in each month.

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Officers and Employes of the State Oyster
Commission.

DISTRICT OF OCEAN COUNTY.

Commissioners.

ERNEST L. WORTH, Chairman, Bayville.
SAMUEL B. ALLEN, New Gretna.
NAPOLEAN E. KELLEY, West Creek.

Superintendent and Secretary.

E. A. HORNER, JR., Tuckerton.
Office of the Commission, Beacon Building, Tuckerton.
Days of meeting, first Thursday in each month.

STATE OYSTER COMMISSION FOR THE DISTRICT OF ATLANTIC
COUNTY.

LEVI C. ALBERTSON, President, Atlantic City.
WATSON CONOVER, Secretary,
R. M. SOOY, M. D., Atlantic City.

Superintendent.

ALFRED B. SMITH, Brigantine.

STATE BUREAU OF SHELL FISHERIES.
CHARLES R. BACON, Chief, Camden.

Report of Bureau of Shell Fisheries.

To the Honorable Edward C. Stokes, Governor :

The annual report of the State Bureau of Shell Fisheries, including those of the State Oyster Commission, the Oyster Commission for the District of Ocean County, the Oyster Commission for the District of Atlantic County, and a synopsis of the report of the Biologist of the State Agricultural Experiment Station is herewith submitted for your perusal according to law.

You will observe by these reports that the industry is in a flourishing and most promising condition. While there is still some necessity for changes, modifications and improvements in our laws the general aspect of legislation is for the great good and benefit of the industry, and those concerned with it. Some of the marked improvements are observable in the change of the season for gathering seed from the natural beds of Delaware Bay. It is noticed, as some of our most intelligent planters predicted, that the young spat is given better opportunity to grow and strengthen, and when it is planted on the leased ground its chances to survive are greatly improved. The general result is a much larger catch and heavier growth of natural spat. The wisdom of this legislation has become apparent to all those interested in the industry. It is also true that notwithstanding this increase of catch from Delaware Bay beds, the season on the planted grounds has not been so good as in some former years. The explanation of this is probably in the conditions of the weather which have prevailed during the year. The health and growth of the oyster depend almost as much upon the weather as the growing crops of the farmer. The effect of atmospheric conditions upon the water in which the young oysters are planted and must find their growth is probably not so great, but it seems

that the tides and temperatures affected by the weather conditions almost wholly control the condition of the oyster.

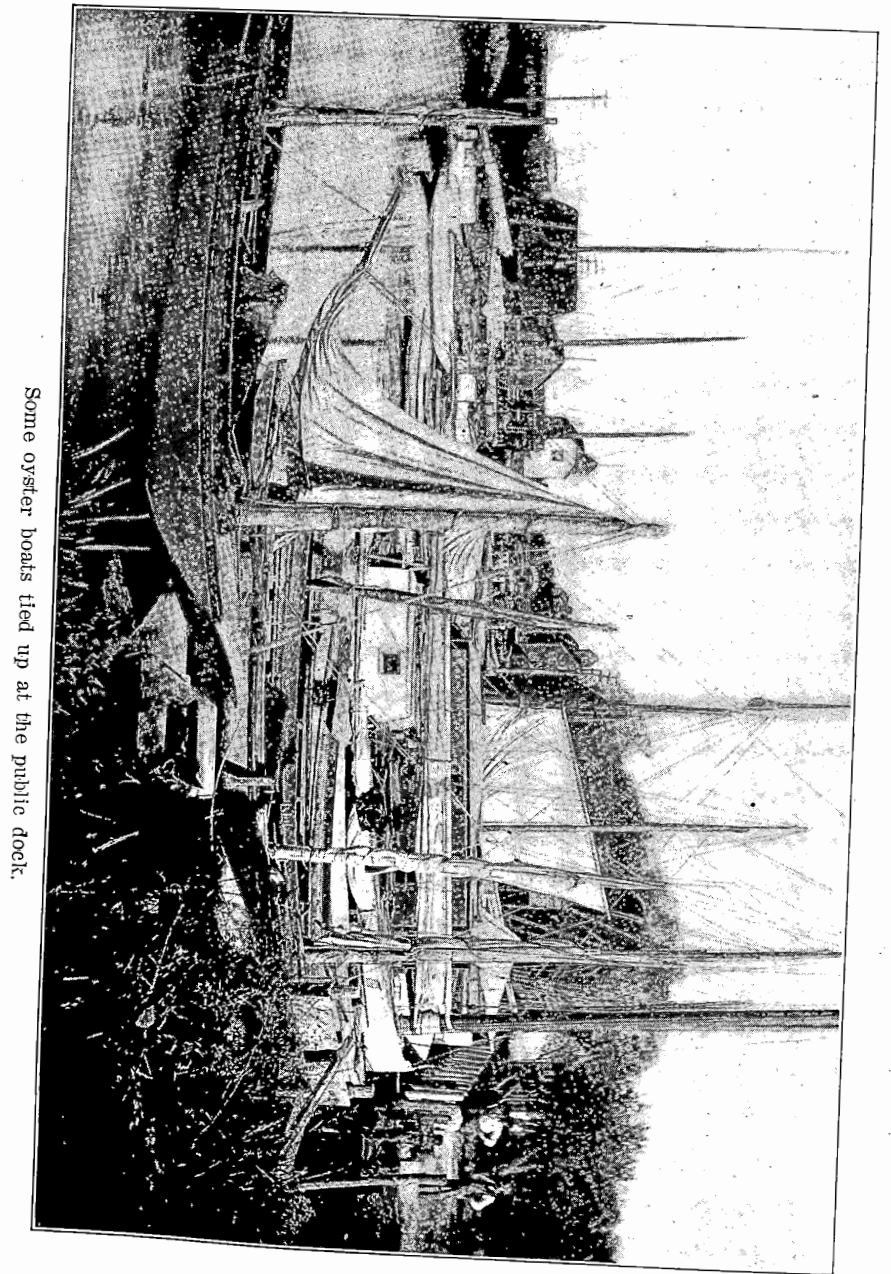
It is therefore sometimes impossible to say exactly what makes the difference from year to year in the production of oysters from the same beds and under apparently the same conditions. You will notice too, that in the Maurice River Cove District the young oysters have suffered severely from the borer, that tiny destroyer of the health of our bivalves. It is almost as destructive as the San Jose scale which menaces our horticultural products and is much more difficult of attack. It is one of the most persistent and insidious foes of the oyster and the great difficulty lies in the fact that there is no way of removing it.

In spite of all drawbacks, however, we are glad to be able to report a gradual and most perceptible advance along the whole line of our industry. What is most needed to-day is legislation looking to its improvement. If this Bureau is permitted to exist, its endeavor will be to promote this class of legislation in the full belief that the Industry has a tremendous future, and that the State must sooner or later realize and appreciate its full value and importance.

The several commissions now controlling the industry are working harmoniously for the general good of the Industry and we are glad to say that there is no sign of friction or misunderstanding in any of the workings of the Department.

DISEASES FROM OYSTERS.

The Bureau has given considerable thought and attention to the question of healthfulness of the oyster products of the State, viewing with alarm any tendency upon the part of the public to look with suspicion upon our oysters and clams. Early in the year, after extensive correspondence with the State Sewage Commission, it was decided to hold a conference of the members of that body, the State Board of Health and the several oyster commissions to consider the subject of polluted waters on the oyster beds of the State. That conference was held in the office of the



Some oyster boats tied up at the public dock.

Bureau on Tuesday, June 26th. All the officers and members of the State Sewage Commission, several officers and members of the State Board of Health and officers of the Oyster Commissions were present. The meeting assumed no set form, but the Chief of the Bureau acted as chairman and there was an interchange of sentiment regarding the whole subject. The attitude of the oystermen themselves was placed before the bodies and they were made to understand that few of the growers and shippers in the State could be convinced that the oysters that go to market from New Jersey could be in any manner contaminated.

It was the concensus of opinion that despite this sentiment the oystermen ought to be apprised of the necessity for action upon their part to remove from the oysters of New Jersey all semblance of suspicion. While investigation showed conclusively that bivalves can and do carry the germs of typhoid fever everything possible should be done to remove all possibilities of contamination, so that suspicion could no longer attach to the product. It was agreed that this Bureau should send out to all the oyster planters and shippers of the State a letter urging for their self-preservation co-operation with the State bodies in the effort to remove the sources of pollution and clear the oyster from all suspicion of danger. The Bureau prepared the letter, which follows, and sent it to every man engaged in the industry who could be reached.

DEAR SIR:

TRENTON, N. J., July 25th, 1906.

It is becoming apparent that something must be done to remove from our oyster and clam industry the suspicion of danger from disease. We have become impressed with the fact that oysters and clams do carry germs of typhoid fever. That has been demonstrated fully by the investigation of the State Board of Health. The State Sewerage Commission, cognizant of the fact, desires to lend its aid toward removing all possibility of the pollution of the waters of the oyster planting and propagating grounds. The State Board of Health likewise desires to assist in every way possible any efforts that may be made to remove the

suspicion. The members of both bodies have been impressed by the discovery that people of other cities, as well as of our own State, are becoming alarmed by the agitation of the subject of dangerous oysters. With that well in mind the Sewerage Commission arranged for a conference with this Bureau and the State Board of Health, with the view to discovering means for removing the stigma that now seems to rest upon some of the New Jersey oysters and clams. The conference was held in the office of the Bureau. It developed the fact that all those present were of one mind in respect to the danger. The difficulty that deemed greatest was as to the step necessary to be taken to overcome the suspicion.

After careful consideration of the subject it was deemed advisable that this Bureau present the matter carefully and cautiously to those directly concerned in the industry. It was felt that if their attention were called to the necessity of action, they would readily grasp the situation, and heartily co-operate with the several Boards in whatever step may be taken for betterment. With that end in view we hereby ask you to carefully consider the matter in all its lights and communicate with this Bureau as soon as possible your views.

We carefully cautioned those participating in the conference against any public agitation of this question, because of the certain injury it would do to the industry as a whole. That proposition was met with the suggestion that the industry would be endangered far more by the continued growth of suspicion of danger, than by any present agitation. We hope sincerely that you will see the need of prompt action in this matter, for your own benefit and the great general good of the Shell Fish Industry of our State. That something must be done, and done speedily, is apparent. May we ask you to assist us so far as it lies in your power, and will you kindly write us your views as nearly as possible?

This letter is sent you at the suggestion and under the sanction of the State Sewerage Commission and the State Board of

Health in the belief that the oystermen will be ready and willing to aid the movement in every way possible.

BUREAU OF SHELL FISHERIES.

While something like seven hundred of these letters were sent out the replies were amazingly few. Those that did come were of practically the same tenor. The oystermen expressed the opinion, almost universally, that while the beds of some sections might be subject to pollution they were certain that those of their sections were entirely free from such dangers. Following are synopses of the replies:

The general opinion is that no typhoid fever exists now. If germs of any kind do exist it must be near large cities, where the sewerage is emptied into the waters used for oyster grounds.

Most all of the oystermen south of Millville claim that their waters are absolutely pure, there being no sewerage within twenty-five to thirty miles of their oyster grounds; a few say that the sewerage should not be emptied into Maurice River, and then carried into Delaware Bay. The letting off of the dam at May's Landing interferes somewhat with the oystermen of Scullville, as it allows so much fresh water into the Great Egg Harbor River.

The oystermen of Pleasantville, Atlantic County, say that the oysters taken from Lake's Bay, Absecon Bay, Tuckerton Bay, and Egg Harbor Bay, are pure, and that germs are only found in the oysters grown in the waters adjacent to Atlantic City. All agree that oysters grown in waters where sewage is emptied are not good, but none of their oysters are propagated in this kind of water.

Mr. Harry Berry of Port Norris says: "That while the oysters may contain germs of typhoid fever it must be near the large cities as there have been but three cases of typhoid fever in the past decade in this locality."

Mr. Alexander Brinley of Lanoka, Ocean County, says: "There is nothing that would be likely to cause disease in the oysters of Barnegat Bay, even though there are several fresh water streams running into it, there being no sewerages emptying into it, but still the oyster crop has not been good for several years and the growers cannot understand the reason."

Mr. J. A. Crammer of Staffordville, Ocean County, says that the waters in that locality are being poisoned by the vitriol that cranberry growers are using on their bogs, but with the exception of this the oysters and clams are absolutely pure.

A letter from Mr. J. A. Shinn of West Creek, states that they have a pure stream of water where they freshen their oysters, but that the stream is rapidly being polluted by fishermen throwing over old fish, and he thinks the State Board of Health should take some step in the matter.

Several of the oystermen express the idea that the polluting of the waters should be prohibited, but they do not know what step should be taken in the matter.

The attention of the Bureau was called in the month of October, while these inquiries were still in progress, to the following despatch printed in many of the Philadelphia newspapers:

"Residents of Alburdis, Pa., are now realizing the words of warning of the State Health Commissioner, Samuel G. Dixon, who said, 'Beware of the sewage fed oysters.' His warning was based upon experience and especially as a result of the typhoid fever epidemic prevailing at Alburdis and Finland, which have been proven at the former place to have been caused by eating raw oysters.

"On the 10th of last month the proprietor of a certain oyster saloon in this town, received a supply of New Jersey oysters. It was a busy afternoon in the saloon and a large number were eaten in the raw state, while the entire shipment was disposed of that afternoon. Out of the many that ate oysters that afternoon, twelve are victims to-day of typhoid fever. One particular case is where a daughter went to the saloon for some oysters for her

sick mother. She lay aside enough to make a stew for her mother and ate the balance herself in the raw state. She is now one of the victims of the disease.

"The most careful investigation by the Department of Health's Medical Inspector, shows that there is nothing suspicious in the town's water supply, and neither in the milk used by those twelve families. Everything that could be done to trace its origin has been done, and all the clues point to the oysters."

The Bureau at once sought from the Pennsylvania State Board of Health detailed information as to the alleged cases of typhoid, asking that the reports be sent in full. The communication of the Commissioner of Health, Samuel G. Dixon, dated October 24, 1906, would seem to give clear indication that the infection was traceable to oysters shipped from Bivalve, our own State. Of the eight cases noted every one had eaten raw oysters secured at a hotel in Alburdis, which had come from two shipments at Bivalve. All of the information obtainable by the Pennsylvania Department of Health, support the supposition that the oysters contained the germs of the disease. From other sources of information the Bureau is led to believe that the cases of typhoid could not be traced absolutely to the oysters from this State. Indeed, the shippers at Bivalve are ready to wager a good round sum that they could not. No case of typhoid had been known at or near Bivalve. This great oyster shipping point, like all the others of the State, is remarkably free from such disease and few cases are ever heard of there, although the people of that section consume large quantities of the products of our oyster beds. However, at the suggestion of Dr. Henry Mitchell, Secretary of the State Board of Health, the Bureau arranged for a meeting of the oystermen at Maurice River, in the office of the State Commission, with a view to bringing the subject directly to their attention. The Board was represented by Dr. Hunt and Mr. Randolph, while a large number of the shippers and planters gathered to hear the subject discussed. Those directly concerned in the matter showed marked interest and ex-

pressed ready willingness to do everything possible to remove the possibilities of danger. Dr. Hunt called their attention to the necessity for showing to the world that the oysters of New Jersey are absolutely above suspicion and to that end they should clear away a source of contamination, the private wells which empty into the river from the shipping wharves. This they readily consented to do. Indeed, the oystermen gave quick consent to do anything proper and needful to improve the industry in the eyes of the consuming public.

Along the lines of this investigation an intelligent writer, familiar with the subject, wrote the following for a South Jersey newspaper:

"There is no river in the State the size of Maurice River, so free from sewer drainage. The nearest, and so far as we know now, the only sewerage deposited in the stream, is at Millville, nearly twenty miles distant from Bivalve, which it is admitted by those who have made a study of the question, cannot effect the cove oysters.

"Another fact worth noticing is that no section of the State is more free from typhoid than that part of South Jersey where the citizens depend on the occupation of catching oysters for a livelihood, and where more oysters are eaten per capita than anywhere in the United States. Cases of typhoid fever in this section are almost as rare as smallpox. If there was real danger from eating these oysters, the oyster eaters named would become victims of the fever.

"Comparing South Jersey with the twelve cases at Harrisburg, we doubt if there have been twelve cases of typhoid among the two or three thousand oystermen who catch and eat cove oysters, in the past five years.

"The Sewerage Commission of New Jersey has recently attracted attention by investigations at Woodbury, Salem, Bridgeton and other places, and we have seen it stated in the daily papers that the sewage from some of these cities endangers the best oyster beds in the State. This is poppy cock if the Maurice

River Cove is meant. The nearest sewer to the cove is nearly twenty-five miles away by water—Millville, Bridgeton, thirty or forty miles, and Salem at least fifty miles. Even though this sewage contaminates certain streams, it cannot effect the cove, in fact Maurice River Cove by its peculiar location is out of range and always has been of city sewer contamination.

"As long as the people can get the cove oysters reasonably caught, there is little to be feared from them. In hot weather all oysters spoil quickly and are liable to produce bad results on those foolish enough to partake of them when not in condition to be eaten.

"The natural oyster beds extending from Egg Island nearly to the mouth of the Delaware river are closed to dredgers except during the five or six whole weeks of planting season, and few of these in late years have gone to market direct. They are planted in the cove where they remain two to four years before they are marketed so that Delaware river sewage does not endanger them.

"The only point questioned by those thoroughly acquainted with the Maurice River Cove situation, has been as to the remote possibility of contamination of oysters on floats, by reason of the few privies at Bivalve, which are drained into the river. This point has been dismissed as not weighty enough to consider, when the body of water in the river, the swift running tides, and the fewness of the closets, are considered.

"All of these seashore resorts on the Jersey coast deposit sewage into sounds or thoroughfare which carry it to the ocean. None of them empty into Delaware Bay.

"Oysters might be deposited in sounds near these Atlantic coast towns, where they would drink freely of sewage and if the oyster-typhoid theory is correct, they would have every opportunity to convey typhoid germs. The Maurice cove oysters are practically free from such dangers."

EXPERIMENTAL WORK.

Your attention is once more drawn to the epitomized report of Professor Julius Nelson, biologist of the State Agricultural Experiment Station, in the artificial propagation of oysters. Ever since the creation of this Bureau we have endeavored to secure an extension and enlargement of this work, fully believing that such extension means the solution of some of the most complex problems which now confront our oystermen.

Unfortunately we have been unable to arouse that degree of interest which carries the necessary appropriation. This year we succeeded in securing the passage through the Legislature of a bill which would have placed at the disposal of the Bureau and of the State Agricultural Experiment Station, acting in harmony, a sum of money not exceeding \$2500 a year for this work, but you decided that the bill was not sufficiently comprehensive, and that it created a conflict of authority in the two Departments of the State government over the experimental work.

We had expended much time and attention upon the measure, urging it out of committee and exerting influence for its passage through both houses of the Legislature in the fond hope that it might become a law and that the State's great oyster industry might be benefitted to that extent. Its failure to meet your approval was, therefore, a keen disappointment and the Bureau regrets that it is not now on the statute books.

To make the situation worse the Appropriation Committee of the last Legislature failed to include in the annual budget an item for the continuation of the biological investigation and but for the fact that the Government appropriation for the maintenance of the Biologist permitted him to continue it there would have been a year's disastrous break in the line of inquiry.

While the State can and does afford to expend large sums of money for investigations of many sorts designed for the education and enlightenment of the farmers, that their crops may be



Healdy Creek Laboratory.

better, their lands enriched and their profits enlarged, it has apparently no desire to conserve by scientific research the interests of the great bivalve industry, conducted upon lands actually owned by the State itself whose value must depend upon their powers of production. The fertility of the oyster-producing lands of the State is as important as those of the agricultural or horticultural areas.

Why the discrimination? There seems a lack of comprehension among a large number of the people of the State as to the full measure of value of this industry. Few know that it means to the people an annual revenue of more than six millions of dollars now, and that with intelligent, careful and scientific nurturing of its possibilities of development that income, it can be safely assured, might be doubled.

The progress of the past five years has not been in keeping with the advance of the previous decade, which included the enactment of the first laws for actual State control and supervision of the oyster lands. Other states are progressing. They are coming gradually to realize what a tremendous asset lies on their borders. New Jersey cannot, must not stand still in this respect. The movement must be onward and the sooner it comes to a realization of this fact the better it will be for the thousands of men engaged in the oyster industry and the thousands dependent upon them for support and maintenance.

The biological investigations are not idle fancies and futile theories. They are scientific inquiries into the habits of the bivalve, the search for its enemies, the desire to discover its antecedents, its environment, why it prospers one year and dies the next, why it thrives in one section and disappears from another which seems to be under exactly similar conditions of tide and weather. The experiments are conducted with an eye single to the best interests of the industry and of the State. There is nothing whimsical or ephemeral about them.

The Bureau has taken pains to gather for the use of this report some photographs presenting some idea of the experimental

work in biology conducted by Professor Nelson in his little station on Tuckerton Bay. They show under what difficulties he has proceeded with his work, how inadequate are the facilities and how necessary it is to enlarge the scope of this work. Perhaps the successor of the present Chief of the Bureau may take up the effort to secure proper recognition. Certainly the State must sooner or later learn the real value of the research. Some day our State will be shut out from all markets for seed oysters. We cannot find enough in our waters to supply the beds already under lease for propagation. Something must be done to solve the problem. We cannot afford to let it go by default.

RIPARIAN GRANTS.

During the year the oystermen of Tuckerton and Great Bays have been greatly exercised through fear of the effect of the inroads upon their legal rights by the granting of riparian rights by the State Board of Riparian Commissioners. Many of them hold that such grants can have but one effect: The almost certain ruin of the industry in those sections affected. Certainly there is something radically wrong when the State assumes the position it seems to hold in this respect. It has passed laws governing the taking and planting of oysters in sections over which the Riparian Commissioners appear to have some jurisdiction. While the matter has been under consideration and the oystermen had begun to plan to secure redress in one way or another the Special Committee of the Legislature, appointed to investigate the granting of Riparian rights and leases by the State Board, halted any further grants. At the request of the oystermen also, the Committee decided to hear their complaint and for that purpose sat at Tom's River, on Saturday, December 15th. This report was delayed for the purpose of having the results of that hearing included. The Bureau arranged to have the proceedings transcribed in full and they are herewith submitted.

TOM'S RIVER, N. J., December 15, 1906.

Session of the Commission to investigate the subject of Riparian Grants, held at Tom's River, at the Court House, Present: Senator Minturn, Assemblyman Barber, Jones, Holcombe and Crowthers.

At the suggestion of Senator Minturn, Edward A. Horner, Jr., Oyster Superintendent for the District of Ocean County, conducted the examination of witnesses.

MR. ARNOLD CRANMER, Sworn.

Q. Mr. Cranmer, where do you live?

A. New Gretna.

Q. What is your business?

A. Oyster business.

Q. On what particular ground do you operate?

A. Mullica River and the Gravelling.

Q. Are they leasable ground or public beds?

A. They are set apart for public seed beds. Most of the grounds have plenty of shells for the spat to catch on.

Q. How long have you operated on these grounds?

A. Since I was a small boy.

Q. Just state what you have done there and what the conditions are to-day.

A. In regard to the riparian grants, there is now more than one. There are three, which are natural beds.

Q. Three grants?

A. Yes, sir. There are natural beds there that are 1 and 1-2 feet from the bottom.

Q. Are they inside the lines?

A. Yes. Inside people's that have staked up now and there are clams there.

Q. Have you oysters there?

A. I have oysters there. Two years ago I caught one hundred bushel in three days in succession.

Q. That was prior to this grant being made?

A. Yes, but they claimed to have this grant at that time.

Q. Mr. Crammer, you have always known them to be public seed grounds?

A. Ever since I have been a little boy I have known them so to be.

By Mr. Minturn:

Q. You stated that this land granted by the Riparian Commission is public ground?

A. Yes, that is where we make our living. It is where we always worked. When we wanted to work.

Q. How wide a tract of land is that?

A. Some places 1-4 of a mile. In others 100 feet from the meadows. They have taken in all the shoal water there is, so you have to get out in 30 feet of water to do anything.

By Mr. Barber:

Q. How long ago was the grant made?

A. Two years ago last October, since we were notified to cease working there.

By Mr. Minturn:

Q. Where is the grant in Mullica River proper?

A. Near the mouth of the river.

Q. How much land is it in extent?

A. I should judge nearly 1 and 1-4 miles long.

Q. While he was commissioner he obtained this land?

A. I think about the time the commission ran out.

By Mr. Horner:

Q. Mr. Crammer, you paid a license of \$2.50 to work this ground?

A. Yes, sir.

Q. Did the State ever plant shells on this ground?

A. Yes. Mr. John Johnson his whole appropriation there.

By Mr. Barber:

Q. Has Mr. Sooy since he obtained that land given employment to any men?

A. Yes, a watchman. He dug ditches to plant oysters in and has planted some shells. Of course, a man can sell shells anywhere and get 5 cents a bushel for them.

By Mr. Minturn:

Q. How many men are employed in this vicinity oystering?

A. Two or three hundred.

Q. With their own boats?

A. With their own boats.

Q. Where do they sell their oysters?

A. Oyster planters. I am an oyster planter.

Q. What do you do with them?

A. Sell them.

Q. Do you ship them by railroad to New York and Philadelphia?

A. Yes, sir.

By Mr. Crowthers:

Q. What license do you pay?

A. \$2.50 per year.

Q. Are there any other grants?

A. Three others.

E. W. GIBERSON, Sworn.

Examination by Edward A. Horner, Jr.

Q. Mr. Giberson, where do you live?

A. Atlantic County.

Q. What is your business?

A. Oyster business and clamming.

Q. Are you acquainted with the oyster grounds at the Graveling and in the Mullica River?

A. I am. They have staked up and planted as good ground as we have there. I was there one year ago right after it was staked up. I could catch 25 bushels per day. These grants drove me off on deeper water where I could not work.

Q. How long have you worked there?

A. Twenty-five years.

Q. Are there any natural beds there?

A. There are.

Q. Is it not a fact that the oyster beds reach up to the shore?

A. Yes I have been up and caught nearly a garvey load on the bank, where they have washed out.

Q. Did you pay a license?

A. I did.

Q. All this twenty-five years you have worked this ground where the grants were made?

A. Yes, sir.

By Mr. Minturn:

Q. How did this compare with other lands in the locality?

A. No better. No worse. It was as good. But near the shore we are sheltered from the winds.

By Mr. Crowthers:

Q. Were you notified of this grant being made?

A. No, sir.

By Mr. Minturn:

A. Where do you plant?

A. Near Abescon waters. Make market at Philadelphia and other cities.

Q. How many men have been put out of employment by this grant.

A. Quite a lot.

By Mr. Horner:

Q. How many men are affected?

A. I think last season there must have been at least four hundred.

By Mr. Minturn:

Q. On this ground?

A. All around there.

Q. Where do they work?

A. They come from other places. Some clam, some work on land around. They expect to make something to keep them through the winter.

Q. In winter what do they do?

A. When it is rough they cannot work.

Q. If the State was to make a grant of all this land how many men would go out of business?

A. It would put hundreds out.

Q. What would be the effect of a grant of that kind by the State on the price of oysters at large? Would it tend to create a trust in the price?

A. Yes, sir.

Q. You would have to work for them or not at all?

A. That is the way it looks.

W. N. SARS, Sworn.

Examination by Mr. Horner:

Q. Where do you live?

A. New Gretna.

Q. What is your business?

A. Oysterman and clammer.

Q. How long?

A. Eighteen years.

Q. Ever work on the gravelling in Mullica River?

A. I have.

Q. How long since you worked there?

A. For eighteen years.

Q. What do you know about grants being made on natural oyster ground?

A. I know that people have not been allowed to work on these grounds.

Q. Whose grounds?

A. Sooy's people are the people owning the grant.

Q. How long ago were they forbidden to work there?

A. Two years ago. I caught from 75 to 100 bushels on this ground and then was stopped.

Q. Up to two years ago you worked on this ground?

A. Yes, sir. More than on any other natural seed bed in that locality.

Q. And you worked on these grounds previous?

A. Yes, fifteen years.

Q. Did the State ever seed these grounds?

A. Yes, sir.

Q. The man who owns this grant was shell commissioner?

A. Yes, sir.

Q. Did you ever know him to plant shells there?

A. I do not remember.

By Mr Minturn:

Q. Has this man Sooy done anything to change the appearance of the land?

A. He dug ditches on his lands.

Q. Has he put up any docks?

A. Nothing at all.

Q. To all appearances the land and the water are the same, except the ditches?

A. The same.

Q. These ditches would tend to increase oysters?

A. They would so far as the creeks are concerned.

Q. Does this not benefit the public at large.

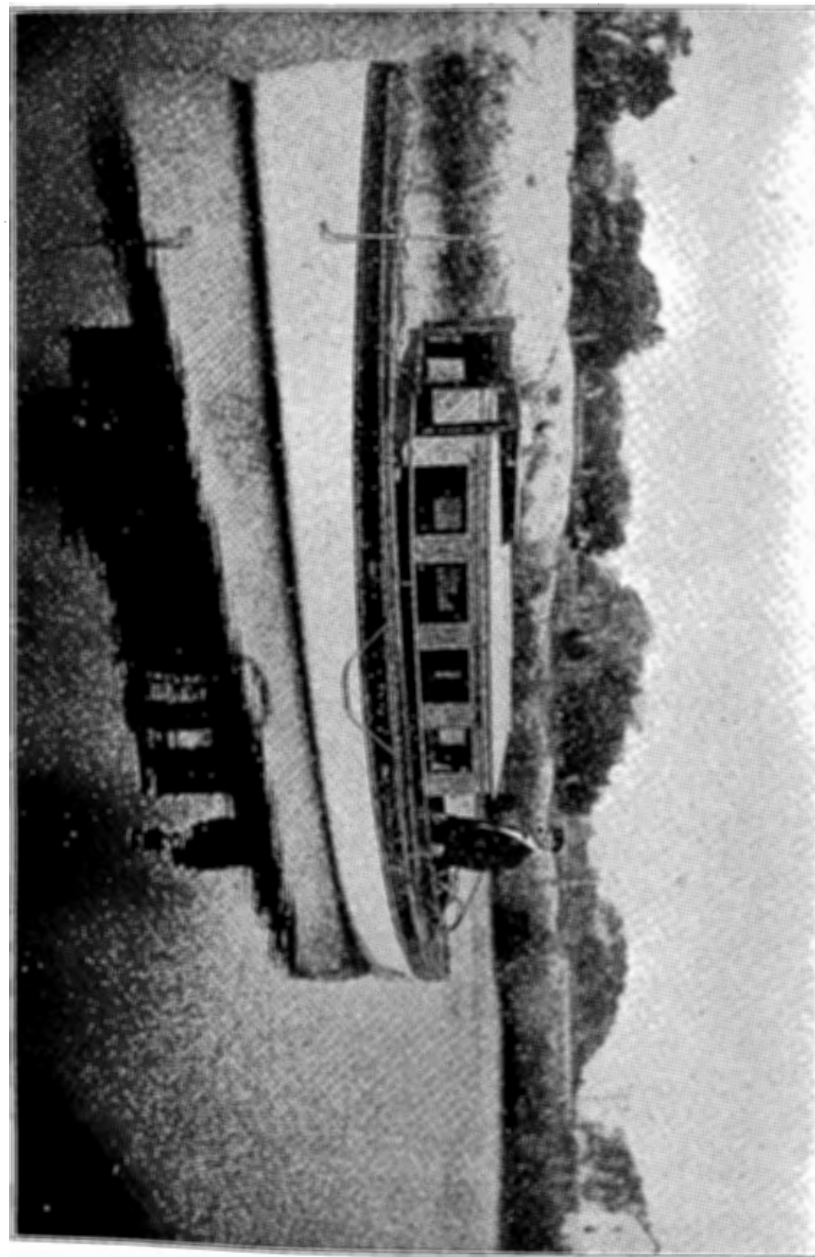
A. Very little.

By Mr Minturn:

Q. (To Mr. Horner). Has there been any other grants, Mr. Horner?

A. Sooy, Chew and Gale.

Superintendent E. A. Horner in his launch, which is used in the interests of the Oyster Commission.



Q. Are you going to bring testimony in reference to other grants?

A. What applies to Sooy, applies to all.

By Mr. Horner:

Q. Do you know of any other grants?

A. Mr. Gale and Mr. Chew and furthermore if this is continued South Jersey is ruined. While one is benefitted fifty will be the losers.

SAMUEL B. ALLEN, Sworn.

Examination by Mr. Horner:

Q. Where do you live?

A. New Gretna.

Q. How many riparian grants are there now in this section?

A. Three.

Q. Have you always had the privilege of working on these grounds and if so, until when?

A. About two years ago.

Q. Are there any natural seed beds on these grounds?

A. Yes. As good as there are.

Q. Who have grants?

A. Sooy and company; Chew and Gale.

By Mr. Minturn:

Q. Why do you say company?

A. I understand they have incorporated.

Q. Is it running under Sooy and company?

A. Yes, sir

Q. Have they any establishment in New York or Philadelphia?

A. They have not. They have not come to that yet.

By Mr. Barber:

Q. Do you know whether these grounds will produce oysters for the general public?

A. These grounds will produce seed and will produce marketable oysters. I have done the same on the same grounds. Have gathered the seed, also marketable oysters.

By Mr. Horner:

Q. Anyone who had worked there would have found natural oyster seed beds there?

A. Yes, sir

Q. How close to shore?

A. Five or ten feet.

Q. Did the State ever plant any shells there?

A. Yes, sir. A man by the name of Johnson.

By Mr. Minturn:

Q. When?

A. About eight years ago.

Q. In your judgment what the State planted, Mr. Sooy got the benefit of?

A. Not all of it.

Q. Would you have continued to have gathered oysters there?

A. They would have lessened to some extent.

Q. Were you in the neighborhood that particular season, when the grants were made?

A. Yes, sir

Q. Were there any oysters there?

By Mr. Barbey:

Q. The digging of those ditches through the upland will that increase the oysters in the river?

A. Only in the ditches. There would have to be shells in the ditches first.

Q. Suppose you owned that land yourself and was amply supplied with capital could you increase the number of oysters

A. Well I could increase it some. But I do not think it would increase over 1-3 or 1-4 of the natural growth.

By Mr. Horner:

Q. Would it continually tend to increase oysters?

A. It would have some tendency to increase oysters on that ground.

HOWARD LOVELAND, Sworn.

Examination by Mr. Horner:

Q. Where do you reside?

A. New Gretna.

Q. What is your business?

A. Oyster industry.

Q. Where do you oyster?

A. From the mouth of the Mullica River up three miles.

Q. Are they planted grounds? In the Mullica river.

A. Natural seed grounds.

Q. Have you worked on them?

A. Most all of them.

Q. Worked there this year?

A. On all but the riparian grants.

Q. Where are they?

A. The Sooy Oyster Company; Benjamin W. Chew and Charles Gale.

Q. When did they get these grants?

A. I could not say.

Q. Did you ever work there before the grants were given?

A. Yes, sir

Q. Natural oyster grounds there?

A. Yes, sir.

Q. How close to the shore are they?

A. Five or ten feet.

Q. Did you pay a license for working there?

A. Yes, sir.

CHARLES C. CRANMER, Sworn.

Examination By Mr. Horner:

Q. Mr. Cranmer, where do you live?

- A. New Gretna.
- Q. What is your business?
- A. Oyster industry.
- Q. Where do you oyster?
- A. From the mouth of the Mullica River to the iron bridge.
- Q. Have you worked on most of the oyster grounds?
- A. Most all including the riparian grants.
- Q. For how long?
- A. For the last twenty-seven years.
- Q. How near shore are the riparian grants?
- A. Within twenty-five feet of the shore.
- Q. Prior to the time they claim they had the grants did you work there?
- A. Yes, sir.
- Q. The beds run close to the shore?
- A. Within five or six feet.
- Q. Has this ground been planted by the State?
- A. Yes, Mr. Johnson planted 5000 bushels there one year.

By Mr. Minturn:

Q. The sort of meadow land that has been spoken of, is it the same as is east of the bridge as you go to Atlantic City?

A. Yes, sir. Just the same.

Q. Do you pay anything for the privilege of going there to work?

A. Yes, I pay license every year.

Q. Now you are affected in your privilege by reason of these grants?

A. Yes, I paid a license to go on natural ground. Mr. Sooy who I think is interested, came and told me they had a grant for that. I had no right to work there. So went on that fall, but none since. Did not want to take any chance on that.

Q. How close to the shore?

A. Within a few feet.

Q. How near can you work to the shore and catch oysters?

A. Five feet.

CURLIS MATHIS, Sworn.

Examination By Mr. Horner:

Q. Where do you live?

A. New Gretna.

Q. Your business?

A. Oyster planter.

Q. How long?

A. Five or ten years.

Q. In Great Bay you plant?

A. Yes.

Q. Have you the right to plant?

A. Yes, sir.

Q. What right?

A. A lease.

Q. Do you have the privilege of working on ground in Mullica River and the Gravelling?

A. On all except Mr. Sooy, Mr. Gale and Mr. Chew.

Q. Did you ever work there?

A. Two falls ago, 1904.

By Mr. Minturn:

Q. (To Mr. Horner.) What is the effect of a lease?

A. Gives him the right to plant oysters and be protected. The license gives him the right to work on natural seed grounds. He takes these seed oysters from the seed grounds and plants them and cultivates them.

THOMAS J. GASKILL, Sworn.

Examination By Mr. Horner:

Q. Where do you live?

A. New Gretna.

Q. What is your business?

A. Oyster business.

Q. How long?

A. Forty years.

- Q. In what waters?
 A. In Mullica River and Great Bay.
 Q. What do you do there in Mullica River?
 A. Catch and buy seed.
 Q. Are they public seed grounds?
 A. They are.
 Q. How long have you known them to be?
 A. Forty years.
 Q. How many men does Mr. Sooy have working for him?
 A. Only one that I konw of.
 Q. What does he do there?
 A. He is their watchman. See him also working on the ground.

LEONARD CONOVER, Sworn.

Examination By Mr. Horner:

- Q. You live in Abescon and what is your business?
 A. Oyster planter.
 Q. Have you ever oystered in Mullica River?
 A. For about four years.
 Q. In the mouth of the Mullica River?
 A. Yes, sir.
 Q. Do you know about any grants being made in Mullica River?
 A. Yes, sir.
 Q. Had you ever worked there previous to this fall?
 A. I have.

By Mr. Minturn:

- Q. What is the distance between these oyster beds and the solid upland?
 A. They are under tide water.
 Q. How much meadow land in this locality?
 A. About four or five miles.
 Q. What is the meadow land used for?
 A. For salt hay.

By Mr. Horner:

"If the commission will permit me, I wish to ake up another feature of this matter. Grounds which the Ocean County Oyster Commission had authority to lease and had leased were granted by the Riparian Commission."

RUBEN DRISCOLL, Sworn.

Examination By Mr. Horner:

- Q. Where do you live?
 A. Tuckerton, New Jersey.
 Q. Are you engaged in the oyster planting business?
 A. Yes, sir.
 Q. Where are the grounds located?
 A. In Tuckerton Bay.
 Q. In the year of 1902, were you familiar with the Ocean County Oyster act for leasing land?
 A. Yes, sir.
 Q. Did you apply for a lease?
 A. Yes, sir.
 Q. Receive a lease?
 A. Yes, sir.
 Q. How long did you hold that lease?
 A. One year.
 Q. Did you make application to have it renewed?
 A. I did.
 Q. Was it renewed?
 A. It was not.
 Q. Why not?
 A. Because the Riparian Commission had made a grant for this ground.

By Mr. Minturn:

- Q. Why were you refused a renewal of your lease?
 A. I do not know.
 Q. Did you hear any reason?
 A. Yes, sir.

By Mr. Horner:

Q. What was it?

A. They sold the ground.

Q. What was the result?

A. I took my oysters off.

Q. What was the result of your losing your grounds there? Did it seriously affect you?

A. From two to four hundred dollars per year, is what I estimate my loss. I work there in the winter. Now I have to work somewhere else.

Q. This ground could be worked in winter?

A. When there was no ice.

BRAZILLA PULLEN, Sworn.

Examination By Mr. Horner:

Q. Where do you live?

A. Tuckerton.

Q. What is your business?

A. Oysters and clams.

Q. Do you have private grounds where you cultivate oysters?

A. Yes, sir.

Q. Where?

A. Tuckerton Bay.

Q. Where?

A. Gaunts Cove.

Q. Were you ever effected by riparian grants in your neighborhood?

A. I certainly was. I considered it damage to me to-day from \$100 to \$200 per year.

Q. Why were you deprived of still working this ground?

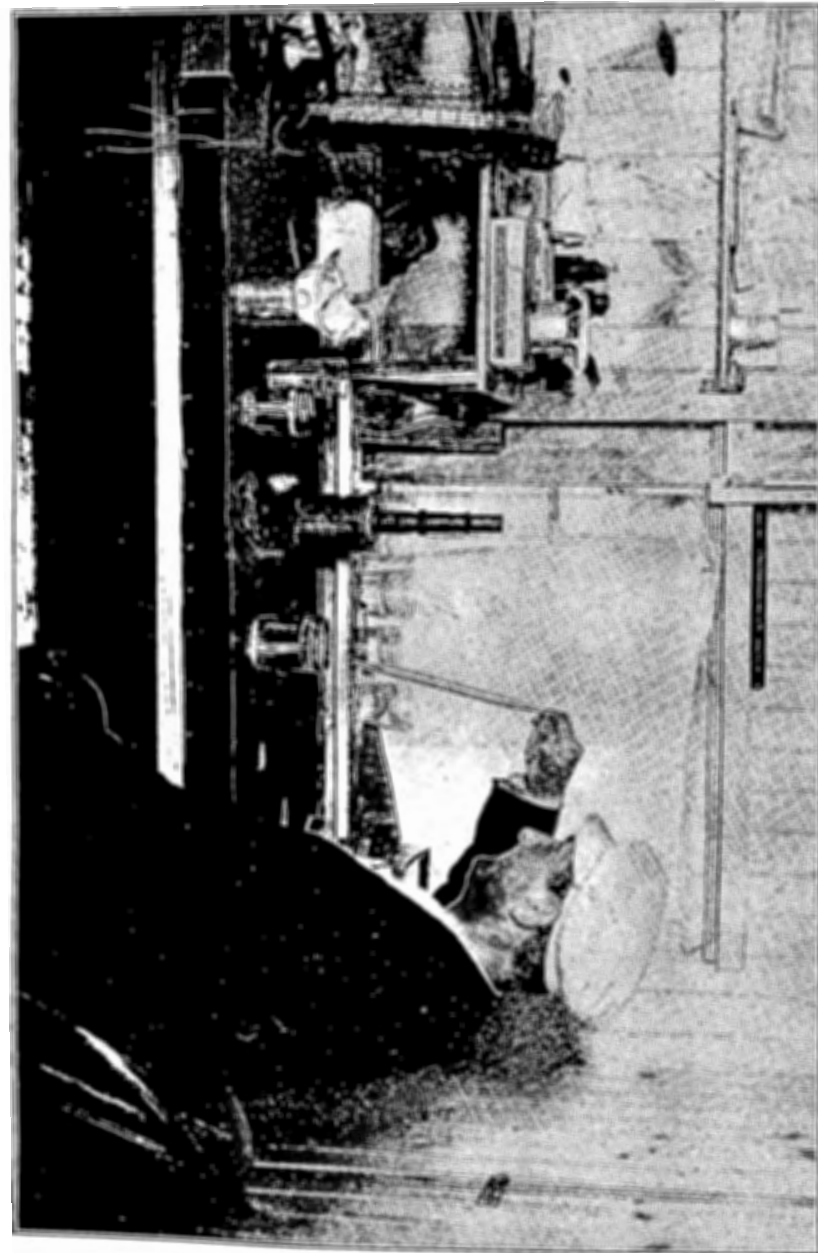
A. Because the Parker Brothers obtained a grant from the Riparian Commission.

Q. Did you ever have a lease for this ground?

A. I did.

Q. How long?

A. One year.



Interior of Barnegat "Lab." Prof. Nelson Experimenting.

Q. Were you refused?

A. Yes, sir.

Q. By whom?

A. By Mr. Horner.

By Mr. Minturn:

Q. What are the Parkers' doing with it now?

A. The same thing.

PHILIP SPRAGUE, Sworn.

Examination By Mr. Horner:

Q. Where do you live Mr. Sprague?

A. Tuckerton, New Jersey.

Q. What is your business?

A. Oystering.

Q. What particular part of the oyster business are you engaged in?

A. Oyster seed and cultivating.

Q. Where?

A. Off Gaunt's Point.

Q. How long?

A. About ten years.

Q. Always used the same ground?

A. Yes, sir.

Q. From the time you commenced ten years ago you used this ground until it was taken away from you?

A. Yes, sir.

Q. Then you have had some taken from you?

A. About one-half of my ground was taken away from me.

Q. Did you lease your land?

A. Yes, sir.

Q. Who refused you a lease?

A. Mr. Burton and Mr. Horner.

Q. Did you suffer any inconvenience?

A. Loss of ground. They let me take my oysters up.

Q. Could you get all of your oysters?

A. No. I left some.

By Mr. Minturn:

Q. You never got any compensation from them for what was left?

A. No, sir.

Q. Did you employ any men to assist you?

A. Yes, sir.

Q. Are you still occupying that ground?

A. No, sir.

By Mr. Horner:

Q. Why?

A. Parker Brothers got a riparian grant.

Q. Did they notify you they were going to take title for that ground?

A. No, sir.

Q. They gave you one year to take it off?

A. No, sir.

Q. Left it there?

A. Yes, sir.

Q. How many oysters did you have there?

A. I should judge about 125 to 150 bushels.

Q. You are only a small planter? A poor man. Got what you could gather from oyster seed beds?

A. Yes, sir.

Q. How much difference does it make to you within a year?

A. About \$200.

Q. What is the average increase on that ground within a year?

A. I could not say.

Q. Would you be likely to get two hundred bushels out of one hundred?

A. Yes.

Q. That would be liable to double within three years?

A. Yes, sir.

FRANK PULLEN, Sworn.

By Mr. Minturn:

Q. Where do you live?

A. Tuckerton.

Q. What business have you there?

A. Oysters and clams.

Q. Plant?

A. Yes, sir.

Q. Where?

A. Off Gaunts Point, below it.

Q. How long?

A. About fourteen years.

Q. Have you been disturbed?

A. Yes, sir.

Q. By whom?

A. Parker Brothers.

D. Did Parker Brothers notify you that they had made application for a grant of it?

A. No.

Q. They told you they had it?

A. Yes, sir.

Q. Did you take your oysters up?

A. I took them up and moved them.

LOUIS ROSSELL, Sworn.

Examination By Mr. Horner:

Q. Where do you live?

A. Tuckerton.

Q. What business are you engaged in?

A. Clammer and oysterman.

Q. Ever plant any oysters?

A. Yes, sir.

- Q. Where?
 A. Tuckerton Bay.
 Q. What part?
 A. Off Gaunts Point.
 Q. Did you provide yourself with a lease for the ground you were using?
 A. Yes, sir.
 Q. Still hold the ground of course?
 A. No, sir.
 Q. Why?
 A. I could not remove it.
 Q. Refused by whom?
 A. Mr. Horner.
 Q. What did you do?
 A. Gave it up.
 Q. To whom?
 A. Parker Brothers.
 Q. What right had they to it?
 A. They had a riparian grant.
 Q. Did you take them away?
 A. No, sir.
 Q. Did they not let you take them away?
 A. They gave me permission, but the oysters were so small I could not take them up.
 Q. Do you know of any others?
 A. I do.
 Q. Did you have any notice they were going to apply for this grant?
 A. No, sir.

U. S. DRISCOLL, Sworn.

Examination By Mr. Horner:

- Q. Where do you live?
 A. Tuckerton.
 Q. What is your business?
 A. Oystering and claming.

- Q. Did you ever plant and cultivate?
 A. I did.
 Q. Where?
 A. Outside and inside Gaunts Point.
 Q. Did you have a lease?
 A. I had a lease, but it run out.
 Q. Why did you not have it renewed?
 A. Because Mr. Horner would not grant it to me.
 Q. Did you take your oysters up?
 A. I took them up and put them on other ground. Part of them died and part of them mudded in the winter.
 Q. Then you consider by moving they were damaged and caused their destruction?
 A. Yes.
 Q. You left some?
 A. Yes, sir.
 Q. Who got the benefit?
 A. Parker Brothers. Two years ago they took forty seven feet more of my ground. This year they took it all.

By Mr. Horner:

"Gentlemen, that is all we have to bring to your attention. We wish to thank you for your consideration."

Report of State Oyster Commission.

To the Bureau of Shell Fisheries of the State of New Jersey:

Pursuant to and in conformity with the provisions of the Act of April 14, 1903, (P. L. 1903, p. 709) the undersigned, the New Jersey Oyster Commission, make this, our annual report for the fiscal year ending October 31, 1906.

The Act of March 21, 1905, (P. L. 1905, p. 65) shortening and changing the date of the planting season, has proved increasingly beneficial to the oyster industry in the waters under the control of this Commission. Natural beds are in most excellent condition and next Spring's planting promises to be of unusual proportions and extent.

Your Commission has given special attention to sanitary conditions liable to effect the oysters on the fattening floats in Maurice River and in Cohansey Creek. These have been pronounced by experts to be the best in the State. Numerous samples of water taken from various localities have been examined showing an entire absence of colon bacilli.

Consumers may contentedly eat "Maurice River Coves" confident that they are a food supply which is pure and undefiled.

To the end that no proper precaution may be neglected, Township Boards of Health are adopting ordinances regulating the industry, and the Central Railroad of New Jersey has put in force stringent rules for the complete sanitation of all cars used for the transportation of oysters over its lines.

Notwithstanding the fact that the oyster laws are intended solely for the protection and preservation of the industry, there are short-sighted men who continue to violate them. We cannot say that all violators are apprehended and punished, but we do

say that our officers are vigilant and efficient. We have our own legal department. The result has been a very large percentage of convictions of those arrested.

Following is the record for the year:

Name.	Offense.	Result.
Arthur Hinson,	Illegal Dredging	Fined \$500
Somers Whilden,	Illegal Dredging	Fined 250
Benjamin Joslin,	Violation Rough Cull Law.	Fined 250
George Robbins,	Illegal Dredging	Fined 100
Zodak Sharp,	Violation Rough Cull Law.	License Revoked

In May last, the United States Government commenced proceedings to compel the removal of piling and other obstruction to navigation placed in Oronoken Creek in 1897, by persons claiming the right to use said creek for the propagation of oysters for private use. Practically all the obstructions have been now removed, and the creek is once more navigable for its entire length. This eliminates private ownership of oyster spawning grounds in these waters.

The Act prepared under our supervision regulating the tongers, failed of passage by the last Legislature.

We believe that some action on the subject ought to be taken.

We beg leave to refer to the annexed report of our Superintendent for the detailed statement of our receipts.

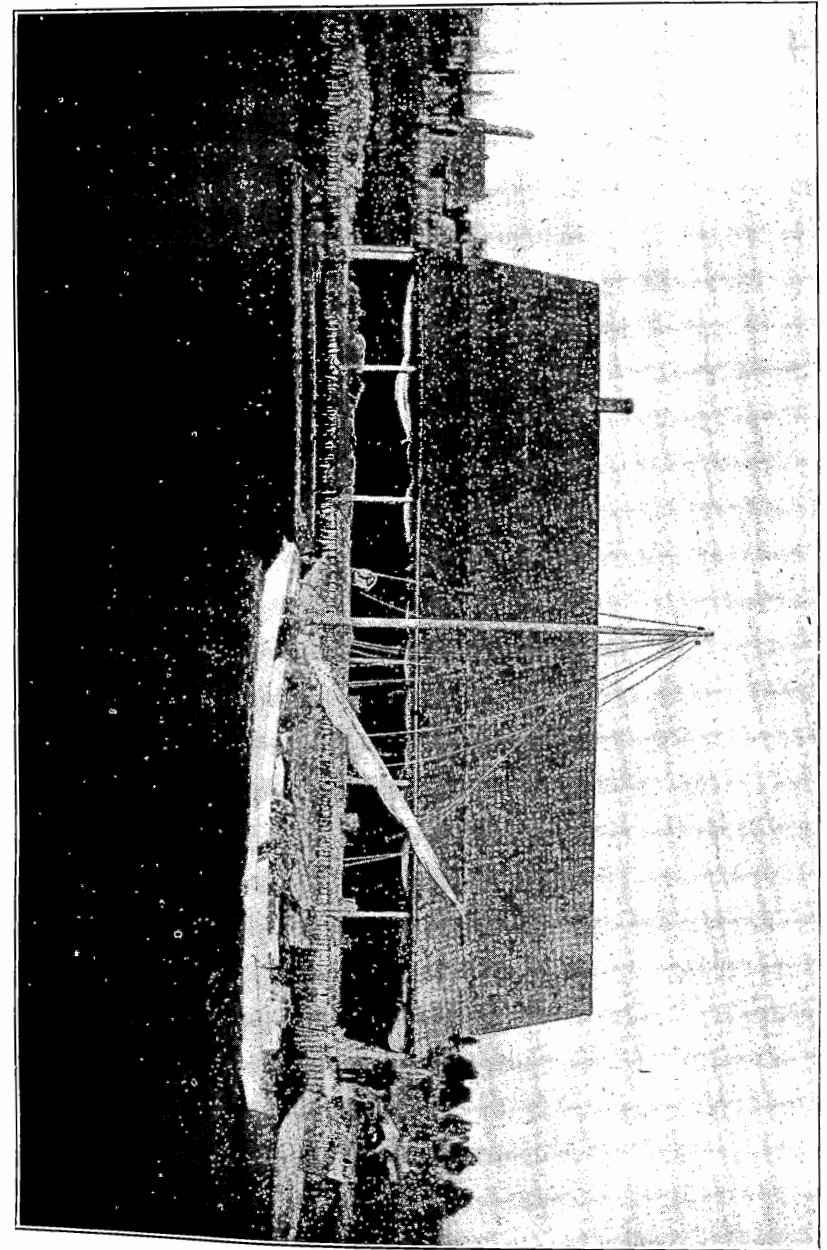
As you know, a detailed statement of moneys expended under our direction, appears in the report of the State Comptroller.

Dated November 1, 1906.

Respectfully submitted,

JEREMIAH N. OGDEN,
EDMUND STITES, JR.,
OGDEN GANDY,
WILLIAM DEGROFF.

A shopping house along Tuckerton Creek showing a "garvey" which is largely used by the oysterman and clammer in his daily pursuits.



Report of Oyster Superintendent.

To the New Jersey State Oyster Commission:

GENTLEMEN:

I herewith submit to you my annual report as Oyster Superintendent, for the fiscal year of 1906. The following statement shows the gross receipts from all sources during the said year:

From Licenses issued to vessels, Delaware Bay.....	\$ 7,548 00
From Leases issued for oyster grounds in Maurice River Cove.	6,344 40
From Survey fees for oyster grounds in Maurice River Cove...	452 00
From sale of maps of survey of M. R. Cove.....	7 50
From Licenses issued to vessels in Raritan Bay.....	24 00
From Leases issued for oyster grounds in Raritan Bay.....	452 25
Total	\$14,828 15

With this statement, and annexed thereto, you will find a list of all the lessees of oyster grounds, both in Maurice River Cove and Raritan Bay, and opposite the name of each lessee his post-office address, and the number of acres held by him; you will also find a list of names of all the vessels and boats licensed, their tonnage, and the names of their masters or owners, embracing the total number licensed during the said fiscal year of 1906, both in Delaware Bay and Raritan Bay. You will notice that the receipts from licenses have increased nearly one thousand dollars over the preceeding year; a further increase will be made undoubtedly the coming year.

That this increase is due to the improved condition of the natural oyster beds in Delaware Bay and River no one will dispute; that the citizens of this section of our State all reap some

benefit, either directly or indirectly, from these improved conditions, all will agree; that these improved conditions have been caused by wise legislation pertaining to the manner and time of working upon the beds is evident from the result produced; but notwithstanding the fact that all persons engaged in the catching and planting of oysters fully realize the benefit this legislation has been to them personally, nevertheless, some of them willfully break the "Rough-cull Law," and seem to feel no condemnation therefore. To enforce this law is of the greatest importance, if we are to preserve the natural oyster beds; the penalty for the violation of it, does not, in my judgment, meet the equity of the case; it all falls upon the owner of the boat or vessel and the master of such boat or vessel, the real offender escapes all punishment for his transgression of the law, except in cases where he is the owner as well as master. Therefore I would suggest and recommend, that in addition to the penalty of revoking the license of the vessel, the act of the master or person in charge of the vessel be made a misdemeanor for refusing to permit an officer, duly appointed by the State Oyster Commission, to board such boat or vessel and to examine his catch.

Before closing my report I would call your attention to the decrease of area of leased oyster grounds. The receipts from this source, you will notice, are one hundred and seventy dollars less than those of the last preceding year. This is due to the giving up of large grounds in Section A, that have failed to be profitable for two reasons, namely, an enemy known as a bore, and which is becoming very destructive to small oysters especially. In all of Maurice River Cove, but particularly in Section A and B the other cause is that many of the grounds between Riggins' Ditch and Pierce's point in Section A have had a deposit of mud or sediment of some kind come upon them, which has destroyed the oysters planted there, and therefore our planters are vacating this section very rapidly and applying for new grounds in other localities, principally in Section C and D.

You will notice that the receipts for surveys of new grounds have materially increased during the present year; when surveyed and leased our receipts from this source will probably exceed the amount lost through the vacating of the grounds heretofore mentioned; however the disposition of planters seems to be to plant oysters more thickly than formerly, thereby decreasing their holdings in area, and therefore our receipts for this source do not indicate correctly the increase or decrease of oyster culture in Maurice River Cove; the number of licensed vessels is really a more correct barometer of the business than is the changes in the acreage of grounds leased.

In closing this my fifth annual report as Oyster Superintendent I desire to again express my sincere appreciation of and thanks for the uniform courtesy which you have always extended to me, both officially and socially and also to express my appreciation of the genuine, earnest and effective support you have always given me in enforcing all the statutes pertaining to the protection of the natural oyster beds in Delaware River and Bay and the leased land under the waters of the State of Maurice River Cove and Raritan Bay. Permit me to assure you that it will continue to be a pleasure to me to serve you to the best of my ability so long as I may have the honor to administer the affairs of this office.

Respectfully submitted,

A. T. BACON,

State Oyster Superintendent.

Dated November 6, 1906.

Report of the Commissioner for the District of
Atlantic County.

ATLANTIC CITY, N. J., November 2, 1906.

To the Bureau of Shell Fisheries, of the State of New Jersey:

GENTLEMEN:—

In compliance with the provisions of Chapter 75 of the Laws of New Jersey, approved March 30, 1905, the State Oyster Commission for the District of Atlantic County, presents its annual report for the fiscal year ending October 31st, 1906.

During the past year the operation of the law has become better understood, and we believe the great majority of the oystermen and all others interested directly or indirectly, in the industry, are fairly well satisfied with its workings.

Several amendments which the majority of the Commission are satisfied would have been very beneficial, were suggested to the Legislature of 1906, which, however, did not meet with the approval of that body.

We respectfully suggest that some amendments to the act making its terms more explicit and easily understood by all, would remove friction still existing between planters, tongers and clammers, and be a very great help in the enforcement of the law.

During the year the guards have detected violations of the law, parties have been arrested and held for the Grand Jury, and in one case the party plead guilty, but in the other case no indictments were found, though the parties, (three of them), were

found *within the propagating grounds* with their boats loaded with young seed oysters, (spawned this year, 1906). *In the closed season.* But the result has, we hope, had the salutary effect, and will deter others from future commission of the crime of taking seed oysters from the natural beds and propagating grounds in the closed season.

In the Mullica River District, a great catch of spat has occurred. Everything above the bottom at all suitable for the purpose, was found to be literally covered, with spat, and it is to be regretted that no power exists under the existing law to prevent the removal of this young spat, until it has attained suitable size and hardness to assure its profitable removal to the planting grounds. We again present that the necessity for the replenishing of the propagating grounds with shells is more apparent every year. In view of the enormous catch during the summer of 1906, it appears almost certain that a few hundred dollars properly expended in planting shells would have returned to the State many thousands of dollars in the increased value of the matured oysters to the oyster planters, and largely increased the rentals from the additional acreage of planting grounds needed if the planters could obtain seed oysters by their own labor on the home grounds. In the Great Egg Harbor River District, very little catch is noticed for the very good reason no cultch existed there upon which the spat could adhere.

The expenditures approved by the Commission for the year ending October 31, 1906, are as follows:

For patrol service	\$1,657 21
For stationery and printing	46 50
For incidental expenses, including witness fees, service of subpoenas in Jeffer's suit	209 26
Completion of survey, maps, etc., survey oyster planting grounds	600 00
	<hr/>
	\$2,512 97
There has been received for rentals during the year.....	\$1,687 00
For tongers licenses	620 00
	<hr/>
	\$2,307 00

Which amount has been paid to the State Treasurer by the Oyster Superintendent.

In conclusion we suggest there should be a broad, liberal comprehensive plan worked out and applied to the whole State, in its oyster and clam industry, which plan should take the place of the several oyster commissions and patchwork regulations now rendering it next to impossible to properly conserve the public interests because of apparently irreconcilable demands and desire for particular localities.

Yours respectfully,
LEVI C. ALBERTSON,
WATSON CONOVER,
R. M. SOOY,

Commissioners.



Prof. Nelson determining the sex of an oyster.

Report of the Commissioner of the District of Ocean County.

To the Bureau of Shell Fisheries of the State of New Jersey:

Pursuant to and in conformity with the Provisions of the Act of March 26, 1902, the undersigned, the State Oyster Commission for the District of Ocean County, make this our annual report for the year ending October 21, 1906.

In our last annual report we directed attention to the inadequate amount provided for the protection of the oyster grounds of our district. The individual planter considers it the principal duty of our commission to protect his planted oysters from the depredations of pirates, but in a broader sense, the most important feature of the Commission's functions is their duty to increase, preserve and protect the annual growth of natural seed oysters in the waters under their jurisdiction.

During the past year several arrests have been made for trespassing on leased grounds and the guilty parties punished by the courts. Attention is especially directed to that portion of the report of Supt. Horner in which he presents several suggestions on the line of Legislation. We heartily endorse them, and are of the opinion that if they are enacted in our law would serve to improve present conditions, as the all-important need at present is a greater supply of seed oysters.

We desire to call special attention to a serious matter now confronting our oyster industry. During the past year several grants have been made on our natural seed beds by the Riparian Commission. We do not understand that it is the policy of the State to give over into private hands these valuable lands. We desire to have it plainly understood that we do not wish to try

to block any improvements along the rivers, but consider it unfair to exclude our oystermen from these valuable lands and give them over to private parties. Under the present law these lands are set apart by the State as public seed-beds. Each tonger is obliged to provide himself with a license for the privilege to work on them. In view of the limited acreage on these grounds it is unfair to the man who has been obliged to go to the expense of buying a license to work on public lands that do not exist. If it is not the policy of the State to dispose of these lands it should be done in a manner that would give the oystermen a square deal and not allow four or five men to be made wealthy at the expense of eight or twelve hundred poor oystermen.

In closing we desire to state that State control in our district gives universal satisfaction to all law abiding citizens. Like all other communities you always find a class of people who do not want any law; only such that will allow them to take everything in sight and wherever they can find it.

Respectfully submitted,

E. L. WORTH,
S. B. ALLEN,
N. E. KELLY,
E. A. HORNER, JR.,

Secretary.

Report of the Oyster Superintendent.

To the State Oyster Commission for the District of Ocean County:

GENTLEMEN:—I herewith submit to you my annual report for the fiscal year ending October 31st, 1906.

The law by which we are governed makes me the collector and custodian of all revenues derived from the operation of the said law. The following statement shows the gross receipts from all sources during the fiscal year:

From licenses issued to tongers.....	\$1,250 00
From leases issued for oyster grounds.....	1,386 50
Total	\$2,636 50

There are many suggestions and recommendations of striking importance that should come to your notice at this time. Keeping in view the fact that the greatest good to the greatest number is the just solution of this very important question, I am thoroughly convinced that if the recommendations embodied in my last report were put in force they would be the result of better service to the people in our District. In my report I called your special attention to the necessity of changing the season for working the public seed beds. The open season now begins on the first day of October and closes on the thirteenth day of April next following. In my opinion this is as nearly wrong as it is possible to make it, and I believe that the following reasons given in support of this assertion will adequately substantiate it: At present our natural seed grounds have no seed on them except such as may catch from year to year, in a natural way, without artificial aid. The catch generally appears during the

months of July and August, and as late as September. Now to move this young spat in so short a time (October 1st) is to materially injure it; in many cases to utterly destroy it. To keep such spat out of water for twenty-four hours would be fatal, and if one is fortunate enough to get it on his planting grounds the chances are that, by reason of its being so small, and lying so close to the bottom, it will cover with mud and be smothered during the rough winter weather. There is also a great chance that this young and tender spat will be destroyed by being devoured by crabs, should it escape destruction by the elements.

We were favored this year with a good catch on the grounds at the gravelling and the Mullica River. On account of the great scarcity of seed our planters are very anxious to get anything put on the market in the nature of seed oysters. Consequently they bought heavily of this young seed, and, I am sure I speak conservatively, when I state that within ten days after planting, more than one-half was eaten by crabs. I have talked with many of our oystermen, and they are unanimous in their expression that the season during which seed may be caught on the natural beds should be changed from fall to spring, say from the first day of April to the thirty-first day of May of each year. Should this be done the seed oysters would be left in their natural state to grow and improve during the late fall and winter months. Usually the water has lost its chilling effect by the first of April and the young oysters are in much better condition to move at that time and the transplanting of them is surrounded by much more favorable circumstances in the spring months than in the fall. To work the natural seed beds in the spring would also serve the purpose of cleaning the beds and washing the shells, thus leaving the beds in a better condition to catch the spat during the summer months. The experience of our people the past season has convinced the most skeptical that the changing of the open season as suggested would work no hardship but only good would flow from such action.

The care of the natural seed beds should be one that receives the very best efforts and constant attention of the Commission, and that such protection be secured by legislation as will best serve the object of increasing the supply of seed oysters.

I very much regret to note the gradual and steady depletion of our natural seed beds, and unless some relief is provided in the near future they will be as things of the past. At the last session of the Legislature I caused a bill to be introduced appropriating twenty-five hundred dollars (\$2500.00) for the purpose of planting shells on the public seed beds in Ocean County. The bill passed the Senate but failed to be brought to the attention of the Assembly, hence failed of final passage. If it is the policy of the State to cease planting shells or otherwise replenishing the depleted beds, I strongly urge that the present tongers licenses be discontinued, as this tax without any return from the State is unjust and unwarranted.

For several years past the seed beds have practically been cleaned up in one day, I know of cases where men did not catch enough seeds to reimburse them for their expenditure for a license. Clearly to extort the fee from a tonger under such conditions is but injustice.

For several years the conditions cited above prevailed in the Eastern states, (New York and Connecticut), also in Delaware Bay. What a change has been brought about in those waters. The once barren grounds of Long Island Sound have, under a wise and liberal state policy, been made the most productive seed producing grounds in the oyster-growing states. The same can be said of Delaware Bay. Only a few years ago the oystermen from that locality were scouring the country from North Carolina to Connecticut looking for seed oysters, but to-day they are looking for a market for their surplus stock of seed. With proper legislation we can have the same opportunities and the same results as our neighbors.

I have two propositions to suggest, viz: have the State adopt a rigorous and liberal policy of replenishing the depleted seed

beds, or lease the barren lands to private individuals for the purpose of seed propagation. The latter suggestion would meet the wants of the oystermen, and, from my conversation with numbers of planters, I am constrained to believe that they would snatch at an opportunity to grow seed for the market. In addition to this advantage the revenues of the Commission, derived from fees for leases, for such ground, would be very materially increased.

Our great demand is for seed oysters at a cost that will insure the planter an adequate return from this money invested in oyster culture, and I sincerely hope that the solution of this all-important question will no longer be delayed. In conclusion, on this point, I wish to impress upon those in authority the great need of an increased annual supply of plants. How to increase this supply and at the same time to treat fairly and justly the men engaged in the gathering of these natural plants, is a problem the solution of which should receive the careful attention of our Legislature at an early day.

I would further recommend that laws be enacted at the next session of the Legislature making it incumbent on the part of the lessees of oyster lands to keep them properly marked at all times in so far as it is possible. A great many lessees of oyster grounds are very careless on this point. To neglect to properly mark oyster grounds is a serious handicap to the patrolman in reporting violations of the law, and to determine upon whose grounds the depredations are being committed.

In concluding this my fifth annual report as Oyster Superintendent, I desire to express my appreciation of the marked courtesy you have shown me at all times. I assure you it is my earnest desire to continue the administration of the affairs of my office to the very best of my ability.

E. A. HORNER,
Oyster Superintendent.

Report of Shark River District.

Report of the Oyster and Clam Commissioner of the District of Shark River in the County of Monmouth, for the year ending October 1st, 1906. Pursuant to Chapter 14 of the Laws of 1905, entitled 'An Act for the Regulation, Protection and control of the Planting, Cultivating and gathering or taking of Oysters and Clams on lands Covered with water in Shark River in the County of Monmouth, Approved March 7th, 1905.

1905.		RECEIPTS.	NO.	RENTAL.
Oct. 3rd	Willson L. Newman,		49	\$4.00
" 4th	Henry A. Bennett.		50	2.00
" 21st	John P. Palmer.		51	1.00
Nov. 2nd	Freeman Campbell.		52	1.00
1906.				
April 2nd	William A. Woolley.		10	1.00
" "	William H. Woolley.		53	1.00
" "	William and James White.		8	3.00
" "	Hiram Woolley.		33	1.50
" "	William H. Woolley.		34	2.00
" "	E. S. V. Woolley.		37	3.50
" "	Joseph C. Woolley.		45	4.00
" 18th	(Willard Bowd).			
	(Weldon White).			
	(Arthur Beers).			
" 21st	John P. Palmer.		27	1.50
" "	" "		54	2.00
" "	" "		51	1.00
" 25th	Freeman Campbell.		55	3.50
" "	" "		52	1.00
" "	" "		15	...
" "	Neil Campbell.		16	6.00
" 26th	E. M. Bentell.		25	3.00
" "	Benjamin E. Allgor.		12	1.25
" "	William E. Tilton.		9	2.00
" "	Henry A. Bennett.		13	3.00
" "	" "		50	2.00
" "	" "		19	6.00
" "	" "		4	3.00
" "	Franklin E. Bennett.		2	12.00
" "	" "		7	6.00
" "	" "		5	1.00

BUREAU OF SHELL FISHERIES.

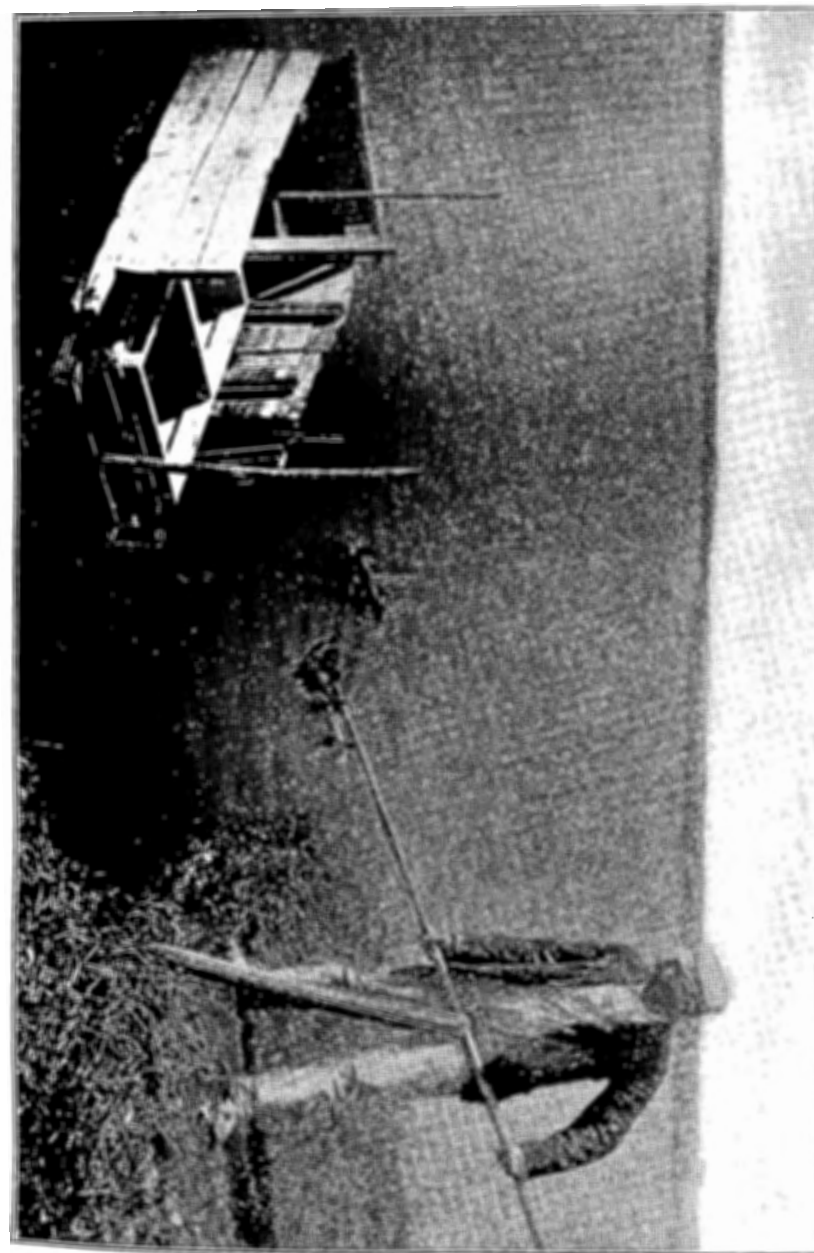
"	"	Charles E. Gasson.	29	1.00
"	"	J. W. Loughlin.	41	5.00
"	"	William F. Morris.	57	11.00
"	"	"	57	11.00
"	"	J. W. & J. H. Woolley.	11	2.50
"	"	Alex Morris.	58	18.00
May	30th	Bennett & Hight and Herbert Heroy.	38	40.00
"	3rd	Herbert Heroy.	60	3.00
"	8th	William L. Newman.	32	6.50
"	"	"	47	4.00
"	"	"	49	4.00
"	"	"	40	7.00
"	10th	Henry Fleming.	35	3.00
"	14th	William S. Bennett.	6	2.00
"	"	Joseph R. Gassin.	42	3.00
"	16th	J. M. Zeighler.	14	3.00
"	18th	C. L. Low.	31	2.00
June	1st	John W. Allgor	17	5.00
"	4th	William Leavers.	39	1.00
"	5th	Garriet White.	59	1.00
"	"	Fred Van Note.	44	7.50
"	11th	Devine Allgor.	48	3.00
"	"	"	61	5.00
"	"	"	43	5.00
"	12th	L. O. Hedden.	18	3.00
"	29th	William Levers & Edwin F. Bennett.	46	5.50
Sept.	15th	Edwin F. Bennett.	28	.25
Oct.	1st	"	36	3.00
"	"	Edwin Bennett & Sons.		
Total.				\$248.50

DISBURSEMENTS.

April	26th	60 Two cent stamps.	\$1.20
May	18th	Stationery, etc.	.35
"	"	C. L. Low one load of stakes used for staking corners over.	2.00
Total			\$3.55
Total receipts.			\$248.50
Total Disbursements.			3.55
			\$244.95

A. FRANK BENNETT, JR.
Commissioner.

Catching oysters from Barnegat Creek for experimental purposes.



Certificates Issued for the Years 1905-1906.

AVON. N. J., November 1, 1906.

Memoranda of all Lease Certificates issued in the year of 1905 and 1906 for Oyster Lots covered by water in Shark River in the County of Monmouth.

A. FRANK BENNETT, JR.,
Commissioner,

Honorable Board of Shell Fisheries:

You will find that some have been cancelled in the year 1906 by consent and in default of payment of rental. If anything else you wish to know kindly let me know.

Respectfully submitted,

A. FRANK BENNETT, JR.,
Commissioner,

No.	To Whom.	Tracts.	Rentals	
1	W. F. Morris	8, 9, 10, 11, N. Side	\$12.00	Cancelled '06
2	Franklin E. Bennett	21, 22, 23, 24, N. Side	12.00	"
3	Alexander Morris	1, 2, 3, 15, 16, 14, 20	21.00	"
4	Henry A. Bennett	18 N. Side	3.00	
5	Frank E. Bennett	47, 79 S. Side	2.00	" No. 79
6	Joseph R. Gassin	34 S. Side	2.00	
7	Isaiah Morris	4, 5, N. Side	12.00	Transf. F.E.B
8	Mr. & Mrs. James Wight	35 S. Side		
9	William L. Tilton	12, 36 S. Side	2.00	
10	William A. Woolley	179 S. Side	1.00	
11	J. W. & J. H. Woolley	170, 171, 178 S. Side	2.50	
12	Benjamin E. Allgor	11 S. Side	1.25	
13	Henry A. Bennett	29, 30, 33, 34 N. Side	3.00	
14	C. L. Low	17 N. Side	3.00	
15	Freeman Campbell	122, 123, 186, 187 S. Side	9.00	
16	Neil Campbell	181, 182, 183, 184 S. Side	6.00	
17	William Levers	35, 36 N. Side	5.00	
18	Wm. L. & Edw. Bennett	32	3.00	

No.	To Who m	Tracts	Rentals	
19	Henry A. Bennett.	6, 7 N. Side, issued by consent.	6.00	Cancelled '06
	Franklin E. Bennett.	See stub No. 7.	1.00	
20	Henry A. Bennett.	37 N. Side.	1.00	
21	George Andrews.	53, 42, 43, N. Side.	3.00	Cancelled '06
22	Halsted Bennett	38 N. Side.	1.00	"
23	Garrett & Dora White.	44, 55 N. Side.	2.00	"
24	Samuel Reed	41, 52, 63 N. Side.	2.00	"
25	E. M. Bentall.	39, 40, 50, 51 N. Side.	3.00	
26	{ Willard Bowd Welden White Arthur Beers }	127, 128, 113, 114, S. Side	5.00	
27	John A. Palmer.	58, 59 N. Side.	1.50	
28	Edwin F. Bennett.	25 N. Side.	.25	
29	Charles E. Gassin.	33 S. Side.	1.00	
30	"	32, 38, 37, S. Side.	3.00	Cancelled '06
31	John W. Allgor	162, 167 S. Side.	2.00	
32	Willson L. Newman	136, 154, 155, 156, 153 4, 5.	6.50	
33	Hiram Woolley.	148 S. Side.	1.50	
34	William H. Woolley.	146, 147 S. Side.	2.00	
35	William S. Bennett.	27 N. Side.	\$3.00	
36	Eden Bennett, Sr.	28 N. Side.	3.00	
37	E. S. V. Woolley.	149, 150, 151 S. Side	3.50	
38	Bennett & Height & Heroy.	77 Lots, S. Side.	40.00	
39	Garriet White.	45 N. Side.	1.00	
40	Henry Fleming.	12, 13, 19 N. Side.	7.00	
41	J. W. Loaghlin.	163, 164, 166, 165 173, 174 S. Side.	5.00	
42	J. M. Zeighler.	177, 176, 175 S. Side.	3.00	
43	L. C. Hedden.	129, 130, 144, 143, 141, 142 S. Side.	5.00	
44	Devine Allgor.	133, 134, 135, 137, 138, 124, 125, 126.	7.50	
45	Joseph C. Woolley.	132, 031, 139, 140, S.S.	4.00	
46	Edwin F. Bennett.	26, 31, N. Side.	5.50	
47	Wilson L. Newman.	115, 116, S. Side.	4.00	
48	Devine Allgor.	117, 190.	3.00	
49	Wilson L. Newman.	111, 112 S. Side.	4.00	
50	Henry A. Bennett.	160, 169 S. Side.	2.00	
51	John A. Palmer.	49, 60 N. Side.	1.00	
52	Freeman Campbell.	188, 121 S. Side.	1.00	
1906 ISSUE.				
53	William H. Woolley.	185 S. Side.	1.00	
54	John A. Palmer.	37, 38 N. Side	2.00	
55	Freeman Campbell.	119, 120, 108, 189.	3.50	
56	William F. Morris.	46, 57, 68 N. Side.	2.00	
57	"	8, 9, 10, 11 N. Side.	11.00	
58	Alexander Morris.	1, 2, 3, 15, 16, 14, 20	18.00	
59	Fred H. Van Note.	55 N. Side.	1.00	
60	Herbert Heroy.	32, 38, 37 S. Side.	3.00	
61	Devine Allgor.	109, 110, 118, S. Side.	5.00	
62	Henry Fleming.	42, 43, 53 N. Side.	3.00	
		Issued Oct. 4, 1906 not included in report.		

Report of the Biologist.

Owing to our neglect to interview the proper legislative committee last spring the State failed to provide the usual appropriation for carrying out the provisions of the Act of 1901 which provides for the scientific study of oyster culture experiments. This work was however continued by the Agricultural College Experiment Station, which has always borne the principal portion of the expense of these investigations.

In the annual report of the Experiment Station will be found the detailed account of our work for the season. In the following pages we shall merely indicate in outline some of the results.

Our experimental work was begun at an early date and prosecuted with vigor and nearly continuously throughout the season. A satisfactory degree of progress was achieved; a season's work in oyster culture experiments does not represent a complete period of study so much as it does a day's journey in a long attempt to make a "Dash for the pole" of truth. The work next year will resume the task where it was left his year. Next years achievements rest on and are made possible by our past experiments which are cumulative. Much of what was accomplished, but not properly completed must wait for publication until at least another seasons efforts have fruited. Under the exigences of our political system, progress must be reported annually, even though the investigation may be one requiring several years of study.

THE BARNEGAT LABORATORY.

The observations of the preceding year had shown us that at Barnegat we had a natural spatting ground easy to access, and which gave promise of exceptional facilities in the study of

natural spatting. In spite of some untoward climatic conditions, our expectations have been amply fulfilled.

In order to enable us to properly study the spatting conditions at Barnegat we erected in the month of May on the Barnegat Creek, a quarter of a mile below the bridge a laboratory building as an oyster experiment station. It served as a residence for the Biologist whose continual presence close to the natural oyster grounds is a necessity, and it served to house the instruments and part of the experiments during their progress.

The building was erected on piles driven into the marsh (Meadow). Its dimensions are nine feet wide by fourteen long by twelve feet high. During the winter it is used as a shelter for the boat which necessarily is a part of our equipment. This is the second station erected in accordance with the provisions of the Act of 1901, the first being near Tuckerton. Like the first laboratory our Barnegat building has sleeping accommodations on the second floor, but unlike the Tuckerton Station, in addition to microscopical table, on the first floor at Tuckerton the dining facilities have been kindly provided by Mr. George A. Mott in his oyster shanty adjoining. Photographs of these laboratories were taken by Mr. W. T. Speck, of Tuckerton, and are included among the illustrations of the present report.

WE SEEK THE "WHY."

The oyster fry cages, tested last year with unsatisfactory results were tried again with equally negative results. As our object is not simply to ascertain the "What" and "When" of things but also the "How" and "Why" we are inclined to retain this apparatus for further trials or until we find out why the fry failed to live in them.

Previous experiments have been satisfied with ascertaining simply that what and when of oyster culture. The Connecticut planter knows when to plant his shell and by experience

knows where he will in likelihood secure a good set of spat. If he fails in any one year he can only guess as to the why of such failure.

Laboratory experimenters have planted spawning oysters in natural ponds or lagoons near natural beds and have secured natural spat on their clutch. They have claimed to get a set from spawn artificially fertilized when placed on such ponds. In one case a tank through which sea water was pumped from near a natural bed, received a set of spat when artificially fertilized eggs were added to the water. But in these experiments there is strong reason to believe that the set of spat came from the fry naturally produced, and not from that artificially produced.

There does not exist a person who can tell us how to raise oysters as we now raise fish in artificial hatcheries. The matter is a secret still to be solved, and depends on the conjunction of quite a number of favorable circumstances or conditions. We believe that we have worked out a large majority of these factors and that we are approaching close upon the discovery of the final ones.

DIFFICULTIES.

The difficulties surrounding this investigation are unusual. The oyster spawning season, at least that during which suitable eggs can be secured is quite short. The longer we work at the problem, the shorter we deem the season to be, in spite of the fact that eggs of some sort can be secured from May to September. It is our belief that the present year's supply of natural oyster seeds was all produced during the last two weeks in June.

Another difficulty lies in the fact that the oyster eggs and fry are so very small that only powerful magnification renders them visible to the naked eye. To ascertain whether there is oyster fry in the sea water, it becomes necessary to go to the trouble of filtering a supply through filter paper—a slow process.

A third difficulty lies in the fact of the oysters being tightly enclosed between two strong shell valves. Nothing can be ascertained of the condition or sex of an oyster until its shell has been cut open, and the life of the animal sacrificed. It cannot be tagged and returned to the water, like a fish to await a further examination of its eggs at a later date.

A fourth difficulty lies in the fact that the oyster lies out of sight down on the bottom in the mud under water so opaque that the bottom is invisible. Unless the natural oyster bed is thickly strewn with oysters of large size, which is most unlikely under present usages, it is a task indeed to secure natural oysters in good quantity.

A fifth difficulty lies in the fact that the home of the oyster is in waters where a little breeze or a storm or special tides, etc., interfere with inspections just when they are most necessary.

A sixth difficulty lies in the sensitiveness of the oyster to changes in its surroundings. We cannot go and secure a lot of oysters and bring them near the laboratory or station and plant a supply for use at our convenience of the needs of our experiment. Half an hour after an oyster has been taken from its native bed, it has suffered changes in its reproductive tissues that interfere with successful experimentation.

NEEDS OF LARGER APPROPRIATIONS.

As compared with the work of breeding or propagating fish, the higher animals or plants, oyster culture has vastly greater practical difficulties to surmount, that are only incidental to the main difficulties of the problems in hand, but which frequently interfere seriously with the solution of these problems. The experimenter has not simply to devise methods for solving such questions as: what is the condition of proper maturity of the spawn? What proportion of male seed should be added to the eggs? should this addition be made at once or should the eggs or the sperms or both be soaked first? What

density of water is best? What temperature is most favorable? etc., etc., but the experimenter must devise means for overcoming the natural and incidental difficulties above enumerated. He should have an oyster farm of his own. He should have a laboratory floating constantly above such a farm. He should not be compelled to go and hunt oysters, because the appropriation is too small to allow the engaging of an assistant. Such, and other difficulties necessary for the successful progress of an investigation of this sort, for example a motor boat, so that the investigator can quickly go from one bed to another, require an adequate outlay by the State, which the importance of this great industry fully justifies.

LINES OF INVESTIGATION.

The operations of the Biologist were conducted mainly at the Barnegat laboratory, but frequent trips were made to the Tuckerton laboratory and also to the riparian grants to the Messrs. Sooy on the Mullica.

At these three localities, the condition of the oysters from May to September was observed, also the density of the water and the progress of the natural set of spat. Throughout June and during the first half of July the water was frequently filtered to ascertain the presence or absence of natural oyster fry. Experiments were made in the planting of clutch of different kinds under different conditions and at different dates. A very large number of fertilization tests were made with a variety of experimental incidentals that solved new problems or more perfectly elucidated older and partly answered problems. The details of these experiments need not be given here. The following summary of our principal results will be of interest.

SUMMARY OF OBSERVATIONS.

The oysters had begun to spawn by the 19th of May at Barnegat the youngest specimens spawning first. At this date the

oysters at Tuckerton and in the Mullica were not yet ripe. But by the middle of June the adult specimens at all three localities were throwing out their spawn.

By the end of June the large oysters at Barnegat had completed their spawning. The younger ones came into spawn again later, but whether this spawn actually furnished any additional fry is a question, for reasons to be stated further on. A small amount of spawn from a proportion of the small naturals was secured at Barnegat throughout July.

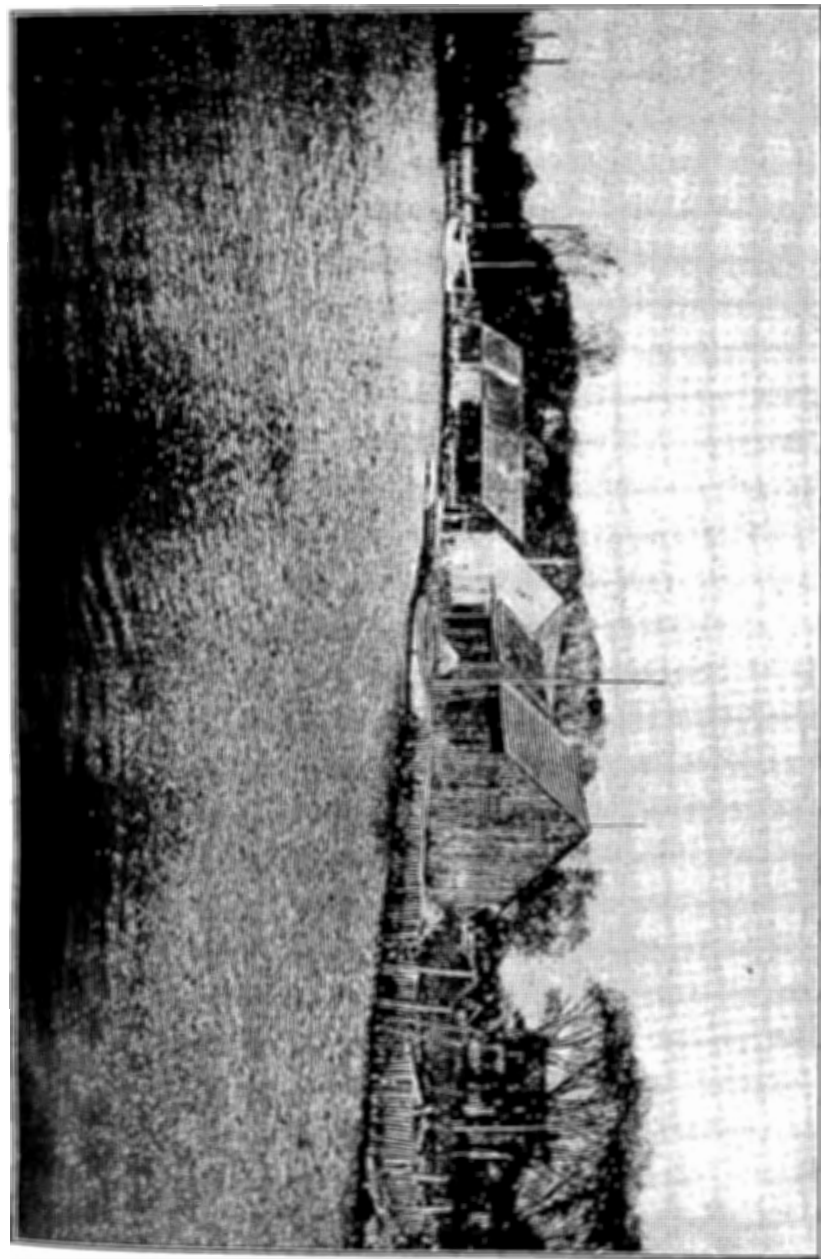
A good deal of spawn was present in the large "Plants" at Tuckerton and in the Mullica throughout July. At Tuckerton a special experiment in transplanting such oysters, delayed their spawning for two weeks longer, but after the middle of August no satisfactory spawn was obtainable.

The new set of natural spat was first noticed July 11th on the Mullica and July 12th at Barnegat. To the best of our belief this set had attached not later than July 4th, perhaps most of it dated from the last week in June. There was no later general set whatever may be said in favor of an occasional straggler through the summer.

Filtration of the water at Barnegat showed the presence of fry on the fourteenth of June the first time and on the twenty-fifth of June for the last time. By following this indication it would seem that the set took place during the last five days of June and the first three of July. Shells placed before July 3d received a set, those placed later showed nothing. This statement applies only to shells planted in our experiment.

The density of the water on the natural beds in Barnegat Creek fluctuated between 1010 to 1003, becoming fresher as the season advanced, up to the middle of July. After that date the water was too fresh to permit the spawn to live, and it is indeed doubtful if fry could develop after the average density fell below 1005.

At Tuckerton the density of the water in Headley's Creek normally 1015 to 1025, which density was noticed in May, gradually fell until the middle of August when it reached the



Some shipping houses along Tuckerton Creek.

remarkable low point of 1007. The density of the Mullica River water at the opening of the season was 1010 but by mid-summer it was down to 1003.

Only a small portion of our Barnegat fertilization tests resulted in satisfactory fry, none of those made on the Mullica proved satisfactory, while nearly every one at Tuckerton was satisfactory. Comparative tests showed that the main cause of failure in the other cases was the use of water of two low density. As this quite fresh or slightly blackish water surrounded our fry cages and entered our claires at Barnegat, the poor results of our experiments with this portion of our apparatus is readily explained.

The spat that sets before the water had become so fresh, seemed to stand the unusual conditions remarkably well. This is to be explained by the fact that these spat being able to shut out the fresher water by closure of their shells, were yet able to secure sufficient food to make growth by feeding only on high water. Our figures for the density of the water do not represent the actual state of the water that reached these oysters. The water at the bottom is always more dense than at the surface, and the water is of course more dense at the beginning of ebb than at the beginning of flood tide. This law had however a notable exception at Stopwater Creek, by our Tuckerton laboratory which receives its tides from Great Bay. As the Mullica became very fresh, this river lowered the density of Great Bay below that of the pond at the head of the Stopwater. Naturally there was a period when high water was fresher than low water.

It is also to be noted that a fairly abundant set of oysters occurred in Stopwater Creek, the first in a long series of years; certainly no set has taken place there for ten or a dozen years previously. As this spatting occurred before the unusual density conditions obtained, we must look elsewhere for an explanation of this rare occurrence. The writer has however no explanation to offer.

Our experiments with clutch showed that oyster fry prefer

to attach to oyster shells, showing a preference for the inside, but even the outside offers greater inducements than do almost all other substances or objects. Oyster fry do not show any great choice as between the upper and lower side of clutch or between the hollow and the convex surface.

We found it advantageous to wash our eggs before fertilization and to use only the heaviest. Under favorable conditions our artificially fertilized fry attained shells within twelve hours after fertilization; and no fry ever amounts to anything that fails to secure shells before the 30th or 36th hour, the average is eighteen to twenty-four hours. A remarkable phenomenon investigation is the tendency of the newly hatched fry to make attachment to the water surface to objects that project out of the water. Such fry get shells at the same time as those that are not attached, and such shells seem to start in a normal way to become cemented to the clutch. But in none of our experiments did they succeed in completing this stage.

This most interesting observation seems to suggest that under natural conditions it is likely that oyster fry do not swim about long before making attachment; but as to the rapidity of growth, at this time it must be unusual for "spat to be visible, three days after the shells were planted" as affirmed by one oysterman. This subject merits careful study.

OUR OYSTER RESOURCES.

We conclude this brief outline of our season's work with an account of our observations on October 1st on the Mullica. On this date the natural beds called "gravellings" or "Grablings" are thrown open to the public. All persons who wish to take natural oysters must have paid for a tonger's license to secure this privilege. The scene of such opening reminds one strongly of the opening to the public of government lands in the west.

These beds are two in number, the upper one is off Turtle Island and the lower bed a mile nearer the Bay. So limited

is the area covered by natural seed in sufficient abundance to pay for tonging, that the water is crowded with boats of all descriptions that have come into position during the day preceding the opening. Here are sloops, schooners, yachts, smacks, sail crafts and naphtha launches, scows, garveys, row-boats and dinkeys, almost wedged together. Just enough space is left to allow the tonnage to push his load to the nearest "buying" boat. In this limited area, at sunrise October 1st, nearly a thousand persons set vigorously to work to tong up the oyster seed which is scarcely larger than a nickle. As fast as the load was secured it was sold, unloaded, and the tonger fell to work again. So it was all that day, and the next, and the next, but soon such tonging cleaned off the upper layer rich in spat and subsequent grabs became poorer in oysters until the buyer refused to catch at the price; meanwhile the crowd daily grows smaller and relatively few remain to work on these beds longer than a week. It was estimated that these beds yielded this season 200,000 bushels of seed that sold for \$40,000.

Were it not for the deep accumulations of oyster shells from the unnumbered years of the past before man came to grab for this golden harvest, there would be left no foothold for next seasons spat, and the natural bed would be at an end. The beds are much less productive than they were many years ago, and are surely, if slowly destined to disappear yet the broad expanses of this river for miles are suitable sparring grounds if only shells are placed there as clutch for the young oysters. The river has potential resources that will yield hundreds, yes thousands of times the revenue it now yields.

And yet our citizens have failed to exploit this health. Two lines of advance are feasible: First, the State may shell this bottom annually at great expense and offer the harvest to the licensed public. But will the public licenses reimburse the State for its outlay?

Second, the State may provide by legislation and police force, for private cultivation of this area, in turn exacting a tax suf-

ficient to meet the expense of protection, or authorizing cooperative protective measures by the planters themselves.

In Europe, especially in Holland, a large share of the public revenues is secured by government ownership of the oyster fields. These grounds are annually let to the highest bidders. It is needless to say that the bottom is very thoroughly cultivated under such system, and that the people derive the highest possible pecuniary benefits.

Respectfully submitted,

JULIUS NELSON, PH. D.

Biologist Agricultural College Experiment Station.

New Brunswick, N. J.

New Laws of the Session of 1906.

An Act for better protection and preservation of the oyster industry in the creeks and rivers tributary to Delaware Bay, Delaware River and Maurice River cove and the natural beds at the mouths respectively of said creeks and rivers and along the shore of said bay, in the counties of Cape May, Cumberland and Salem, in this State.

Be it enacted by the Senate and General Assembly of the State of New Jersey:

1. It shall be unlawful for any person to catch or take oysters from lands of this State under the tidal waters of any of the creeks and rivers tributary to Delaware Bay, Delaware river or Maurice river cove, in the counties of Cape May, Cumberland and Salem, or from any of the natural seed beds at the mouths respectively of the said creeks and rivers and along the shore of said bay, except by the use of hand tongs.

2. Any resident of this State desiring to engage in the catching or taking of oysters with hand tongs from the creeks, rivers and beds mentioned and referred to in section one of this act for the purpose of selling or planting the same shall first obtain a license from the State Oyster Commission, which commission, or a majority thereof are hereby authorized and empowered to grant such license.

3. Every such license shall be signed by the State Oyster Superintendent and be sealed with the seal of the said State Oyster Commission. Each license so granted shall be good for one year from the date thereof; each license so granted shall be numbered and recorded in a book kept for that purpose in the office of the State Oyster Commission; the person receiving such license shall have the number thereof painted on the port side of his boat, outside the bow, in plain view, in black figures on white ground, and each figure shall measure not less than six inches in length and one inch in width; and upon the failure or neglect of any person so licensed to so display said number as above required, such person so neglecting or failing shall forfeit such license.

4. At the time of granting every such license the licensee shall pay to said State Oyster Superintendent the sum of five dollars, which sum shall be collected and received by the oyster superintendent for the sole use of the State of New Jersey as public moneys belonging to

the State, and shall be accounted for and paid over in the same manner as are other moneys collected and received by said oyster superintendent.

5. All oysters taken from any of the creeks, rivers or beds whence affected by the provision of this act shall be culled in or upon the creeks, rivers or beds whence taken, and all undersized oysters, shells and trash removed from such oysters shall be thrown back upon the beds whence the same have been taken.

6. No oyster which measures less than one and a half inches from hinge to mouth shall at any time be taken from any of the creeks, rivers or beds affected by the provision of this act or be in the possession of any person whomsoever after being so taken; provided, that this shall not apply to spat or blisters adhering so closely as to be impossible to remove without destruction; but in no case shall this exception amount to more than ten per centum of the bulk of any catch or cargo.

7. All oysters measured under the provision of this act shall be measured in a circular bushel tub, with straight sides and straight solid bottom, and said tub shall have the following dimensions, viz.: fifteen inches in diameter across the top from inside to inside, and thirteen and three-quarters inches across the bottom from inside to inside, and twenty inches diagonal from inside chime to top.

8. It shall be unlawful to purchase natural seed oysters from an unlicensed tonger, and every licensee under this act shall, upon request, exhibit his license to any prospective purchaser of his catch of natural seed oysters.

9. It shall be unlawful to gather, scrape, rake or tong oysters in or upon any of the creeks, rivers or beds affected by the provision of this act during the months of December, January, February, July and August; provided, this section shall not apply to the beds at the mouth of and in Maurice river during the months of July and August.

10. It shall be the duty of the State Oyster Commission to make a careful inspection of the natural oyster seed grounds affected by the provision of this act, and whenever and wherever in their opinion it is deemed expedient to cause a supply of shells to be spread on such grounds, such shells shall be purchased by said commission and shall be planted for the propagation of natural seed oysters. When shells are so planted by said commission under the provision of this act said State Oyster Commission, or a majority thereof, shall prescribe a close season for the tonging and catching of oysters on said grounds, and shall suitably mark said grounds by stakes, bouys or other means, and during such close season it shall be unlawful for any person to tong or catch oysters on said grounds.

11. The State Oyster Commission shall have power, and it shall be their duty, to enforce the provision of this act; and in furtherance and not in limitation of such power they shall have power to employ

such surveyors, engineers, guards and other employes, together with such boats, means and materials as they may deem necessary to carry into effect the provision of this act, and for the protection of all natural oysters, oyster seed beds and grounds, and to incur such expenses of this act, and for the preservation and improvement of the said oyster seed beds and grounds.

12. The members of the State Oyster Commission, the Oyster Superintendent and the several captains or masters of guard-boats are hereby empowered, and it shall be their duty, on view, without special warrant issued for that purpose, to arrest any person engaged in the violation of any of the provisions of this act.

13. It shall be the duty of the State Oyster Commission to revoke the license of any tonger who shall violate any of the provisions of this act, and said commission shall have power to refuse thereafter to grant any license to be issued to such person so offending for such period of time as the commission may fix and determine.

14. No license shall be transferable by the license and no licensee shall use or operate more than one boat under one license.

15. Any person or persons violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine not exceeding one hundred dollars, or imprisonment in the county jail not exceeding three months, or both, at the discretion of the court.

16. If any person shall be found violating any of the provisions of this act, and for that purpose using any boat, raft, scow or other vessel, it shall be the duty of all sheriffs and constables and shall be lawful for any captain of guard-boat, oyster superintendent or member of said commission to seize and secure, without warrant or process, such boat, raft, scow or other vessel, together with all tackle and implements so used, and immediately thereon give information to any two justices of the peace of the county, convenient to the place where such seizure shall be made, who are hereby empowered and required at such time and place as they shall appoint, not less than five or more than ten days thereafter, summarily to hear and determine the same; and in case such boat, raft, scow or other vessel, with such tackle and implements so used shall be condemned, the same shall be sold by the order and under the direction of said justices, who after deducting all legal costs, charges and expenses of such seizure, condemnation and sale, shall pay the net proceeds thereof to the said oyster superintendent.

17. If any person or persons on board any such boat, raft, scow or other vessel shall refuse and not suffer to enter the same or resist before or after entering, any of the said sheriffs, constables, captain or guard-boat, oyster superintendent, or member of said State Oyster Commission, or otherwise resist them, or any of them, in the lawful seizing of the same, then every person so offending shall be deemed

guilty of a misdemeanor and subject to the penalties herein before provided

18. For the purpose of carrying out the provisions of this act there shall be available, when appropriated, the sum of four thousand dollars annually, or such portion of it as may be necessary, and all bills incurred by the State Oyster Commission in carrying out the provisions of this act shall be certified by the State Oyster Commission to the State Comptroller monthly for payment, and he shall draw his warrant on the State Treasurer therefor; provided, however, expenditure shall not exceed the sum of four thousand dollars annually.

19. All act and parts of acts, inconsistent with the provisions of this act are hereby repealed, and this act shall take effect immediately.

An Act for the better protection and preservation of the oyster industry in the creeks and rivers tributary to Delaware by, Delaware river and Maurice river cove and the natural beds at the mouths respectively of said creeks and rivers along the shore of said bay, in the counties of Cape May, Cumberland and Salem, in this State.

Be it enacted by the Senate and General Assembly of the State of New Jersey.

1. It shall be unlawful for any person to catch or take oysters from lands of this State under the tidal waters of any of the creeks and rivers tributary to Delaware bay, Delaware river or Maurice river cove, in the counties of Cape May, Cumberland and Salem, or from any of the natural seed beds at the mouths respectively of the said creeks and rivers along the shore of said bay, except by the use of hand tongs.

2. Any resident of this State desiring to engage in the catching or taking of oysters with hand tongs from the creeks, rivers and beds mentioned and referred to in section one of this act for the purpose of selling or planting the same shall first obtain a license from the State Oyster Commission, which commission, or a majority thereof are hereby authorized and empowered to grant such license.

3. Every such license shall be signed by the State Oyster Superintendent and be sealed with the seal of the State Oyster Commission; each license so granted shall be good for one year from the date thereof; each license so granted shall be numbered and recorded in a book kept for that purpose in the office of the State Oyster Commission; the person receiving such license shall have the number thereon painted on the port side of his boat, outside the bow, in plain view, in black figures on white ground, and each figure shall measure not less than six inches in length and one inch in width;; and upon the failure or neglect of any person so licensed to so display said number as above required, such person so neglecting or failing shall forfeit such license.



Cutting a load of oysters (Eastern seed planted one year ago).

4. At the time of granting every such license the licensee shall pay the said State Oyster Superintendent the sum of five dollars, which sum shall be collected and received by the oyster superintendent for the sole use of the State of New Jersey as public moneys belonging to the State, and shall be accounted for and paid over in the same manner as are other moneys collected and received by said oyster superintendent.

5. All oysters taken from any of the creeks, rivers or beds whence affected by the provision of this act shall be culled in or upon the creeks, rivers or beds whence taken, and all undersized oysters, shells and trash removed from such oysters shall be thrown back upon the beds whence the same have been taken.

6. No oyster which measures less than one and a half inches from hinge to mouth shall at any time be taken from any of the creeks, rivers or beds affected by the provision of this act or be in the possession of any person whomsoever after being so taken; provided, that this shall not apply to spat or blisters adhering so closely as to be impossible to remove without destruction; but in no case shall this exception amount to more than ten per centum of the bulk of any catch or cargo.

7. All oysters measured under the provision of this act shall be measured in a circular bushel tub, with straight sides and straight solid bottom, and said tub shall have the following dimensions, viz.: fifteen inches in diameter across the top from inside to inside, and thirteen and three-quarters inches across the bottom from inside to inside, and twenty inches diagonal from inside chime to top.

8. It shall be unlawful to purchase natural seed oysters from an unlicensed tonger, and every licensee under this act shall, upon request, exhibit his license to any prospective purchaser of his catch of natural seed oysters.

9. It shall be unlawful to gather, scrape, rake or tong oysters in or upon any of the creeks, rivers or beds affected by the provision of this act during the months of December, January, February, July and August; provided, this section shall not apply to the beds at the mouth of and in Maurice river during the months of July and August.

10. It shall be the duty of the State Oyster Commission to make a careful inspection of the natural oyster seed grounds affected by the provision of this act, and whenever and wherever in their opinion it is deemed expedient to cause a supply of shells to be spread on such grounds, such shells shall be purchased by said commission and shall be planted for the propagation of natural seed oysters. When shells are so planted by said commission under the provision of this act said State Oyster Commission, or a majority thereof, shall prescribe a close season for the tonging and catching of oysters on said grounds, and shall suitably mark said grounds by stakes, bouys or other means, and during such close season it shall be unlawful for any person to tong or catch oysters on said grounds.

11. The State Oyster Commission shall have power, and it shall be their duty to enforce the provision of this act; and in furtherance and not limitation of such power they shall have power to employ such surveyors, engineers, guards and other employes, together with such boats, means and materials as they may deem necessary to carry into effect the provision of this act, and for the protection of all natural oysters, oyster seed beds and grounds, and to incur such expenses as they consider proper to fully carry out the provision of this act, and for the preservation and improvement of the said oyster seed beds and grounds.

12. The members of the State Oyster Commission, the oyster superintendent and the several captains or masters of guard-boats are hereby empowered, and it shall be their duty, on view, without special warrant issued for that purpose, to arrest any person engaged in the violation of any of the provisions of this act.

13. It shall be the duty of the State Oyster Commission to revoke the license of any tonger who shall violate any of the provisions of this act, and said commission shall have power to refuse thereafter to grant any license to be issued to such person so offending for such period of time as the commission may fix and determine.

14. No license shall be transferable by the license and no licensee shall use or operate more than one boat under one license.

15. Any person or person violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by a fine not exceeding one hundred dollars, or imprisonment in the county jail not exceeding three months, or both, at the discretion of the court.

16. If any person shall be found violating any of the provisions of this act and for that purpose using any boat, raft, scow or other vessel, it shall be the duty of all sheriffs and constables and shall be lawful for any captain of guard-boat, oyster superintendent or member of said commission to seize and secure, without warrant or process, such boat, raft, scow or other vessel, together with all tackle and implements so used, and immediately thereon give information to any two justices of the peace of the county, convenient to the place where such seizure shall be made, who are hereby empowered and required at such time and place as they shall appoint, not less than five or more than ten days thereafter, summarily to hear and determine the same; and in case such boat, raft, scow or other vessel, with such tackle and implements so used shall be condemned, the same shall be sold by the order and under the direction of said justices, who, after deducting all legal costs, charges and expenses of such seizure, condemnation and sale, shall pay the net proceeds thereof to the said oyster superintendent.

17. If any person or persons on board any such boat, raft, scow or other vessel shall refuse and not suffer to enter the same or resist before or after entering, any of the said sheriffs, constables, captain or

guard-boat, oyster superintendent, or member of said State Oyster Commission, or otherwise resist them, or any of them, in the lawful seizing of the same, then every person so offending shall be deemed guilty of a misdemeanor and subject to the penalties herein before provided.

18. For the purpose of carrying out the provisions of this act there shall be available, when appropriated, the sum of four thousand dollars annually, or such portion of it as may be necessary, and all bills incurred by the State Oyster Commission in carrying out the provisions of this act shall be certified by the State Oyster Commission to the State Comptroller monthly for payment, and he shall draw his warrant on the State Treasurer therefor; provided, however, expenditure shall not exceed the sum of four thousand dollars annually.

19. All act and parts of acts inconsistent with the provisions of this act are hereby repealed, and this act shall take effect immediately.

An Act to amend an act entitled "An Act to amend an act entitled 'An act for the better regulation and control of the taking, planting and cultivating of oysters and clams on lands lying under tidal water of the county of Ocean, in the State of New Jersey,' approved March twenty-sixth, one thousand nine hundred and two," and which amendatory act was approved April twelfth, one thousand nine hundred and five.

Be it enacted by the Senate and General Assembly of the State of New Jersey.

1. Section one of the act to which this act is amendatory be and the same hereby is amended to read as follows:

1. Section five of the act to which this act is an amendment be and the same is hereby amended to read as follows:

5. The State Oyster Commission shall have power and are hereby directed, as hereinafter provided, to lease to applicants therefor any of the lands of the State under the tidal waters of the county of Ocean, not set apart as public oyster or clam grounds, to be exclusively used and enjoyed by such lessors for the purpose of taking, planting and cultivating of oysters and clams, and for the planting of shells thereon for propagating purposes; provided, however, that no lease or leases shall be granted to any person or persons who shall not be, at the time of granting of said lease, and shall not have been for twelve months next preceding, a citizen and actual resident of this State.

2. This act shall take effect immediately.

A Supplement to an act entitled "An act for the better regulation and control of the taking, planting and cultivating of oysters and clams

on lands lying under tidal waters of the county of Atlantic, in the State of New Jersey," approved March thirtieth, one thousand nine hundred and five.

Be it enacted by the Senate and General Assembly of the State of New Jersey.

1. The said oyster commission for the district of Atlantic county shall have authority to plant shells for the propagation of natural seed oysters, and the sum of two thousand five hundred dollars is hereby appropriated, when included in the annual or supplemental appropriation bill, for said purpose, in condition to any other appropriation made by law for the purpose of carrying out the provision of the act to which this act is a supplement.

When shells are planted by the said oyster commission under the provision of this act, said oyster commission shall prescribe a close season for the tonging and catching of oysters on said grounds, and shall suitably mark said grounds by stakes, buoys or other suitable means, and any person who shall tong or catch oysters on said grounds during the said close season shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding one thousand dollars or imprisonment in the State Prison not exceeding five years, or both, at the discretion of the court. Provided, however, that the said oyster commission is hereby directed and empowered to lease all lands of the State under the tidal waters of the county of Atlantic, except natural seed beds and the grounds set apart as public clam grounds, or such lands as has heretofore been set apart by the Shell Commission which heretofore existed for the purpose of planting shells thereon in order to propagate seed oysters.

2. All acts and parts of acts, general or special, inconsistent with the provisions of this act are hereby repealed, and this act shall take effect immediately.

A Further Supplement to an act entitled "An act for the better regulation and control of the taking, planting and cultivating of oysters and clams lying under the tidal waters of the county of Ocean, in the State of New Jersey," approved March twenty-sixth, one thousand nine hundred and two.

Be it enacted by the Senate and General Assembly of the State of New Jersey.

1. The State Oyster Commission shall have power to set apart any lands under the tidal water of the county of Ocean, not now leased under the provisions of the act to which this act is a supplement, to be known and held as public oyster and clam grounds, and shall cause the land so set apart to be properly marked by stakes, bouys or other mens.

2. This act shall take effect immediately.

An Act to amend an act entitled "An act to amend an act entitled 'An act for the better regulation and control of the taking, planting and cultivating of oysters and clams on lands lying under the tidal waters of the county of Ocean, in the State of New Jersey,' approved March twenty-sixth, one thousand nine hundred and two," and which amendatory act was approved April twelfth, one thousand nine hundred and five.

Be it enacted by the Senate and General Assembly of the State of New Jersey.

1. Section one of the act to which this act is amendatory be and the same hereby is amended to read as follows:

1. Section five of the act to which this act is an amendment be and the same is hereby amended to read as follows:

5. The State Oyster Commission shall have power and are hereby directed, as hereinafter provided, to lease to applicants therefor any of the lands of the State under the tidal waters of the county of Ocean, not set apart as public oyster or clam grounds, to be exclusively used and enjoyed by such lessees for the purpose of taking, planting and cultivating of oysters and clams, and for the planting of shells thereon for propagating purposes; provided, however, that no lease or leases shall be granted to any person or persons who shall not be, at the time of granting of said lease, and shall not have been for twelve months next preceeding, a citizen and actual resident of this State.

2. This act shall take effect immediately.

A Supplement to an act entitled "An act for the better regulation and control of the taking, planting and cultivating of oysters and clams on lands lying under the tidal waters of the county of Atlantic, in the State of New Jersey," approved March thirtieth, one thousand nine hundred and five.

Be it enacted by the Senate and General Assembly of the State of New Jersey.

1. The said Oyster Commission for the district of Atlantic county shall have authority to plant shells for the propagation of natural seed oysters, and the sum of two thousand five hundred dollars is hereby appropriated, when included in the annual or supplemental appropriation bills, for said purpose, in condition to any other appropriation made by law for the purpose of carrying out the provision of the act to which this act is a supplement.

When shells are planted by the said oyster commission, under the provision of this act, said oyster commission shall prescribe a close season for the tonging and catching of oysters on said grounds, and shall suitably mark said grounds by stakes, buoys or other suitable means, and any person who shall tong or catch oysters on said grounds during the said close season shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding one thousand

dollars or imprisonment in the State Prison not exceeding five years, or both, at the discretion of the court. Provided, however, that the said oyster commission is hereby directed and empowered to lease all lands of the State under the tidal waters of the county of Atlantic, except natural seed beds and the grounds set apart as public clam grounds, or such lands as has heretofore been set apart by the Shell Commission which heretofore existed for the purpose of planting shells thereon in order to propagate seed oysters.

2. All acts and parts of acts, general or special, inconsistent with the provisions of this act are hereby repealed, and this act shall take effect immediately.

An Act providing for experimenting in the artificial propagation of oysters
Be it enacted by the Senate and General Assembly of the State of New Jersey.

1. The State Bureau of Shell Fisheries is hereby authorized and empowered to co-operate with the State Agricultural College Experiment Station in conducting experiments for the artificial propagation of oysters, investigating the causes of disease in oysters and clams, and in prosecuting such other scientific research as may be judged most beneficial for the shell-fish industry.

2. The State Bureau of Shell Fisheries in co-operation with the Director of the State Agricultural College Experiment Station shall have the power to engage such additional experts and assistants as may be needed for the thorough and complete investigation of these questions; to secure and construct such claires or ponds as may be necessary at points along the oyster bearing waters of the State; to build and maintain such laboratories and Experiment Stations as may be found necessary for the proper conduct of the work; to secure such apparatus and supplies as may be needed, and to do such other work as may advance and improve the oyster and clam industry of the State; provided that the expense for these investigations, and experiments shall not exceed the sum of two thousand five hundred dollars, in any one year exclusive of any provisions that may be made for and by the Agricultural College Experiment Station, for the prosecution of these and other researches by its biological department.

3. This act shall take effect immediately.

A. Further Supplement to an act entitled "An act for the better regulation and control of the taking, planting and cultivating of oysters and clams on lands lying under the tidal waters of the county of Ocean, in the State of New Jersey," approved March twenty-sixth, one thousand nine hundred and two.

Be it enacted by the Senate and General Assembly of the State of New Jersey.

1. The State Oyster Commission shall have power to set apart any

lands under the tidal water of the county of Ocean, not now leased under the provision of the act to which this act is a supplement, to be known and held as public oyster and clam grounds, and shall cause the land so set apart to be properly marked by stakes, buoys or other means.

2. This act shall take effect immediately.

LEGISLATION IN MARYLAND.

The State Legislature of Maryland has just passed a general act for the preservation, advancement and control of its shell fish industry. It follows so closely the lines of our own acts, and yet presents so many new and advanced features that it is here published for the perusal of those interested:

SECTION 1. Be it enacted by the General Assembly of Maryland, That the following sections be and they are hereby added to Article 72 of the Code of Public General Laws, titled "Oysters," to follow section 82, and to be designated respectively as sections 83, 84, 85, 86, 87, 88, 89, 90, 91, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 112, 113, 114, 115, 116, 117, 118, and 119.

SECTION 83. Any resident of Maryland shall have the right to plant and cultivate oysters in the waters of this State; such right shall be exercised in the manner prescribed in the following sections of this Act and shall be subject to the regulations, provisions and limitations hereinafter set forth, but no corporation, or joint stock company, shall be permitted to lease or take up, or to acquire by assignment, or otherwise, any lands of the State for oyster planting or cultivation. All natural beds or bars shall be excluded from the operation of this Act, and no person shall be permitted to plant or cultivate oysters thereupon, or in any way appropriate the same to his own use.

SECTION 84. The Board of Shell Fish Commissioners of Maryland is hereby created. The said Board shall consist of three members, one of whom shall be a resident of one of the tidewater counties of the Eastern shore of Maryland, another a resident of one of the tidewater counties of the Western shore, and the third a resident of the City of Baltimore, and one of whom shall be a member of the minority party at the time of their appointment. The term of each of the members of said board shall be two years from the first Monday in May after his appointment. They shall be appointed by the Board of Public Works of the State of Maryland. No member of said Board Shell Fish Commissioners shall be in any manner interested in any land leased or taken up for bedding, planting or cultivating oysters. The acts and duties to be done and performed by said Board under this Act may be done and performed by two of said Commissioners, and in all cases, the decision of a majority of the Commissioners shall be binding. One of said Commissioners shall be designated by the Board of Public Works of the State of Maryland as president and his salary shall be two thousand dollars a year. The salary of the other Commissioners shall be eighteen hundred dollars a year. The said Commissioners shall be allowed to employ a chief clerk

upon a salary of twelve hundred dollars a year, and such assistants, not exceeding three in number and not more than be absolutely needed for the performance of the work of the Board, at graded salaries, to be paid by the Commissioners, not to exceed one thousand dollars a year for such assistants, as it may deem necessary to aid it in the proper performance of its duties, as prescribed in this Act. The said Commissioners shall employ a competent surveyor, who shall also be a hydrographic engineer, upon a salary to be named by said Commissioners not exceeding twenty-five hundred dollars a year. If the Commissioners deem it expedient to employ a hydrographic engineer, who is also a biologist, capable of investigating oyster propagation, an engineer of such qualification may, in their discretion, be employed. The sum of five hundred dollars per annum shall be appropriated, to be expended under the direction of said engineer, if he be a biologist, who shall, in that event, establish one or more stations for said investigation of oyster propagation. All salaries, outlays and disbursements authorized by this Act shall be paid out of the general treasury of the State of Maryland upon requisition made by the Board of Shell Fish Commissioners, endorsed by the Comptroller of the State, but the same shall be repaid out of the first revenues arising from the leasing of land for oyster culture contemplated by this Act. The Commissioners composing said Board shall, immediately after their appointment, file in the office of the Clerk of the Court of Appeals separate bonds, with a surety to be approved by the State Treasurer, in the sum of ten thousand dollars conditioned for the faithful performance of the duties imposed by this Act. The said Commissioners shall take and subscribe before the Governor of the State an official oath prescribed by the Constitution. The said Commissioners shall have an office in the City of Annapolis.

SECTION 85. The Commissioners shall keep, at its office in the City of Annapolis, books of records, in which shall be recorded all leases, assignments and other conveyances of land to be used for the planting or cultivation of oysters in accordance with this Act. A set of clear and simple forms, for all subsequent conveyances of any kind, shall be prepared by the Board, with the advice of the Attorney General, and no title shall be vested in any lessee or transferee of any interest or estate acquired under this Act until the conveyance or conveyances evidencing such leases or transfers will have been recorded in the office of the Board of Shell Fish Commissioners.

SECTION 86. The Board of Shell Fish Commissioners shall, as soon as practicable, after the passage of this Act, cause to be made a true and accurate survey of the natural oyster beds, bars and rocks of this State, said survey to be made with reference to fixed and permanent objects on the shore, giving courses and distance, to be fully described and set out in a written report of said survey, as hereinafter required. A true accurate delineation of the same shall be made on copies of published maps and charts of the United States Coast and Geodetic Survey,

Putting date on shells before placing in the water to catch spat.



which said copies shall be filed in the office of the said Commissioners in the City of Annapolis; and the said Commissioners shall further cause to be delineated upon copies of the published maps and charts of the United States Coast and Geodetic Survey, of the largest scale one copy for each of the counties of this State in the waters of which there are natural oyster beds, bars and rocks, all natural beds, bars and rocks lying within the waters of such county, which maps shall be filed in the office of the Clerks of the Circuit Court for the respective counties, wherein the grounds so designated may lie. The said survey shall be made by the hydrographic engineer employed by said Board, as provided in Section 84 of this Act, acting under the direction and control of the said Commissioners. The said natural beds, or bars, shall be marked by buoys, which shall be known as State buoys.

SECTION 87. The Governor of this State is hereby requested to ask the assistance of the United States Coast and Geodetic Survey, and of the United States Fish Commissioner, to aid in the carrying out of the provisions of the preceding Section.

SECTION 88. The County Commissioners of each and every county in this State, in which there are natural oyster beds, bars or rocks, shall be authorized to appoint some resident of their said county, who is well acquainted with the situation and location of oyster beds, bars or rocks in the waters of such county, who shall aid the said Board by furnishing any information he may possess, concerning the situation and location of recognized oyster beds, bars and rocks in the waters of such county, and who shall accompany the said Commissioners and the hydrographic engineer appointed by said Board, but only within the limits of his county, in the making of the survey of the natural oyster beds, bars and rocks, as provided by this Act, the said appointee to receive a compensation of five dollars per day when actually so engaged.

SECTION 89. As soon as practicable after the first day of April, 1906, the said Commissioners shall organize and shall at once proceed, with the assistance of such person or persons as may be detailed by the United States Coast and Geodetic Survey, and the United States Fish Commissioner, to aid them in their work, and of such persons as may be appointed under the preceding Section, to have laid out, surveyed and designated on the said charts, the natural beds, and bars, and shall cause to be marked and defined as accurately as practicable, the limits and boundaries of the natural beds, bars and rocks, as established by said survey, and they shall take true and accurate notes of said survey in writing, and make an accurate report or said survey, setting forth such a description of land marks as may be necessary to enable the said Board, or their successors, to find and ascertain the boundary lines of the said natural oyster beds, bars and rocks, as shown by a delineation on the maps and charts provided in this Act; said report shall be completed and filed in the office of the Board in the City of Annapolis, within ninety days after completion of the survey of any county. Said Commis-

sioners shall cause the same to be published in pamphlet form, and transmit copies of the same to the Clerk of the Circuit Court for their respective counties, where the charts have been filed or directed to be filed, as hereinafter provided; the said report to be filed by the Clerks of the several counties in a book kept for that purpose. And the said survey and report, when filed, subject to the right of appeal hereafter provided for in this Act, shall be taken in all of the Courts of this State as conclusive evidence of the boundaries and limits of all natural oyster beds, bars and rocks, lying within the waters of the county wherein such survey and report are filed, and shall be constructed to mean in all of the said Courts that there are no natural oyster beds, bars or rocks lying within the waters of the counties wherein such report and survey are filed, other than those embraced in the survey authorized by this Act, and that all areas of the Chesapeake Bay and its tributaries within the State of Maryland, not shown in the survey to be natural oyster beds, bars or rocks, shall be constructed in all the Courts of the State to be barren bottoms, and open for disposal by the State for the purpose of private planting or propagation of oysters thereon under the provisions of this Act; provided that the said survey and report shall not be so constructed as to affect in any manner the holdings by citizens of the State in any lot which may have been appropriated or taken up under the laws of this State prior to the approval of this Act.

SECTION 90. The said Board, in defining the natural beds and bars, shall exercise its judgment liberally in favor of the natural beds and bars, and allow a reasonable margin of the barren bottom, rather than encroach on a natural bed or bar. The natural beds or bars shall be bounded by straight lines, even though some portions of barren bottom may thus necessarily be included within such lines.

SECTION 91. If residents of any county, exceeding twenty-four in number, shall, within four months after the filing of said survey and report in such county, file in the Circuit Court for said county a petition, in writing, attested by the oath of some one or more of the petitioners, alleging that five or more adjacent acres of oyster beds, bars or rocks, in such county, have been omitted from such surveys, or that five or more acres of barren bottoms have been included in such survey and designating the location of the same by a plat, or as near as may be with reasonable certainty by such land marks will locate and designate the beds alleged to have been omitted or included, a Judge of the Circuit Court for the said county, after due notice to the Board of Shell Fish Commissioners, shall proceed to hear testimony and decide the case as provided in the succeeding section, but this action shall not apply where the ground claimed by the petitioners has been legally taken up prior to the approval of this Act.

SECTION 92. Upon hearing a case presented by petition under the preceding section, the judge shall determine the question whether the ground referred to in said petition is a natural bed or barren bottom,

and his finding on said question shall be final, and shall be entered upon the records of the Board of Shell Fish Commissioners in their office in the City of Annapolis, and properly marked on the copies of the plate as herein before required.

SECTION 93. Such amended survey shall be filed in the offices of the Clerks of the Circuit Court for the counties in which the original surveys hereinbefore provided are required to be filed, and when so filed, shall be conclusive evidence in all Courts of this State as to whether the area embraced therein is or not a natural oyster bed, bar or rock.

SECTION 94. Whenever a petition is filed in the Circuit Court for any county, as authorized in Section 91 of this Act, the parties so petitioning shall deposit twenty-five dollars, to be returned to the petitioners if the judge shall determine in favor of the petitioners, but if the judge shall determine adversely to the petitioners, then said sum to be supplied, so far as necessary, to the payment of costs incurred in the proceedings under said petition, and the balance to be returned to said petitioners.

SECTION 95. The said Board shall be authorized to call to their assistance the County Surveyor of any county, whenever in their judgment his assistance is necessary, and shall pay him for his services such compensation as is authorized by law for his services in other proceedings.

SECTION 96. The Board of Shell Fish Commissioners shall cause an accurate survey of and delineation upon the maps and charts aforesaid of all bottoms of the tributaries of the Chesapeake Bay where grass grows and it is profitable to scrape for soft shell or shedder crabs, and shall have such bottoms properly designated by permanent objects on the shore, as provided hereinbefore for natural oyster beds, bars and rocks, which said crabbing sections shall be exempt from leasing for oyster culture.

SECTION 97. One of the steamers of the State Fishery Force shall be kept in commission under the command of the Deputy Commander and subject to the control and direction of the Commissioners from the first day of April in each year, until the first day of October following, to assist the Board in the performance of the duties imposed upon it by this Act, and the Deputy Commander in each of the several districts of State shall also be subject to the control and direction of the said Commissioners during the closed season for the taking and catching oysters with rakes and tongs, during the time the said Commissioners shall be engaged in the respective districts in locating natural oyster beds, bars and rocks, and shall give the said Commissioners every assistance in their power.

SECTION 98. After the survey provided for herein shall have been completed, it shall be the duty of the Board of Shell Fish Commissioners to lease, in the name of the State of Maryland, tracts, or parcels, of land beneath the waters of this State, whether within the limits of the counties, or elsewhere, in the area to be opened for oyster culture, ac-

ording to the provisions of this Act, provided that no tract so leased, if situated within the territorial limits of any county in this State, shall contain less than one acre of land, and if situated in any other place, no tract so leased shall contain less than five acres. It shall be the duty of said Commissioners to require that the tracts so leased shall be as nearly rectangular as convenient. It shall be the duty of the said Commissioners to demand from each lessee payment of the rent each year in advance. No person shall be permitted, by lease, assignment, or in any other manner, to acquire a greater amount of land than ten acres situated within the territorial limits of any of the counties, or one hundred acres in any other place. Leases shall be made only to residents of Maryland. The term of such lease shall be twenty years, and the annual rent reserved to the State shall be one dollar per acre for each of the first two years of said term of twenty years; two dollars per acre for the third year; three dollars per acre for the fourth year; four dollars per acre for the fifth year; and five dollars per acre during the remainder of the term. If any part of the rent reserved under such lease shall remain unpaid for more than six months, after the same becomes due, such lease or leases shall be declared void, and the land shall revert to the State, and may be leased again in accordance with the provision of this Act. The said Commissioners may at the request of any lessee, if it shall appear equitable so to do, upon the cause shown in writing, cancel his lease to the whole of a part of the lands leased.

SECTION 99. In case the survey provided for by this Act shall not have been completed within one year from the passage of this Act, then it shall be the duty of the board of Shell Fish Commissioners to begin the leasing of barren bottoms in the manner, and upon the terms provided in the preceding section, provided that such leasing shall then commence only in those areas in which the survey provided for in this Act shall have been completed.

SECTION 100. For a period of four months after the said survey shall have been completed, or after any area shall have been opened to leasing under the preceding sections, citizens of Maryland, residing in any part of the State, who, at the time of the completion of said survey, or at the respective times of the opening for oyster culture of several areas, as the case may be, may be owners of land having a water front upon any part of the said areas so opened to oyster culture, shall have the exclusive right to rent any land opened to oyster planting under the provisions of this Act, adjacent to their lands. And for an additional period of six months, after the expiration of said period of four months all boatmen, residents of this State, who shall be engaged in the business of dredging, scraping or tonging for oysters at the time of the completion of said survey, or at the respective times of the opening for oyster culture of several areas, or if said survey shall be completed, or the said areas shall be opened to oyster culture during the closed season for dredging, scraping or tonging, as the case may be, then

season for dredging, scraping or tonging, as the case may be, then the persons so engaged at the end of the last dredging, scraping or tonging season, shall have the like exclusive right in order of their respective application, as the same may be received and opened by the Commissioners, to rent any adjacent lands, provided that in no event shall any such land owner, boatman or any other person, be permitted to rent or acquire more than ten acres, or one hundred acres as the case may be, dependent upon the situation of the land which is leased or acquired; and provided further, that no such riparian land owner, as is mentioned in this section, shall be entitled to rent the amount of ten acres, or one hundred acres, as the case may be, unless the water front of the land so owned by him, if fronting on water within the territorial limits of a county, be at least two hundred yards, or if fronting on waters in any other place, be at least seven hundred yards. The owners of land having a less water front than is mentioned above shall be entitled to rent a proportionately less amount of land, dependent upon the length of the front upon water within county limits or elsewhere.

SECTION 101. Blank forms of application shall be furnished upon reasonable charges, to be prescribed by the Board of Shell Fish Commissioners, to any person desiring the same. All such forms shall be printed and shall be substantially in the following languages: Application for a lease to the Board of Shell Fish Commissioners of Maryland. The application of, a resident of County, in the State of Maryland, respectfully shows that he is a resident of said State; that he wishes and intends to use the grounds hereinafter described for planting or cultivating oysters. He therefore requests that the said Board lease to him, in the name and on behalf of the State of Marylandacres of ground located under the waters of the State of Maryland, which ground is more particularly described as follows, to wit: (Described here). Dated at, Maryland, thisday of, A. D., Applicant.

SECTION 102. When the period of ten months will have elapsed after said survey shall have been completed, or after the lands beneath the waters of any areas shall have been opened to leasing under Section 99 of this Act, the Board of Shell Fish Commissioners shall endeavor to lease the remaining portions of land so open to oyster culture under the provisions of this Act to applicants who shall be resident of Maryland, in the order of their applications as received and opened by said Commissioners.

SECTION 103. Any person who may desire to plant and cultivate oysters in the area hereinbefore designated shall file with the Board of Shell Fish Commissioners an application in the form prescribed in Section 101 of this Act. The applicant shall indicate plainly the location of the land he desires to lease. The application shall be sworn to before a Justice of the Peace of this State. A fee of five dollars shall be paid by

the applicant to the Board of Shell Fish Commissioners at the time of filing the application, which fee shall be returned to the applicant if his application shall be for any reason declined.

SECTION 104. If such applicant be a resident of the State of Maryland, and if no objections to the issuing of the lease asked for in such application be filed with the Commissioners within the period of thirty days after such application is made, or as soon as any objection that may have been filed to the granting of such lease will have been overruled by said Commissioners, the said Commissioners, upon payment by the applicant of a further fee of two dollars and a half, in addition to the fee of five dollars which is to accompany his application, shall cause to be entered in a book or books to be known as "The Register of Title to Oyster Lands," the name of the applicant, with concise but clear description of the land applied for. A survey of such lands at the expense of the applicant shall be made by the Board before the entry, if, in its opinion, said survey is necessary to an accurate description thereof. The payment of the proper fees due for the application and the record in register required by this section to be kept, shall constitute between the State and the applicant the relation of landlord and tenant for the term of twenty years, from the record of the lands so applied for as aforesaid, at the annual rentals provided in Section 98 of this Act.

SECTION 105. The relation of the landlord and tenant, stated in Section 104, shall have all the incidents attaching to that relation as the same exists under the Laws of Maryland, excepting only the following particulars: First, the only remedy of the State for non-payment of the rent of oyster lands shall be the strict enforcement of the provisions set forth in Section 98 of this Act. Upon the non-payment of any rent for the time therein mentioned, it shall be the duty of the Board of Shell Fish Commissioners, after a written notice of not less than ten days to the lessee, to declare the lease vacated by stamping the word "Void" in distinct letters across the description in the register; Second, land leased under his Act shall be used only for the purpose of planting and cultivating oysters; Third, no right shall exist to redeem or purchase any land of the State so leased; Fourth, any other modifications caused by the provisions of this Act.

SECTION 106. The Commissioners shall at once notify the lessee of the record in the register required by Section 104, and the lessee shall, as soon thereafter as practicable, not exceeding thirty days from the receipt of said notice, cause the ground designated as leased to him to be plainly marked out by stakes, buoys or monuments, under the provision of the Commissioners. At least four of such stakes, buoys or monuments shall have the initials of the lessee plainly marked upon them, and such stakes, buoys or monuments shall be at all times during the existence of said lease continued by the said lessee or his legal representative.

SECTION 107. This Act is not intended to apply to any lands owned by private persons, the bounds of which extend below low water into or beneath the waters of this State. This Act shall not be so constructed as to apply to any creek, cove or inlet, less than one hundred yards in width at its mouth, at low tide.

SECTION 108. Any person who has, prior to the passage of this Act, lawfully appropriated or taken up any land in this State, for the purpose of planting, bedding or cultivating oysters thereon, may become a lessee of said land for the term of twenty years from the passage of this Act, with all the incidents, including the payment of the rents of the leases contemplated by this Act, provided such person gives written notice to the Board of Shell Fish Commissioners of his intention to become such lessee within six months after the passage thereof. The holding of any person who may have appropriated any such land shall become void and of no effect in law, upon the expiration of the said period of six months from the passage hereof, if no such notice of intention will have been given within said period of six months.

SECTION 109. The lessee of any land leased for the purpose of planting or cultivating oysters shall have exclusive ownership of and title to all oysters planted by him or existing on the land leased.

SECTION 110. No assignment or transfer of any interest acquired by this Act shall be valid for any purpose if made to a non-resident of this State. If any such assignment is attempted to be made, all interest of the grantor, or assignor, shall revert to the State, as if no lease had ever been made. If any assignment of any interest created by this Act is attempted to be made to any corporation or joint stock company, all the interest of the greater or assignor shall revert to the State as if no lease had ever been made. If any assignment or interest created by this Act is attempted to be made to any person in such a way that the assignee shall become the holder of more than ten acres, or one hundred acres, as the case may be, according to the location of land leased under this Act, all interest of the grantor or assignor, in case of such an assignment, shall revert to the State as if no lease had been made.

SECTION 111. It shall be lawful for any tonger, between the 15th day of April and the 15th day of May in any year to take oysters from such natural beds or bars in the tonging districts of the Chesapeake Bay and its tributaries, as the commission may work out for that purpose, under such regulations as said Commission may from time to time prescribe; provided, however, that said oysters may be sold only for the purpose now permitted under the existing laws of Maryland, during the season of the year above mentioned; and in addition thereto, to persons engaged in the industry of planting and cultivating oysters within the area designated by this Act, the same to be delivered only upon lands which may have been leased under the provisions of this Act for such purposes of planting or cultivation.

SECTION 112. It shall not be necessary for any holder of oyster land under this Act to take out any license for dredging, scraping or tonging oysters on any land so held by him, and oysters on such land may be taken in any manner and at such times as may be desired by the holder of such land as allowed by the existing laws of this State.

SECTION 113. Any person who shall wilfully and without authority take or remove oysters from any land leased under the provisions of this Act, or shall wilfully injure or interfere with the oysters of such land in any manner, or injure the oysters thereupon situated, or remove, alter or interfere with the stakes, buoys or monuments marking the same, shall, upon conviction thereof, for the first offense, be sentenced to imprisonment in jail or in the penitentiary, in the discretion of the Court, for not less than three months and not more than two years, and for the second, or any subsequent offense, be sentenced to imprisonment in the penitentiary for not less than two years and not more than five years.

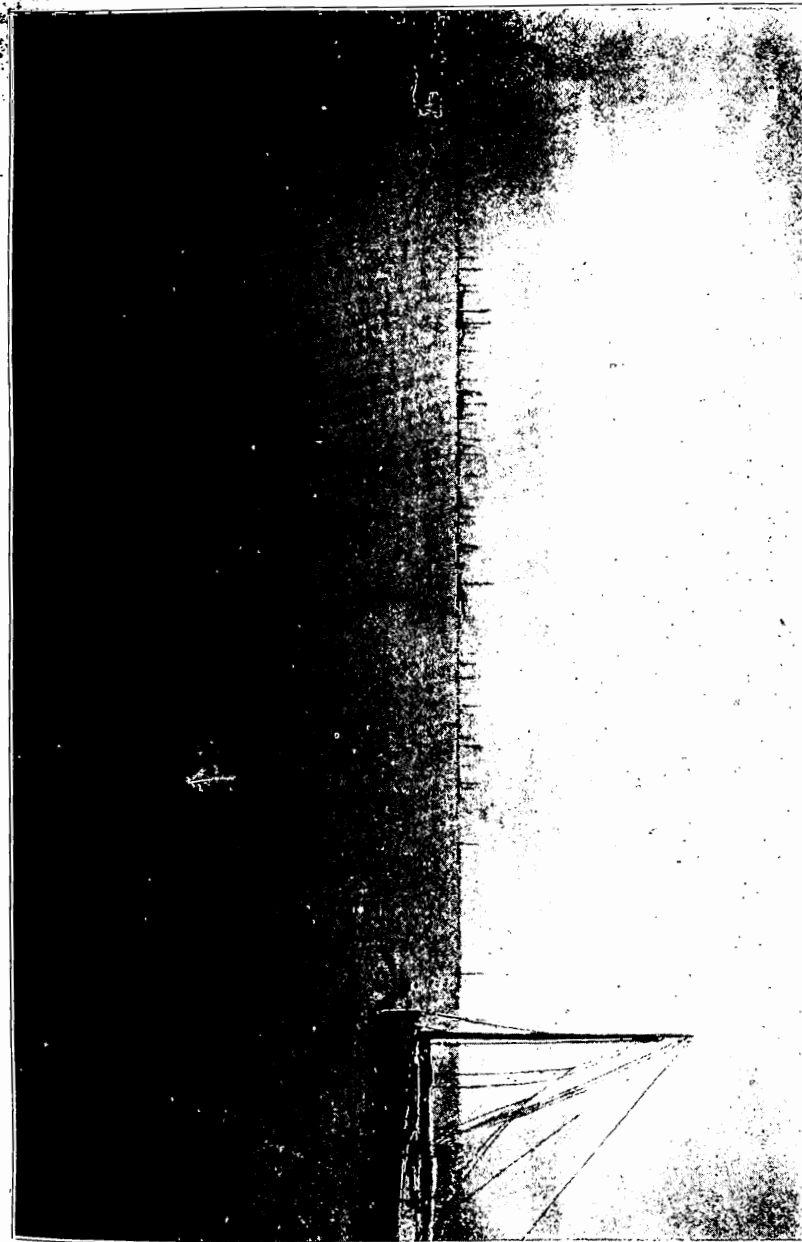
SECTION 114. Any person who shall work a dredge, scrape or pair of tongs, or any other implement for the taking of oysters upon any land leased under the provision of this Act without the consent of the lessee or owner, or who shall, while upon or sailing over any such ground or bed, cast, haul or have overboard any such dredge, scrape or pair of tongs, or other implement for the taking of oysters, under any pretense or for any purpose whatever, without the consent of such lessee or owner, upon conviction thereof, shall for the first offense be fined not less than fifty dollars, or more than two hundred and fifty dollars, or in the discretion of the Court, be imprisoned in jail, or in the penitentiary for not less than three months, nor more than one year, or shall be both so fined and imprisoned, and for the second, or any subsequent offense, shall be sentenced to imprisonment in the penitentiary for not less than two years nor more than five years.

SECTION 115. Any person who shall make his boat fast to a stake, buoy, or remove the same, or in any manner interfere therewith, the same shall, in the discretion of the Court, upon conviction thereof be sentenced to the penitentiary for a term not less than one year or more than two years.

SECTION 116. In addition to other penalties herein provided, any person convicted of a violation of this Act under either of the three preceding sections, shall be, and is hereby, denied the right to take out any license to dredge, scrape or tong for oysters in any waters of this State, for a period of three years after said conviction.

SECTION 117. It shall be the duty of all officers and members of the State Fishery Force to arrest persons violating this Act and to patrol such waters of the Chesapeake Bay and its tributaries as they may be directed by the Board of Public Works to patrol, for the purpose of preventing violations of this Act.

Approaching the Seed Grounds.



SECTION 118. The revenues arising from the operation of this Act, shall be applied in the following manner: First, to the payment of all salaries, expenses, surveys, outlays and disbursements authorized by this Act; Second, the balance, if any, to be paid at the end of each year into the Treasury of the State leaving, however, a balance at the end of each year of ten thousand dollars with the Board of Shell Fish Commissioners, to be applied to the current expenses of its office for the ensuing year. All moneys so paid as aforesaid into the Treasury of the State shall be placed to the credit of a special fund, called the "Special Road Fund."

SECTION 119. The Board of Shell Fish Commissioners shall annually prepare and publish in pamphlet form a full report of its transactions during the year prior thereto, as well as a statement of the operations of this Act, and an account of the receipts and disbursements hereunder. The said report shall also contain a detailed statement of the lands leased under this Act, with the names of the lessees. The said Commissioners shall also in its report make such recommendations as it may deem proper concerning further legislation or changes in the present oyster laws, and shall present the said report to the General Assembly of Maryland.

SECTION 2. And be it enacted, That this Act shall take effect from the date of its passage, and all laws of Maryland inconsistent with this Act shall be, and the same are hereby, repealed.

Approved, April 2d, 1906.

The Mott Case.

Much interest was centered in the case of the Ocean County Commissioners against George A. Mott, on a technical indictment in obstructing a stream. The indictment followed a long hot controversy on a question of jurisdiction and the interpretation of the law. The trial in the Ocean County Common Pleas Court was deemed of such importance that the Bureau had a verbatim report made and it is here presented:

THE STATE OF NEW JERSEY, <i>vs.</i> GEORGE A. MOTT, <i>Defendant.</i>	}	<i>On Indictment for Obstructing Stream.</i>
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TOMS RIVER, N. J., Sept. 18, 1906.

Mr. Gaskill. If your Honor please, before the jury is called in this case I desire to ask leave to withdraw the plea of not guilty for the purpose of making a motion to quash the indictment. My motion is to the effect that there is nothing criminal charged in this indictment returned by the Grand Jury and there is no offense against any of the laws of the State of New Jersey herein set out. (Reads indictment.)

In other words, this is a common law indictment taken from Archbold's Forms for the obstruction of a navigable stream. Now my proposition is this; that it is not lawful in the State of New Jersey to place obstructions across certain streams, and this indictment does not set out that this is not one of those streams which might lawfully be fenced across. I call your Honor's attention to Section II of the Clam and Oyster Act, Revision of 1846, which still stands unrepealed, the general statute giving to owners of meadow ground within the boundaries of which there is a creek in which do or will grow, and which creek has on it no public landing, the absolute right as a free grant from the State to plant oysters in that creek, and for the purpose of protecting their oysters to put just such a fence

as was placed in this creek across it for its protection; and my point is that the pleader, in order to bring the defendant before the bar of this Court for having committed an offense must show in this indictment that an offense was committed; and under the statute it is no offense to put a gate or fence across certain creeks, and that the indictment is defective and invalid in that it does not except those creeks, in that it does not set out that this is one of those creeks in which he was authorized to put a fence by the statute. Your Honor is familiar with the Act. If you will pardon me I will re-read it. (Read.) In other words long after the time that Archbold's Forms were prepared, long after the common law doctrine that no stream could be closed off to the public at all where the tide water was, the Legislature by this Act said to certain persons: "Under certain circumstances you can fence off a creek." Now then I submit there is no crime charged against this defendant. He is charged with fencing off a creek. Perchance it may be just the creek that the Legislature gives him the right to fence off; therefore, no crime has been committed; and the indictment, in order to be good and set out the crime, must show on the face of the indictment that the stream is not one of those streams in which this public and free grant has been given by the Legislature. They must set out in their indictment that there is a public landing on the stream, or they must set out some of these other facts showing on the face of the indictment that the owner does not come within the act, because the act is general. It is unrepealed; it is a right given to certain persons for certain purposes. It is a right given to these owners of meadows by the Legislature for the purpose of encouraging the planting of oysters and to put a gate across there in order to protect their oysters. If nobody has any business up there the theory of the Legislature is that nobody is going there unless they are going there to steal private property, to take oysters which have been planted. Therefore this indictment, not setting out this stream is not one of the streams set out in Section II, I conceive it is totally defective and should be quashed.

(Mr. Duffield replies.)

The Court This being a common law indictment, I refuse to quash it.

(Exception noted for defendant.)

Mr. Gaskill. We now renew our plea of not guilty.

Benjamin Chew, sworn for the State.

Direct examination by Mr. Duffield:

Q. Mr. Chew, where do you reside?

A. Down below Tuckerton.

Q. And how long have you lived there?

A. Forty-seven years.

Q. And what is your business?

A. Farming.

Q. Do you know Roundabout Creek down there.

A. Yes, sir.

Q. Where Mr. Mott has erected a fence?

A. Yes, sir.

Q. You are familiar with the creek, are you?

A. Yes, sir.

Q. How long have you known that creek?

A. I knew that creek ever since 1851.

Q. And you can tell us where it runs from and where it runs to?

A. It heads away up in the meadows and runs out what we call Bass Bay.

Q. Does the tide ebb and flow in that creek?

A. Yes, sir.

Q. How far up that you know of?

A. About two miles and a half, as near as I can tell.

Q. And how far up is this fence?

A. It is right at the mouth of it.

Q. Right by the mouth of it?

A. Yes, sir; where the creek empties out in the bay.

Q. Have you ever been on that creek in boats?

A. Oh, yes, sir.

Q. How far up?

A. Clean up to the head of it and clean out to the mouth of it.

Q. Have you ever seen others use that creek for navigation?

A. Yes, sir.

Q. How frequently?

A. How frequently?

Q. Yes.

A. When oyster season is in there was somebody there all the time.

Q. Can you get there now?

A. No, sir.

Q. Why not?

A. A gate across it.

Q. And what is the character of this gate?

A. What say?

Q. What is the gate like, won't you tell us?

A. Made of wood poles.

Q. Run all the way across the creek?

A. Yes, sir.

Q. Any way by which the men desiring to go up there in boats can do so now.

A. No, sir; none but a small boat can get up it, a fishing boat, to go through. What I call a fishing boat, a small skiff.

Q. But boat such as was used formerly cannot get up there now?

A. No, sir.

Q. How large a boat used to get up there before this obstruction was erected?

A. Go up in sail boats and row boats.

Q. Now nothing but a little skiff?

A. Nothing but a little skiff can get in.

Q. Have you ever seen any vessel up that creek?

A. I have seen vessels go up there and carry hay out.

Q. How large?

A. Well, I can't tell you. I suppose they would carry from ten to twenty tons.

Q. But never any difficulty in getting up there?

A. It is crooked. That is what it is called Roundabout for, because it is crooked.

Q. I mean have any difficulty as to the depth of the creek; plenty of water there?

A. It is about eight to twelve feet deep on the high water.

Q. What did the yachts and sailboats go there for?

A. Went there to work windy days.

Q. Now tell us who you have seen up there outside of yourself?

Mr. Duffield. If he knows.

Mr. Carmichael. I will ask my own question.

Q. Who have you seen up there besides yourself?

M. Duffield. That is objected to as immaterial and irrelevant, unless it is limited to the fact that he knows.

The Court. He can tell what he knows. He may ask the question.

Q. Who have you seen there, tell me one person?

A. I can't answer that question because I aint been down that creek but once in a year, and twelve years ago I quit business, oyster business, and I haven't been up and down that creek with any boat to catch any oysters or anything again.

Q. For how long?

A. For twelve years.

Q. Well, who did you see prior to that time?

(Objected to as immaterial and irrelevant.)

The Court. He can ask the question.

A. What was the question?

Q. Who before that time had you seen.

A. I can't tell anything about it. Twelve years ago is a good while ago.

Redirect examination.

By Mr. Duffield:

Q. Mr. Carmichael has asked you some questions in regard to getting oysters up there. Those were open, natural seed oysters?

(Objected to as leading.)

Q. I will change that. Were they open, natural seed grounds?

(Objected to.)

The Court. He may ask that question.

Mr. Carmichael. He may ask what kind of grounds they were in regard to oysters. I object to them putting the words in his mouth.

The Court. Perhaps you had better word it something like this: what kinds of grounds they were on, the oysters.

Mr. Duffield. I will follow your Honor's suggestion.

Q. What kinds of grounds were they?

A. What the oysters grewed on?

Q. Yes.

A. Kind of muddy; it was hard. They spawned along the creek on the shells and then down in the creek, them days they did; roll down into the creek.

Q. Were they private or public?

(Objected to. Objection overruled.)

Mr. Carmichael. He may ask the character of them. Whether private or public is a deduction from the evidence.

Q. Then they take their growth on land and afterward roll into the water? They were a vegetable production like potatoes?

The Court. It is admitted.

Mr. Gaskill. It is objected to as incompetent and calling for a conclusion of the witness and not being based upon any testimony in the case.

(Objection overruled. Exception noted for defendant.)

A. Why, public. The people went in there. That is what they went in for, to get them the same as they did out on the Graveling, out on the beds.

Re-Cross Examination by Mr. Carmichael:

Q. I understand you to say that they spawned on the sides of the creek and rolled in?

A. They spawned on them—there used to be a lot.

Q. That is what I understood; they were a vegetable production?

A. Lots of places there, and they catch on these mussel shells and roll down.

A Juror. Have I a right to ask the witness a question?

The Court. The juror may ask a question if he would like to.

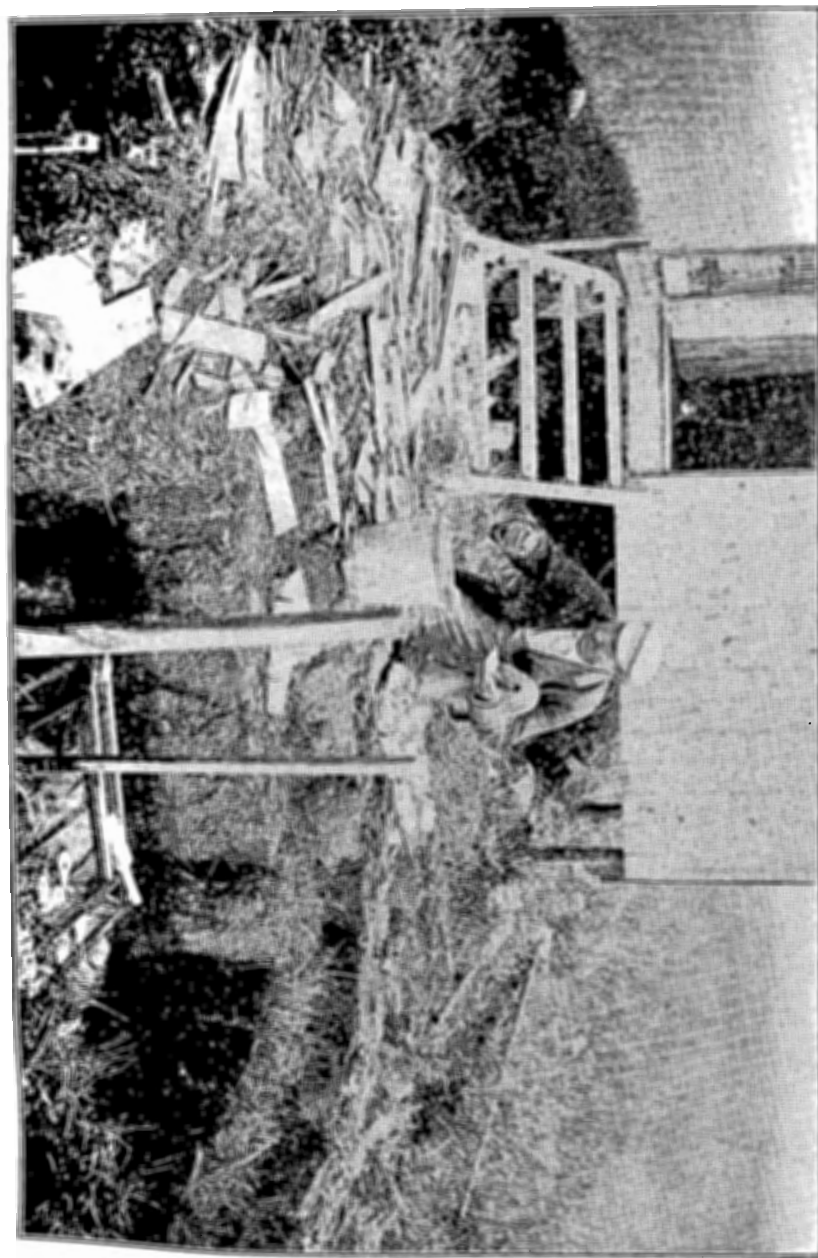
Q. How much ebb and flow of the tide is there along that creek?

A. I think, as near as I could ever tell by the mark along the grass, about four feet; something like four feet.

Cross Examination by Mr. Carmichael:

Q. These scows that went up there to get hay went up to get the hay which was cut off the land along the creek, were they not, the waters of it?

A. Cut off the meadows, you mean?



Taking a hydrometer test of the water. (Nelson at Barnesgat.)

Q. Yes, the meadows. Well, that is land, isn't it?

A. Yes, meadow land.

Q. I didn't know but what you called it tide. How much water did they draw?

A. I don't know; I couldn't tell you.

Q. How much would a twenty ton vessel draw?

A. Twenty ton?

Q. Yes.

A. I don't know. I never followed haying with a vessel. I couldn't tell you.

Q. You say you have seen vessels go up there, sail vessels, carrying twenty tons?

A. I said twenty tons.

Q. Sail boats?

A. Yes, little sloops and schooners.

Q. Can you tell me whose schooner you ever saw go up there?

A. I don't know, it has been so many years ago.

Q. Can you tell me any schooner you knew ever went up there?

A. I have seen schooners scow up there that carried twenty tons.

Q. Scows?

A. Yes, sir.

Q. These hay boats?

A. Yes, sir.

Q. They went up there after the hay that was up there, didn't they?

A. After the hay.

Q. Yes.

A. Yes, sir.

Q. It was cut on the grounds of the owners' banks along there, isn't that so?

A. Yes, sir.

Q. Now, isn't it a fact that at low tide the ground in that creek is bare mud?

- A. I never seen it.
- Q. How many times have you seen it and been up there?
- A. I couldn't tell you. I have been up there for forty-five years I have lived there.
- Q. What took you up there?
- A. Went up in a boat to go home.
- Q. To go home where?
- A. Go home where? On the land.
- Q. Whose land did you land on?
- A. Them days we landed on the land that Mr. Otis bought of Mr. Oliphant.
- Q. That was the navigation that you did; you went up there with your boat to land on the private property of whoever owned it, to go across somebody's private property to your home; is that it?
- A. I had a permit to do it.
- Q. Yes, a permit from the owner of the land?
- A. Yes, sir.
- Q. Now that was the navigation that you did on that creek?
- A. Yes, sir.
- Q. Whoever else did you see navigate it?
- A. Oh, I couldn't tell you. I worked in there twelve years.
- Q. What part of the creek?
- A. All up and down it, wherever I could find them.
- Q. What did you work in there twelve years doing?
- A. Oystering in the creek.
- Q. Were there oysters there?
- A. Of course there was or else I wouldn't have done it.
- Q. I have known people to oyster where they didn't own any oysters.
- A. I didn't own any oysters, but I quit several years ago.
- Q. When was the last time you ever oystered there?
- A. About twelve years ago.
- Q. That was not what you referred to, going up the creek there for the purpose of going home?
- A. Oh, I had a small boat; go up there fishing.

- Q. A small boat.
- A. Nothing but a little skiff.
- Q. Well, you can go up there with that still, can't you?
- A. Oh, yes, I suppose so.
- Q. You have got permission from Judge Otis to go in that creek since, haven't you.
- A. He told me when I wanted a mess of oysters to go there and get them.
- Q. Judge Otis told you that?
- A. Yes, but I never done it.
- Q. You haven't been prevented from going there and getting oysters?
- A. No.
- Q. You say that a fishing boat can go there?
- A. A skiff. You know a skiff, don't you?
- Q. I don't know whether I do or not. I wouldn't like to swear that I do.
- A. Well, a ten foot bottom; that is what we call a skiff.
- Q. But the boats that can't go there are these hay scows?
- A. Can't anything get through there but a skiff.
- Q. That was about all that went there before, wasn't it?
- A. Before what?
- Q. A skiff, before this gate was there?
- A. I guess not.
- Q. Well, what did go through there otherwise than what you have told?
- A. I told you once; that is enough.
- Q. Well, you have said what went through there was these boats going up there to get hay?
- A. es, yachts, sail boats and things.
- By the Juror:
- Q. I would like to ask the question, the average width of this creek and whether there was an outlet to it?
- A. An outlet to the creek?
- Q. Yes.

A. Oh, yes.

By the Court:

Q. What was the width of it?

A. Well, I never measured it only by my eye. I should think right at the mouth, where the gate is, it is about, the best that I can tell you, maybe it is thirty yards wide. After you get in a little ways it grows wider and then some places it aint so wide.

By Mr. Carmichael:

Q. This fence that you talk about is not at the mouth of the creek at all, is it? Some distance above it, isn't it?

A. It is where it is about thirty yards across it.

Q. Well, that is the mouth of the creek. Is this fence at the mouth of the creek?

A. At the mouth of the creek.

Q. Right at the mouth?

A. Not exactly; run down maybe thirty or forty yards further it grows wider.

Q. The further it goes up into the meadow, the wider it gets, eh?

A. Some places and some places it gets narrower.

Q. Have you ever seen this gate or fence across this creek at all?

A. Yes, sir, I have.

Q. When?

A. I was down there the other day fishing and I seen it, and they let me go there fishing. How much more do you want to know about the creek?

Q. I thought you hadn't been there for twelve years?

A. Well, I said to make a business of oystering.

Q. How did you get there?

A. How did I get there?

Q. Yes, when you went fishing the other day?

A. Walked down to the landing and went down in my boat, little skiff.

Q. What landing?

A. Oliphant's landing. Now it is Mr. Otis' landing.

Q. Private ground?

A. No it is not. He owns it.

Q. Well, what Judge Otis owns is not private?

A. It aint eh?

Q. Yes; is that your construction?

A. No.

Q. I ask you if that is your opinion?

A. Well, I just tell you; I am an old man, and a man to get up before day and walk three miles and come clear up here you wouldn't talk as much as I do.

Thomas E. Cranmer, sworn for the State.

Direct Examination by Mr. Duffield:

Q. Mr. Cranmer, where do you live?

A. Near Gretna.

Q. How long have you resided there?

A. Well, about thirty-two years.

Q. What is your occupation or business?

A. Baying.

Q. Are you familiar with Roundabout Creek down there?

Yes, I have been time back. I haven't been up there much in the last ten or twelve years but used to trade up and down there.

Q. Tell us how wide that creek is approximately at its mouth?

A. Well, I used to go up there in a boat fifty feet. I had room to swing most anywhere up there.

Q. That would make about how wide?

A. I judge it was twenty-five yards wide in most places.

Q. And you say you sailed a boat up there fifty feet?

A. Yes, sir.

Q. How long ago was that, do you remember?

- A. Well, ten or twelve years ago.
- Q. What was that land used for up there at that time?
- A. Haying.
- Q. Anything else?
- A. Not the land, no sir, wasn't used for anything else.
- Q. What did they get out of it up there?
- A. Well, used to get oysters, I guess, but I don't know anything about the oyster business.
- Q. You didn't do any oystering when you went after hay?
- A. No, sir.
- Q. Does the tide ebb and flow there?
- A. Yes, sir.
- Q. About how much?
- A. About three feet and a half to four feet.
- Q. How far up is there an ebb and flow of the tide, how far up the creek?
- A. Well, clear to the head of it. I was never to the head of it.
- Q. As far up as you have gone there was ebb and flow?
- A. There was ebb and flow.
- Q. And you have gone up how far?
- A. Well, I think I have been up there the best part of half a mile or three-quarters.
- Q. Do you know where this gate is down at the mouth of the creek?
- A. Yes, sir.
- Q. You have seen it, have you?
- A. Yes, sir.
- Q. Will you describe to the jury just about what that is?
- A. Well, it is poles, poles stuck down so as to prevent boats from going through there.
- Q. And is it possible now to take a boat of any considerable size?
- A. The last time I seen it it was impossible; the last time I seen it, to get through with a boat.
- Q. It was impossible to get through with a boat?

- A. Yes, sir.
- Q. When was that, do you remember?
- A. Last fall.
- Q. Did you ever carry hay in or out of there?
- A. Yes, sir.
- Q. Did you ever know others to go up and down there?
- A. Yes, sir.
- Q. With boats?
- A. Yes, sir; and baymen used to go up in there for harbor, and I have seen other people carry hay out of there.
- Q. That is, you have seen men carrying oysters out?
- A. No, I haven't seen any men carrying oysters out.
- Q. I thought you said you did?
- A. I said I had seen them carry hay out and seen it used for harbor.
- Q. So in your experience this creek has been used for these two purposes?
- A. Yes, sir.
- Q. For boat and harbor purposes?
- A. Yes, sir.
- Q. Can it be used for these purposes if there is that obstruction there?
- A. No, sir.

Cross Examination by Mr. Carmichael:

- Q. You went up and got hay from where?

(Objected to as immaterial. Objection overruled.)

- A. From Roundabout Creek, up along the banks.
- Q. Do you know where Judge Otis owns land there?
- A. No, sir. I never saw it, the land. I don't know where he owns there.
- Q. Do you know where Wharton's land is? Do you know where the Judge's land is, where he owns land there?

A. I know where the meadow is, but I don't know where his land is.

Q. Do you know where Wharton owns?

A. Yes, sir.

Q. Did you get hay from there?

A. Yes, my father used to hay it.

Q. And got it from Judge Otis?

A. Yes, before he owned it, I think.

Q. And those were the two places you got hay from?

A. Yes, sir.

Q. That is what you went up there for, wasn't it?

A. Was hay?

Q. Was that the only purpose that you went up there for to get hay from these two places?

A. At that time that was the only call I had in there.

Q. How far are these poles up from the mouth of the creek?

A. I should think about a hundred yards.

Q. And how wide is the creek below it?

A. About the same width.

Q. How wide? I don't understand.

A. Twenty-five or thirty yards. I don't say exact.

Q. Well, that one hundred yards would afford a harbor for boats, wouldn't it?

A. Not many.

Q. It would for some boats?

A. One or two.

Q. Who did you ever see run in there for a harbor?

A. All the baymen goes in there in the fall of the year.

Q. Who? Give me a man's name.

A. Joe Mathis, Lew Mathis, Asbury Mathis.

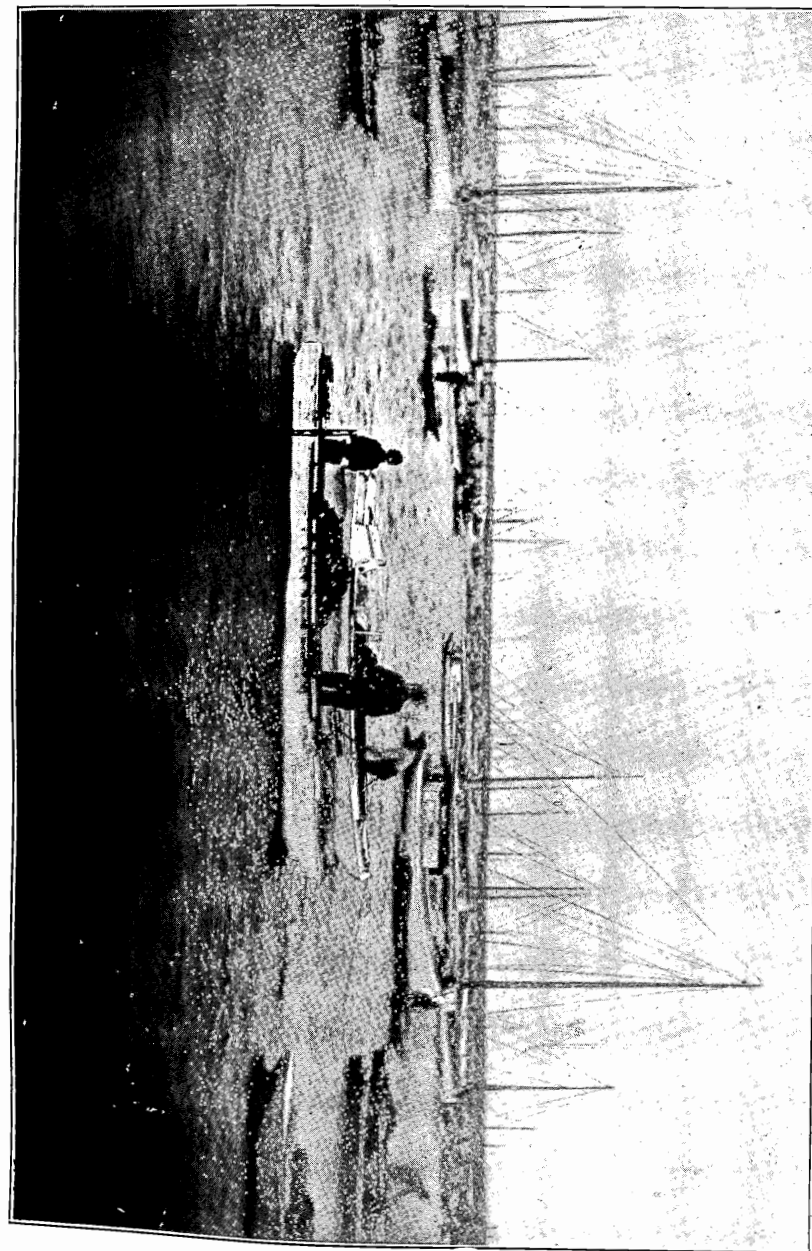
Q. When did you see them there last?

A. I aint seen them there in quite a while, because these gates has been there and I haven't been there.

Q. When were you in there?

A. I was in there last fall.

Q. Who was in there then besides you, any one?



An hour's work on the State Shell Beds. (Father and Son.)

- A. Yes, sir; about three of us.
Q. Below these poles?
A. Yes, sir.
Q. What were you doing in there?
A. Went in there for a harbor.

Redirect Examination by Mr. Duffield:

- Q. Where was the harbor that you have been telling us about, above or below those poles?
A. Above the poles is where the main harbor is.
Q. Can you get there now?
A. No, sir.
Q. Was the water below that, the character of the land, such as to make a harbor?
A. Well, there is no room for the boats.
Q. How about the water? Is there shelter below the poles?
A. It is better above the poles.
Q. And how about the protection afforded by the land?
A. Well, it is better above. You get out of the way of the winds more, you know, and have more room.
Q. This former harbor was above or below.
A. Above where the former harbor was.

Re-Cross Examination by Mr. Carmichael:

- Q. Isn't the bottom of that creek soft and muddy?
A. Well, I nevr sounded the creek. I couldn't tell you.
Q. Well you went in there for harbor. Did you ever put an anchor overboard?
A. Not in the creek, never had occasion to, put them on the bank.
Q. Where did you put them then?
A. On the bank.
Q. On private land?
A. Well, some of it is private, I suppose.

Q. Somebody owned it, didn't they?

A. Well there was room to anchor there.

Q. Well to make a harbor you had to throw your anchor on private land?

A. No, there is room to anchor without going on private.

Q. Did you ever anchor in there without putting it on the land?

A. No, sir, I never did.

Q. Did you ever see anybody else anchor in there without putting it on the land?

A. No, sir; I don't know as I did.

Q. So if the owners of the land forbade them putting their anchor there they could not anchor there, as far as you know?

A. Anchor in the creek.

Q. Did you ever anchor in the creek?

A. I know they could.

Q. How do you know if you never did so and never saw anybody else?

A. Well, I know by my experience in boats.

Q. Well, you can anchor if there is a holding ground, and if there is not a holding ground you can't?

A. There is a holding ground there all right.

Q. How do you know? You never tried it?

A. Well, there is a bottom there.

Q. You said you never anchored there? How do you know?

A. Well, I tried it with a pole. I never anchored there.

Q. You tried it with a pole, but never anchored there?

A. I tried it with a pole poling out from there.

Q. You found mud there, didn't you?

A. Once in a while, soft places.

Q. Bellangy's Creek, isn't that your anchoring place? Isn't that a better ground?

A. That is an anchoring place, too.

Q. That is good hard ground?

A. Yes, sir.

Q. Did you ever throw your anchor off there?

A. Yes, sir.

Q. Didn't have to put it on the bank there, did you?

Mr. Duffield. We object. We don't claim any constructions of Bellangy's Creek.

A. Where is that?

Q. Bellangy's Creek?

A. No, we didn't have to put it there. We could have done it just the same.

Q. Yes, but you didn't?

A. No, sir, we didn't.

Lewis Mathis, sworn for the State.

Direct Examination by Mr. Duffield:

Q. Mr. Mathis, where do you reside?

A. New Gretna.

Q. How long have you lived there?

A. About forty-one years.

Q. What is your occupation?

A. Farming and haying.

Q. Are you familiar with Roundabout Creek down there?

A. Not very much. I worked along Roundabout Creek one summer.

Q. How long ago was that?

A. About eighteen years.

Q. What kind of a stream was it at that time? Did you ever see any boats go up and down it?

A. Yes, I have loaded vessels on it.

Q. Have you ever run a boat up and down it yourself?

A. No, sir.

Q. You have seen vessels on it?

A. Loaded vessels for Captain Peppler.

Q. What did you load it with?

A. Hay, bailed hay.

Q. Did many vessels go up there?

A. Not very many, no.

Q. What kind of a vessel was it that came up there?

A. A schooner, two masts.

Q. About how many tons, can you tell us?

A. We loaded some that would carry about thirty and we loaded one, I think would carry forty-five.

Q. How far up the creek was it where you loaded these vessels?

A. We loaded one two or three times, I think, about all of two miles, very near the head.

Q. Do you know whether or not the tide ebbs and flows in that creek?

A. Yes, sir.

Q. Does it?

A. Yes, sir.

Cross Examination by Mr. Carmichael:

Q. This twenty-five or thirty tons you are talking about is not what they call custom house tonnage, but you mean tons weight of hay?

A. Yes, sir. I don't know what the boat's tonnage was; that was what we put on.

Q. That was a scow schooner, wasn't it?

A. No, sir.

Q. How much water did she draw?

A. Captain Ben Stiles' schooner freighted to New York.

Q. When you got hay do you know whether it was off the ground that Judge Otis owns up there now?

A. I don't know whether he owned it or not. It came off the meadows. I don't know whether he owns it now.

Q. It came off of what is called the West Neck meadows?

A. Yes, sir.

Q. The Oliphant farm and the Haines farm, wasn't it, where you loaded hay there?

A. The Oliphant farm. I don't know whether the meadows belongs to the farm or not. The salt hay didn't grow on the farm. We don't call it that, you know.

Q. I don't know. I thought the meadows were a part of the farm. But it was attached to Oliphant farm?

A. It joins on to the—

Q. Joins on to the Oliphant farm. Who was in possession of the land at that time and who was getting the hay?

A. I was getting the hay for Peter Peppler. He lived at Tuckerton.

Q. He was carting it for the owner of the land there, wasn't he?

A. He rented the land.

Q. He was the renter, he rented it of the owner and was up there getting his own hay off of these meadows, is that the fact? Do you say yes?

A. He rented these meadows and I was getting it for him.

Q. Off these meadows?

A. Yes, sir.

Harry Allen, sworn for the State.

Direct Examination by Mr. Duffield:

Q. Mr. Allen, where do you reside?

A. Tuckerton.

Q. What is your business or occupation?

A. Well, for the past fifteen months I have been working in the shipping house, clams and oysters.

Q. Did you ever do any work down around Roundabout Creek?

A. Yes, sir.

Q. In the construction of the gate there?

A. Yes, sir.

Q. Who engaged you to do that work?

A. Mr. George A. Mott.

Q. Will you tell us what kind of construction or gateway that is there?

A. I can't tell you what the present one is like. I never seen it.

Q. What was it when you built it?

A. Well, it was made of poles, about five inch timber, I suppose, and about two feet and a half apart.

Q. About how far was it across?

A. I should judge it was about ninety feet.

Q. What was the purpose of it, if you know?

A. What the gate was put there for?

Q. Yes.

Mr. Gaskill. I object to that as calling for a conclusion.

(Question withdrawn.)

Q. Did Mr. Mott tell you his reason for putting that there?

A. I don't remember about that.

Q. You don't know whether he said that to you?

A. No sir.

Q. He simply told you he wanted some poles erected across it?

A. Yes, sir; I was working for him at the time.

Cross Examination by Mr. Carmichael:

Q. How far up was that put from the mouth of the creek? From the mouth about two reaches?

A. No, sir; about two-thirds of the way up the first reach, I should think.

Q. Before the fence was put there did you know of any oysters having been planted there?

Mr. Duffield. That is objected to as not cross-examination. It is perfectly clear we must confine this question somewhere. I examined this man in regard to the fence that was erected there by George A. Mott. Now any questions that relate to that fence are proper, it seems to me.

Mr. Gaskill. If I recall the gentleman's question he asked also the purpose for which the fence was erected there.

Mr. Duffield. I withdraw that.

Mr. Gaskill. You withdrew that question because it called for a conclusion, and my objection was sound and you shaped your question differently and you asked him whether or not Mr. Mott had ever told him the purpose of erecting it. Now you open the door.

Mr. Duffield. And he said no.

Mr. Gaskill. Very well, but you asked him the question. The fact that you did not get the answer you wanted does not change the question. He opened the door as to the purpose for which it was erected. He cannot close the door if he does not get the answer that suits him. The door being opened, we have the right to ask him if he did not know and did not help plant the oysters in there, and that gate was put there for the purpose of protecting them.

Mr. Duffield. If you propose to prove that that was put there for the purpose of preventing any one getting in there or getting the oysters, I am perfectly willing.

Q. Did you ever throw your anchor off there?

Mr. Duffield. If you want to take up with this witness the purpose of getting this gate there you may do so, but I insist on

the right to cross-examine this witness on the matters brought out.

The Court. I will not allow the question, as not being proper cross-examination.

(Exception noted for the defendant.)

Samuel B. Allen, sworn for the State.

Direct Examination by Mr. Duffield:

Q. Mr. Allen, where do you reside?

A. New Gretna.

Q. And how long have you resided there?

A. About ten years.

Q. And what is your business?

A. Oyster business.

Q. Do you know Roundabout Creek in this County?

A. Yes, sir.

Q. How frequently have you been down there?

A. Last week; that is down to the mouth of it.

Q. And did you find the obstruction there?

A. Yes, sir.

Q. What was the character of the obstruction?

A. Piling.

Q. Did you measure the length of it? I mean, did you measure the creek at the place where the piling was?

A. Yes, sir.

Q. How long was it across there?

A. Ninety-three feet.

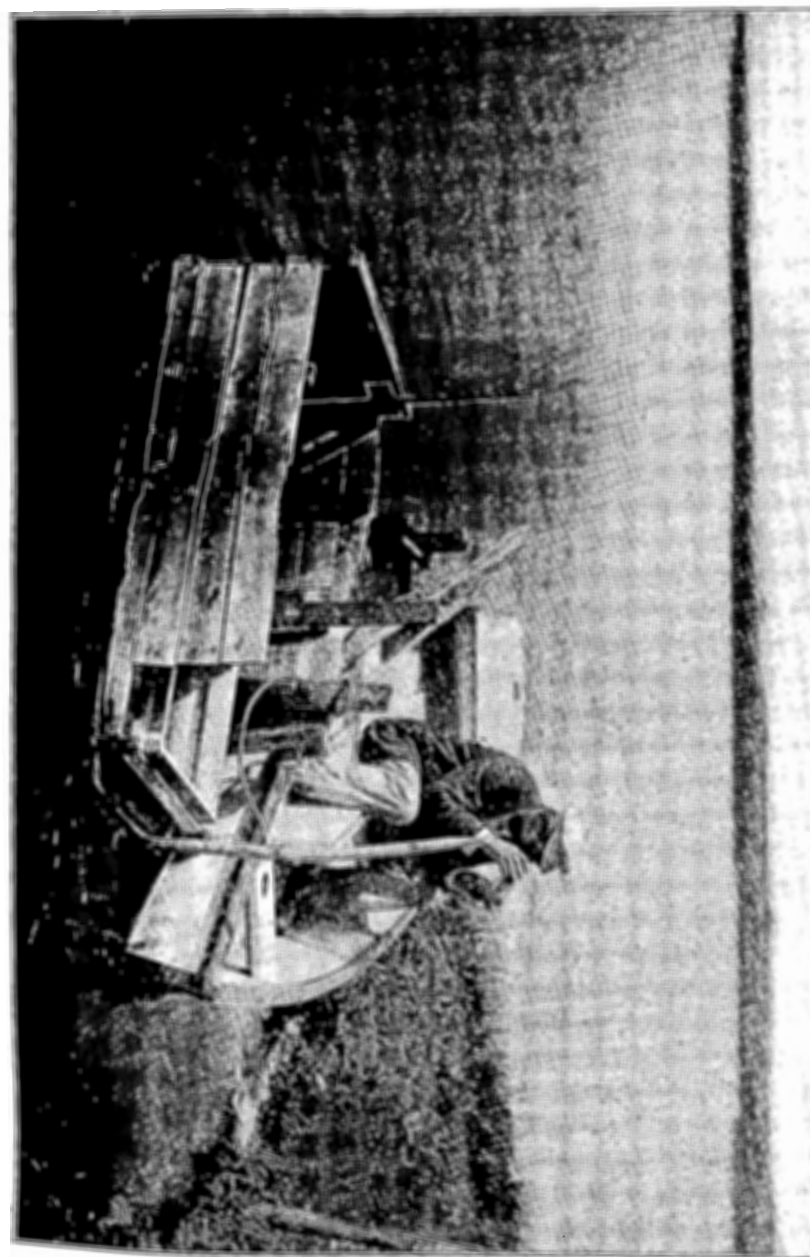
Q. Did the piling extend that distance?

A. Yes, sir.

Q. What was the character of the piling?

A. What were they like?

Q. What was the character of the piling?



Prof. Nelson looking for spat.

A. They were, I suppose, five or six inches in diameter.

Q. And extended out of the water?

A. Oh, yes, sir; they were above the water five or six feet, I suppose.

Q. Would it be possible to navigate a boat there at the present time?

A. No, sir.

Q. What character of boat, if any, would it now be possible to now get up that creek with?

A. Well, I doubt if there would be any. I don't know just how far apart the pilings are, but I don't think they are more than two feet and a half. I didn't measure, but I shouldn't think they are more than that.

By the Court:

Q. Do you mean clear across the creek, two feet and a half?

A. No, sir; the pilings are about two feet and a half apart.

By Mr. Duffield:

Q. Do you know who erected that?

A. No, sir, I don't.

Q. Did you ever have any conversation with Mr. Mott, the defendant in this case, about the piling yourself?

A. I have talked with him, yes, sir.

Q. What did he say to you, if anything, about that piling, as to who had put it there, if anything?

A. Well, I think he said he had put it there.

Q. That he had put it there?

A. Yes, sir.

Cross Examination by Mr. Carmichael:

Q. You are one of the Oyster Commissioners?

A. Yes, sir.

Q. You went there at one time and tore down this fence, did you not?

A. Yes, sir.

Q. More than once?

A. Twice.

Q. You are one of the complainants in this case?

A. Yes, sir.

(State Rests.)

Mr. Gaskill. If your Honor please, I move that the Court at this stage of the case to instruct the jury to find the defendant not guilty, on the ground that it appears by the testimony that the land surrounding this stream has been used only by the owners of the stream and that there has been no use of it as a harbor, and further on the ground that they have not proved that there was any public landing on the stream. And unless they show under the statute that there was a public landing on the stream, to which the folks had a right to go and come, they are not entitled to ask the jury to convict this defendant under the statute.

(Mr. Duffield replies.)

The Court. I will allow the case to go to the jury.

(Whereupon the defendant, by his counsel, prays a bill of exception which is hereby allowed and sealed accordingly.)

(Recess to 1.30 P. M.)

Trial of case resumed at 1.30 P. M.

James E. Otis, sworn for the defendant.

Direct Examination by Mr. Carmichael:

Q. Judge, you have heard about this Roundabout Creek?

A. Yes.

Q. Heard it today, the testimony in regard to it?

A. Yes, sir.

Q. You know this situation?

A. Yes, sir.

Q. You are in possession of any of the land upon the borders of that creek?

A. Yes, sir.

Q. What are those lands?

A. Consist of meadow lands.

Q. How far along do they run and border upon that creek?

A. Well, I own all on one side and about half and probably more on the other side.

Q. Who is in possession of the other side, outside of what you own?

A. Joseph Wharton.

Q. From source to mouth you and Wharton then are in possession of the land on both sides of this creek?

A. Yes, sir.

Q. And you are in possession of all of one side and part of the other?

A. Yes, sir.

Q. What is the character of the land on both sides of this creek?

A. All meadow land, salt marsh.

Q. How long have you been in possession of it?

A. Oh, six or seven years.

Q. What acts have you performed on it.

A. Well, I have allowed hay to be cut on it.

Q. That is the person under your directions have cut hay on it?

A. Yes, sold it by the ton.

Q. Is that the only use it is capable of?

A. Yes, sir.

Q. Now Wharton's land adjoins yours?

A. Yes, sir.

Mr. Duffield. I desire to enter an objection at this point which will go to the entire evidence in this matter. I object to the evidence with regard to the uses and purposes of the creek, or the land adjoining the creek or ownership or any defense to be established under the statute of 1846, I think it is on the ground that that statute is not applicable in his case. Therefore I object to any evidence which will tend to establish what my friend calls his first line of defense.

(Objection overruled.)

(Whereupon the State, by its counsel, prays a bill of exceptions, which is hereby allowed and sealed accordingly.)

Q. What acts have you seen done on the other side of this stream?

Mr. Duffield—I understand my objection goes to the evidence offered to substantiate the defense under that statute, all evidence, and your Honor excludes it and permits me an exception, as though I object to each and every separate question?

The Court. Yes.

Mr. Gaskill. What you want us to understand is that instead of objecting each time Mr. Carmichael asks a question that this general objection shall be considered as applying to all those questions?

Mr. Duffield. Yes.

The Court. I understand.

Q. You join, you say, Wharton on the other side.

A. Yes, sir.

Q. And how long have you been so adjoining him on this land, you owning it or having possession?

A. Oh, a matter of seven years.

Q. You have noticed what acts have been done by him on the land?

A. I noticed what hay has been cut by his tenants or those under him.

Q. That was meadow land?

A. Yes, sir.

Q. Is that the only use of which it is capable?

A. Yes, sir.

Q. Now, Judge, is there any road leading from this creek anywhere?

A. No, sir.

Q. Any public road crossing it?

A. No.

Q. And public landing upon it?

A. No.

Q. And how did Mr. Mott come there, to be acting there, as has been testified to in this case?

A. As agent for Wharton and myself.

Q. And what was the agent here to do?

A. To plant oysters. You want me to tell you all about the arrangement?

Q. Yes.

A. Why, Mr. Mott took charge of these oysters and he was to put our rights and titles against his time. He was to attend to these oysters and dispose of them; he was to furnish one-third of the money and Wharton and me was to furnish the other two-thirds, divide the profits, whatever they might be.

Q. Under whose direction, if any, did he put any obstruction across the mouth of this creek?

A. Well, under the instruction of Mr. Wharton and myself.

Q. How far was this from the mouth of the creek, that obstruction?

A. Well, I should think probably one hundred to one hundred and fifty yards.

Q. How long have you know that creek?

A. Well, I have known it for the last fifteen or sixteen years.

Q. Now have you seen it quite often during that period?

A. Oh, no, not so often.

Q. What has been the character, as far as you have observed it of the navigation, if any, on that creek?

A. I never heard of anybody going—

Q. What you saw, not what you heard.

A. I never seen any boats in there whatever.

Q. What is the character of the bottom of the creek?

A. Well, I have never examined the bed, but I have understood—

Q. We won't ask that. Now were there any oysters planted there by Mr. Mott?

A. Yes, sir.

Q. When about, in relation to the time that the obstruction was put across the mouth of it?

A. They were planted there before the obstruction was put there.

Q. Have you got a deed with you for the property, or deeds?

A. Yes, sir.

Q. Will you produce them?

(Deeds produced.)

Q. What deed have you there, Judge?

A. There is a deed to the Oliphant farm, so called.

Q. This is a deed made the 2nd day of January, 1903, between Lydia L. Burr and James E. Otis and recorded in the County of Ocean, January 20th, 1903, in Book 275 of Deeds, page 89, duly acknowledged. What land does that cover, Judge?

Mr. Duffield. I object. The deed speaks for itself.

The Court. He may state.

Q. What land does that cover?

A. That covers what is called the Oliphant farm.

Q. Is that near this creek in any way?

A. Yes, the creek heads within them boundaries.

Q. I show you a deed made by Albert Pharo and wife to James Otis, dated the 29th day of May, 1899, recorded in the Ocean County Clerk's office, December 9, 1902, in Book 274 of Deeds at Page 13 and so forth and duly acknowledged before George W. Mathis, Commissioner of Deeds and so forth. Where is the land in that located?

A. Located on the lower end, on the west side of the Roundabout.

Q. Does it touch on the creek, bound the creek?

A. No, it comes close to the creek.

Q. It is part of this tract, eh?

A. Yes, sir.

Q. A deed of Amos and Phoebe A. Ridgway to James E. Otis, dated the 17th day of May, 1899—

A. That is only a lease.

Q. Unrecorded, duly acknowledged before George W. Mathis, Commissioner of Deeds. Where is that land located?

A. That takes in what is called the West Neck Tract.

Q. How does that lie with reference to this Creek, Roundabout Creek?

A. It lies all on one side and across it. Here are some other deeds here that cover some meadow land, but not continuously.

Q. The lands that I am after are lands bordering on that creek?

A. Yes, that is it.

Q. Those are the deeds, eh?

A. Yes.

Mr. Carmichael. I offer them in evidence, subject to the exception taken by the State. I offer in evidence a deed dated April 4, 1899, and recorded April 6, 1899, in book 245 of Deeds, page 132, in the Clerk's Office of the County of Ocean, made by Benajah P. Wills and wife, to Joseph Wharton.

Q. Judge, will you be kind enough to look at this deed and tell me whether you know where those lands are located? Look at the description of it and tell me where those lands are located?

A. Well, it lies, a portion of it, on one side of the Big Roundabout Creek.

Q. Now that runs on one side, joins the creek?

A. Oh, yes, joins the creek.

Mr. Carmichael. I offer that deed in evidence, subject to the same objection. I offer the record of a deed of Joseph Wharton and wife to the Newport Fertilizer Company, dated March 31, 1902, recorded October 15, 1902, in Book 272, page 242 of Deeds in the Clerk's Office of the County of Ocean.

Q. Will you be kind enough to examine that?

A. Yes, I have examined that. It covers the same land, with the exception of sixty acres on the bay that have been reserved off on the shore.

Mr. Carmichael. I offer that subject to the same objection I offer the record of the deed in Book 274 of Deeds, page 225, in the Clerk's Office of the County of Ocean, dated January 24th, 1903, recorded January 26, 1903, from the Newport Fertilizer Company to Joseph Wharton.

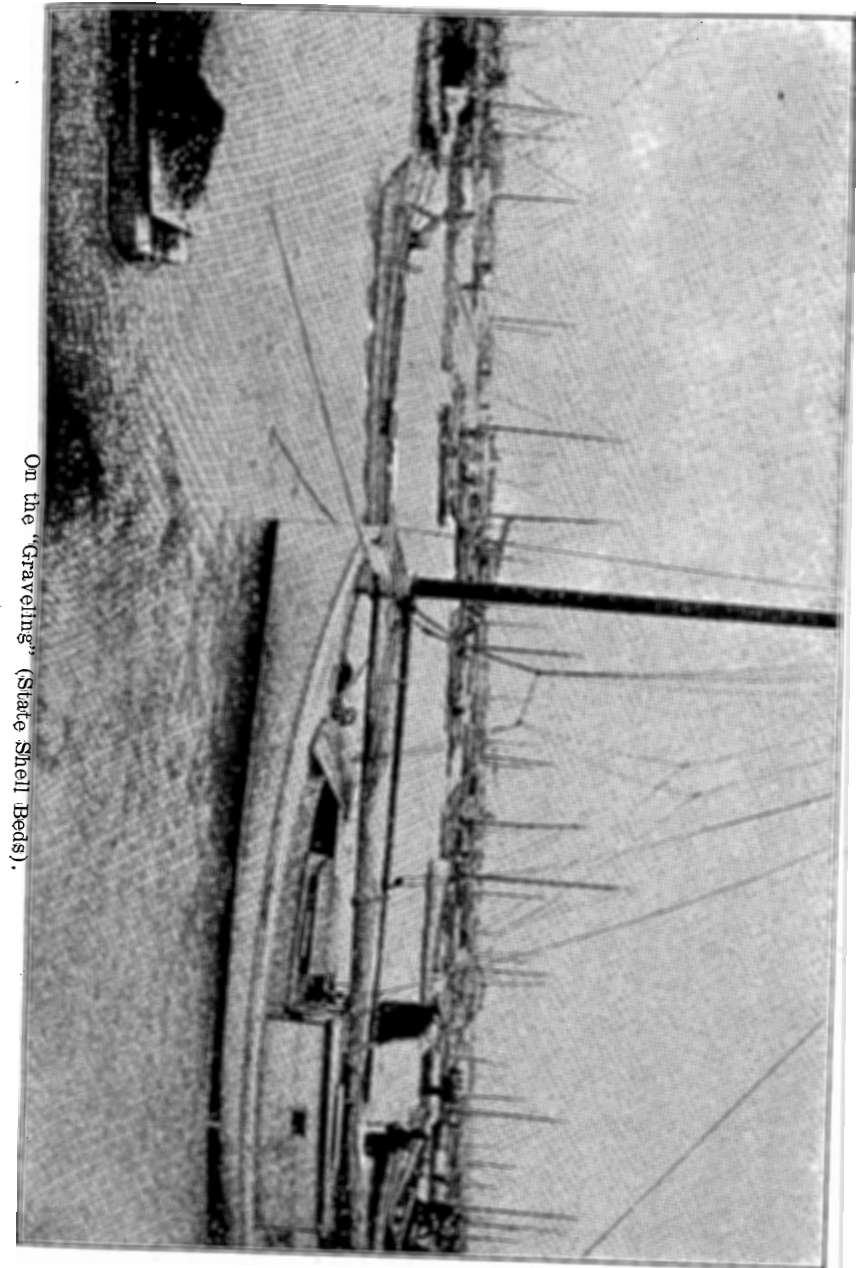
Q. Judge, will you examine that record?

A. I have examined that deed.

Q. What does that cover?

A. Covers the same land.

Q. Does that cover the same land as the last deed offered?



On the "Graveling" (State Shell Beds).

A. Yes, sir.

Mr. Carmichael. I offer that in evidence subject to the same objection.

Q. Do those three deeds or the deeds from Benajah P. Wills to Joseph Wharton and from the Newport Fertilizer Company to Joseph Wharton, which side of the creek do they cover, if any?

A. They cover what you might term the south side.

Q. These deeds made to you which I have offered in evidence heretofore, what part do they cover?

A. They cover the opposite side.

Q. And no part of the Wharton—

A. A portion of the other side, yes.

Q. Now do these three deeds of yours and the two deeds to Wharton that I have offered cover the two sides of that creek from the head to the mouth?

A. Yes.

Cross Examination by Mr. Duffield:

Q. How long did you say you had been familiar with this creek?

A. I should think about fifteen or sixteen years.

Q. About how long is it?

A. How long is it?

Q. Yes.

A. I should think it is a matter of two miles and over. I never measured it.

Q. About how wide is it at the mouth?

A. I was under the impression of about seventy-five feet down where the gate is, but at the mouth—

Q. About how deep is it there?

A. At the gate?

Q. Yes.

A. On October last I was down there and right below the gate they couldn't shove the garvey on the low water.

Q. About how deep at high water?

A. Well, I should suppose the rise and fall of the tide there was maybe three feet and a half.

Q. You say that you and Mr. Wharton own all the land?

A. Surrounding land, yes.

Q. It was purchased of various owners, I suppose?

A. A portion of mine on one side was a large survey and it covered five hundred odd acres. There were some other surveys including the surveys in it, but they were off next to the main land. I own, I suppose, about all, though.

Q. Is it not a fact, Judge, that Mr. Chew, who testified here this morning, owns an undivided interest in quite a large tract up there?

A. Yes, he owns an undivided interest in what was laid for thirty-three acres and the resurvey makes forty-two acres.

Q. That is on the creek, isn't it?

A. No, sir.

Q. Not on the creek?

A. Not on the creek, no, sir.

Q. Mr. Mott doesn't own any land there, does he?

A. No, sir.

Q. He doesn't own any land on either side, does he?

A. No, sir.

Q. You left to him entirely the planting of oysters, I presume?

A. Yes, sir.

Q. You did not superintend it personally?

A. No.

Q. You authorized him to put his oysters there and to protect them in such way as he saw fit?

A. Put Mr. Wharton's oysters and mine, and his own.

Q. Who purchased the oysters?

A. Mr. Mott purchased the oysters.

Q. And Mr. Mott was to do the work?

A. Yes.

Q. And you were to share in the proceeds?

A. Yes.

Q. So that you had an interest in these oysters?

A. Yes.

Q. Practically a partnership, wasn't it?

A. Yes, sir.

William Irons, sworn for the defendant.

Direct Examination by Mr. Carmichael:

Q. Mr. Irons, you know where Roundabout Creek is?

A. Yes, sir.

Q. Were you ever a tenant of any lands there?

A. I used to cut hay along there, yes.

Q. Who from?

A. The property when I first lived down there on the farm belonged to Benajah P. Wills, who owned it at that time.

Q. Do you know who owns it now?

A. Yes.

Q. Who?

A. Joseph Barton owns it.

Q. What was the nature of the land from which you cut hay?

A. Meadow land, what they call salt meadow, marsh land.

Q. Was it capable of any other use, except cutting grass?

A. Nothing at all, no, sir.

Q. How much navigability was done in that creek? How much navigation was done in that creek?

A. Well, a boat could go up there half a mile, I suppose, and get hay, a flat boat, what we call a scow boat.

Q. As far as you know was that the only character of navigation you saw there?

A. Yes, sir.

- Q. And they cut hay from there now?
- A. Cut hay from me that time, the hay on the other side from the other party.
- Q. So far as you saw the navigation there was of that nature?
- A. Yes, sir.
- Q. How long were you there?
- A. I was there two years the first time and ten months the last time.
- Q. Do you know about any oysters being planted there?
- A. I know about some being planted there, yes, sir.
- Q. By Mr. Otis, and Mr. Mott there, and Mr. Wharton, I believe.
- Q. Do you know about this gate being there?
- A. Yes, sir.
- Q. When was that put there in reference to the time of the planting of these oysters?
- A. It was put there about the time. It was already partly up there when we put the oysters in, and after we got the oysters in it was closed up.

Cross Examination by Mr. Duffield:

- Q. I understood you to say you were a tenant there, Mr. Irons?
- A. Yes, sir.
- Q. And I don't suppose you took much observation of boats going up and down, did you?
- A. I did.
- Q. How far up were you?
- A. Well, I have hayed that meadow all along there from one end to the other on the Wharton side.
- Q. Did you live up there?
- A. Lived on his farm, yes, sir.
- Q. Where is his farm in relation to the mouth of the creek?

- A. Well, it is about a mile from the mouth of the creek, I think; probably not as far as that, straight across.
- Q. And you have been telling us about boats that you saw a mile up the creek?
- A. No, I don't think I told you that.
- Q. That is what I am asking you now, what you told us?
- A. You asked how far the house was from the mouth of the creek, I understood you.
- Q. I understood you to say it was a mile and a half?
- A. No, sir.
- Q. Well, let's get it right. How far from the mouth of the creek?
- A. To where?
- Q. To the house?
- A. I think about a mile, probably a mile and a half.
- Q. That is where you were living?
- A. That is where I was living.
- Q. Then you hayed all the way down to the mouth of the creek?
- A. All along the creek.
- Q. And from time to time you saw these boats go up for hay?
- A. They came up when we had hay for them, told them to come.
- Q. If they came up to get it how far up could they come?
- A. Well, they could come up about half a mile, I think.
- Q. Half a mile, as far as you ever sailed up there?
- A. Probably a little further; I wouldn't say positive. I wouldn't say the exact distance.
- Q. Well, about that?
- A. About a half a mile.
- Q. Nothing to prevent boats coming up further if they wanted to, was there, as far as you saw them?
- A. No, sir.

James E. Otis, recalled.

By Mr. Duffield:

Q. Judge, neither you or Mr. Wharton have any lease from the Oyster Commission of this County, have you?

A. No, sir.

George A. Mott, sworn for defendant.

Direct Examination by Mr. Carmichael:

Q. Mr. Mott, you heard the testimony of Judge Otis here?

A. Yes sir, I have.

Q. Do you know where the land spoken of is located?

A. Yes, sir.

Q. You know Roundabout Creek, of course?

A. I do.

Q. Well, in regard to Roundabout Creek, where is this land he spoke of, Mr. Wharton's, located?

A. Mr. Wharton's is located on the south side and three tracts that those deeds cover are located on the north, what we term the north side, and across the other part of the creek.

Q. That is Judge Otis' deed?

A. Yes, Judge Otis' deed.

Q. How long have you known Roundabout Creek?

A. Well, I have known Roundabout Creek for twenty-five years, I think.

Q. Have you been down there often?

A. Well, I have been in there, well, a number of times, before we planted the creek, I have been there off and on.

Q. Well, you have known it some years?

A. Yes, sir.

Q. Were you often in that vicinity on the bay or waters there?

A. Yes, for the last fourteen years.

Q. Now about the amount of navigation there has been on that creek, how much?

A. Well, I think there was some people, when you speak of it, I think there was some people attempted to harbor there the first week of the oyster season. It was an open season and I think the first week of that open season I seen more boats there then, than I have seen for eleven years previous to that.

Q. Where were they then?

A. They were outside the gate, harboring all along the gate.

A. That was after the gate was there?

A. That was after the gate was there.

Q. And harboring from the gate out to the mouth?

A. Yes, sir.

Q. And harboring, what did you say?

A. I think more boats in one week after the gate was put up there, that is the week during the open season, than I had seen for eleven years previous to that.

Q. What was the amount of navigation above that place where you put this gate?

A. Well, I never have seen much there.

Q. What was the character, would you say?

A. What I have seen there was occasionally a boat went in, I suppose, for a harbor.

Q. Did you ever see any hay boats there?

A. Hay boats? That was the principal thing the creek was used for. They went up there to take out hay that was cut on the meadows adjoining the creek.

Q. Did you find any oysters there?

A. Yes, sir.

Q. Who got you to plant them?

A. Mr. Otis and Mr. Wharton.

Q. Did you put the gate there?

A. Yes, sir.

Q. What nature of a gate was it?

A. Well, put down pilings, poles, we call them; poles about four to six inches in diameter, about two and a half to three feet apart, put a stringer across and nailed them fast.

Q. In relation to the time when you put this gate in there, the poles, when was the creek planted, before or after?

A. The oysters were planted before. I think we had a part of the gate up, because we wanted to close it up as soon as the oysters were in, because sometimes down there we lose oysters that we don't protect thoroughly.

Q. Now I call your attention to the description of certain lands under water in the bay as being, "All those lands lying under the tidal waters of Great Bay and Mullica River, north of a line running from Graveling Point in a southwesterly course to the Atlantic County line." Do you know where that portion of the Bay is?

A. I do; I put the stakes there.

Q. In relation to that portion of the bay where does this creek lie? It is within that exception?

A. It is within that exception, lies about a mile above that line.

Q. Do you know where the Atlantic County Line is?

A. I do.

Q. Were you a member of the Oyster Commission at one time?

A. I was a member of the commission twelve years.

Q. When you put the stakes there?

A. Put the stakes there, yes sir.

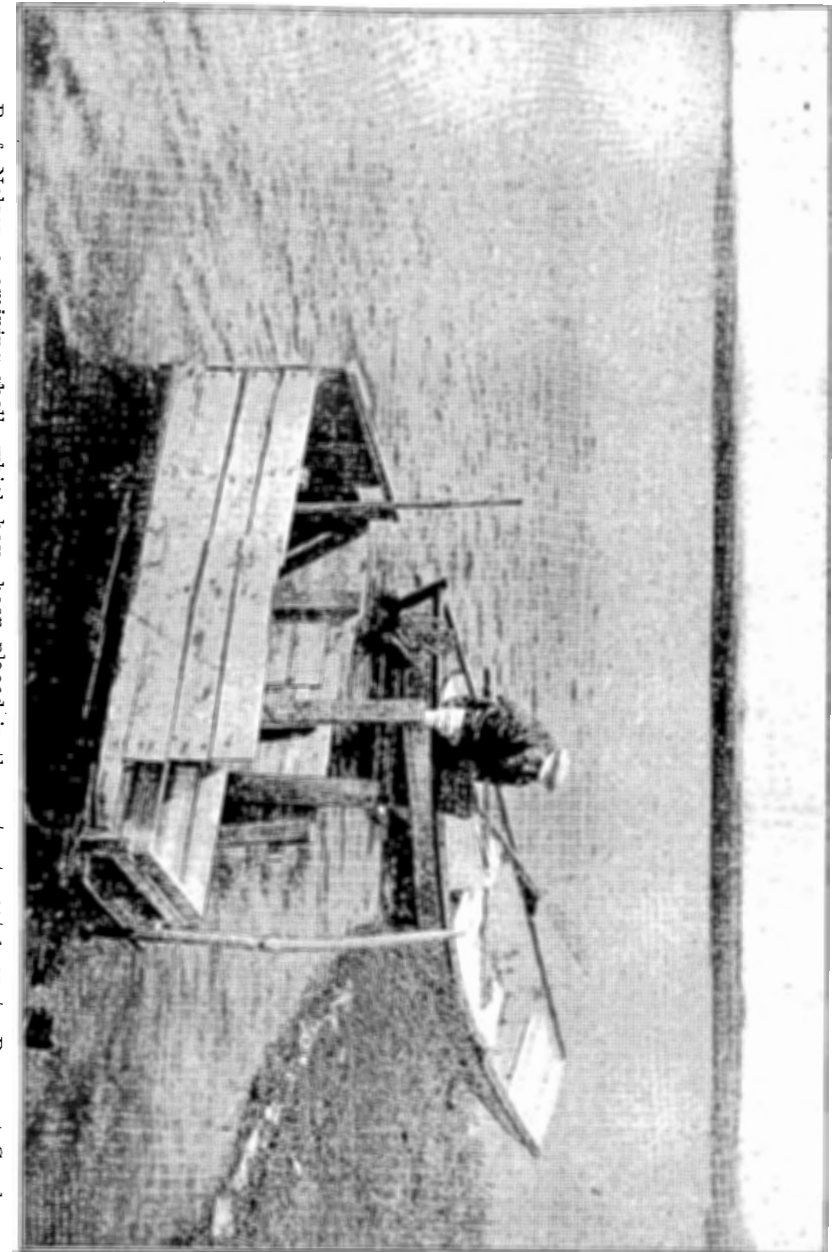
Q. To mark off these exceptions?

A. No, to stop the encroachment of those who have lands below, separate the lands.

Q. You know where this exception is that I have called your attention to?

A. Oh, yes.

Q. You have been one of the Commissioners under this act?



Prof. Nelson examining shells which have been placed in the water to catch spat. Barnegat Creek.

James E. Otis, recalled.

By Mr. Duffield:

Q. Judge, neither you or Mr. Wharton have any lease from the Oyster Commission of this County, have you?

A. No, sir.

George A. Mott, sworn for defendant.

Direct Examination by Mr. Carmichael:

Q. Mr. Mott, you heard the testimony of Judge Otis here?

A. Yes sir, I have.

Q. Do you know where the land spoken of is located?

A. Yes, sir.

Q. You know Roundabout Creek, of course?

A. I do.

Q. Well, in regard to Roundabout Creek, where is this land he spoke of, Mr. Wharton's, located?

A. Mr. Wharton's is located on the south side and three tracts that those deeds cover are located on the north, what we term the north side, and across the other part of the creek.

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A. Yes, Judge Otis' deed.

Q. How long have you known Roundabout Creek?

A. Well, I have known Roundabout Creek for twenty-five years, I think.

Q. Have you been down there often?

A. Well, I have been in there, well, a number of times, before we planted the creek, I have been there off and on.

Q. Well, you have known it some years?

A. Yes, sir.

Q. Were you often in that vicinity on the bay or waters there?

A. Yes, for the last fourteen years.

Q. Now about the amount of navigation there has been on that creek, how much?

A. Well, I think there was some people, when you speak of it, I think there was some people attempted to harbor there the first week of the oyster season. It was an open season and I think the first week of that open season I seen more boats there then, than I have seen for eleven years previous to that.

Q. Where were they then?

A. They were outside the gate, harboring all along the gate.

A. That was after the gate was there?

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Q. And harboring from the gate out to the mouth?

A. Yes, sir.

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Q. In relation to that portion of the bay where does this creek lie? It is within that exception?

A. It is within that exception, lies about a mile above that line.

Q. Do you know where the Atlantic County Line is?

A. I do.

Q. Were you a member of the Oyster Commission at one time?

A. I was a member of the commission twelve years.

Q. When you put the stakes there?

A. Put the stakes there, yes sir.

Q. To mark off these exceptions?

A. No, to stop the encroachment of those who have lands below, separate the lands.

Q. You know where this exception is that I have called your attention to?

A. Oh, yes.

Q. You have been one of the Commissioners under this act?



Prof. Nelson examining shells which have been placed in the water to catch spat. Barnegat Creek.

A. Not under that act.

Q. What act?

A. Under an act of—

Q. Shell Commissioners, it is called?

A. Yes.

Q. A different act?

A. Yes, sir.

Q. But you know the bay there?

A. I know it thoroughly, I think, as most men.

Q. And this creek here that you fenced off lies within that exception?

A. Lies within that exception.

Q. How about the tide in that stream? How deep is that stream?

A. How deep is the stream?

Q. Yes.

A. Well, above the gate, at the gate I think it is about four feet in low water. Above the gate it runs from four to eight feet on the low water, I think; but below the gate, at the mouth of the creek, I have a thirty foot launch that draws about two feet, and I have been stuck there over and over, couldn't get in and out; and in sailing yachts, there are very few yachts that can get in and out on low water; have to go in and out on high tide.

Q. A sort of bar at the mouth of the creek?

A. Yes; the creek widens out and it is very shallow.

By the Court:

Q. Did I understand you correctly to say that above the gate that at low water there is six to eight feet?

A. In some places it is from four to eight feet, I should think?

By Mr. Carmichael:

Q. At the mouth you said—

A: And below the gate at low water, well, it isn't more than a foot of water, and I doubt whether it is that much.

Q. So it is difficult to get in or out on low water?

A. Difficult to get in our out on low water.

Q. How much is there at ordinary high water?

A. At high water I should suppose the tide rises about three feet, I should suppose about four feet.

Cross Examination:

Q. I understand you to say you have been an Oyster Commissioner?

A. On the Oyster and Shell Commission.

Q. And you have stated that this was a part of the land except from the operation of the Oyster Act of 1902?

A. The act under which the Ocean County Commission—

Q. Those lines were to be preserved as natural seed beds, weren't they?

(Objected to.)

The Court. I do not allow that question, because that is a point of law that you can argue. The law regulates that matter.

Q. It is not a fact that as long as you have had any experience in the Bay, that the public has been accustomed to take oysters from that place?

A. To some extent. They have not taken any oysters from there to any extent for several years.

Q. No, but for as long a period of time as you can remember?

A. For a long period of time, yes, years ago.

Mr. Carmichael. I would like to ask what place you are referring to, these excepted lands of 1902 or this creek?

Mr. Duffield. You know what we are talking about.

Mr. Carmichael. I don't know what you are talking about.

Mr. Mott. When I speak of this place, you understand I am referring to the Atlantic Ocean; you understand I am referring to Roundabout Creek?

A. Yes, sir.

Q. You understood I was referring to Roundabout Creek?

A. Yes, sir.

Q. And you know as a matter of fact for some length of time as long as you have known it, the public have gone in there and taken oysters without any restriction from anyone?

A. Yes, sir.

Q. You have no lease for this land from the Oyster Commission, have you?

A. No, I have not.

Q. And you have no title to either end of this creek, have you, don't own it yourself?

A. No, sir.

Q. You desire to raise oysters there and got permission of Judge Otis and Mr. Wharton, on condition that you would share with them the profits of the business; isn't that so?

A. Yes.

Q. You spoke of protecting oysters. You mean you erect this gate for the purpose of preventing others from taking your oysters, didn't you?

A. Yes, sir.

Q. No reason to erect anything there to protect oysters while growing there?

A. To protect the growth of oysters, you mean?

Q. Yes.

A. Oh, no.

Q. What was the purpose of it?

A. To keep people from taking our oysters.

Q. Just to prevent anyone coming in there and taking your oysters?

A. Just the same as you would erect a fence.

Q. Nothing to do with the protection of oysters from animals that might attack the oysters or any shifting lands that might injure it?

A. No.

Q. In other words it was to protect the depredation of your oyster beds?

A. Yes, sir.

Q. Neither Judge Otis nor Mr. Wharton had anything to do with the erection of this construction, did they? I mean they did not either purchase the material for it nor place it in the ground there, did they?

A. They authorized me to.

Q. But they did not actively participate in the erection of it?

A. No, they didn't help erect it.

Q. And you were willing to share with them the profits for the privilege of conducting it for them?

A. Yes, sir.

Q. They were not oystermen, were they?

A. No, sir.

Q. And they were not in the oyster business?

A. No, sir.

Q. It was your idea, this erection of a fence there to protect these oysters, wasn't it?

A. No, it was not.

Q. It was not your idea?

A. No.

Q. Did that come up when this partnership was formed?

A. When the partnership, when the thing was talked over, why, that was talked over at the same time that the planting of oysters was talked over.

Q. Now, Mr. Mott, since the erection of that fence there it is impossible for a boat to go up there, isn't it?

A. Surely; that is what we erected it for, to prevent people from getting our oysters.

Q. No person can go in that stream?

A. No, sir.

Q. You know the tide ebbs and flows in it?

A. Yes.

Q. And although you say you have not seen any boats up there of any considerable depth, there is nothing to prevent them going up, provided they do not draw more water than there is there?

A. No, sir.

Q. And I presume a larger boat can go at high water than can go up at low water, can it?

A. Yes, sir.

Re-Direct Examination, by Mr. Carmichael:

Q. Who paid for the materials used in putting up that fence?

A. We all paid for that. The material was paid for by Mr. Otis and Mr. Wharton and myself.

Q. And the labor?

A. And the labor also.

Q. And the oysters were paid for by whom?

A. Paid for the same.

Re-Cross Examination, by Mr. Duffield:

Q. I thought you said you furnished the oysters, Mr. Mott?

A. Oh, no, I furnished one-third of the money to plant the oysters and erect the gate.

Q. Let me understand this arrangement. You furnished one-third of the money?

A. One-third.

Q. And these other two gentlemen furnished two-thirds; is that right?

A. Yes, sir.

Q. What were you to do to make up your third?

A. I was to oversee the—

Q. You were to superintend the erection of this obstruction?

A. Well, not superintend the erection of the obstruction, but superintend the planting and taking up of the oysters.

(Defendant Rests.)

Mr. Duffield. I now desire to move your Honor to direct a verdict in this case on the ground that the Act of 1846, by implication, does not apply to this case; and on the further ground that even if that act was applicable, the evidence in this case that act only applies to those who own the land. In this case it appears that the man who erected the obstruction did not own the land on either side of the creek; therefore is no case to go to the jury.

Mr. Gaskill. I want to make a motion also.

The Court. But I want to ask a question, too. Now on what ground do you claim that the Act of 1846 does not apply?

Mr. Duffield. On the ground, first, that it is perfectly clear that the Legislature did not intend to permit by that the obstruction of a navigable stream; in the second place, that the Act of 1846 has been superseded by the Supplementary Act of 1855, Section 25 supersedes Section II.

The Court. You contend that would virtually repeal the other Act.

Mr. Duffield. Virtually repeal it. It applied to the same conditions and made a change. I cannot see the purpose of the Act of 1855 changing this particular plan or limiting this privilege, but I suppose you will notice that they do not read just alike. Now my further point would be, your Honor, that the

first Act of 1846 never contemplated any such condition as appears here. It contemplated the protection of the growth of oysters. It is the Act for claims and oysters, and it contemplated growth. It says they shall be allowed to erect such protection as will protect. It is not to erect a five barred gate to keep the public out. It was to protect these oysters that they had placed in there so that the oysters would grow; and the Act of 1855 which has superseded that, bears out my theory, which says that they shall not obstruct navigation.

And there is one further point that I have not yet raised in this case, in regard to the present Oyster Act of 1902, that under that law it is the intent that this land shall be left open. My contention is that the public might go freely as they had from time immemorial; it was not for the purpose of providing that individuals might fence off public land. It was not put in there for that purpose. It was for the purpose that the public might have the privilege of going and taking oysters. And the purpose of these exceptions was that the excepted land had been immemorially used as public lands, where the public had a right to go; therefore they said we won't give this Oyster Commission the right to exclude the public.

Mr. Gaskill. When the Attorney General took his feet to make the motion to dismiss this defense or overrule this defense I was about to take my feet to ask your Honor for binding instructions to this jury under the law and the facts as developed in this case to find a verdict of not guilty against this defendant. (Argues.)

The Court. Now the questions that have been raised here have been troublesome and pretty close questions. I have given them some thought and have read the law quite closely, and it seems to me that the laws of 1846 and 1855 were enacted for different purposes. It struck me in reading them that the law of 1846 relates to streams within lands owned by one or two owners or three owners, or more or less where there is no public

landing; but if there is no public landing, nothing to call for navigation, then they have a right to put these gates across and plant oysters and protect them. The other one goes a little on different grounds and says any stream, as I understand it, and therefore I do not think it repeals or modifies the law of 1846. And that being my understanding, that the law of 1846 is still in force, I shall direct the jury to bring in a verdict of not guilty.

(Whereupon the State, by its Counsel, prays a bill of exception, which is hereby allowed and sealed accordingly.)

A novel way of opening oysters as practiced by Prof. Nelson. Opened this way to prevent oyster from being injured.



Investigations in Massachusetts.

The experiments of D. L. Belding, State Biologist for the Commissioners of Shell Fisheries in Massachusetts, have developed many interesting results, and are of great value to our own State in its efforts to advance the interests of our Shell Fish Industry. We therefore include in our report, parts of Professor Belding's investigation which will doubtless be of great interest to those engaged in the industry in our own State.

Since I began work as biologist for the Commission, June 26, I have devoted my time, with the exception of two weeks, entirely to the investigation of the shellfish of Massachusetts. These two weeks were spent in examining the condition of certain fresh-water ponds, in response to the petitions requesting the Commission to stock them.

The necessity of improving our shellfisheries has become at the present day a matter of great moment. This has been brought about chiefly by the increasing scarcity of our once abundant supply.

For the first time in its history the Commission of Fisheries and Game has received appropriations for the investigation of edible shellfish. For some reason the shell-fisheries have been totally neglected from a scientific point of view, and very little investigation has previously been conducted. This is especially true of the clams, quahaug and scallop. As the oyster has received a fair share of attention, my work this summer has been confined chiefly to the three former.

The experiments undertaken are for the most part of a preliminary nature, and especially devoted to the biological investigation of the life history and growth of these shellfish, as only from a thorough and complete knowledge of the life of these

bivalves can results tending towards the improvement of the shell-fisheries be obtained.

A handicap to the work, which became more apparent as the summer progressed, was the lack of a laboratory. At least a temporary laboratory is essential to a systematic observation of many details in the life history of these shellfish.

CLAMS.

It is hard to realize that the flats of this Commonwealth, once so thickly set with the soft-shelled clam (*Mya arenaria*), are rapidly becoming barren; but statistics in our clam fisheries show a decided decrease in production. There can be no doubt that waistful exploiting by man has been the chief cause of the destruction of our clam flats.

The clam flats of Essex furnish an example of this. Large portions of these, once bearing immense numbers of clams, now lie unproductive, and yet the conditions appear just as favorable for the growth of clams as in former days. The result of this decrease has thrown many hundred clambers out of business, and now our future clam supply, both as food and bait, is seriously threatened.

The plan of the clam experiments conducted by the Commission the past year is based upon three main objects:

1. In the first place, experiments have been made to determine the rate of growth of clams. Two important questions are considered under this head: (a) How soon can a marketable clam be produced? (b) What are the causes influencing the rate of growth, and the conditions that cause this rate to vary?

2. The second object of these experiments is a commercial one, including all parts which relate to the practical side of clam culture. Artificial clam beds have been planted, both on productive and barren flats, the size of the beds being based on an acre as the standard. The amount of small clams planted was measured in terms of quarts, and the yield estimated by the

same standard. The chief object of this side of the work is to conclusively demonstrate that methods of successful clam culture are easier than oyster culture, and that by assisting nature the yield of the clam flats can be greatly increased and that profitable clam farming can be conducted. In following out this line the average and the maximum production per acre under different conditions are being determined by experiments.

3. The third object of these experiments is to ascertain the actual yield of the clam flats of Massachusetts. The reason for scattering our experiments along the coast are: (a) the average yield of the whole coast could thus be determined; (b) a comparison of the rate of clam growth in different sections of the coast could be made; (c) all localities which produce clams could share alike, as it was not desired to confine all our experiments to any one town in particular to the neglect of others.

METHOD OF WORK.

I. PROTECTION OF BEDS.—To insure the success of the experiments, it was found necessary to have some means of protection from the encroachment of clambers. Although it was almost impossible to keep careful guard of all of the beds, as they were scattered along the coast, the following methods were used, with fairly favorable results:

1. Printed notices were posted on the beds.
2. The experimental beds wherever possible were situated under the direct observation of certain gentlemen interested in their success.
3. In a few cases the method of covering the surface with wire netting, securely fastened in the sand with long wire staples, was used. This did not interfere in the least with the growth of the clams, and made digging impossible, furnishing absolute proof whether or not the beds had been disturbed.

II. LOCATION OF EXPERIMENTS.—Artificial beds have been planted at Dartmouth (Slocum's River), Onset, Monument Beach,

Woods Hole, Harwichport, Nantucket, Chatham, Monomoy Point, Point, Provincetown, Gloucester, Essex and Wheeler's Point (Annisquam's River). Sixty experimental beds have been prepared, and are under observation.

III. SIZE OF CLAM BEDS.—Two sizes of beds have been planted: (1) 1-100 of an acre, or 435 square feet; (2) 1-1,000 of an acre, or 43 1-2 square feet. The reason for these sizes was to keep all records in terms of an acre for the practical side of the experiment, and also because these were the most convenient sizes for computation.

The method used to fix the location of these beds consisted of a double set of posts, one set sunk level with the surface, the other 4 or 5 feet high. The ranges of the beds were then taken. The precaution of a double set of posts was made in case the ice took away the high posts, for the sunken posts could be located by the ranges, and thereby the boundaries of the bed found.

IV. SEED CLAMS.—The clams planted varied in size from an inch to an inch and a quarter. Measurements of these were made as follows: (1) Length of shell; (2) average number per quart; (3) number of quarts planted; (4) a table of volumetric displacement of different sized clams was made. In making this, large quantities have to be considered because of the error caused by the residual water in the clam. The clams for planting were usually obtained near the bed, although in a few cases they had to be brought from distant points. Careful account of the amount of seed clams and of the time required to obtain these has been kept; also how they kept, and their condition when planted.

V. CLEARING THE BED.—The most tedious part of the work was taking from the bed, before planting, the clams which were naturally there. The reasons for this are obvious. (1) It is important to know exactly what was planted in the bed. (2) An accurate record of the natural seed of the beds is desired.

VI. METHOD OF PLANTING.—Several methods of planting were tried. The best way for the experimental beds was the individual planting of each clam. The method consisted of making a hole either with a pointed stick or a finger, and dropping in this the clam, siphon end up. Clams can thus be kept at a right distance from each other. Lines were marked out either by string stretched across the bed, after the manner of garden planting, or by grooves made with a marker.

The practical method for large beds is merely sowing the clams and spreading them evenly over the surface. It has been found that a small clam can burrow into the sand faster than a large one. An inch clam is a very rapid burrower, and is therefore an excellent size to sow. The only trouble with this method of planting when applied to small experimental beds is that the tide bunches the clams together, causing them to go into the sand in clusters. This can be helped somewhat by turning over the surface of the ground. Dr. Mead, of Rhode Island Fish Commission, found that a greater per cent. would burrow when the ground was dug over than when left undisturbed. A method used some years ago in Essex consisted in breaking the surface with long-toothed rakes before sowing.

A third method of planting, used for exact work, was obtained by constructing a light framework of laths, containing exactly 1-1,000 of an acre, and divided into square feet by heavy cord. At the time of planting this frame was placed upon the bed, the corners fitting upon the sunken posts. Clams were planted with different arrangements per square foot, both in number and size, and a record kept of this. When the clams are removed, the same frame is replaced, and the exact position of each square foot of clams can be obtained.

VII. WIRE BASKETS.—In determining the maximum production per acre an important question was, how many clams to a square foot could exist, and what arrangement of those would afford the best growth and simplest method of digging.

Wire netting (one-inch mesh) was buried perpendicularly in the sand in the form of squares, each containing one square foot of surface. This seemed an advantage over tiles, as the open mesh was the nearer approach to natural conditions. A number of these squares were placed in the beds, and different numbers and arrangement of clams of the same size planted. In many cases the clams were notched with a file, a sure way of indicating an increase in growth.

The conditions which govern the growth of the clam, although in appearance simple, are nevertheless very complex. The conditions in one locality may be entirely different from those in another, so it is hard to set down any rigid set of rules concerning the growth of the clam. During the past year experiments have been made to illustrate the following conditions and their effect upon the growth of clams: (1) Comparison of growth in rapid and slow currents; (2) the food of the clam, and its influence upon growth; (3) growth in crowded and thinly planted beds; (4) growth under low water and under various lengths of tide; (5) relation of density of water to food and growth of clam; (6) effect of chemical nature and condition of soil; (7) comparison of growth of different sizes under same conditions; (8) enemies, such as starfish, *Lunatia* (commonly known as "winkle"), etc.

A part of the work undertaken this summer was the planting of artificial beds on barren flats. Flats were chosen where the conditions appeared favorable to the growth of clams, but which were then barren, and had been thus for many years. Most of these experiments were conducted at Essex, and many of these flats had once been productive. An especially interesting and important side of the work is to prove that hundreds of acres of our clam flats now unproductive can be reclaimed and made profitable.

The methods followed were similar to those used in the other experiments.

Hardly anything is known about the condition determining the set of your clams. The egg of *Mya unites* with the male cell in the water. After fertilization a ciliated embryo is produced, which swims in the water for a week or more. During this time it is under the control of the tides and currents, with the result that it often is carried a great distance. When the right conditions are present it sets both below low water and between the tide lines, although in most cases the clam does not strike good ground, and soon dies. Often the set is extremely irregular; one place will have a very heavy set, while another will have none; one locality may have a heavy set one year and not any the next, thus proving that the success of the set is determined by a combination of favorable conditions.

The sets of young are often very heavy. Observations are now being taken of a very heavy set in Annisquam River, where in many parts the clams are as thick as 600 to one square foot of surface. These clams average one inch in length and are forcing each other out of the ground by their growth.

A set may appear any time in the summer, and even in the fall, the set in Annisquam being as late as August 20.

A biological survey of the Massachusetts clam flats is now under way, with the following objects in view: (1) Probable area of clam-producing flats; (2) the area of barren flats capable of producing clams under proper cultivation; (3) those flats which can be cultivated at slight expense, and those at greater expense; (5) biological conditions of these flats.

Experiments for the next year will be conducted along the following lines, in addition to those already begun: (1) Experiments with different designs of spat collectors will be made in order to determine the most satisfactory means of successful spat collecting for commercial purposes. (2) Accurate and systematic observation of the spawning season will be conducted with the following points in view: (a) length of season; (b) conditions influencing this; (c) size and age of clam when it spawns; (d) which furnishes the best spawn, old or young

clams. (3) Study of early life history. (4) Enemies. (5) Further growth experiments on a commercial basis, a study of conditions influencing the growth of shellfish.

SCALLOPS.

The common shallow-water scallop (*Pecten irradians*) inhabits the waters south of Boston. In the past this shellfish has been exceedingly abundant in the coast waters of Cape Cod and Buzzards Bay. For many years its value as a commercial commodity was unknown. The last two seasons have shown a rapid decline in the scallop fisheries, resulting this year in a great scarcity of scallops along the Massachusetts coast.

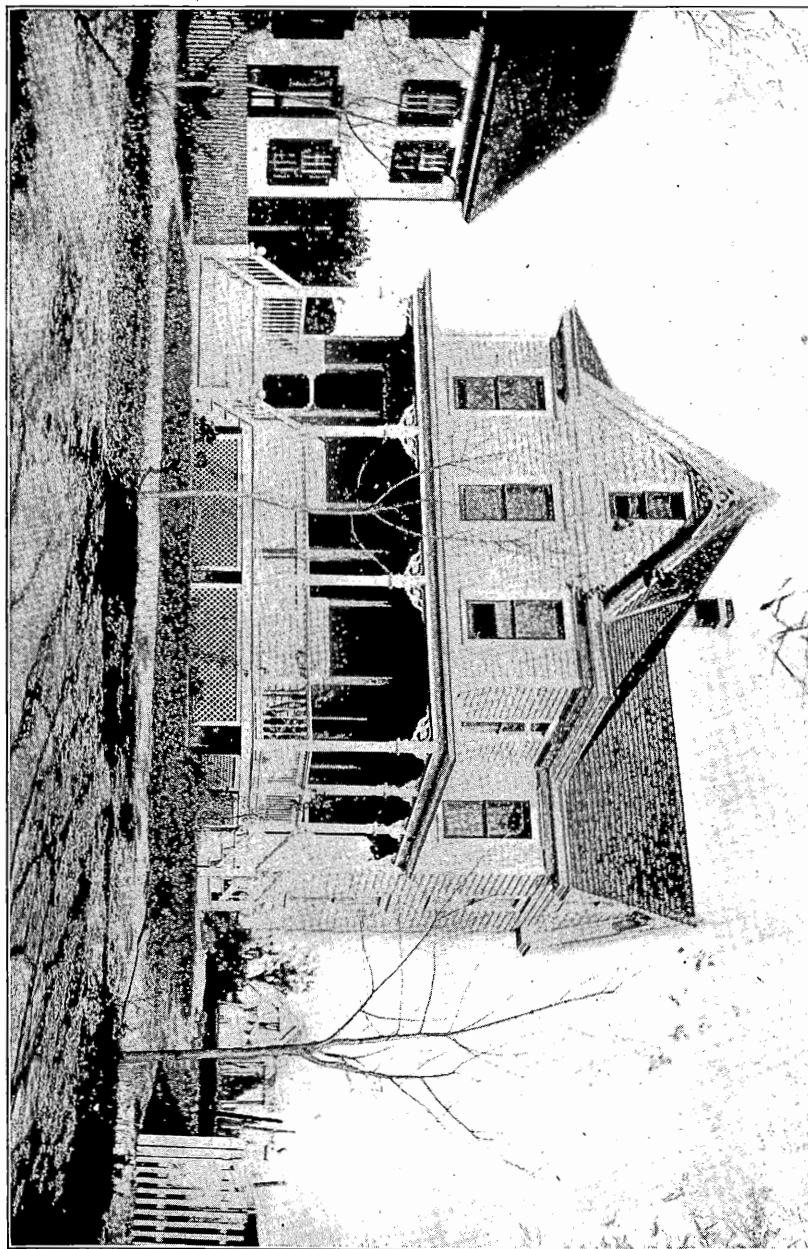
An important part of the summer's work was obtaining reliable information concerning the life and habits of the scallop, upon which a definition of the term "seed" scallop could be based.

The general law in regard to the capture of seed scallops (Section 84, Chapter 991, Revised Laws), reads as follows:

"Whoever takes seed scallops from the flats or waters of the Commonwealth shall be punished by a fine of not less than twenty nor more than fifty dollars for each offence; but such penalty shall not be incurred by any person taking such scallops who returns them alive to the flats or water from which they were taken."

As the law now stands, it is useless, as no conviction can be obtained when the term "seed" scallop is not defined. For this reason there is a distinct need of a corollary to the law, which will define the term "seed" scallop.

The life of a scallop under natural conditions covers usually from twenty to twenty-two months, only a few scallops ever passing the two-year mark. Knowledge of this fact is important, when the spawning season is considered. A scallop spawns when a year old, the spawning season in Massachusetts lasting



The home of an oysterman. (Thickerton, N. J.)

through June and July. As the majority of scallops do not live more than twenty-two months, it is at once apparent that the scallop spawns but once in its lifetime. Applying this to the term "seed" scallop, we come to the conclusion that a seed scallop must necessarily be less than one year old; that is, a scallop which has never spawned. Therefore a seed scallop will be defined by designating it as a scallop of the last summer's set.

Considering the fact that in general a scallop spawns only once, it is immediately apparent that any wholesale capture of seed is peculiarly a menace to the future of the scallop industry. The scallop entering its second winter can be taken without injury to our scallop fishing, as it has spawned the previous summer, and the majority are destined to die during the approaching winter, either at the hand of nature or of man. Although each seed scallop is capable of producing at least 100,000 eggs, relatively very few of these eggs reach maturity, and only by overcoming adverse natural conditions. In this way any destruction by man soon makes itself felt. This year shows a scarcity in the scallop market, and it cannot be denied that man as well as the last severe winters has been a potent factor in this scarcity. A surprising feature is that the fishermen who take seed scallops do not seem to realize that they are injuring their own interests, but put forth the excuse that the winter would kill the scallops if they did not take them. By waiting another year the fishermen could reap these advantages: (1) Larger scallops; (2) better prices; (3) less labor, (4) and above all, insure the future of a profitable industry.

To a person unacquainted with the rapid growth of young scallops it may seem incredible that scallops spawned early this summer are large enough for market. The chief amount of growth occurs in the summer, and the scallops will be little larger next spring than late this fall. Although there are scallops of all sizes, owing to conditions of growth and difference in time of spawning, the majority of young scallops are of a size profitable to capture. With an increasing

demand in the market, a greater quantity of seed is taken, as only when prices are high does the capture of seed scallops become profitable. In this way a relation is established between scarcity in the scallops supply and the capture of seed. Wherever large scallops are abundant, it does not pay to bother with the seed; but where there are no large scallops, the seed will be captured, as is shown at Chatham, where seed scallops were the only kind taken this season.

STATISTICAL WORK.

PER CENT. OF SEED SCALLOPS TAKEN.—The method of work consisted in visiting shell heaps at various scalloping centers, and determining by count the per cent. of seed taken. This work was carried out early in the summer and in the fall at the height of the scalloping season, when the catch could be observed.

As a rule the percentage is not high. The lowest per cent. taken was found at Nantucket, I. I. In 1904, on Cape Cod, the per cent. was as high as 8.3. As has been said before, the entire scallop catch the season of 1905 at Chatham and Dennis consists of seed scallops. Ninety-eight per cent. of this catch are seed, as practically no other scallops can be obtained. Up to January 7, 1906, the total shipment from South and West Chatham amounted to 1,165 gallons. Twenty men are engaged in the capture of seed scallops, but some of these do not make it a steady business. A man can obtain from 2 to 5 bushels every day he scallops. At Dennis the capture of seed scallops is more recent, as the scalloping only "struck in" after January 1. Six men make it a business, and an average catch for each is 3 to 4 bushels. Such wholesale destruction of seed scallops does far more damage than ice or any other natural causes in producing the alarmingly progressive depletion of our scallop industry.

From these figures it can be seen that a large amount of seed is being taken, and I again advise that action be taken legally to put an end to such practice.

It is possible for the fishermen to separate nearly all the seed from other scallops in culling, as they can recognize at a glance the seed scallop. There is a newness about the shell, a color which sharply differentiates it from the old scallop. The seed scallop is usually thinner and smaller, the shell is free from *serpula*, *crepidula*, etc., and it does not have a worn appearance of the old scallop. It has no well-marked growth line, but this is not an infallible test. It is impracticable to use the growth line in determining the term "seed" scallop. There is a halt in the growth of the scallop just before the spawning season, and when the new growth begins a line called the growth line is formed. In some scallops this is very prominent; in others faint. The trouble is using this to differentiate a seed scallop is that there are other causes which stop the growth and form similar lines. As in many cases these lines are on the small scallops, it is therefore impossible to make any classification on this basis.

GROWTH EXPERIMENT.

MONOMOY EXPERIMENT.—July 10, 1905, a wire pen was constructed in the Power Hole at Monomoy Point. The water in the pen at low tide was 1 1-2 feet deep. The pen was situated to receive full benefit of the tide, and therefore a good food supply. In the larger divisions of the pen 150 scallops were liberated. These were obtained from Dennis on Cape Cod after much difficulty in finding any for this purpose. Two weeks were spent in dredging along the south shore of Cape Cod, the result proving conclusively that there were scarcely any scallops along that coast. In the second division of the pen were placed scallops of considerably smaller size, which were obtained at Nantucket.

Three methods of measuring were used: (1) Measuring with calipers the height, width and thickness; (2) volume by water displacement, which gave the true increase in growth; (3) average number per quart.

Unfortunately, measurements could not be made often during the summer, and only three sets of measurements were taken. However, these show the comparatively rapid growth of these shellfish.

Division 1, Cape Scallops: In the period of eighty-seven days (July 10 to October 5) a gain of 20.58 per cent, was recorded; in sixty-three days (October 5 to December 7) a gain of 11.33 per cent. was obtained.

Division 2, Nantucket scallops: In the period of forty-six days (August 20 to October 5) a gain of 23.316 per cent. was made; in sixty-three days (October 5 to December 7) a gain of 19.87 per cent.

These results show two important facts: (1) The smaller scallops (Nantucket) grew faster than the larger scallops; (2) the growth during the months of August and September was faster than that of October and November, showing the influence of cold weather.

Measurements were made at intervals during the summer showing the growth of the scallops at Nantucket. The measurements were made with calipers.

Observations were made for a short time on the growth of the scallops of the set of 1905. Their growth is very rapid, and they often exceeded in size the small-sized old scallops.

Very little is known concerning the early life of the scallop. It is first noticed when extremely small, attached to eel grass by an abssus thread, which it can cast off at will and immediately spin another. This is known as the attachment period, and lasts for an indefinite time, large scallops sometimes being attached. This usually ceases when the scallops are the size of a silver dollar, and they remain free. This period seems to afford them a rapid growth without any check until detached.

Measurements in volume of penned scallops show an increase of 31.67 per cent. in twenty-one days, the scallops when first examined measuring one and one-half inches in width.

There are great variations in the size of the young scallop. This is due either to the difference in food supply, or time of spawning, or both. This calls our attention to the spawning season. The methods used in following the spawning of the scallops were by: (1) Examination of eggs with microscope; (2) recording the color of the egg sac, which is a bright orange when the scallop is ready to spawn. Owing to the late start, a complete examination of the first part of the season could not be made.

Two facts were observed concerning the spawning season. One was the variation in conditions that influence the spawning. Within two days two sets of scallops under different conditions were observed. One set had nearly all spawned, while very few of the others had started. The chief difference was probably that of temperature, which is also shown when it was observed that the shallow-water scallop at Nantucket spawned earlier in the season than those in deeper water. The rule, the warmer the water the earlier the spawning season, seemed to hold true. The second fact noticed was the difference in the time of spawning of the Massachusetts scallops with the Rhode Island scallops, which spawned earlier. This is again probably due to temperature. The spawning season in Rhode Island lasts through June, while in Massachusetts it was observed to last through part of June, July and even till August 20, when it was found that 30 per cent. had not finished spawning.

Another part of the work was the investigation of the extent of the 1905 scallop fisheries. This season was marked by a great scarcity in scallops. The only places where any large amount of scallops is caught are Nantucktt and Edgartown. A few scallops are caught at New Bedford, Cotuit, Hyannis and Chatham. This scarcity has been the cause of the recent high prices, scallops wholesaling as high as \$3 to \$5 a gallon. The severity of the winter of 1904-05 has, in my opinion, been the chief cause of the scarcity along Cape Cod.

An estimate of the yield of the scallop fisheries of Massachusetts gives 30,000 gallons as the yield for the three months of October, November and December. Two hundred and fifty men made a business of scalloping this year, although the exceptional run of codfish in Vineyard Sound has drawn away many scallopers. At a minimum estimate, 250 men at eighty days, 1 1-2 gallons per day (probably a low estimate), equals 30,000 gallons during the season.

An excellent opportunity for work on the scallops next summer will be afforded by the presence of a large number of these shellfish in the Powder Hole at Monomoy Point. Investigations on the following points will be conducted: (1) The early life history will be studied, with the view of determining the conditions influencing the set, and any practical methods of increasing it. In carrying this out, artificial fertilization will be attempted. (2) Study of the attachment period, and its influence on the life of the scallop. (3) Further investigation of the spawning season. (4) Migration of scallops, and causes. (5) Enemies. (6) Transportation to waters north of Boston. (7) Further growth experiments in relation to scallop culture.

QUAHAUGS.

Although widely known as an article of food, the quahaug is the least known of any shellfish from the scientific standpoint. Nothing is known on such important points as: (1) Early life history; (2) spawning season, length of spawning season, age and size of quahaug when it first spawns; (3) rate of growth and conditions influencing this. The importance of such knowledge of the life and habits of this shellfish can hardly be estimated. Only from this knowledge can satisfactory laws and regulations controlling the quahaug industry be made, and methods of perpetuating our quahaug supply be advised.

The quahaug, or hard-shelled clam (*Venus mercenaria*), is found usually below the low water line, though occasionally it

wanders between the tide line. The different conditions under which the quahaug lives required modifications of the methods used in clam experiments, and in many cases they were entirely different. The experiments were conducted on a smaller scale than the clam experiments, and necessarily were of a more preliminary nature, as this was an entirely new field.

In obtaining the rate of growth, the work was handicapped by being unable to find quahaugs of sufficiently small size to get the whole rate of growth. Fortunately, a place was discovered, August 20, at Nantucket, where quahaugs of extremely small size could be obtained. Work was at once begun, and beds located at Nantucket, Monument Beach and Monomoy Point. In the first two the beds were located in oyster grants, for protection. The main part of the experiments has been carried on at Monomoy Point.

It was found that beds could most easily be made by sinking clapboards in the mud or sand, level with the surface. The quahaug in its wandering cannot get over this, and is thus penned in. It was found impossible to satisfactorily sink larger boards, owing to their buoyancy in the water.

Quahaugs of all sizes, from one-fifth of an inch to two inches, were planted. These were all carefully measured and placed in compartments according to size. The methods used in determining the rate of growth were measuring with calipers and determination of volume by displacement in water. The true increase in growth can be determined in this way without the slightest error, as the shell shuts closely. The growth of quahaug from one inch to two inches is not merely a gain of 100 per cent. but of 550 per cent., when the volume is considered. A table showing the displacement of the quahaugs of various sizes has been made. Another method to show the increase in growth was by notching the edge of the quahaug shell with a file, enabling one to distinguish the old from the new growth.

The rate of growth is being observed under various conditions, such as: (1) One the bottom where eel grass is plenti-

ful; (2) on a free bottom, both mud and sand; (3) in rapid and slow currents; (4) between the tide lines; (5) in a wire rack, in rapid current; (6) at various depths of water (box experiments). A comparison of the results obtained from these experiments should show the best natural conditions for rapid growth. The maximum production per acre is being determined by a method similar to that used with the clam.

The following experiments will be undertaken next summer (1) Artificial fertilization, and a detailed study of the early life history of the quahaug before it sets. (2) A method of spat collecting which will be of practical benefit to the quahaug industry. (3) Observations on the spawning season, considering the following points: (a) length of season; (b) age of quahaug when it first spawns; (c) which furnishes the best spawn, an old or a young quahaug. (4) Continuation of growth experiments. (5) Continuation of commercial experiments in regard to the maximum production per acre under various conditions. (6) Food and its relation to growth of quahaug. (7) A knowledge of its life, habits, enemies, etc., which should prove of value to the quahaug industry of Massachusetts.

OYSTERS.

In the first part of the report I gave reasons why I paid special attention to the other shellfish in starting my work. A biological survey of the oyster beds of our coast has been begun this summer. Experiments in oyster culture will soon be put under way, and conducted along the same lines as the other shellfish experiments. Naturally these will be of a more specialized and advance nature, as the life and habits of the oyster have been more carefully studied than those of the other shellfish.

The Oyster Industry in Rhode Island.

Rhode Island has always had a fame that was distinctly of a unique character and has always furnished at least one industry to the country even before its water ways were discovered to be suited to mill purposes. With the early settlement of the State it began to be seen that an important feature of its industrial life was to be its oyster production.

Even when there were very few settlers along the shores of Narragansett Bay with the exception of the Indian one of the first means of trade between the colonies was the oysters grown in these waters and used as a means of barter between the Indians and the early settlers as well as between the colonists themselves.

In the colonial days the State achieved an especial distinction and name on account of the peculiar sweetness and succulence of the bivalve grown in Narragansett Bay. While others of the colonies along the Atlantic coast were perhaps as early in the discovery of the fact that the bivalve in their section was palatable it was left to the instinct of the Yankee to secure for New England the distinction of being the pioneer in developing the trade.

Up to the year 1864, however, there was never on the part of the State any effort successful in controlling the oyster land along its waters. In fact it was not known just how much land along the coast was available for the purpose of growing oysters. Until that year the finding of oysters as well as the gathering of the same had been left to the individual with the best knowledge of the habits of the bivalve and his personal industry. A form of squatter sovereignty was observed from day to day, each individual harvesting wherever he thought he

would find the best land suited for the purpose. When one bed was discovered of value it was like the discovery of a gold vein. Every man would flock to the vicinity and stake off a certain territory to be worked.

Conflicts between clans, however, brought about the establishment of the Shell Fish Commission in 1864 and that was the beginning of State control of the industry which had been developed to a degree of profit that made it one of the most important to those engaged in it. In that year the fact that much of the land now under cultivation was suitable to the growth of oysters was unknown. All the land of known value then was placed in the control of the Commission and revenue for that year was acquired amounting to \$61.00.

One of the first works of the Commission was to discover by whatever means possible the amount of land then available in the waters of the Bay suitable to the culture of the oyster. Its efforts were successful to the extent that in the next year the rentals from the oyster lands of the State amounted to \$737.72. The acreage and the value of the land has increased from year to year until the outlook for the present year (1906) indicates the revenues will be \$59,305.56.

This does not mean that the growth of the industry has been steady. Up to the year 1886 when the receipts reached \$10,443.00, the increase was steady. For the next three years there was a decline owing to the fact that the star fish, the oyster's mortal enemy, and the most destructive, appeared to have control of the product and there had at that time been discovered no means of destroying them. The ravages of this pest were such that for several years following 1886 the oyster industry was in a fair way of utter annihilation so far as the waters of Rhode Island were concerned. Since the discovery of the modern method of destroying the starfish, however, there has been less trouble from this source and now the oyster is again rapidly increasing.

With the control of that destructive agent, however, there has arisen another with which the commission is at present worrying. Since the city of Providence, as well as a number of those mill towns along the water ways emptying into the upper part of the Bay have become so polluted with dyeing poisons that quite a portion of the land once available for the culture of the oyster in this part of the Bay has been made valueless and the planters have had to move further down the bay. One of the most important agents in this destruction has been the discharges from the gas making plants where tar and other poisonous residues have so polluted the waters that nothing can live in them. The Commission is at present engaged in efforts to abate this evil. The assistance of the United States Hydrographic Department to the State Board of Health, as well as the efforts of the manufacturers gives the Commission much to hope for in the way of purification of the waters along the Bay and its tributaries that should the present efforts prove successful the acreage available for oyster growing will be increased manifold in the next few years, though owing to the fact that there was practically no set in the years 1902 and 1903 as a result of cold weather at spawning time a scarcity of the large oysters may be looked for until after 1907.

A new feature of the industry has been developed during the past few years and now Rhode Island according to its limited extent of territory bids fair to rival many other oyster sections. That is in the growth of seed oysters. A few years ago it was necessary for planters in this State to secure oysters from other sections, usually from the waters of Connecticut. Now the planters are growing their own seed and succeeding so well that they are shipping quite extensively to the Pacific Coast. The seed oysters sent from these waters are reported to be doing well and bringing such good results that the demand for them is increasing and the profits in this branch bid fair to be the equal of any other department. The growth for seed purposes is necessitating the demand for more land and now almost every

bit of available ground is being sought. Even the land along the Breakwater and Old Salt Pond near Point Judith are being sought, a portion that was once thought to be absolutely valueless as oyster ground. Thus much of the formerly barren ground of the State is being made profitable.

The fame of the Rhode Island oyster for its quick growth and excellence of quality has even reached the Argentine Republic, and that State below the Equator has asked for and received a small shipment of the Rhode Island variety to be planted in its waters for experimental purposes. The Republic has paid the expenses of the shipment and the experiments being made. The results at this time show that the bivalve will live up to its name. The waters of this State seem to have a healthy effect on oysters which causes them to develop and grow with a rapidity that is not secured elsewhere. For this reason there are now being brought to these waters many thousands of bushels of oysters hatched in other States, for the purpose of allowing them to grow and fatten here, it having been found that they will reach maturity in these waters very much sooner than elsewhere. Owing to the value of the waters for this purpose, hundreds of acres formerly thought to be of no value are being treated, the bottom being cleaned of rocks and refuse. The results in the recent past have shown that the plan is a profitable one and in very many cases excellent oyster grounds have been secured.

In the cultivation of the Rhode Island oyster there are several features of much interest and not generally known. Heretofore the greatest pest to be fought in the preservation of the oyster has been the starfish, which has proven very destructive. The planters have been put to a great expense each year to keep the grounds clear. Another danger to the oyster, besetting him in these waters, are the mussels that collect on the bivalves and destroy them by smothering. The mussel has been proven to be one of the great enemies of the oyster and for the past few years the best efforts have been toward finding a means of relief.

The only plan that has seemed to succeed has been found to be the placing of the oyster in the sunlight. Where the mussels are small it has been found that they die more quickly than the oyster and by careful attention the bivalves can be saved. The planter runs a very grave risk in this plan, however, for there is a possibility of the oyster dying by the process. In some portions of the waters of the State the mussels have been reported in large numbers. There is one other peril from which the oysters of the State are comparatively free, if the reports coming to the Commissioners are true, that being the "drills." This form of destruction prevalent in other States has not yet reached the oysters of Rhode Island.

In the shellfish industry as developed in this State there is a comparatively new branch started, bidding fair to become one of the chief. That is the planting of shells and catching sets. For years it was supposed by the planters that they could make the catching of sets a profitable part of the business on account of the high rental and depended upon other waters for the seed supply, obtaining most of them from the waters of Connecticut. However, during the past few years there has been a growing demand for land for seed purposes and the demand continues to grow. The prospects are that before many years there will be no available land in the entire Bay that will not be occupied either as oyster beds or for seed purposes.

Oyster shells for planting purposes are generally worth about five cents per bushel but during the past year they sold for as high as ten cents per bushel. In planting the shells it usually requires about 500 bushels to the acre. Two years ago after the shells had been planted about four weeks and had been found to have caught a good set they were sold as high as \$1.00 per bushel for planting purposes. These oysters after being planted three years, on good ground with favorable conditions, usually return ten bushels for one, so that the profit to the planter is considerable. The most persistent enemy of the young oyster in these waters is the star fish and many sets have been destroyed

before they obtain their full growth. The most dangerous time for the oyster from the star fish is when very young, even though the star fish may be young also. The star fish develops faster than the oyster and the planters are forced to the necessity of keeping watch all the time for the pest and as soon as discovered begin mopping over the beds. These young stars in past few years have caused great ravages to the beds of the planters.

The laws relating to the cultivation and the preservation of the Rhode Island oyster have had a peculiar history. When the State first assumed control of the oyster beds there was a great storm of opposition raised and the free fishermen carried the case to the court to have an opinion handed down relative to the constitutionality of the act placing the whole matter in the hands of a commission. The extract from the Second Rhode Island Supreme Court Report gives an opinion upon the question that set the subject at rest. The opinion reads as follows:

"We understand the object of the statute is not for the benefit of the lessee of the private bed, but the holding out of motives to them to plant and cultivate oysters to secure to the public a more abundant supply. In other words the constitutional right is so regulated as to reserve to the public the greatest benefits. The Act also reserves a rent to the State."

Under the statute as constituted the Commissioners of Shell Fisheries, consisting of five members, one from each county, are appointed by the General Assembly to hold office for the term of five years. They have the right to lease oyster lands for planting, excepting where prohibited by statute: For ten years, lands covered by four feet or over of water and under 12 feet, at \$10 per acre; over 12 feet, under water, \$5 per acre. Under the acts of the General Assembly the Commissioners may cancel any lease upon the request of the lessee if the rent is paid to the date of cancellation. The statute also gives to the Commission the right to appoint deputies to enforce the laws. All oyster lands are to be surveyed at the expense of the State.

The statute also provides: A penalty for stealing oysters from private oyster grounds, \$50 fine and imprisonment for 30 days; wilfully damaging private beds, fine not exceeding \$500.

By a recent statute a law was enacted making a fine for allowing matter harmful to the shellfish to escape into the water, not less than \$500 or more than \$2,000. Persons violating this act are also liable to double the amount of damage done.

The Commissioners are to investigate and prosecute all cases of pollution when requested to act and the Attorney General is authorized to conduct the case.

Oysters may be taken from the free beds from September 15th to May 15th only. Fine for violation of the closed time, \$20 for each offence. Each vessel is allowed to gather in one day during the hours between sunrise and sunset, 24 bushels of oysters, including shells. For violation of this section a fine of \$20 is imposed.

A dredge is not to be used where the water is under 15 feet. Forfeit of boat and tackle and a fine of \$100 is the penalty for violating this section.

Only residents of the State are to take shellfish from the waters of the State. For violation of this section a fine of \$20 shall be imposed and the boat and tackle forfeited. For the second offence the penalty shall consist of imprisonment for 30 days in jail and the enforcement of the forfeiture clause as above stated.

The expense entailed in the growing of the oysters and the preparation of the same for the market is considerable and many men beside the planters find it a profitable business to devote their time exclusively to the work. The average opener earns about \$2 per day with seven hours work. Many of the men following the trade, however, earn as high as \$5 to \$6 per day for the entire season of the opening period, from about September first to June first. The extent of the business may be conceived when it is stated that one company having leases in the

Bay employ from forty to fifty men, and still a larger number of them from twenty-five to thirty.

Many of the fishermen go into the shops during the winter months to open oysters so as to escape idleness during the months when the Bay is frozen over. The price for opening oysters varies from 17 1-2 cents per gallon to twenty cents. One of the industries of the fishermen is the growing of seed oysters. They find a ready market for such and take out a small piece of ground which they plant with oysters taken from the free beds and thus start in business in a small way. The history of one or two of the large planters in this State has shown such a beginning. The larger planters employ numbers of men to watch the beds to prevent theft. This is in addition to the deputies appointed by the Commissioners to see that the laws are observed. The wages secured for this work are usually \$2 per day and the men are provided with a watch boat.

It is impossible to estimate or to give the exact value of the oyster industry in this State for several reasons. The large dealers and growers are unwilling to give exact data showing the shipments or sales. The value can safely, however, be estimated to run into the millions of dollars.

Since January, 1906, several thousands of acres have been leased and are now being surveyed. The following tables will show the amount of land leased up to January 1, 1906, and the revenues expected to accrue to the State. This will give a basis of the estimate for the total valuation:

Acres leased at \$10 per acre.....	3,762.8
Acres leased at 5 per acre.....	4,319.3
Acres leased at 1 per acre.....	81.
Total.....	8,163.1

Netting to the State for this year \$59,305.56.

The value of the leasings to the State may be shown when the figures for the year 1905 are shown together with the expenses of the Commission. The receipts for ground rents for 1905 were \$47,087.26.

The expenses for the year ending December 31, 1905:

Salaries of Commissioners.....	\$2,500.00
Salary of Clerk.....	1,319.89
Engineer for surveying.....	3,315.44
Examining oyster beds.....	427.15
Deputy enforcing the laws.....	1,297.00
Total.....	\$8,859.48

Leased in 1897 for ten years, for experimental purposes, after 1897 rent \$5 per acre.

Thus it may be seen that that State control of the oyster beds has proven a profitable investment both to the State and the planters. The prospects for rent for the next year far exceed those of any year preceding.

THE GROWTH OF SCALLOPS.

The history of the scallop in Rhode Island is of peculiar interest. For a number of years this bivalve has been taken in large numbers from the waters of Rhode Island, particularly those of Greenwich Bay. In 1903 the revenues from this branch of the shellfish industry amounted to \$600, the licenses for the taking of the same selling at \$5 each. This has been about the average amount for a number of years past, but during the years of 1904 and 1905 the industry completely died, there being but one license issued in 1905 and none in the year previous. The question of why this should have been has been one of the most serious problems confronting the Commission and it has not been solved satisfactorily as yet. The conclusion arrived at in

the matter is that either the conditions were such that the seed scallops did not live through the winters of 1903 and 1904, or else the conditions of the weather and water were such that the spat did not hatch during the summer of 1903. The nature of the scallop is such that one would arrive at the latter conclusion rather than the former. The scallop discharges its spawn during the second year of its life and never after. Should then, all the seed, small scallop, or the spat, be destroyed this shellfish must become extinct since it is not migratory by nature. The indications this year are for a small increase in their number since the reports from the various waters of the State show that there are some seed scallops being developed. With these indications it is hoped that the normal returns from the industry will be possible within a few years.

The law regulating the taking of scallops was passed in 1901. Since then those who gather the mollusk have had no need to press for a change. Since the revised law went into effect both the deputies and the fishermen have carried out the sense of it, realizing it was for their interest and the interest of the public that the fish be preserved. The penalty provided by law for the taking of seed scallops is \$20 and imprisonment for not over 30 days. Persons without a license are permitted to take one bushel of large scallops per day for personal use, however.

CLAMS AND QUAHAUGS.

Owing to the fact that Rhode Island has gained a national distinction as the home of the clam and the quahaug by means of the "clam-bake," the State has hard work in providing enough of this mollusk for the demand of the trade. The State has been noted for its clamming industry ever since the Indians used to gather up the bivalve along the shores of the Bay and make ready for a feast with heated stones and seaweed. During the summer months vast quantities of both the quahaug and the clam are taken from the waters to supply the demand of the

local shore resorts and those of the various cities and towns of the State. Whatever is remaining after this demand has been satisfied, finds a ready market elsewhere, but the demand has been so great for this morsel of food that there has been but little for export purposes.

The demand for the quahaug is so great that the State was forced to step in and provide for the preservation of this branch of the industry also. The State has been compelled to revise the law governing the taking of this bivalve, so that a bill was passed limiting the size of the quahaug to be taken from the water to not less than one and one-half inches in diameter, taking the largest diameter. The penalty for the taking of such is a fine of \$5 for every bushel. The prospects for soft shelled clams for the near future are very bright and the reports show that a good quality may be expected. In fact the prospects are far brighter than they have been before for a number of years and the fishermen are anticipating a larger set than has been taken for several years. The outlook for the quahaug, or the "little neck," is not so bright, the reports showing that it will be difficult to supply the demands.

This is probably accounted for by the fact that vast quantities of this bivalve have been taken for the market before they have reached maturity and that in the immediate past vast quantities of very small quahaugs have been taken from the State for seed purposes. So scarce has become this mollusk that the price has jumped to \$1.50 per bushel at wholesale for the large size, and are even unobtainable at that. The small quahaug, for planting purposes, brings as high as \$3 per bushel.

From the conditions in the Bay it may be stated that within the next few years the shellfish industry will be far more valuable than it is as present and much of the land that has become barren will once more be made fertile and Rhode Island will still be able to hold her position as one of the chief centers from which shellfish may be obtained.

We trust that the Bureau may be permitted to follow up the work already accomplished, in the hope that ultimately our great Shell Fish Industry will lead all the States of the United States.

Respectfully submitted,

CHAS. R. BACON,
Chief of Bureau.

OYSTER BED LEASES.

Leases for Raritan Bay.

Number	LESSEE.	RESIDENCE.	Average
1			
2	Fred Hammer.	Keyport.	29¾
3	The People's National Bank.	Keyport	18
4			
5	John W. Mason.	Keyport	14¾
6			
7	Lorenzo Mason.	Keyport	20¾
8	Charles Kellogg.		12¾
9	William E. Woolley.	Keyport.	197
10	William Mauer.	Keyport.	66¾
11			
12	Garrett E. Post.	Keyport.	111
13			
14			
15			
16			

OYSTER BED LEASES

Leases for Delaware Bay.

Number	LESSEE	RESIDENCE	Acreage
1	Gibson C. Andrew Est.	Port Norris, N. J.	124
2	J. Wesley Adams & E. J. Cook	Port Norris, N. J.	12
3	J. Wesley Adams	Port Norris, N. J.	38
4	Edward H. Allen	Bivalve, N. J.	19
5			
6			
7	William Brunyate	Bridgeton, N. J.	66
8	Brunyate & Schoch	Bridgeton and Philadelphia, N. J. and Pa.	57
9	Rebecca Bateman	Newport, N. J.	60
10	Charles L. Bradford	Newport, N. J.	97
11	C. L. Bradford and E. C. Vannaman	Newport and Mauricetown, N. J.	31
12	C. L. Bradford and Anna Belle Bowen	Newport and Bridgeton, N. J.	22
13	Lafayette Bailey	Dividing Creek, N. J.	23
14			
15	Henry Bornhorst	Bivalve	10
16	A. T. Bacon, James Boyle and E. W. Chance	Mauricetown, Millville and Mauricetown, N. J.	86
17	Berry, Robbins and Campbell	Port Norris and Newport	59
18	Bateman and Blizzard	Port Norris, N. J.	114
19	Bateman & Burt	Cedarville, N. J.	139
20	Bateman, Diamant and Elmer	Cedarville, N. J.	161
21	Bateman and Emerson	Cedarville, N. J.	53
22	Bateman and Swing	Cedarville & Fairton	78
23	Bateman and Welden	Newport, N. J.	37
24	Elwood Bradford	Newport, N. J.	16
25	Daniel Bradford	Newport, N. J.	58
26	Brineshults, Wallen & Fithian	Cedarville, Fairton and Bridgeton, N. J.	15
27	A. T. Bacon and E. W. Chance and J. Boyle	Mauricetown and Millville, N. J.	50
28	Lucius E. Bradford	Newport, N. J.	24
29	Bailey and Dilks	Port Norris, N. J.	32
30	Charles and Philip Berry	Port Norris, N. J.	88
31	Augustus Barnhurst	Port Norris, N. J.	71
32	Luther Bateman	Newport, N. J.	165
33	James Boyle	Millville, N. J.	48
34	Moses and Claude Bateman	Mauricetown, N. J.	29
35	Charles and Thomas Bowker	Dividing Creek and Port Norris, N. J.	73
36	Robert H. Bloxson	Port Norris, N. J.	83
37	Brineshults and Mayhew	Cedarville, N. J.	125
38	Burnight, Stites and Stites	Newport, N. J.	20

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE	RESIDENCE	Acreage
39	Stultz Berry	Port Norris, N. J.	67
40	Blackman and Blackman	Port Norris, N. J.	124
41	A. T. Bacon and E. W. Chance	Mauricetown, N. J.	19
42	A. Burt and O. Hannon	Cedarville, N. J.	14
43	Robert H. Bunel	Cedarville, N. J.	9
44	Charles Bowker	Dividing Creek, N. J.	30
45	R. L. Bateman and R. S. Bateman	Cedarville, N. J.	38
46	William Bidwell	Bivalve, N. J.	7
47	William H. Berry	Port Norris, N. J.	13
48	Wm. W. Cosier	Dividing Creek, N. J.	16
49	Wm. W. Cosier and Hannah Bacon	Dividing Creek, N. J.	9
50	W. A. and A. Campbell	Port Norris, N. J.	71
51	Smith Campbell	Dividing Creek, N. J.	27
52	Campbell and Meintz	Dividing Creek, N. J.	21
53	James Campbell, Jr.	Mauricetown, N. J.	83
54	Champion H. Cox	Leesburg, N. J.	107
55			
56	E. J. Cook	Port Norris, N. J.	128
57	Eli W. Chance	Mauricetown, N. J.	36
58	Chew Bateman, Henry and Garrison	Port Norris, N. J.	14
59	John R. Callahan	Millville, N. J.	9
60	Jonathan Cox	Leesburg, N. J.	22
61	Cosier and Husted	Newport, N. J.	25
62	Cosier and Gates	Newport, N. J.	33
63	Peter C. Cosier	Newport, N. J.	82
64	Cosier, Cosier, More and Ware	Newport and Bridgeton, N. J.	33
65	John S. Chanee	Leesburg, N. J.	45
66			
67	James and Wilson Campbell	Newport, N. J.	7
68	James Campbell and Harry A. Gates	Newport, N. J.	18
69	James Campbell	Newport, N. J.	138
70	David K. Cruise	Dorchester, N. J.	33
71	Benjamin B. Cruise	Mauricetown, N. J.	122
72	Lucius E. Cosier	Newport, N. J.	31
73	Peter Campbell	Newport, N. J.	60
74	William V. Chew	Port Norris, N. J.	10
75	Chew, Bateman, Henry & Hearn	Port Norris, N. J.	34
76	Jonathan and Lilburn Cox	Leesburg	23
77	Lilburn Cox	Leesburg, N. J.	52
78	Richard M. Corson	Millville, N. J.	16
79	Joshua and John Clark	Port Norris, N. J.	3

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
80	—	—	—
81	—	—	—
82	Thomat P. Covington Est.	Philadelphia, Pa.	55
83	Raymond Cox.	Cedarville, N. J.	23
84	Lorenzo G. and John Donnelly.	Heislerville, N. J.	78
85	Lorenzo G. Donnelly.	Heislerville, N. J.	32
86	Charles E. Davis.	Tidwell, Va.	23
87	Thomas L. Dodson.	Heislerville, N. J.	58
88	Charles M. Dounham	Cedarville, N. J.	8
89	Samuel J. Dillahay.	Port Norris, N. J.	29
90	Evans, Evans & Evans.	Millville, N. J.	40
91	Charles Edmunds and Richard Garrison.	Port Norris, N. J.	40
92	Samuel Errickson and Howard Compton.	Leesburg, N. J.	15
93	—	—	—
94	Frank Fidler.	Dennisville, N. J.	23
95	Samuel P. Fithian and Bloomfield H. Minch.	Bridgeton, N. J.	181
96	W. Linwood Foster.	Delmont, N. J.	21
97	John Flynn.	Camden, N. J.	78
98	William L. Fidler.	Leesburg, N. J.	32
99	Argus S. Ferguson.	Leesburg, N. J.	22
100	William E. Fowler.	Port Norris, N. J.	63
101	Fowler and Morris.	Port Norris, N. J.	13
102	Raymond Fagan.	Port Norris, N. J.	10
103	George Gaskill.	Port Norris, N. J.	42
104	Miles Gandy.	Cedarville, N. J.	72
105	John Gaskill.	Newport, N. J.	107
106	Joseph Garrison.	Dividing Creek, N. J.	43
107	Ogden Gandy.	Dennisville, N. J.	11
108	Ogden Gandy and David Van Gilder.	Dennisville and Leesburg, N. J.	169
109	Frank L. Garrison.	Dividing Creek, N. J.	12
110	Joseph M. Garrison.	Port Norris, N. J.	36
111	—	—	—
112	—	—	—
113	Ephraim Harris.	Port Norris, N. J.	26
114	U. B. Hall and John Noble.	Cedarville, N. J.	20
115	Sherman Hager.	Port Norris, N. J.	104
116	—	—	—
117	Margaret Hearn.	Port Norris, N. J.	147
118	Hearn & Company.	Maurice River and Port Norris, N. J.	43
119	John W. Harris.	Leesburg, N. J.	68

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
120	Clarence Haley.	Mauricetown, N. J.	48
121	Harold E. Hinson.	Mauricetown, N. J.	51
122	Arthur Hinson and Walter Bateman.	Mauricetown, N. J.	68
123	C. W. Hand and Wm. H. Berry.	Port Norris, N. J.	215
124	C. W. Hand, Wm. H. and Benjamin Berry.	Port Norris, N. J.	190
125	C. W. Hand and S. C. Lake.	Port Norris, N. J.	6
126	C. W. Hand and Clement L. Campbell.	Port Norris and Newport N. J.	89
127	C. W. Hand, Zephaniah and John Joslin.	Port Norris and Newport, N. J.	15
128	Constant W. Hand.	Port Norris, N. J.	39
129	Willis Hand.	Leesburg, N. J.	12
130	McClellan and John Hanners.	Newport, N. J.	9
131	McClellan Hanners.	Newport, N. J.	8
132	Aaron S. Hunter.	Haleyville, N. J.	29
133	William C. and Aaron S. Hunter.	Haleyville, N. J.	9
134	Harrison Hand.	Port Norris, N. J.	37
135	Henry & Buzby.	Port Norris, N. J.	229
136	William C. Hunter.	Haleyville, N. J.	53
137	S. Douglas Haley.	Mauricetown, N. J.	40
138	Harrison Hollinger.	Port Norris, N. J.	19
139	Howard S. Husted.	Bridgeton, N. J.	62
140	—	—	—
141	Albert C. Hagemann.	Camden, N. J.	114
142	Lafayette Henderson.	Leesburg, N. J.	62
143	Gilbert Holmes.	Pierces, N. J.	10
144	—	—	—
145	Charles M. Ingersoll.	Dividing Creek, N. J.	7
146	—	—	—
147	Joslin and Moncrief.	Newport, N. J.	60
148	Benjamin F. Joslin.	Newport, N. J.	67
149	Charles F. Johnson.	Cedarville, N. J.	133
150	Gus Jantsen.	Port Norris, N. J.	25
151	—	—	—
152	—	—	—
153	Rose Ladow and Lemuel Brad'ord.	Newport, N. J.	61
154	—	—	—
155	—	—	—
156	Uriah S. Lee.	Leesburg, N. J.	15
157	Lore, Lore and Lore.	Cedarville, N. J.	57
158	Samuel Lee.	Leesburg.	19
159	Jadn T. Lake.	Port Morris, N. J.	4

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
160	J. Hammitt Lake.	Port Norris, N. J.	12
161	Steelman R. Lee and Charles A. Cövert.	Leesburg, N. J.	10
162	Harry M. Lee.	Port Morris, N. J.	6
163	Robert T. and Wm. C. Lore.	Camden, N. J.	04
164	Seyvanus H. Ladaw.	Dividing Creek, N. J.	1
165	Hammell Ladaw.	Bridgeton, N. J.	
166	Ethan Lore Est.	Millville, N. J.	76
167	David R. Lake.	Port Norris, N. J.	42
168	William H. Land.	Port Norris, N. J.	49
169	William A. Lambert.	Port Norris, N. J.	27
170	Maurice R. Lee.	Port Norris, N. J.	12
171	Nathaniel J. Lore, Jr.	Port Norris, N. J.	10
172	D. R. Lake and Roscoe Shull.	Port Norris, N. J.	10
173	John T. Lake, L. Bateman, H. Little and L. E. Bradford.	Port Norris and Newport N. J.	30
174	Ephraim Mulford Est.	Bridgeton, N. J.	411
175	Albert G. Mulford.	Cedarville, N. J.	30
176	Robert More, Jr.	Bridgeton, N. J.	66
177	Robert More, Jr., and Foster C. Moore.	Bridgeton, N. J.	32
178	Augustus J. Meerwald.	Dennisville, N. J.	148
180	Howard F. Mintz.	Dividing Creek, N. J.	9
181	Samuel K. Moore.	Fairton, N. J.	22
182			
183			
184	Charles G. McClain.	Leesburg, N. J.	19
185	Ernest L. and Elmer D. Mulford.	Cedarville and Bridgeton, N. J.	187
186	Ephraim Mulford Est.	Bridgeton, N. J.	14
187	Mahlin Mulford.	Fairton.	17
188	Adrain B. Newcomb.	Newport, N. J.	70
189	Olin W. Newcomb.	Port Norris, N. J.	30
190	William B. Newcomb.	Newport, N. J.	31
191	Fayette L. Newcomb.	Port Norris, N. J.	34
192	Joseph D. Neal.	Philadelphia, Pa.	605
193	James P. Ray, R. Nieuirk and John T. Hogate.	Camden and Fairton, N. J.	133
194	James P. and Ray R. Nieuirk.	Camden, N. J.	62
195	Lewis B. Newcomb.	Cedarville, N. J.	28
196	Theophilus Newcomb.	Port Norris, N. J.	43
197	Peter F. Newcomb.	Newport, N. J.	109
198	George W. C. Newcomb.	Newport, N. J.	30
199			

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
200	Peter F. and George W. C. Neu- comb.	Newport, N. J.	38
201			
202			
203	Leslie M. Ogden.	Cedarville, N. J.	150
204			
205	John H. Orr.	Dividing Creek, N. J.	38
206	Mark L. Orr.	Dividing Creek, N. J.	14
207	Mark L. Orr and Sophia Mintz.	Dividing Creek, N. J.	23
208	Jeremiah N. Ogden.	Bridgeton, N. J.	28
209	William M. Peace.	Port Norris, N. J.	70
210	James Peterson and Timothy Bateman.	Port Norris, N. J.	159
211	James Peterson.	Port Norris, N. J.	7
212	John Pierce and R. H. Pennell.	Dorchester, N. J.	42
213	William H. Pierce.	Dorchester, N. J.	12
214	Amos and Jacob Pepper.	Port Norris and Dividing Creek, N. J.	62
215	Zebulon Polhamus.	Leesburg, N. J.	60
216	George C. Peterson.	Newport, N. J.	78
217	Joseph G. Polhamus and George Stewman.	Vineland and Dorchester N. J.	46
218			
219			
220			
221	Clarence M. Robbins and Ralph Sheppard.	Port Norris and Bivale, N. J.	25
222	Henry S. Robbins.	Port Norris, N. J.	352
223	Mary S. Robbins.	Port Norris, N. J.	54
224	Levi Robbins.	Port Norris, N. J.	64
225	Levi Robbins and Edward C. Robbins.	Port Norris and Haleyville, N. J.	76
226	Edward C. Robbins.	Haleyville, N. J.	37
227	David Robbins, Sr.	Port Norris, N. J.	187
228	David Robbins, Jr.	Port Norris, N. J.	58
229	George Robbins.	Port Norris, N. J.	116
230	Clarence M. Robbins.	Port Norris, N. J.	112
231	D. O. Taylor.	Port Norris, N. J.	24
232	Sheppard Robbins.	Port Norris, N. J.	74
233	William G. Robinson.	Dividing Creek, N. J.	3
234	Walter C. Riffin.	Port Norris, N. J.	34
235			
236	Daniel T. Robbins.	Port Norris, N. J.	9
237	Silas Robinson, Sr.	Dividing Creek, N. J.	23
238	Edward M. Riffin.	Port Norris, N. J.	110

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
239	Walter C. and Charles Riggan.	Port Norris, N. J.	44
240	Andrew Randolph.	Port Norris, N. J.	21
241	L. Bates Rowley.	Port Norris, N. J.	5
242	David Rahr.	Brickaboro.	57
243	Maurice A. Rogers.	Camden.	332
244	Thomas A. and Maurice A. Rogers.	Camden, N. J.	143
247	Thomas A. and Maurice A. Rogers and John Carey.	Camden, N. J. and Little Creek, Dee.	70
246	Thomas A. Rogers and Somers H. Whilden.	Camden and Mauricetown N. J.	268
247	Benjamin Russell and Howard Compton.	Leesburg, N. J.	37
248	Wilbert Robbins and Warrie H. Snell.	Bridgeton and Port Norris, N. J.	34
249	Henry S. Robbins, Clarence M. Robbins & Sheppard Campbell.	Port Norris and Newport, N. J.	31
250	Job C. Risley.	Pleasantville, N. J.	4
251	Clarence M. Robbins and Sheppard Campbell.	Port Norris and Newport, N. J.	121
252	Howard W. Sockwell.	Port Norris, N. J.	201
253	Harrison Sheppard.	Mauricetown, N. J.	224
254	George Y. Schoch.	Philadelphia, Pa.	56
255	John T. Sharp and George Y. Schoch.	Port Norris, N. J., and Philadelphia, Pa.	54
256	John T. Sharp.	Port Norris, N. J.	18
257	Thomas Simpkins.	Cedarville, N. J.	60
258	Elmer Spencer.	Newport, N. J.	30
259	Edward Shropshire.	Haleyville, N. J.	84
260	John H. Shull.	Newport, N. J.	138
261	Lewis F. Sheppard.	Cedarville, N. J.	129
262	James O. Sheppard Est.	Cedarville, N. J.	45
263	Benjamin W. Simms.	Cedarville, N. J.	44
264	R. D. and S. Ware Sheppard.	Newport, N. J.	102
265	Henry Smith & R. D. Sheppard.	Newport, N. J.	90
266	Mrs. George Shropshire.	Mauricetown, N. J.	10
267	John Sharpless.	Leesburg, N. J.	185
268	Zadok C. Sharp, Sr.	Leesburg, N. J.	31
269	Robert L. Smith.	Leesburg, N. J.	15
270	Zadok C. Sharp, Jr.	Leesburg, N. J.	34
271			
272	Gilbert Stites.	Dividing Creek, N. J.	19
273	Ara C. and Seth S. Smith.	Leesburg, N. J.	53
274	Oliver C. Sheppard.	Newport, N. J.	7
275	Harry Shull.	Newport, N. J.	14

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
276	Edmund Stiles, Jr., and James Boyle.	Port Norris and Millville, N. J.	34
277	Edmund Stiles, Jr., and William B. Newcomb.	Port Norris and Newport, N. J.	13
278	Edmund Stiles, Jr.	Port Norris, N. J.	171
279	Edmund Stiles, Jr., and Frank L. Garrison.	Port Norris and Dividing Creek, N. J.	31
280	Edmund Stiles, Sr., Howard Stites and Geo. Newcomb.	Newport, N. J.	192
281	Edmund Stiles, Sr., and Howard Stites.	Newport, N. J.	18
282	Bolton A. Shull.	Dividing Creek, N. J.	6
283			
284	Samuel B. Shull.	Dividing Creek, N. J.	5
285	George N. Terry.	Dividing Creek, N. J.	27
286	George N. Terry and Wm. Veal.	Dividing Creek, N. J.	97
287	James A. Turner, Jr.	Newport, N. J.	17
288	Mary Turner.	Newport, N. J.	16
289	Lemuel H. Turner.	Dividing Creek, N. J.	8
290	Leaming Turner.	Dividing Creek, N. J.	32
291	Mark Townsend.	Port Norris, N. J.	141
292	Stacy Townsend.	Leesburg, N. J.	19
293	Charles Tozour and W. Linwood Foster.	Delmont, N. J.	35
294	Oscar L. Tubman.	Dividing Creek, N. J.	9
295	Charles Tozour.	Delmont, N. J.	6
296			
297	William A. Vail and Geo. Y. Schoch.	Bridgeton, N. J., and Philadelphia, Pa.	277
298	Moses Veal.	Dividing Creek, N. J.	11
299	William Veal & Beriah Loper.	Dividing Creek, N. J.	176
300			
301			
302	Henry Wallen and James A. Whitaker.	Fairton, N. J.	260
303	George W. Westcott and James W. Trenchard.	Fairton and Bridgeton, N. J.	113
304	John H. Whilden and H. O. Elmer.	Fairton, N. J.	72
305	John H. Whilden.	Fairton, N. J.	14
306	Wilmon Ware.	Newport, N. J.	16
307	Somers H. Whilden.	Mauricetown, N. J.	32
308	Arthur Windfohr.	Bivalve, N. J.	23
309	Oliver B. Webb.	Port Norris, N. J.	9
310	Mcroe Wallen.	Rosenhayn, N. J.	5

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
311	—	—	—
312	John Yates, Lucius E. Yates William Peterson	Port Norris, N. J.	104
313	Lucius E. Yates	Port Norris, N. J.	259
314	Lucius E. Yates, Silas Hoffman and Sheppard Robbins	Port Norris, N. J.	173
315	Lucius E. Yates and Harrison Sheppard	Port Norris and Mauricetown N. J.	20
316	—	—	—
317	—	—	—
318	—	—	—
319	—	—	—
320	—	—	—
321	—	—	—
322	David S. Swank	Bivale, N. J.	8
323	George Shaw	Dorchester, N. J.	10

OYSTER BED LEASES.

Leases for Atlantic County.

Number	LESSEE.	RESIDENCE.	Acreage
119	Mabel Conover	Atlantic City, N. J.	7.04
115	Samuel Giberson	Absecon, City, N. J.	5.17
117	Charles F. Hammell	Absecon City, N. J.	2.00
118	Richard Giberson	Absecon City, N. J.	1.30
116	Anna G. Conover	Oceanville, N. J.	2.41
120	Fred Willetts	Brigantine City, N. J.	3.71
122	J. Everet Riley	Brigantine City, N. J.	1.14
121	Thos. D. Giberson	Leeds Point, N. J.	6.37
123	W. C. N. Leeds	Brigantine City, N. J.	6.67
124	Wm. Holdzkam	Brigantine City, N. J.	1.48
129	Albert F. Cramer	Atlantic City, N. J.	1.00
151	M. V. B. Scull	Atlantic City, N. J.	3.00
125	Augustus Bowen	Atlantic City, N. J.	0.45
126	Bartine Bowen	Leeds Point, N. J.	0.80
138	Leon Headley	Leeds Point, N. J.	0.45
127	Oscar J. Bowen	Leeds Point, N. J.	4.75
137	H. S. Higbee and C. G. Conover	Oceanville, N. J.	3.00
149	E. M. Sooy	—	0.58
135	B. Frank Headley	Tuckerton, N. J.	1.95
147	Eli Mathis	New Gretna, N. J.	1.47
146	Pitman Mathis	New Gretna, N. J.	1.03
145	Edward Mathis	New Gretna	2.13
148	L. D. Robbins	New Gretna, N. J.	1.06
144	Alvin Mathis	New Gretna, N. J.	1.57
142	Reuben Loveland	New Gretna, N. J.	3.75
136	Parker C. Headley	Tuckerton, N. J.	1.45
140	Robert K. Leeds	Leeds Point, N. J.	0.86
130	Job M. Higbee	Leeds Point, N. J.	3.54
131	Allen C. Higbee	Leeds Point, N. J.	3.67
139	Chas. Jacobson	Oceanville, N. J.	1.10
128	Roland A. Conover	Oceanville, N. J.	1.50
150	Joel Steelman	Absecon, N. J.	3.90
133	Absalom Higbee	Leeds Point, N. J.	1.47
134	Somers T. Higbee	Leeds Point, N. J.	2.14
141	Charles A. Leeds	Leeds Point, N. J.	3.13
143	John F. Mathis	Leeds Point, N. J.	6.59
132	John G. Higbee	Leeds Point, N. J.	10.00
160	John H. Somers	Oceanville, N. J.	0.59
159	Robert W. Scott	Leeds Point, N. J.	10.00
161	J. Walker Tilton	Atlantic City, N. J.	2.54
154	Gilbert Conover	Absecon City, N. J.	10.00
157	John A. Patchell	Scullville, N. J.	6.00
155	James W. Higbee	Leeds Point, N. J.	10.00
152	J. Clark Bowen	Leeds Point, N. J.	5.92
153	Willis R. Conover	Oceanville, N. J.	1.14

OYSTER BED LEASES.

Leases for Atlantic County—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
156	George Mathews.	Oceanville, N. J.	7.47
158	Thomas B. Scull.	Leeds Point, N. J.	3.49
162	Enoch Conover.	Oceanville, N. J.	1.13
165	Micajah H. Conover.	Absecon City, N. J.	5.40
164	Leon Conover.	Absecon, N. J.	2.48
168	Daniel C. Cordery.	Oceanville, N. J.	2.87
167	Daniel E. Conover.	Absecon, N. J.	7.90
163	Caleb B. Mathis, Jr.	Pleasantville, N. J.	2.70
166	Joseph S. Smith.	Absecon, N. J.	2.42
169	P. Harlan Boice.	Absecon, N. J.	7.50
170	Enoch W. Giberson.	Absecon, N. J.	4.82
171	D. L. Mathews.	Oceanville, N. J.	5.07
172	Edward Leeds.	Oceanville, N. J.	3.39
173	Benjamin L. Somers.	Oceanville, N. J.	0.86
174	F. Fraley Doughty.	Absecon, N. J.	3.70
175	Alfred B. Smith.	Brigantine City, N. J.	3.24
176	B. F. Doughty.	Atlantic City, N. J.	0.47
181	Dennis Garrison.	Scullville, N. J.	3.11
180	Joseph Severn.	Brigantine City, N. J.	0.83
177	Samuel E. Holdykorn.	Brigantine City, N. J.	3.06
178	Wm. A. Hammell.	Absecon City, N. J.	7.95
179	Daniel Doughty.	Oceanville, N. J.	0.81
183	Ezra Doughty.	Oceanville, N. J.	1.79
182	Edward C. Doughty.	Oceanville, N. J.	0.81
186	J. Frank Smith.	Oceanville, N. J.	2.18
185	Wm. J. Smith.	Oceanville, N. J.	4.74
184	Edwin Smith.	Oceanville, N. J.	1.57
187	Thomas J. Gaskill.	New Gretna, N. J.	1.35
188	John W. Darby.	New Gretna, N. J.	2.09
189	Arnold and Caleb Cramer.	New Gretna, N. J.	0.53
190	Albert F. Cramer.	New Gretna, N. J.	1.97
191	Andrew Jeffries.	Steelmanville, N. J.	8.82
192	Richard S. Jeffries.	Steelmanville, N. J.	1.92
193	Leon Somers.	Somers Point, N. J.	8.71
194	B. T. Adkinson.	Absecon, N. J.	7.64
27	John Collins.	Pleasantville, N. J.	9.49
16	Jeremiah Powers.	Linwood, N. J.	3.00
89	Alfred S. Scull.	Linwood, N. J.	1.07
195	David Dougherty.	Oceanville, N. J.	0.73
196	Benjamin Chew.	New Gretna, N. J.	1.41
4	David T. Smith.	Scullville, N. J.	6.12
38	Charles Fairbrothers.	Pleasantville, N. J.	4.25
5	Abel W. Smith.	Scullville, N. J.	8.94
3	Japhet S. Smith.	Scullville, N. J.	4.97
12	H. Seymour McKeagar.	Scullville, N. J.	4.88

OYSTER BED LEASES.

Leases for Atlantic County—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
7	Jackson Somers.	Scullville, N. J.	2.50
11	Chas. H. Steelman.	Scullville, N. J.	2.00
6	Aaron R. Smith.	Scullville, N. J.	4.80
8	Boice Somers.	Scullville, N. J.	3.75
2	John H. Smith.	Scullville, N. J.	7.85
10	Elijah Scull.	Scullville, N. J.	6.43
197	Leeds & Blackman.	Oceanville, N. J.	3.51
15	E. M. Powers.	Linwood, N. J.	1.88
30	Harry Collins.	Smith's Landing, N. J.	9.73
31	Louisa Collins.	Smith's Landing, N. J.	3.95
193	Leon Somers.	Somers Point, N. J.	8.71
75	Daniel C. Stebbins.	Pleasantville, N. J.	4.72
107	Willis W. Reed.	Oceanville, N. J.	1.59
79	Thompson Smith.	Smith's Landing, N. J.	2.50
198	Chas. P. Hammell.	Absecon City, N. J.	8.08
199	Elnora M. Hammell.	Absecon City, N. J.	3.07
43	Edward Hoobon.	Pleasantville, N. J.	2.83
67	Job C. Risley.	Pleasantville, N. J.	3.80
71	Harry C. Risley.	Pleasantville, N. J.	6.61
63	Herman Risley.	Pleasantville, N. J.	9.20
68	Curtis Risley.	Pleasantville, N. J.	4.74
48	Willis Hooton.	Pleasantville, N. J.	2.16
51	Albert P. Lake.	Pleasantville, N. J.	5.72
200	John B. Scull.	Linwood, N. J.	0.80
55	Wm. S. Mitchell.	Smith's Landing, N. J.	4.42
17	James S. Somers.	Linwood, N. J.	5.52
9	Somers and Dennis.	Scullville, N. J.	2.12
44	Charles M. Hooton.	Pleasantville, N. J.	7.12
14	Sylvester Somers.	Scullville, N. J.	4.12
64	Ephraim Risley.	Pleasantville, N. J.	5.33
32	Burris Dennis.	Scullville, N. J.	6.25
34	Henry and Chas. Dennis.	Scullville, N. J.	2.40
35	Henry Dennis.	Scullville, N. J.	2.57
23	Samuel G. Bowen.	Pleasantville, N. J.	8.63
207	Thomas Bowen.	Pleasantville, N. J.	3.25
208	Frank Steelman.	Somers Point, N. J.	5.24
200	John B. Scull.	Linwood, N. J. (Increase.)	2.00
40	Richard Garwood.	Pleasantville, N. J.	5.12
22	Frank Bartlett.	Pleasantville, N. J.	1.74
28	Isaac Collins.	Pleasantville, N. J.	10.00
201	Almira Collins.	Pleasantville, N. J.	1.75
33	Chas. B. Dennis.	Scullville, N. J.	2.54
66	Richard I. Risley.	Pleasantville, N. J.	8.00
65	Harry M. Risley.	Pleasantville, N. J.	5.04
88	Sylvia B. Risley.	Pleasantville, N. J.	1.00

OYSTER BED LEASES.

Leases for Atlantic County—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
62	Edward P. Risley.....	Northfield City, N. J.....	6.70
1	Theodore Smith.....	Scullville, N. J.....	8.18
80	Burriss Collins.....	Pleasantville, N. J.....	5.46
204	Isaac Adams.....	Pleasantville, N. J.....	4.31
206	Elwood Bowen.....	Pleasantville, N. J.....	5.65
209	Alfred S. Adams.....	Pleasantville, N. J.....	2.12
210	James L. Mathews.....	Oceanville, N. J.....	3.47
49	Morris A. Ingersoll.....	Pleasantville, N. J.....	2.93
36	Alexander Fish.....	Pleasantville, N. J.....	8.09
148	L. D. Robbins.....	New Gretna, N. J.....	1.06
211	Wm. B. Landenslayer.....	Ventnox City, N. J.....	2.70
145	D. Edward Mathis.....	New Gretna, N. J.....	2.13
76	Samuel B. Sooy.....	Pleasantville, N. J.....	8.25
77	Elphra S. Sooy.....	Pleasantville, N. J.....	10.00
78	Nancy B. Sooy.....	Pleasantville, N. J.....	8.00
21	John C. Albertson.....	Pleasantville, N. J.....	1.33
136	Parker C. Headley.....	Tuckerton, N. J.....	1.45
202	Ellis Adams.....	Pleasantville, N. J.....	3.68
203	Charles Adams.....	Pleasantville, N. J.....	5.00
24	Somers L. Bowen.....	Pleasantville, N. J.....	8.60
41	John M. Hilton.....	Pleasantville, N. J.....	8.66
212	Thos. D. Higbee and Jesse Leeds.....	Leeds Point, N. J.....	4.92
142	Reuben A. Loveland.....	New Gretna, N. J.....	3.75
213	H. A. Giberson & D. K. Smith.....	Leeds Point, N. J.....	4.74
117	Charles F. Hammell.....	Absecon, N. J.....	2.00
152	J. Clark Bowen.....	Leeds Point, N. J.....	5.92
158	Thomas B. Scull.....	Leeds Point, N. J.....	3.49
39	Lewis Fairbrothers.....	Pleasantville, N. J.....	5.00
100	Harry P. Holdykom.....	Brigantine City, N. J.....	1.92
146	Pitman Mathis.....	New Gretna, N. J.....	1.03
147	Eli Mathis.....	New Gretna, N. J.....	2.15
135	B. Frank Headly.....	Tuckerton, N. J.....	1.95
124	Wm. Holdzkom.....	Brigantine City, N. J.....	1.48
150	Joel Steelman.....	Absecon, N. J.....	3.90
18	Richard J. Somers.....	Linwood, N. J.....	9.86
56	Wm. A. Mathis.....	Pleasantville, N. J.....	10.00
57	Ella Mathis.....	Pleasantville, N. J.....	10.00
58	Gilbert Mathis.....	Pleasantville, N. J.....	9.82
29	John H. Collins.....	Pleasantville, N. J.....	10.00
37	William Fish.....	Pleasantville, N. J.....	9.14
126	Bartine Bowen.....	Leeds Point, N. J.....	3.00
137	H. S. Higbee & C. G. Conover.....	Oceanville, N. J.....	3.00
166	Joseph S. Smith.....	Absecon, N. J.....	2.42
52	Henry Lake.....	Pleasantville, N. J.....	7.31

OYSTER BED LEASES.

Leases for Delaware Bay—Continued.

Number	LESSEE.	RESIDENCE.	Acreage
45	Howard Horton.....	Pleasantville, N. J.....	1.92
174	F. Fraley Doughty.....	Absecon, N. J.....	3.70
25	Hugh Collins.....	Pleasantville, N. J.....	8.69
26	Kate B. Collins.....	Pleasantville.....	7.72
123	Warren C. N. Leeds.....	Brigantine City, N. J.....	6.67
175	Alfred B. Smith.....	Brigantine City, N. J.....	3.24
97	John R. Baremore.....	Brigantine City, N. J.....	1.33
122	J. Everet Riley.....	Brigantine City, N. J.....	1.14
120	Fred W. Willets.....	Brigantine City, N. J.....	3.71
98	Edward Holdzkom.....	Brigantine City, N. J.....	4.24
205	Frank E. Adams.....	Pleasantville, N. J.....	10.00
128	Roland A. Conover.....	Oceanville, N. J.....	1.50
139	Charles Jacobson.....	Oceanville, N. J.....	1.10
214	Thomas E. Brown.....	Atlantic City, N. J.....	0.81
186	J. Frank Smith.....	Brigantine City, N. J.....	2.18
215	Samuel Price.....	Pleasantville, N. J.....	3.63
141	Charles A. Leeds.....	Leeds Point, N. J.....	3.13

OYSTER BED LEASES.

Leases for Ocean County.

*Star indicates that lot has not been surveyed.

NAME	RESIDENCE	NUMBER	Acreage
T. J. Allen	Tuckerton	25-13-14	8
Joseph B. Allen	Tuckerton	8-79	12
Joseph B. Allen, Jr.	Tuckerton	30	2
Walter S. Allen	Tuckerton	9-321-325	20
Elmer Adams	Port Republic	43	11
John Abbott	Port Republic	84	11
G. Adams & E. K. Allen	New Gretna	67	3
Walter S. Allen and S. B. Allen	New Gretna	79-75-76-137	9
Uriah Allen	New Gretna	39-143	4
Ernest G. Adams	New Gretna	68	2
Thomas A. Allen	New Gretna	90-81	4
John Allen	New Gretna	34-33-69	8
Chas. H. Allen	New Gretna	116-114-74	11
Chas. Arnold Allen	New Gretna	115	4
Samuel S. Anderson	Tuckerton	322-476-338-397	22
Thomas Allen	Tuckerton	27-37	6
F. R. Austin	Tuckerton	483-48	4
John Adams	New Gretna	105-106	16
James H. Allen	New Gretna	135	2
Arnold Allen	New Gretna	134	4
Caleb F. Allen	New Gretna	72	2
Edward Allen	New Gretna	19	2
Samuel B. Allen	New Gretna	148	3
Chester Allen	New Gretna	144	2
Wm. Abbott	Manahawken	707-750-445	18
Ezra P. Bowen	West Creek	90-153-165-285-197*	16
E. Porter Bowen	Tuckerton	419	3
Charles Bartlett	West Creek	76-94-298	9
Josiah Bennett	Tuckerton	426	2
Henry Bates	Port Republic	103	15
R. S. Bogan	Tuckerton	113-122-22-23	38
Samuel Bailey	Toms River	16	6
R. N. Bunnell	Toms River	36	7
Anthony Bowker	Barnegat	64	7
William Bowker	Barnegat	2-12-21	7
Fred Bohr	Barnegat	39	2
Alexander Brinley	Lanoka	27	8
C. W. C. Bunnell	Bayville	12	13
Thomas Birdsall	Barnegat	1-59	6
Annie Bogan	Tuckerton	120	9
Wm. I. Brown	Tuckerton	420*	7
James D. Brown	Tuckerton	308	6
E. M. Berry	Tuckerton	406-405	5
A. R. Bartlett	Tuckerton	491	4

OYSTER BED LEASES.

Leases for Ocean County--Continued.

*Star indicates that lot has not been surveyed.

NAME	RESIDENCE	NUMBER	Acreage
Burton Bros.	Tuckerton	*-298-481-454	1
Berry Brown	Tuckerton	466	2
Alonzo Cobb & Sons	Staffordville	160	3
Oliver Cramer	West Creek	42-501-17	6
C. H. & N. B. Cox	West Creek	105	2
C. R. Cox & Sons	West Creek	129	2
Geo. M. Cox	West Creek	282-181-9	8
Oscar C. Cramer	West Creek	151-170-139	8
Albert S. Cramer	West Creek	102	2
Samuel R. Cramer	West Creek	60-199	8
James A. Cramer	Staffordville	208-221	13
Wm. E. Cox	West Creek	128-166-176-178-79	10
Samuel B. Conklin	Cedar Run	44-22-22 1/2	7
Lewis A. Cramer	Cedar Run	29	6
J. Ashbrook Cramer	Cedar Run	3-31	10
Howard Cramer	Cedar Run	53-8	12
Lewis A. Conklin	Cedar Run	46-23	6
Walter H. Cramer	Cedar Run	11-51-10 1/2	8
Nehemiah Conklin	Cedar Run	20	6
Jonathan M. Cobb	Cedar Run	4-43	6
Cox Bros. & Leigh	West Creek	546	15
Thomas Cramer	Cedar Run	24	8
Gilbert Cavileer	Port Republic	121	3
Benj. Chew	New Gretna	3-4-5-117	8
Daniel D. Cramer	New Gretna	133-2-138	20
Filmore Cavileer	Port Republic	42	2
Caleb S. Cramer & Sons	New Gretna	80-94	7
Caleb Cramer, Jr.	New Gretna	60	5
Lemuel Cramer	New Gretna	48	3
William H. Chew	New Gretna	1	3
Alexander Chandler	Barnegat	7	2
A. E. Cramer	Barnegat	7-43	5
Chas. Cox	Barnegat	53	2
James Cox	Barnegat	30	3
M. V. Clayton	Barnegat	19	2
Raymond Chadwick	Barnegat	*	2
Henry Cowperthwaite	West Creek	189-190-246-287	21
E. F. Cramer	West Creek	83	2
Chas. C. Cramer	New Gretna	129	5
William and Harry Cox	Tuckerton	470-473	11
John O. & Jonathan Cox	West Creek	142	4
William Carhart	Tuckerton	*	2
S. G. Conklin	Cedar Run	41	5
Samuel Budd Cramer	Cedar Run	37-45	8
C. S. Cramer	New Gretna	128	4

OYSTER BED LEASES.

Leases for Ocean County--Continued.

*Star indicates that lot has not been surveyed.

NAME	RESIDENCE	NUMBER	Acreage
Joseph Cummings.....	Parkertown.....	**	4
William E. Cramer.....	Manahawken.....	38	14
C. S. Cramer.....	New Gretna.....	*	3
Thomas Cramer.....	Manahawken.....	465	20
Amariah Conklin.....	Cedar Run.....	34½	3
Robert Conklin.....	Cedar Run.....	34½	2
Eugene Cummings.....	Parkertown.....	*	2
Mathias L. Cramer.....	Mayetta.....	9-12	7
C. Harry Cramer.....	New Gretna.....	139	2
James H. Cramer.....	Manahawken.....	721*	6
Joseph Budd Cramer.....	Manahawken.....	722-726-718-702	11
Reuben Driscoll.....	Tuckerton.....	402-447	4
J. W. Darby.....	New Gretna.....	66-28-29	9
Lemuel Dorthiday.....	Barnegat.....	2-47	10
Houston Driscoll.....	Tuckerton.....	446	6
Harry Driscoll.....	Tuckerton.....	404	2
Sadoc Estlow.....	Barnegat.....	5-6	12
Benj. Everham.....	Toms River.....	38-35	28
Alfonzo Eayres.....	Barnegat.....	*	2
Allen Fennimore.....	West Creek.....	138-111-54-502	9
Allen Fennimore and Oliver Cramer.....	West Creek.....	120	2
Horace Fiske.....	Tuckerton.....	126	9
Lewis M. French.....	Port Republic.....	127	7
Abram Fort.....	Barnegat.....	36	2
Charles S. Falkinburg.....	Tuckerton.....	389	2
E. J. Gaskill.....	New Gretna.....	56-64-53	10
John A. Grery.....	New Gretna.....	17-130	4
C. F. Allen & J. A. Grery	New Gretna.....	11-12	7
Wm. H. Gale.....	Tuckerton.....	102	2
S. T. Grant.....	Bayville.....	30	21
Nelson Grant.....	Bayville.....	33	6
John Grant.....	Bayville.....	33	6
John Grant.....	Bayville.....	20	13
Jesse Grant.....	Bayville.....	20	13
Wm. F. Gaskill.....	Tuckerton.....	346	6
Carlisle Gaskill.....	New Gretna.....	61	5
Harvey E. Gale.....	Tuckerton.....	333-311-348	16
Eugene Garrison.....	Tuckerton.....	332*	8
Jesse Gaskill.....	New Gretna.....	131	2
Thomas Gaskill.....	Tuckerton.....	340	12
Joseph P. Haywood.....	West Creek.....	179-173-414-204-292	15
Frank Homan.....	West Creek.....	58-154-185	6
Samuel Higbee.....	Port Republic.....	45-104	22
Nelson Hewitt.....	Port Republic.....	44	2

OYSTER BED LEASES.

Leases for Ocean County--Continued.

*Star indicates that lot has not been surveyed.

NAME	RESIDENCE	NUMBER	Acreage
James A. Hewitt.....	Port Republic.....	*	2
Chas. Huntley.....	Port Republic.....	*-46	4
Parker C. Headley.....	Tuckerton.....	78	2
B. F. Headley.....	New Gretna.....	71	2
Geo. Hollingsworth.....	Barnegat.....	41-76-46-63-10-22-27-10	88
Samuel Horner.....	Tuckerton.....	99	4
Charles A. Horner.....	West Creek.....	117-206½	7
Somers T. Higbee.....	Leeds Point.....	*	6
S. J. Hicks.....	Tuckerton.....	451-342-350	24
Edward A. Horner, Sr.....	Tuckerton.....	*	2
Horner & Jones.....	Tuckerton.....	354-339	15
Samuel C. Headley.....	Tuckerton.....	448-427	5
B. F. Homan.....	Parkertown.....	*	3
Atmore Homan.....	Parkertown.....	*	2
Walter Headley.....	Tuckerton.....	32	2
Edward Heinrich.....	Tuckerton.....	455	2
Estate of Vincent Inman.....	Barnegat.....	5-28	8
Stephen Inman.....	Barnegat.....	11-38	4
Mahlon Ireland.....	Tuckerton.....	*	2
Lewis Inman.....	Manahawken.....	743	2
A. H. Jones.....	West Creek.....	126-124-91-393	12
Abram J. Jones.....	West Creek.....	122-89	4
John F. Jones.....	West Creek.....	284-1	27 6
Isaiah Johnson.....	West Creek.....	193	2
W. S. Jones.....	West Creek.....	464-494	11
Jos. H. Jones.....	Tuckerton.....	343	2
T. C. Kelley & Son.....	West Creek.....	283-242-237-174-207	32
C. D. Kelley.....	West Creek.....	177-100-104-92	65
Hugh F. Kelley.....	West Creek.....	300-137-143-163-463	12
Alexis Kelley & Son.....	West Creek.....	132-212-87-188-500-520	28
T. C. Kelley.....	West Creek.....	998-72-118-133	18
Wm. Kelley.....	West Creek.....	164-172-293	2
James E. Kelley.....	West Creek.....	210-240	134
Cornelius Kelley.....	West Creek.....	93-86-289	10
Mannus Kelley.....	West Creek.....	103-206	6
Mrs. Lizzie Kelley.....	West Creek.....	69-297	10
J. Harvey Kelley.....	West Creek.....	241	2
John King.....	Barnegat.....	123-136-171	8
Myles Kelley.....	West Creek.....	4	3
J. Henry Kelley.....	West Creek.....	281-135-140	8
Eugene Kelley.....	West Creek.....	70	2
James W. Kelley.....	Tuckerton.....	275	10
Joel W. Lamson.....	Cedar Run.....	436	6
		5	3

OYSTER BED LEASES.

Leases for Ocean County--Continued.

*Star indicates that lot has not been surveyed.

NAME	RESIDENCE	NUMBER	Acreage
Joseph A. Loveland.	New Gretna.	49-142	9
Risley Leeds.	Leeds Point.	40	3
Mrs. A. J. Leigh.	West Creek.	129½	2
Jesse I. Loveland.	New Gretna.	92	3
Benj. Loveland.	New Gretna.	52	5
Ellis Loveland.	New Gretna.	22	9
William Lippincott.	Tuckerton.	480	3
Bradford Lumunyon.	West Creek.	64	2
Jesse A. Loveland.	New Gretna.	141-54	6
William T. Loveland.	New Gretna.	136	4
Ensign Miller.	West Creek.	80	2
Eli Mathis.	New Gretna.	18	2
Pitman Mathis.	New Gretna.	19	2
N. C. & C. Mathis.	New Gretna.	55	7
Frank Mathis.	Leeds Point.	10-111-112	24
Maja C. Mathis.	New Gretna.	147	3
Alvin E. Mathis.	New Gretna.	73-82	4
Walter R. Mathis.	New Gretna.	95-96	4
Joseph A. Mathis.	New Gretna.	50-16	5
Daniel E. Mathis.	New Gretna.	91-*	6
William H. Mathis.	New Gretna.	15-70	7
Joel Mott.	Tuckerton.	109-110-123*	6
Caleb A. Mathis.	New Gretna.	125-*	7
John Mills.	Barnegat.	62	6
James T. Mills.	Barnegat.	13	7
Joseph Marshall.	Tuckerton.	381	3
William A. Mathis.	Tuckerton.	453	5
Solomon Marshall.	Tuckerton.	429	8
William R. McDaniels.	Tuckerton.	486-452	12
Geo. and James Marshall.	Tuckerton.	433	7
Geo. L. Marshall.	Tuckerton.	434	3
James Marshall.	Tuckerton.	307-318	9
Noah Marshall.	Tuckerton.	432	5
William A. Morris.	Tuckerton.	326-472*	9
Lewis L. and Harry V. Mathis.	New Gretna.	58	6
Harry V. Mathis.	New Gretna.	*	2
William Mathis.	Tuckerton.	443	2
Harry Marshall.	Beach Haven.	313	8
John McAnney.	New Gretna.	132	2
Humphrey Martin.	Manahawken.	706	15
Marshall Bros.	Tuckerton.	*	2
Frank Pharo.	West Creek.	81-255	6
Oscar Parker.	West Creek.	152-167-251	17
Aaron Pharo.	West Creek.	234-73	5

OYSTER BED LEASES.

Leases for Ocean County--Continued.

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NAME	RESIDENCE	NUMBER	Acreage
William Pitt.	West Creek.	100-168	4
William H. Potter.	West Creek.	126-157-198-217	20
Samuel Perrine.	Barnegat.	31-32-50-29	13
W. Peterson.	Barnegat.	40	2
J. W. Parker & Bros.	Tuckerton.	492-428-435***	29
Watson L. Pharo.	West Creek.	256-196	7
Samuel B. Parker.	Tuckerton.	*-396-395	13
Barzilla Pullen.	Tuckerton.	417-479-418-478-441	12
Charles K. Bullen.	Tuckerton.	416	2
Nelson Parker.	Parkertown.	243-227	4
Norris Parker.	Parkertown.	*	2
Norwood Parker.	Parkertown.	*	2
Charles Parker.	Tuckerton.	387-493	7
William L. Paul.	Manahawken.	*	4
Geo. Quinn.	Tuckerton.	393-347-*	11
Benj. Riley.	Tuckerton.	421	2
J. W. Rutter and J. S. Kelley.	West Creek.	169	3
John W. Rutter.	West Creek.	232	2
Harper Rulon.	West Creek.	201-159-75-291	14
Haywood & Rutter.	West Creek.	63-97	5
J. P. Haywood and R. F. Rutter.	West Creek.	62-244	5
R. F. Rutter.	West Creek.	203-183-175-191	19
Chas. Robbins.	New Gretna.	35-36-65-86-87	12
L. D. Robbins.	New Gretna.	89-93-118	6
Jos. K. Ridgway.	Barnegat.	14-19-121-111	15
Oscar Ridgway.	Barnegat.	1-13-3	11
T. H. Rutter.	Barnegat.	44-58	12
Holmes Russell.	Barnegat.	34-37-54	8
Clarence Russell.	Barnegat.	23	2
William Robbins.	Barnegat.	42	2
Edward Ridgway.	Barnegat.	48-45-20	8
William Ridgway.	Barnegat.	8	2
Anson J. Rider & Sons.	Tuckerton.	422-424-442-412-465	25.
John A. Shinn.	West Creek.	218-228-231-200-119	26
Ezra Stiles & Co.	Tuckerton.	150 392-403-408-335	33
James Stiles, Jr.	Tuckerton.	413-425-407-431	2
Clarence Seaman.	West Creek.	415	9
William P. Seaman.	West Creek.	145-162-82-265	7
Hazelton Seaman.	West Creek.	65-107-88	12
Geo. A. Seamon.	West Creek.	106-141-146-155-213	21
Reuben Sprague.	West Creek.	84-144-156-239	2
		77	2

OYSTER BED LEASES.

Leases for Ocean County--Continued.

*Star indicates that lot has not been surveyed.

NAME	RESIDENCE	NUMBER	Acreage
Philip R. Sprague.	West Creek	205-101-131-182	8
Henry Sprague.	West Creek	71	2
W. S. Seaman.	West Creek	67-96-187-301	8
Abram B. Salmons.	Staffordville.	458½	2
Harry S. Shinn.	West Creek	209-220-161-278	26
Samuel E. Shinn.	West Creek	222-148-236-229	14
Charles S. Shinn.	Moorestown.	245-230-235-279-219	24
J. E. Snapp.	Tuckerton.	114-214-233-74-224*	43
Alexis Stiles.	Tuckerton	482-487-334	8
Edward Stiles.	Tuckerton	489-324-475	12
Elias Stiles.	Tuckerton	467	10
Joseph and Hazelton Seaman.	West Creek	388	2
Edwin B. Sprague.	Staffordville.	336	2
Norris Sears.	New Gretna.	66	2
Jerry Sprague.	Beach Haven.	40	9
Joel J. Salmons.	Staffordville.	47	2
John L. Salmons.	Staffordville.	454½	2
William Stiles.	Tuckerton	457½	2
Smith Bros.	Tuckerton	*	2
Jos. P. Smith.	Tuckerton	444	3
Josephus Seaman.	West Creek	344	4
Samuel R. Sawyer.	Tuckerton	247	4
H. W. Sapp.	Tuckerton	356	6
David Stiles.	West Creek	457-312-474	48
James H. Speck & Bro.	Tuckerton	337-394-309	15
William Speck.	Tuckerton	6-7-46-317	110
James H. Speck.	Tuckerton	20	10
Wm. Stiles, Samuel and Geo. Horner.	Tuckerton	21	10
William Sears.	Tuckerton	107-98-101-100	12
Thomas Shinn.	West Creek	499	5
John F. Sprague.	West Creek	146	4
Frank & John Sprague.	West Creek	238-125	2
Frank Sprague.	West Creek	180	2
Alfred Shinn.	West Creek	78	4
George Salmons.	West Creek	62-85	2
Joel J. Salmons.	Staffordville.	158	4
Otto Salmons.	Staffordville.	452	4
Daniel T. Sooy, Sr.	New Gretna.	52	3
Joseph Sawyer.	Tuckerton	455½	17
Charles Soper.	Barnegat	24-59-119	20
		323	13
		9-51-33-56-57	

OYSTER BED LEASES.

Leases for Ocean County--Continued.

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NAME	RESIDENCE	NUMBER	Acreage
Henry Soper.	Barnegat	60	3
Samuel J. Smith & Sons	Tuckerton	345	8
John Spragg & Sons.	Tuckerton	409-438	9
Albert Sprague.	Tuckerton	471-437	8
Philip Sprague.	Tuckerton	430-439-410-498	23
Herbert Stiles.	Tuckerton	331	7
Henry P. Smith.	Tuckerton	445-447	5
Joel H. Sprague.	Peach Haven.	386	4
William D. Sprague.	West Creek	59	2
Willitts Stiles.	Tuckerton	351-336½	24
Walter L. Sapp.	Tuckerton	314-315-490	17
Charles Tilton.	Toms River.	2	6
Edward Thibault.	Barnegat	65	5
Mrs. Georgianna Taylor.	Bayville	17	5
Reuben Tilton.	Lanoka	18	5
Edward Taylor.	Barnegat	4	2
John H. Wilson.	Port Republic	41	4
Amasa Wilson.	Port Republic	*	2
David M. White.	Manahawken	*	4
Frank Worth.	Bayville	23	5
Ernest L. Worth.	Bayville	31	5
R. A. Wood.	West Creek	226	2
Walter White.	Tuckerton	351½	4
Charles White.	Tuckerton	327-328-329	27
Frank M. White.	Tuckerton	452½	6
Adelbert White.	Tuckerton	488	4
John Grant.	Bayville	32	10
Benj. Everham.	Toms River	24	8

BOAT LICENSES.

Leases for Raritan Bay.

Number of License	NAME OF BOAT.	MASTER.	Tonnage
1	Power Boat.....	William Mauer.....	7
2
3
4
5
6	Skiff.....	Fred Hammer.....	Tong.
7	Skiff.....	Fred Hammer.....	Tong.
8
9
10
11
12
13
14
15
16

BOAT LICENSES.

Deleware Bay.

Number of License	NAME OF BOAT	MASTER	Tonnage
1	.....	.....	.....
2	Slp. Leroy G.....	Daniel Gaskill.....	Under
3	Schr. E. C. Vannaman.....	Wm. C. Hunter.....	10
4	Slp. Mary Eliza.....	Wm. Land.....	6
5	Schr. E. S. & C. Guzant.....	Stultz Berry.....	22
6	Schr. Falcon.....	Jacob Pepper.....	14
7	Slp. Hattie Jenks.....	S. Kelsey Moore.....	6
8	Schr. Lucy & Willie.....	Wm. L. Henderson.....	9
9	Schr. Rosa Lambert.....	Thomas Moore.....	16
10	Schr. Almedia.....	Joshua Clark.....	12
11	Slp. Hattie S.....	David Swauk.....	Under.
12	Schr. Colombia.....	William Veal.....	13
13	Slp. Shad Skiff.....	Jesse Barrett.....	Under.
14	.....	.....	.....
15	Schr. Richard Vaux.....	Leonard R. Swing.....	16
16	Schr. Jeremiah N. Ogden.....	Edward Newcomb.....	22
18	Slp. Lizzie.....	William Wilson.....	5
19	.....	.....	.....
20	Slp. Oliver Mulford.....	Albert G. Mulford.....	7
21	Schr. Wm. Veale.....	Beriah Loper.....	22
22	Schr. Maggie D.....	Lafayette Bailey.....	5
23	Schr. Mary F. Sheppard.....	Lewis T. Sheppard.....	18
24	Schr. Jay.....	David Wallen.....	11
25	Schr. Maggie S. Myers.....	George Burt.....	14
26	Schr. Emma F. Newcomb.....	Wm. B. Newcomb.....	26
27	Slp. Lizzie May.....	Albert Sharp.....	5
28	Schr. Imp.....	Wm. H. Young.....	5
29	.....	.....	.....
30	Schooner John S. Myers.....	Lewis Westcott.....	15
31	Schr. Jane S. Smith.....	Moses Bateman.....	9
32	Schr. Stanton.....	Wm. Diament.....	12
33	Schr. Julia B.....	Isaac Hickman.....	16
34	Schr. M. D. & Belle Mulford.....	Clement L. Campbell.....	18
35	Schr. Grover Cleveland.....	Elmer Tarburton.....	22
36	Schr. Elvina E. Schoch.....	Robert L. Brand.....	14
37	Schr. T. B. Husted.....	W. S. G. Love.....	17
38	Schr. Beatrice.....	Samuel Errickson.....	20
39	Slp. A. M. Parris.....	Samuel J. Dillahay.....	Under.
40	Schr. Virginia.....	Somers H. Whilden.....	21
41	Slp. Edith B.....	Wm. Moore.....	Under.
43	Schr. Wm. Dennis.....	Wm. Peterson.....	10
44	Slp. Lulu and Bertha.....	Joseph Dorrell.....	7
45	Schr. Peter R. Paynter.....	James Moffett.....	16
46	Slp. Sarah Jane.....	Charles Fidler.....	5
47	Slp. Wm. Pollock.....	Edward Bradway.....	7

BOAT LICENSES.

Deleware Bay—Continued.

Number of License	NAME OF BOAT	MASTER	Tonnage
48	Slp. Relda	Charles Pettit	Under.
49	Schr. Flying Fish	John C. Peterson	17
50	Schr. Richard Robbins	George Robbins	16
51	Slp. Pearlla and Lelia	Thos. J. Lore	6
52	Schr. Roscoe Miller	Arthur Hinson	10
53	Slp. L. M. Campbell	John Pepper	6
54	Schr. Chas. Smith	Frazeur Whilden	11
55	Schr. Mary and Margaret	Chas. Peterson	13
56	Slp. Mary Ella Hager	Zephaniah Joslin	5
57	Schr. Henry S. Robbins	Wm. Bradford	10
58	Slp. Mary Alice	Silas Robbinson, Sr.	7
59	Slp. Lizzie C.	Lewis Connelly	Under.
60	Schr. Hartford Belle	Clarence M. Robbins	25
61	J. C. Mahoney	Lucius E. Bradford	23
62	Schr. Maggie Daniels	David Daniels	12
63	Schr. Reba and Ella	Geo. Conahay	9
64	Schr. Ella M.	Sherman Hager	9
65	Slp. Claude	Chas. R. Boyle	6
66	Slp. Hattie B.	John Zimmerman	Under.
67	Slp. Annie Neary	John E. Noble	5
68	Schr. Lucy Turner	Clement Lore	10
69	Schr. Paul C. Joslin	Harrison Joslin	18
70	Slp. Sallie R. A.	Gibson C. Andrews	8
71	Schr. Elsie M. Riechert	Chas. Johnson	9
72	Schr. Wyona	John L. Tullis	14
73	Slp. Nettie May	Howard Turpin	6
74	Schr. Cashier	John L. Shull	15
75	Schr. Valentine Cosier	Lucius E. Cosier	14
76	Schr. Anna C. Terry	George N. Terry	13
77	Slp. J. Gordon	Edward Baker	6
78	Slp. Ray	David Garrison	6
79	Schr. Wm. C. Lore	Frank Higunt	19
80	Slp. Rhoda and Florence	Wm. Perry	6
81	Schr. Bertha and Stella	Benj. Berry	14
82	Schr. Annie C. Johnson	Wm. H. Berry	21
83	Slp. Henry Lutts	Harrison Hollinger	6
84	Schr. James Thomas	Howard W. Sockwell	23
85			
87	Schr. Three Sisters	Chas. McClain	14
88	Schr. Laura M. Buckson	Miles Gaudy	17
89	Schr. Frank and Theresa	Robt. Dillahay	15
90	Slp. Minnie M. North	Joseph Garrison	7
91	Schr. Effie E. Mace	Eli W. Chance	9
93	Schr. Dandy	Zebulon Polhamus	14
95	Schr. A. G. Mulford	Benj. W. Simms	9

BOAT LICENSES.

Deleware Bay—Continued.

Number of License	NAME OF BOAT	MASTER	Tonnage
96	Schr. Chas. L. Bradford	Chas. L. Bradford	22
97	Slp. James Mulvey	Theophilus Newcomb	11
98	Schr. Maggie and Ruth	Otto Honnon	5
99	Schr. Robt. Bould	Harry Haggerty	22
101	Slp. Eva M. Robbins	D. O. Taylor	5
102	Schr. Josiah S. Newcomb	Columbus Ogden	21
103	Slp. Marie	Ferdinand Dobson	Under.
106	Schr. Katie Burton	George Melson	18
108	Schr. Medora Francis	John Thomas	14
109	Schr. Addie S. Riggan	Walter C. Riggan	20
110	Schr. Bay Queen	Archie Campbell	11
112	Slp. Thelma	Arthur Windfohr	8
113	Schr. Emma C. Lore	Clarence B. Whilden	10
114	Slp. Geo. S. Jackson	Warrie H. Snell	9
115	Slp. Melvin Bailey	David Bailey	Under.
116	Naptha Boat Sara N. Mulford	Elmer D. Mulford	11
117	Slp. Marcie	Henry T. Didlake	7
118	Schr. Amanda B. Lore	Quincy L. Husted	13
119	Slp. Mary L. Robbins	John H. Bell	8
120	Slp. William R.	Rex Cobb	8
121	Schr. John Bireley	James Lodge	17
122	Schr. James H. Nixon	Ed. Shropshire	21
123	Slp. Golden Rule	Oscar L. Tubman	Under.
124	Schr. M. A. Glover	Mahlon D. Mulford	10
125	Schr. Lizzie J. Robbins	Ed. C. Robbins	9
126	Slp. Lorella H. Sharp	Mahlon R. Harker	nUnder.
127	Schr. Lucy	Thos. Simpkins	9
128	Slp. Trade Wind	Ephraim Gaudy	Under.
129	Schr. Dawning Light	James Campbell, Jr.	16
130	Schr. Philip Ford	John Hogate	20
131	Schr. Andrew A. Lewis	A. T. Polhamus	5
132	Schr. James T. Daniel	Joseph E. Brown	9
133	Schr. Daniel L. Bateman	Wm. Husted	10
134	Schr. Phoebe B. Townsend	Mark Townsend	14
135	Schr. T. O. Ladow	Lorenzo G. Donnelly	15
136	Schr. Volunteer	Philip F. Campbell	5
137	Schr. J. W. Fennmore	Wm. V. Chew	8
138	Schr. Belle	Burt Shull	9
139	Schr. Ida Marts	Benson Heverin	14
140	Slp. Ella D.	Harry O'Hara	9
141	Slp. Edna and Zadok	Zadok Sharp	5
142	Slp. Hattie and Harold	Harry E. Nickerson	Under.
144	Schr. Ray R. Nieukirk	Benj. S. Joslin	20
145	Schr. Trio	Geo. W. Westcott	9
146	Slp. J. S. Johnson	L. Bates Rowley	7

BOAT LICENSES.

Delaware Bay—Continued.

Number of License	NAME OF BOAT.	MASTER.	Tonnage
147	Slp. Sarah C. Lee.	Zadok Sharp, Jr.	7
148	Slp. Glide.	Stacey Townsend.	5
149	Slp. Willie Russell.	Whitefield Williams.	7
150	Schr. Almira Cox.	Lilburn Cox.	10
151	Slp. Rena.	Wm. Dillahay.	Under.
152	Schr. Edna M. Lore.	John Tweed.	21
153	Schr. Maine.	Thos. O. Lilliston.	12
154	Schr. Alice and Mary.	Richard W. Corson.	13
155	Schr. Ellanora.	Silas Hoffman.	20
157	Slp. Gertrude.	Wesley Bevis.	5
159	Slp. George Cone.	Geo. Randolph.	7
160	Schr. Luther Bateman.	B. F. Bateman.	21
161	Schr. Albert S. Crockett.	Willard McDaniels.	7
162	Slp. White Squall.	George Shaw.	9
163	Slp. Rosa B.	Harry Lord.	6
164	Schr. Pathway.	Walter L. Sharp.	11
165	Schr. White Wing.	John T. Lake.	12
166	Schr. Wm. B. Stites.	Elcana Gaskill.	12
167	Slp. Nancy L. Cosier.	John Clark.	8
169	Slp. R. & M. Corson.	Raymond Cox.	6
170	Schr. Walter E. Fisher.	Richard Garrison.	8
171	Schr. Martin Anderson.	S. Ware Sheppard.	20
172	Schr. Addie B. Robbins.	David Robbins, Sr.	22
173	Schr. Gen. McCellan.	Neil McCormick.	14
175	Slp. Wm. D. Lockwood.	Daniel L. Bunell.	7
176	Schr. Susie C. Raynor.	Geo. H. Walls.	18
179	Slp. Trader.	Wm. G. Robbinson.	7
180	Schr. Marian Mayne.	Ellis Cain.	10
181	Slp. Lucy Hopkins.	Roscoe Shull.	5
182	Schr. Maid of the Mist.	Thos. E. Morris.	33
183	Slp. Dart.	Geo. Burnight.	6
185	Slp. Helen Leaning.	Gus. Bornhorst.	9
187	Schr. Wood Duck.	Henry Hasher.	11
191	Schr. Araminta.	Benj. B. Cruise.	15
195	Schr. Francis S. DuBois.	Chas. Berry.	13
196	Slp. Edward C. Burton.	Walter Brandriff.	10
199	Schr. Marcus L. Godfrey.	Samuel C. Lake.	16
200			
201	Slp. Lillie B.	Harry Loper.	Under.
202	Slp. Mattie B.	Gideon Bradford.	6
203	Schr. Anna M. Newcomb.	Joseph G. Polhamus.	15
204	Slp. Alice R.	Joshua Williams.	Under.
205	Schr. B. H. Minch.	L. C. Hand.	14
206	Schr. Cygmet.	McClellan Hanners.	9
207	Schr. David R. Lake.	Harry M. Lee.	15

BOAT LICENSES.

Delaware Bay—Continued.

Number of License	NAME OF BOAT.	MASTER.	Tonnage
208	Slp. Mary Emma.	William Sears.	5
209	Schr. Ephraim Mulford.	Ernest L. Mulford.	20
210	Schr. Daniel Sharp.	Oliver Goff.	13
211	Schr. Geo. W. Crist.	Wm. H. Whilden.	14
212	Schr. Geo. W. McCowan.	Champion Corson.	7
213	Schr. A. and E. Blackman.	Smith Blackman.	14
214	Slp. John Buzby.	Gilbert Stites.	7
215	Schr. Robt. T. Lore.	Henry Smith.	20
216	Slp. Frank V. Bateman.	Aaron S. Hunter.	7
217	Schr. Kate and Sarah.	John C. Stites.	9
218	Schr. Sallie and Ceola.	Wilson Campbell.	20
219	Slp. Jennie.	John Watson.	6
220	Slp. Friendship.	James Hoffman, Sr.	5
221	Schr. Chas. A. Covert.	Steelman R. Lee.	20
222	Schr. Hampton.	David Robbins, Jr.	20
223	Slp. Mary C. Sharp.	Maurice R. Lee.	8
224	Schr. Elvina English.	Wm. A. Vail.	17
225	Slp. Augusta.	James Chambers.	Under.
226	Slp. Skiff Sparkle.	Tyler Lore.	Under.
227	Schr. Mary W. Mears.	Peter Campbell.	21
228	Slp. Mary E. Lore.	Arick Lore.	Under.
229	Slp. Gypsy.	Harrison Hand.	10
230	Slp. Sherman.	Charles Tozour.	7
231	Schr. Sallie L. Allender.	Jos. P. Gibson.	9
232	Slp. Welcome.	Geo. W. Whilden.	Under.
233	Slp. Sly.	Isaac Moore.	Under.
234	Slp. Marian Hilda.	Wilbert E. Scott.	Under.
235	Slp. Warren R. Miller.	Joseph Yarrison.	5
237	Schr. Mary J. Robbins.	Geo. B. Hollinger.	13
239	Schr. Carey.	Wm. Hoffman.	21
240	Schr. Wm. H. Berry.	Wm. H. Berry.	16
241	Schr. Sarah A. Melson.	Harvey A. Gates.	14
242	Slp. Buyasuta.	Morries Jeffries.	9
243	Slp. Trilby.	Charles Foster.	Under.
244	Slp. George and Morton.	Gus Jantsen.	10
245	Slp. Lark.	John Howey.	Under.
246	Slp. Willie and Leon.	Samuel Alcorn.	Under.
247	Slp. Little Eva.	Joseph Harris.	Under.
250	Schr. Samuel Lake.	Lemuel Bradford.	15
251	Slp. Starlight.	Chas. M. Riggin.	10
255	Schr. Prize.	Geo. C. Peterson.	18
257	Slp. Sarah Cox.	William Lee.	6
258	Slp. Belle J. Trout.	Wm. Leach.	5
259	Slp. Lena T. Bateman.	Theophilus M. Husted.	9
261	Slp. Addie V.	Chas. Shropshire.	Under.

BOAT LICENSES.

Delaware Bay—Continued.

Number of License	NAME OF BOAT	MASTER	Tonnage
262	Slp. Water Lily.	Moses Veal.	7
263	Slp. Addie Lee.	Benj. Bingham.	Under.
265	Slp. Henry Kreiner.	Ephraim Harris.	6
266	Schr. Steelman R. Lee.	Maurice Sharpless.	10
267	Slp. Thos. S. Lee.	Samuel Lee.	6
268	Slp. Shamrock.	Horatio Emerson.	6
269	Slp. Jennie M. Chance.	Clarence Haley.	8
272	Slp. May Bateman.	James A. Turner, Jr.	9
275	Slp. Sarah A. Beckett.	Clarence M. Beckett.	6
277	Schr. Hannah Mulford.	Leaming Turner.	11
280	Slp. J. S. Ingersoll.	John H. Orr.	8
281	Slp. Mary A. Bickley.	W. Linwood Foster.	8
283	Schr. Walter M. Johnson.	Ernest Sutton.	15
285	Slp. Pilot.	Daniel C. Garrison.	Under.
286	Slp. Fredo C. Naylor.	Wm. Bidwell.	6
287	Slp. Kensington.	Joseph A. Carty.	10
288	Schr. Hattie R. Johnson.	Harry Warren.	18
290	Slp. Blackbird.	Elmer Spencer.	Under.
293	Schr. Etta B.	Geo. N. Terry.	17
296	Slp. Callena.	Daniel Lee.	7
297	Slp. Hannah B. Gibson.	Wm. Van Vliet.	8
298	Schr. John Guzant.	Lewis Pickering.	23
300	Schr. Samuel C. Jacoby.	John Hanners.	22
302	Slp. Hattie W. Mills.	Asa Smith.	7
303	C. T. Sheppard.	Olin W. Newcomb.	8
304	Slp. Mud Hew.	Monroe Wallen.	Under.
305	Skf. Esther.	Alfred Bradford.	Under.
306	Schr. Julia A. Newcomb.	G. W. C. Newcomb.	21
307	Slp. Ed. D. Potts.	Lewis Perry.	5
309	Slp. R. B. Walling.	Wm. Hartzog.	8
310	Schr. Jennie Reeves.	John Pierce.	11
312	Slp. Mattie Holly.	Smith Bass.	Under.
313	Slp. Wm. J. Walter.	Henry Duffield.	5
314	Slp. Edison.	Andrew Randolph.	8
315	Schr. Rebecca Brungate.	John T. Sharp.	12
316	Schr. Anna M. Robbins.	John M. Brineshults.	14
317	Schr. Tidal Wave.	Geo. D. Newcomb.	18
318	Schr. Nellie & Mary.	James Peterson.	13
319	Schr. Mary F. Howlett.	John Flynn.	15
320	Schr. Roxanna Hand.	Nathan Stites.	11
321	Slp. Emily.	Wm. T. Hinson.	5
322	Slp. Rollin S.	David K. Cruise.	8
325	Schr. John E. Melver.	John Sreive.	15
327	Schr. Lady of the Lake.	Wm. W. Clark.	13
328	Slp. J. S. Penny.	Frank Risley.	9

BOAT LICENSES.

Delaware Bay—Continued.

Number of License	NAME OF BOAT.	MASTER.	Tonnage
330	Slp. Pearl.	Jacob Sutter.	9
332	Schr. C. W. & S. Peace.	A. J. Bailey.	13
335	Schr. Gratitude.	Chas. Fisher.	14
336	Schr. Clipper.	W. E. Stirling.	13
337	Schr. Boyd N. Sheppard.	Harrison Sheppard.	21
340	Schr. A. & E. Whiteker.	Henry Wallen.	12
341	Schr. North Star.	James Gates.	16
343	Slp. John W. Paul.	Oscar Moore.	5
344	Slp. Hunter.	Curtis Risley.	7
345	Schr. Hattie B. Robbins.	Levi Robbins.	11.
346	Slp. Julia A. Read.	Thos. Westcott	6
349	Slp. Mattie B. Sheppard.	Harry Shull.	9
351	Slp. Two Davids.	Mark L. Orr.	6
352	Schr. J. O. Smith.	Geo. Sayres.	10
354	Slp. Wm. J. Bryan.	Major McDaniels.	8
356	Schr. Carrie Haley.	S. Douglas Haley.	8
357	Slp. Maud M. Robbins.	Henry A. Berry.	7
358	Schr. John B. Hageman.	Chas. Garrison.	17
365	Slp. L. Drew.	Sylvanus A. Ladow.	5
366	Schr. Francis L. Dow.	Frank Robbins.	9
367	Naptha Boat—Sabina.	Frank Becket.	8
369	Schr. Michael Martin.	Dudley Corson.	20
372	Slp. Hattie B.	Edward Allen.	7
375	Schr. Maggie J. Tolen.	Lummis Hasher.	14
376	Slp. Gracie.	Harry Sutton.	7
377	Schr. Jas. P. Nieukirk.	Adrian B. Newcomb.	15
378	Slp. C. & H. Elmer.	John H. Whilden.	6
379	Slp. J. F. Armstrong.	Robert Risley.	Under.
381	Schr. Mary Ann.	John Reed.	11
382	Slp. Thistle.	Powell Garrison.	Under.
384	Slp. Ann Virginia.	Smith Campbell.	6
385	Slp. Eva.	Henry Ludlam.	Under.
386	Slp. Geranium.	Thos. L. Dodson.	7
387	Slp. L. C. Wallace.	Chas. L. Hillman.	8
388	Slp. Helen Hurd.	David Lahr.	7
389	Schr. Freeman.	Edward Evans.	7
391	Slp. Fawn.	Henry Barnhart.	7
392	Schr. Martha Ann.	Augustus J. Meerwald.	10
393	Schr. John J. Howlett.	John Fowhey.	23
394	Schr. Sylvan Dell.	Edward M. Riffin.	8
396	Schr. Eden.	Frank Barnes.	30
397	Slp. Howard F. Leach.	Samuel Garrison, Jr.	6
399	Slp. Sylvan Glen.	Gilbert Lore.	Under.
400	Naptha Boat Anna W. Neal.	Elmer Bateman.	9
401	Scow.	Thos. Bevis.	Tong.

BOAT LICENSES.

Delaware Bay—Continued.

Number of License	NAME OF BOAT.	MASTER.	Tonnage
402	Scow.	John Bevis.	Tong.
403	Slp. Walter H. Hinson.	Harold Hinson.	9
405	Schr. Mabel Lore.	Ethan Lore.	10
406	Slp. H. K. Mulford.	Frank Pepper.	9
407	Slp. Carrie S.	David Swank.	Under.
408	Slp. C. M. Howell.	Wm. W. Cosier.	8
411	Schr. Harry and Charlie.	Chas. A. Covert.	9
412	Slp. Golden Light.	Joseph Hilton.	9
416	Schr. Ward B. Smith.	Job C. Risley.	12
418	Slp. Laura G.	John Hollingshead.	8
422	Slp. Ina.	Abdon Abbott, Jr.	7
425	Slp. Bessie and Lizzie.	James Lovett.	Under.
426	Schr. Sunlight.	Stetson Campbell.	17
427	Schr. Harry & Willie.	Champion H. Cox.	8
428	Slp. Harriet E. Lowndes.	Chas. M. Ingersoll.	7
429	Slp. Lena and Lina Cosier.	Hiram Blizzard.	5
430	Slp. Beulah and Mary.	Dayton Campbell.	7
431	Slp. Sophy and Ina.	J. Wesley Adams.	6
436	Slp. James H. Turner.	Jacob Fisher.	5
437	Slp. Gertrude.	Stetson Blizzard.	Under.
439	Schr. Forest G. Howell.	George Gaskill.	14
441	Slp. Lillie Anderson.	Frank Bradway.	12
450	Schr. Mattie Flavell.	James Arnold.	22
451	Slp. Excel.	Wm. H. Pierce.	5
458	Schr. H. H. Lippincott.	Linwood Baskill.	17
459	Schr. Seamans Bride.	John P. Mullen.	17
465	Slp. Restless.	John W. Harris.	8
466	Schr. Agnes.	Seth Sharp.	15
468	Schr. W. J. and W. B. Carlisle.	John Sharpless.	13
472	Slp. Sea Bird.	Clarence M. Sutton.	Under.
473	Schr. Helen and Sallie.	Charles Bowker.	11
475	Slp. Mary E. Adams.	Lewis B. Newcomb.	5
479	Slp. Bicycle.	Charles W. Johnson.	8
485	Schr. H. L. Steelman.	Wm. F. Terry.	11
488	Slp. Sarah B. Chance.	John S. Chance.	6
492	Schr. Doris.	James Carey.	15
501	Slp. Flora Van Gilder.	W. A. Corson.	7
502	Slp. Zena.	Wm. H. Harris.	8
504	Scow.	Israel J. Steelman.	Tong.
505	Scow.	Elmer Steelman.	Tong.
506	Scow.	Job H. Steelman.	Tong.
516	Slp. Francis J. Campbell.	Frank Fidler.	7
526	Schr. Minnie McDorman.	Chas. McDaniels.	5
530	Slp. Annie and Maud.	Wm. F. Howell.	5
532	Slp. Rhoda and Edith.	Wm. F. Dolson.	Under.

BOAT LICENSES.

Delaware Bay—Continued.

Number of License	NAME OF BOAT.	MASTER.	Tonnage
557	Slp. Sallie C.	Jacob Hitchner.	5
559	Schr. Thos. F. J. Howlett.	Wm. Rock.	Under.
560	Slp. E. S. Corson.	Aaron Peterson.	Under.
561	Schr. Lizzie J. Weaver.	Addie Lore.	23
562	Slp. Samuel Hanners.	Geo. M. Blizzard.	6
566	Scow.	Walter Lafferty.	Tong.
569	Scow.	James Conover.	Tong.
571	Scow.	H. D. Conover.	Tong.
574	Slp. Mattie.	John R. Callahan.	6
576	Scow.	Allen Tallman.	Tong.
577	Scow No. 577.	Thos. Henderson.	Tong.
581	Slp. Thelma.	Nelson Bowman.	Under.
583	Slp. Mail.	Walter Campbell.	8
585	Slp. Friendly.	Gilbert Holmes.	10
588	Schr. Village Belle.	Wm. Bateman.	14
590	Slp. Florence.	James Sayres.	Under.

TONGERS' LICENSES.

Ocean County.

Number of License	NAME	RESIDENCE
300	L. D. Robbins	New Gretna.
301	Chas. Cavileer	Lower Bank.
302	James Cavileer	Lower Bank.
303	Albert Lane	Lower Bank.
304	Jesse Loveland	New Gretna.
305	Russell Loveland	New Gretna.
306	Jos. A. Loveland	New Gretna.
307	Asbury Mathis	New Gretna.
308	Chester Allen	New Gretna.
309	John K. Mathis	New Gretna.
310	Arnold Mathis	New Gretna.
311	Alvin Mathis	New Gretna.
312	Alfred F. Cramer	New Gretna.
313	John McAnny	New Gretna.
314	Charles Robbins	New Gretna.
315	Clarence Robbins	New Gretna.
316	Adelbert Robbins	New Gretna.
317	Phineas Munyon	New Gretna.
318	Winfield Allen	New Gretna.
319	Curtis Mathis	New Gretna.
320	Samuel Higbee	Port Republic.
321	Morris Cavileer	Port Republic.
322	Grover Cavileer	Port Republic.
323	Benj. Wilson	Port Republic.
324	Amasa Wilson	Port Republic.
325	Clark Hickman	Port Republic.
326	Jos. Loveland	Port Republic.
327	Albert Hewett	Port Republic.
328	Chas. Allen	New Gretna.
329		New Gretna.
330	Chas. C. Cramer	New Gretna.
331	Joseph A. Mathis	New Gretna.
332	Walter Downs	Wading River.
333	Thomas Cramer	New Gretna.
334	Joab Leeds	New Gretna.
335	Norris Cramer	New Gretna.
336	Murrell Mathis	New Gretna.
337	Duncan Joynes	New Gretna.
338	James Falkinburg	New Gretna.
339	Wm. Downs	New Gretna.
340	D. E. Mathis	New Gretna.
341	Jesse I. Loveland	New Gretna.
342	Jesse Gaskill	New Gretna.
343	John Adams	New Gretna.
344	B. F. Headley	New Gretna.

TONGERS' LICENSES.

Ocean County—Continued.

Number of License	NAME	RESIDENCE
345	Carlisle Gaskill	New Gretna.
346	Alvin Gaskill	New Gretna.
347	Morris Gaskill	New Gretna.
348	Harry Applegate	New Gretna.
349	Joseph McAnney	New Gretna.
350	Benj. W. Chew	New Gretna.
351	Ernest Adair	New Gretna.
352	Joseph F. Allen	New Gretna.
353	Wm. H. Mathis	New Gretna.
354	Ira Gerew	New Gretna.
355	Robert Maxwell	Wading River.
356	Crate McAnney	New Gretna.
357	John Grey	New Gretna.
358	Caleb Allen	New Gretna.
359	Doughty Cramer	New Gretna.
360	James Dayton	Mays Landing.
361	Samuel Duberson	Mays Landing.
362	Wm. Dayton	Mays Landing.
363	Jesse Cramer	Mays Landing.
364	T. J. Gaskill	Mays Landing.
365	Joseph Gaskill	Mays Landing.
366	Edward Cramer	Mays Landing.
367	Joseph D. Cramer	Mays Landing.
368	John Updyke	Wading River.
369	Joseph Maxwell	Wading River.
370	Chas. Maxwell	Mays Landing.
371	L. S. Mathis	New Gretna.
372	Harvey Allen	New Gretna.
373	Leonard Sooy	New Gretna.
374	Walter R. Mathis	New Gretna.
375	Roy Allen	New Gretna.
376	Edward Allen	New Gretna.
377	H. V. Mathis	New Gretna.
378	H. E. French	New Gretna.
379	I. L. Loveland	New Gretna.
380	Samuel E. Loveland	New Gretna.
381	Joseph K. Mathis	New Gretna.
382	Richard Mathis	New Gretna.
383	Joseph K. Mathis, Jr.	New Gretna.
384	Samuel Cramer	New Gretna.
385	Lewis Cramer	New Gretna.
386	Daniel Munyon	New Gretna.
387	Arnold Cramer	New Gretna.
388	Harry Allen	New Gretna.
389	Thomas Allen	New Gretna.

TONGERS' LICENSES.

Ocean County—Continued.

Number of License	NAME	RESIDENCE
390	Howard Allen	New Gretna.
391	P. E. Mathis	New Gretna.
392	Ernest Adams	New Gretna.
393	Joseph McNeal	New Gretna.
394	R. A. Loveland	New Gretna.
395	Frank Allen	New Gretna.
396	Austin Downs	New Gretna.
397	Wm. A. Cramer	New Gretna.
398	Wm. Chew	New Gretna.
399	Edward Allen	New Gretna.
400	Arthur Loveland	New Gretna.
401	James Allen	New Gretna.
402	Hez. Adams	New Gretna.
403	Lemuel Cramer	New Gretna.
404	Samuel Mathis	New Gretna.
405	Joshua Mathis	New Gretna.
406	Herbert Cramer	New Gretna.
407	Reuben Cavileer	Lower Bank.
408	Wm. Cavileer	Lower Bank.
409	Harvey Cramer	Lower Bank.
410	James T. C. Cramer	New Gretna.
411	Washington Allen	New Gretna.
412	William Allen	New Gretna.
413	D. D. Cramer	New Gretna.
414	Milton Cramer	New Gretna.
415	Caleb Cramer	New Gretna.
416	Arnold Cramer	New Gretna.
417	Earl Cramer	New Gretna.
418	Harmes Maxwell	Wading River.
419	William B. Alger	New Gretna.
420	William E. Loveland	New Gretna.
423	Caleb Mathis	New Gretna.
424	William F. Allen	New Gretna.
425	Uriah Allen	New Gretna.
426	Blanchard Adams	New Gretna.
427	John Allen	New Gretna.
428	Harry Allen	New Gretna.
429	L. L. Mathis, Sr.	New Gretna.
430	Caleb Cramer	New Gretna.
431	W. N. Sears	New Gretna.
432	J. W. Darby	New Gretna.
433	S. B. Allen	New Gretna.
434	Ferd Allen	Atlantic City.
435	Chas. Cummings	Parkertown.
436	P. Boyce	Absecon.

TONGERS' LICENSES.

Ocean County—Continued.

Number of License	NAME	RESIDENCE
437	Elmer Adams	Port Republic.
438	George Adams	Port Republic.
439	Geo. Fields	Port Republic.
440	Henry Bates	Port Republic.
441	Edward Bates	Port Republic.
442	I. Smallwood	Port Republic.
443	Roscoe Dilks	Port Republic.
444	H. Getz	Absecon.
445	C. Price	Parkertown.
446	Jos. A. Parker	Parkertown.
447	Samuel Sooy	New Gretna.
448	Chas. Huntly	Port Republic.
449	William Rider	Tuckerton.
476	George L. Marshall	Tuckerton.
477	Lewis Fiske	Tuckerton.
478	Eugene Gale	Tuckerton.
479	Charles Parker	Tuckerton.
480	Alex. Parker	Tuckerton.
481	Lewis Russell	Tuckerton.
482	Lyman Allen	Tuckerton.
483	Harry Cox	Tuckerton.
484	William Cox	Tuckerton.
485	Samuel Carhart	Tuckerton.
486	William Carhart	Tuckerton.
487	John Gale	Tuckerton.
488	Edward Mosher	Tuckerton.
489	James Collins	Tuckerton.
490	William Stevens	Tuckerton.
491	S. J. Hicks	Tuckerton.
492	Raymond Stevens	Tuckerton.
493	S. B. Parker	Tuckerton.
494	Joseph H. Marshall	Tuckerton.
495	Wilbur Jones	Tuckerton.
496	Philip Sprague	Tuckerton.
497	Charles Parker	Tuckerton.
498	Calvin Bowen	Tuckerton.
499	G. P. Bowen	Tuckerton.
500	John A. Shinn	West Creek.
501	Charles Horner	Parkertown.
502	Cornelius Kelly	West Creek.
503	Eugene Kelly	West Creek.
504	Henry Sprague	West Creek.
505	Ensign Miller	West Creek.
506	Philip R. Sprague	West Creek.
507	Clarence A. Seamon	West Creek.

TONGERS' LICENSES.

Ocean County—Continued.

Number of License	NAME	RESIDENCE
509	Ezra Brown.....	West Creek.
510	O. C. Cramer.....	West Creek.
511	J. P. Haywood.....	West Creek.
512	Aaron W. Pharo.....	West Creek.
513	Abram B. Salmons.....	Staffordville.
514	William H. Stevens.....	Staffordville.
515	Phineas Cramer.....	Staffordville.
516	Leon Cramer.....	West Creek.
517	Walter Sprague.....	West Creek.
518	Myles Kelly.....	West Creek.
519	Frank Pharo.....	West Creek.
520	Hamilton Pharo.....	West Creek.
521	James E. Kelly.....	West Creek.
522	William D. Sprague.....	West Creek.
523	.....	.....
524	Thomas Shinn.....	West Creek.
525	Wm. Pharo.....	West Creek.
526	Watson L. Pharo.....	West Creek.
527	Reuben Sprague.....	West Creek.
528	Hugh F. Kelly.....	West Creek.
529	George E. Kelly.....	West Creek.
530	Israel Dunfee.....	West Creek.
531	Harper Rulon.....	West Creek.
532	Daniel Salmons.....	West Creek.
533	Abram H. Jones.....	West Creek.
534	Henry Cowperthwaite.....	Beach Haven.
535	Samuel Chattin.....	West Creek.
536	Albert S. Cramer.....	West Creek.
537	Samuel R. Cramer.....	West Creek.
538	Harry Seaman.....	West Creek.
539	P. W. W. Kelley.....	West Creek.
540	Edward L. Shinn.....	West Creek.
541	.....	.....
542	J. Harvey Kelly.....	West Creek.
543	Curtis Fennimore.....	West Creek.
544	William S. Seaman.....	West Creek.
545	R. F. Rutter.....	West Creek.
546	Oliver T. Cramer.....	West Creek.
547	George H. Cramer.....	West Creek.
548	Joseph W. Cramer.....	West Creek.
549	William E. Cox.....	West Creek.
550	John O. Cox.....	West Creek.
551	Edward F. Potter.....	West Creek.
552	W. H. Potter.....	West Creek.
553	Jeremiah Gaskill.....	Mayetta.

TONGERS' LICENSES.

Ocean County—Continued.

Number of License	NAME	RESIDENCE
554	E. B. Salmons.....	Cedar Run.
555	Alexis Kelley.....	West Creek.
556	John Cobb.....	Mayetta.
557	Horace Cramer.....	Cedar Run.
558	Thomas Parker.....	Parkertown.
559	Ellis Cramer.....	Mayetta.
560	J. W. Lamson.....	Mayetta.
561	Abram Price.....	Parkertown.
562	Lewis Conklin.....	Mayetta.
563	Charles P. Conklin.....	Mayetta.
564	Raymond Sprague.....	Beach Haven.
565	Joel H. Sprague.....	Beach Haven.
566	E. C. Martin.....	Pleasantville.
567	John Ripley.....	West Creek.
568	F. C. Kelley.....	West Creek.
569	Richard Driscoll.....	Beach Haven.
570	Henry Kelly.....	West Creek.
571	Benj. Zeglin.....	Atlantic City.
572	James Bruner.....	Atlantic City.
573	Samuel Driscoll.....	Atlantic City.
574	Joseph Holman.....	West Creek.
575	Reuben Driscoll.....	Tuckerton.
576	James Stevens.....	Beach Haven.
577	William E. Parker.....	Beach Haven.
578	Edmund E. Pharo.....	Beach Haven.
579	Samuel Conklin.....	Cedar Run.
580	Calvin Conklin.....	Cedar Run.
581	Merritt Price.....	Parkertown.
582	Silas Cummings.....	Parkertown.
583	Hazie Parker.....	Parkertown.
584	Harvey Parker.....	Parkertown.
585	Johnnie Cramer.....	Parkertown.
586	Norris Parker.....	Parkertown.
587	Jay C. Parker.....	Parkertown.
588	H. E. Kelley.....	West Creek.
589	Filbert Parker.....	Parkertown.
590	Henry Parker.....	Parkertown.
591	Ernest Parker.....	Parkertown.
601	A. R. Bartlett.....	Tuckerton.
602	James H. Jones.....	Tuckerton.
603	H. E. Gale.....	Tuckerton.
604	William R. McDaniels.....	Tuckerton.
605	E. A. Gale.....	Tuckerton.
606	Warren B. Gale.....	Tuckerton.
607	William H. Gale.....	Tuckerton.

TONGERS' LICENSES.

Ocean County—Continued.

Number of License	NAME	RESIDENCE
698	Thomas Walleon.	Tuckerton.
699	Frank Walleon, Jr.	Tuckerton.
700	Frank Walleon.	Tuckerton.
701	James Speck.	Tuckerton.
702	Harold Speck.	Tuckerton.
703	Walter Headley.	Tuckerton.
704	Horace Headley.	Tuckerton.
705	William Layton.	Tuckerton.
706	Charles Falkinburg.	Tuckerton.
707	George Grant.	Tuckerton.
708	Edward Driscoll.	Tuckerton.
709	William F. Driscoll.	Tuckerton.
710	Lewis Mathis.	Tuckerton.
711	Eldridge Mott.	Tuckerton.
712	R. S. Bogan.	Tuckerton.
713	Garwood J. Horner.	Tuckerton.
714	Charles Mullen.	Tuckerton.
715	Thomas McDaniels.	Tuckerton.
716	Fletcher Andrews.	Tuckerton.
717	John Bartlett.	Tuckerton.
718	Oscar J. Allen.	Tuckerton.
719	Daniel E. Mathis.	New Gretna.
720	Grover McCoy.	Tuckerton.
721	Frank Pullen.	Tuckerton.
722	Charles Pullen, Jr.	Tuckerton.
723	Chester Driscoll.	Tuckerton.
724	Thomas Bird.	Tuckerton.
725	Morgan Morris.	Tuckerton.
726	William Morris.	Tuckerton.
727	William G. Burton.	Tuckerton.
728	George E. Burton.	Tuckerton.
729	Jos. C. Burton.	Tuckerton.
730	C. K. Pullen.	Tuckerton.
731	William Adams, Jr.	Tuckerton.
732	Samuel Anderson.	Tuckerton.
733	Samuel Driscoll.	Tuckerton.
734	Stephen Luker.	Tuckerton.
735	Isaac J. Stiles.	Tuckerton.
736	Madison Marshall.	Tuckerton.
737	Harry Baker.	Tuckerton.
738	David Stiles.	Tuckerton.
739	George E. Gale.	Tuckerton.
740	William M. Gale.	Tuckerton.
741	Charles Falkinburg.	Tuckerton.
742	Ed. Falkinburg.	Tuckerton.

TONGERS' LICENSES.

Ocean County—Continued.

Number of License	NAME	RESIDENCE
743	Ed. Conover.	Tuckerton.
744	John Brown.	Tuckerton.
745	Michael H. Gale.	Tuckerton.
746	Charles Morey.	Tuckerton.
747	Harry Downs.	Tuckerton.
748	Armstead Elberson.	Tuckerton.
749	Iva Smith.	Tuckerton.
750	Frank Gale.	Tuckerton.
751	Houston Driscoll.	Tuckerton.
752	James Stiles, Jr.	Tuckerton.
753	John Driscoll.	Tuckerton.
754	Joel Mott.	Tuckerton.
755	Hefly Palmer.	Tuckerton.
756	George Morey.	Tuckerton.
757	Rulif Morey.	Tuckerton.
758	Samuel Morey.	Tuckerton.
759	Samuel Horner.	Tuckerton.
760	Harry Allen.	Tuckerton.
761	Larner Gifford.	Tuckerton.
762	Eugene Garrison.	Tuckerton.
763	Samuel Gale.	Tuckerton.
764	Frank Frazier.	Tuckerton.
765	Arthur Mathis.	Tuckerton.
766	Lewis Gale.	Tuckerton.
767	Henry Gifford.	Tuckerton.
768	George A. Mott.	Tuckerton.
769	E. F. Gale.	Tuckerton.
770	Edward Mott.	Tuckerton.
771	Ed. Brooms.	Beach Haven.
772	James Sprague.	Beach Haven.
773	Samuel Stiles.	Beach Haven.
774	Cornelius Driscoll.	Atlantic City.
775	Ellis Parker.	Beach Haven.
776	Rowley Horner.	Tuckerton.
777	Harry Marshall.	Beach Haven.
778	Tom Cramer.	Manahawken.
779	Roger Crane.	Tuckerton.
780	Howard Crane.	Tuckerton.
781	Orvil Crane.	Tuckerton.
782		
783	Benj. Maxwell.	Wading River.
784	Lemuel Maxwell.	Wading River.
785	Warren Jilson.	Tuckerton.
786	Raymond Cavileer.	Lower Bank.
787	Eldridge Mott.	Tuckerton.

TONGERS' LICENSES.

Oceah County—Continued.

Number of License	NAME	RESIDENCE
788	Chas. Falkinburg.....	Tuckerton.
789	.....	.....
790	William Cowperthwaite.....	Tuckerton.
791	Ashbrook Cramer.....	Staffordville.
792	Benj. Garrison.....	Tuckerton.
794	George Headlev.....	Tuckerton.
795	Eben Mathis.....	Absecon.
796	William Cramer.....	Manahawken.
797	Samuel G. Bowen.....	Pleasantville.
798	S. L. Bowen.....	Pleasantville.
799	Samuel Shrouds.....	Beach Haven.
800	Jerry Sprague.....	Beach Haven.
801	Norris Hewett.....	Pleasantville.
802	George Cramer.....	Cedar Run.
803	C. A. Cramer.....	Cedar Run.
804	Howard Cramer.....	Cedar Run.
805	Howard B. Cramer.....	Cedar Run.
806	Ezra Stiles.....	Tuckerton.
807	Ambrose P. Salmons.....	Staffordville.
808	M. H. Conover.....	Absecon.
809	John Wilson.....	Port Republic.
810	Willie Cummings.....	Parkertown.
811	Newman Cummings.....	Parkertown.
812	Henry Lake.....	Pleasantville.
813	Watson Van Sant.....	Port Republic.
814	A. B. Wilson.....	Port Republic.
815	George Showell.....	Absecon.
816	Theo. Allen.....	Pleasantville.
817	John Allen.....	Pleasantville.
818	Arthur Conover.....	Absecon.
819	H. Price.....	Absecon.
820	Frank Conover.....	Absecon.
821	George L. Mathis.....	Pleasantville.
822	Ed. Driscall.....	Atlantic City.
823	Benj. Conover.....	Absecon.
824	Lewis Corson.....	Pleasantville.
825	Lewis French.....	Port Republic.
826	George W. Carr.....	New Gretna.
827	Stephen Driscall.....	Tuckerton.
828	Fred. Zimmerman.....	Tuckerton.
829	Paul Quinn.....	Tuckerton.
830	Atmore Homan.....	Parkertown.
831	Rudolph Parker.....	Parkertown.
832	M. W. Homan.....	Parkertown.
833	Harry Jones.....	Tuckerton.

TONGERS' LICENSES.

Ocean County—Continued.

Number of License	NAME	RESIDENCE
834	John Foster.....	Tuckerton.
835	William Adams.....	Tuckerton.
836	Albert Stiles.....	Tuckerton.
837	E. B. Mathis.....	Pleasantville.
838	Horace Stevens.....	Pleasantville.
839	Victor Drummond.....	Tuckerton.
840	Albert Sayles.....	Tuckerton.
843	Michael Andrews.....	Tuckerton.
844	Clark Alger.....	Atlantic City.
845	Clarence Doyle.....	Trenton.

BOAT LICENSES.

Atlantic County.

Number of License	NAME OF LICENSEE	DATE OF ISSUE	KIND OF BOAT
246	John C. Albertson.....	January, 27, 1906..	
1	Ephraim Risely.....	September Acct. 1906.	
2	J. P. Smith.....	" " "	
3	David T. Smith.....	" " "	
4	Charles Somers.....	" " "	
5	A. R. Smith.....	" " "	
6	John R. Ingersoll.....	" " "	
7	Nicholas Clayton.....	" " "	
8	Charles B. Somers.....	" " "	
9	Samuel S. Somers.....	" " "	
10	Elijah Scull.....	" " "	
11	B. S. Dennis.....	" " "	
12	Jesse Thomas, Sr.....	" " "	
13	H. B. Dennis.....	" " "	
14	C. B. Dennis.....	" " "	
15	Andrew Scull.....	" " "	
16	D. Lashly.....	" " "	
17	Boyce Somers.....	" " "	
18	Lewis S. Somers.....	" " "	
19	Jackson Somers.....	" " "	
20	Japlat S. Smith.....	" " "	
21	J. L. Smith.....	" " "	
22	John Barrett.....	" " "	
23	Sylvester Somers.....	" " "	
24	Jesse Thomas.....	" " "	
25	Willard Bassett.....	" " "	
26	Peter Lashby.....	" " "	
27	Japhat Smith.....	" " "	
28	John Blackman.....	" " "	
29	A. J. Blackman.....	" " "	
30	William Somers.....	" " "	
31	Job B. Steelman.....	" " "	
32	Israel Steelman.....	" " "	
33	Elmer Steelman.....	" " "	
34	Abel Smith.....	" " "	
35	Frank E. Somers.....	" " "	
36	Boardman R. Somers.....	" " "	
37	Christopher J. Lee.....	" " "	
38	Japhat Bassett.....	" " "	
39	Somers Lashley.....	" " "	
40	Curtis Lashley.....	" " "	
41	J. B. Somers.....	" " "	
42	D. L. Mathews.....	" " "	
43	Herbert Mathews.....	" " "	
44	Daniel C. Cordey.....	" " "	

BOAT LICENSES.

Atlantic County—Continued.

Number of License	NAME OF LICENSEE	DATE OF ISSUE	KIND OF BOAT
45	Daniel Strickland.....	September Acct. 1906.	
46	C. Bodine Somers.....	" " "	
47	Ellis Somers.....	" " "	
48	Albert Somers.....	" " "	
48	Albert Somers.....	" " "	
49	Edward C. Doughty.....	" " "	
50	Samuel Conover.....	" " "	
51	Edwin Smuil.....	" " "	
52	Wm. H. Leeds.....	" " "	
53	Daniel Doughty.....	" " "	
54	Willis W. Reed.....	" " "	
55	Enoch Conover.....	" " "	
56	Harry Honer.....	" " "	
57	Ezekel Conover.....	" " "	
58	Roland A. Conover.....	" " "	
59	Ezra Doughty.....	" " "	
60	Bert Somers.....	" " "	
61	John E. Conover.....	" " "	
62	Edgar Strickland.....	" " "	
63	Everet Doughty.....	" " "	
64	Chester G. Conover.....	" " "	
65	Absalom Leeds.....	" " "	
66	Benjamin Blackman.....	" " "	
67	Mark S. Somers.....	" " "	
68	Harry S. Higbee.....	" " "	
69	Goldwin Mathews.....	" " "	
70	Samuel Mathews.....	" " "	
71	George W. Mathews.....	" " "	
72	C. W. Leeds.....	" " "	
73	Benjamin I. Leeds.....	" " "	
74	John T. Berry.....	" " "	
75	Curtis Leeds.....	" " "	
76	Thomas D. Higbee.....	" " "	
77	Ira A. Leeds.....	" " "	
78	Irving T. Higbee.....	" " "	
79	Fred P. Strickland.....	" " "	
80	Curtis Smallwood.....	" " "	
81	R. K. Leeds.....	" " "	
81	Frank W. Burdsall.....	" " "	
83	B. D. Bowen.....	" " "	
84	J. S. Bowen.....	" " "	
85	Wm. Leeds.....	" " "	
86	E. M. Sooy.....	" " "	
87	John M. Sooy.....	" " "	
88	E. C. Strickland.....	" " "	

BOAT LICENSES.

Atlantic County—Continued.

Number of License	NAME OF LICENSEE	DATE OF ISSUE	KIND OF BOAT
89	John G. Higbee.	September Acct. 1906.	
90	Allen Higbee.	" " "	
91	Job Higbee.	" " "	
92	Fred Higbee.	" " "	
93	Delany Doughty.	" " "	
94	Thomas D. Giberson.	" " "	
95	Eugene Headley.	" " "	
96	Elmer Sooy.	" " "	
97	Leon Headley.	" " "	
98	Wm. Getz.	" " "	
99	Wm. Getz, Jr.	" " "	
100	E. T. Higbee.	" " "	
101	Harry Giberson.	" " "	
102	T. B. Scull.	" " "	
103	O. J. Bowen.	" " "	
104	Laidner Leeds.	" " "	
105	A. G. Smith.	" " "	
106	Kenneth Smith.	" " "	
107	Chester Giberson.	" " "	
108	Albert Giberson.	" " "	
109	G. C. Strickland.	" " "	
110	Risley Leeds.	" " "	
111	Grover Strickland.	" " "	
112	Horace Bowen.	" " "	
113	Bert Leeds.	" " "	
114	Bartine Bowen.	" " "	
115	Arthur Bowen.	" " "	
116	J. F. Mathis.	" " "	
117	Charles Mathis.	" " "	
118	J. W. Higbee.	" " "	
119	Alfred Bowen, Sr.	" " "	
120	S. J. Anderson.	" " "	
121	Leonard Smith.	" " "	
122	S. S. Higbee.	" " "	
123	J. C. Bowen.	" " "	
124	J. E. Sooy.	" " "	
125	Jesse Leeds.	" " "	
126	W. J. Anderson.	" " "	
127	Lewis P. Leeds.	" " "	
128	Casper Strickland.	" " "	
129	D. T. Cairleu.	" " "	
130	John D. Cairleu.	" " "	
131	Mark Endicott.	" " "	
132	Norris Endicott.	" " "	
133	G. H. Cairleu.	" " "	

BOAT LICENSES.

Atlantic County—Continued.

Number of License	NAME OF LICENSEE	DATE OF ISSUE	KIND OF BOAT
134	Eugene Cairleu.	September Acct. 1906.	
135	Joseph Endicott.	" " "	
136	Winfield Endicott.	" " "	
137	Mark Loveland.	" " "	
138	George Pierce.	" " "	
139	George Hewitt.	" " "	
140	Nelson Hewitt.	" " "	
141	Mark Strickland.	" " "	
142	Mark Higbee.	" " "	
143	Wm. J. Smith.	" " "	
144	John E. Smith.	" " "	
145	Elias Conover.	" " "	
146	Jeremiah Powers.	" " "	
147	Elwood M. Powers.	" " "	
148	Harry R. Webber.	" " "	
149	Timothy Cordery.	" " "	
150	Wm. A. Hammell.	" " "	
151	George W. Brand.	" " "	
152	Watson Lippincott.	" " "	
153	Frank Bartlett.	" " "	
154	Herman Risley.	" " "	
155	Curtis Risley.	" " "	
156	Frank Risley.	" " "	
157	Harry C. Risley.	" " "	
158	Jere Price.	" " "	
159	Frank E. Adams.	" " "	
160	Ellis J. Adams.	" " "	
161	Elwood Bowen.	" " "	
162	Isaac Nelson.	" " "	
163	Wesley Price.	" " "	
164	Charles H. Sooy.	" " "	
165	B. F. Doughty.	" " "	
166	Wesley Smuil.	" " "	
167	Charles Adams.	" " "	
168	Leon Thomas.	" " "	
169	Daniel Showel.	" " "	
170	Richard Giberson.	" " "	
171	Harry B. Conover.	" " "	
172	Thomas Bowen.	" " "	
173	Philip Bowen.	" " "	
174	Horace Leeds.	" " "	
175	Warren Risley.	" " "	
176	Watson Hilton.	" " "	
177	William H. Cairleu.	" " "	
178	Howard Cairleu.	" " "	

BOAT LICENSES.

Atlantic County—Continued.

Number of License	NAME OF LICENSEE	DATE OF ISSUE	KIND OF BOAT
179	William K. Leeds.	September Acct. 1906.	
180	Daniel Rose.	" " "	
181	J. L. Hewitt.	" " "	
182	W. R. Brewer.	" " "	
183	George Carney.	" " "	
184	David Doughty.	" " "	
185	Grover Doughty.	" " "	
186	Charles Jacobson.	" " "	
187	Joseph Smuil.	" " "	
188	Alfred Showell.	" " "	
189	Darias Smuil.	" " "	
190	John Myers.	" " "	
191	Forrest Downs.	" " "	
192	John W. Conover.	" " "	
193	G. H. Fielder.	" " "	
194	D. B. Fielder.	" " "	
195	Vaugh Crane.	" " "	
196	Mark Brown.	" " "	
197	James A. Parker.	" " "	
198	D. T. Sooy.	" " "	
199	James A. Parker.	" " "	
200	Ralph T. Cummings.	" " "	
201	Norwood Parker.	" " "	
202	James Horner.	" " "	
203	Allen T. Adams.	" " "	
204	Edward Greasdale.	" " "	
205	R. V. Palmer.	" " "	
206	A. J. Parker.	" " "	
207	Joseph Allen.	" " "	
208	Benj. Tallman.	" " "	
209	Lewis Henderson.	" " "	
210	Allen Tallman.	" " "	
211	John Abbott.	" " "	
212	Henry D. Conover.	" " "	
213	James Conover.	" " "	
214	George Wilson.	" " "	
215	Edward Johnson.	" " "	
216	Clark Johnson.	" " "	
217	James A. Gale.	" " "	
218	Edward Webber.	" " "	
219	Earl McAnney.	" " "	
220	Edward Downs.	" " "	
221	Silas Higbee.	" " "	
222	Thomas A. York.	" " "	
223	Uzzia Adams.	" " "	

BOAT LICENSES.

Atlantic County—Continued.

Number of License	NAME OF LICENSEE	DATE OF ISSUE	KIND OF BOAT
224	Isaac Smuil.	September Acct. 1906.	
225	Madden Doughty.	" " "	
226	William Gale.	" " "	
227	Henry Conover.	" " "	
228	Edward Matlack.	" " "	
229	Absalom Higbee.	" " "	
230	Charles Leeds.	" " "	
231	Joseph S. Bault.	October Acct. 1906	
232	Samuel Scull.	" " "	
233	Andrew J. Steelman.	" " "	
234	Enos Steelman.	" " "	
235	Theodore Smuil.	" " "	
236	Smith Hickman.	" " "	
237	Henry Steelman.	" " "	
238	David Somers.	" " "	
239	John B. Willis.	" " "	
240	Benj. Hickman.	" " "	
241	Nicholas J. Steelman.	" " "	
242	Mark Doughty.	" " "	
243	Samuel Davis.	" " "	
244	Harry Robart.	" " "	
245	Gideon Scull.	" " "	
246	Jonathan Doughty.	" " "	
247	Andrew Booyl.	" " "	

All licenses are tongers licenses. No Dredge Boats. All tongers Boats of many kinds and shapes.

248 Licenses at \$2.50 each. Total \$620.00.

All licenses expire Sept. 30, 1907.

ALFRED B. SMITH,
Oyster Supt.

DEC 6 - 1935