

STATE OF NEW JERSEY

REPORT

OF THE

Bureau of Shell Fisheries

For the year ending October 31st,

1914

Embracing the Annual Reports of the State Oyster Commission;
the State Oyster Commission for the District of Ocean County;
the Oyster Commission for the District of Atlantic County;
the State Biologist of the State Agricultural Experiment
Station, and the Commissioner of the Shark River
District.

PATERSON, N. J.

The News Printing Co., State Printers.

1915.

State Bureau of Shell Fisheries

CHARLES R. BACON, Chief. Office, State House, Trenton.

Officers and Employes of the State Oyster Commission Maurice River Cove, Delaware Bay and Raritan Bay.

COMMISSIONERS,

ADDINGTON B. CAMPBELL, *Chairman*, Newport.
SAMUEL W. ERRICKSON, Leesburg.
WALTER C. RIGGIN, Port Norris.
SOMERS H. ISARD, Rio Grande.

SUPERINTENDENT,

ALONZO T. BACON, Mauricetown.

SECRETARY,

JAMES S. WARE, Bridgeton.

SUPERVISING ENGINEER,

SAMUEL W. SHELDON, Millville.

SPECIAL OFFICER AND PILOT OF STEAM GUARD BOAT "CYPHER,"

J. HAMMITT WEBB, Mauricetown.

CAPTAINS OF GUARD BOATS,

GEORGE C. BELL, Newport, Schooner "Lelia Boyle."
J. HAMMITT LAKE, Port Norris, Schooner "Lelia Boyle."

Office of Commission, Bivalve.
Days of Meeting, first Saturday in each month.

District of Ocean County

COMMISSIONERS,

ABRAM H. JONES, West Creek.
GEORGE W. HOLLINGSWORTH, Barnegat.
FRANK V. FRAZIER, Tuckerton.

SUPERINTENDENT AND SECRETARY,

GEORGE A. MOTT, Tuckerton.

Office of Commission, Beacon Building, Tuckerton.
Days of Meeting, first Saturday (2.30 P. M.) in each month.

District of Atlantic County

COMMISSIONERS,

C. PITTMAN HAMMELL, President, Absecon.
DAVID F. CAVILEER, Secretary, Port Republic.
WILLIAM BABCOCK, Steelmanville.

SUPERINTENDENT,

SAMUEL W. GIBERSON, Absecon.

Shark River District

HENRY A. BENNETT, Commissioner, Neptune City.

Report of the Bureau of Shell Fisheries

The Honorable James F. Fielder, Governor:

We have the honor to submit herewith the annual report of the State Bureau of Shell Fisheries, as provided by law.

The report embraces also the annual reports of the State Oyster Commission for Delaware Bay and Maurice River Cove, the State Oyster Commission for the district of Atlantic County, the State Oyster Commission for the district of Ocean County, the Oyster Commission for the district of Shark River and a synopsis of the report of the Biologist of the State Agricultural Experiment Station.

We are very much gratified to be able to report general improvement in the shell fish industry of the State along all lines. Reports from the shipping centers show that the year has been most excellent for the rapid growth of oysters and that the stimulated demand in the markets has displayed such marked increase that all shippers are gratified to note the general advance in business over the previous year. So many factors contribute to the success or failure of the oyster industry—notably, weather and tidal conditions—that one year may present a marked success while the year immediately following may bring almost total failure. For about three years there has been general improvement, due probably, as much to our conservation laws as to natural conditions.

It is generally conceded that if the State had taken no steps for the conservation of this great industry there would be at this time nothing left to show for all of the large sums expended by the State and individuals to preserve it. As has been here stated, and annually brought to the attention of the Legislature especially, and the people generally, it has been difficult to efface from the minds of the average citizen living within reach of the oyster and clam bearing areas the idea that these products are their inherent rights, to take as the notion seizes them without any legal restrictions whatever. The effort to eradicate the idea has been going on for about fifteen years and we are pleased to note that slowly, but surely, those people have realized that their conception of the situation was incorrect. We are gratified to note that we have at last reached the point where the citizens thoroughly understand that this

industry is the property of the State, which means all the people, and that it is incumbent upon the State, through its representatives in the Legislature, to pass adequate laws for its conservation and extension.

We are pleased to be able to state that the educational campaign conducted by this Bureau and the several Oyster Commissions, with thorough co-operation and understanding, has had the greatly desired effect of inculcating the proper idea in the minds of residents. It is now possible to enact laws looking to the betterment of the industry without arousing any very great amount of antagonism, such as was conspicuous in the earlier days of the effort. It is recalled that the first attempts to legislate for the conservation of this industry were met with the most violent opposition. For years there had been, as has been stated, the feeling that every oyster that grew was the common property of the man who could first grab it out of the water. It was some such notion as is still prevalent that no laws should be enacted to prevent the taking of wild fowl or the destruction of insectivorous birds. The inborn desire to kill and destroy seems to be so deeply rooted in the makeup of some individuals that any effort to restrict the desire is met with the most strenuous opposition.

As early as 1846 the State began to enact laws for the preservation of oysters and clams, as wise officials had noticed a rapid diminution in the supply because of the attitude of those who felt that all in sight was common property. There was no desire or purpose to conserve the products for the future; no attempt had been made upon the part of any one to bring to public attention the fact that the species would have to be preserved or become extinct. Thus along through the years, spasmodic, but unsystematic efforts were made to conserve the industry, and it was not until 1899 that anything tangible or effective was accomplished. Conditions had become so intolerable that those who realized the necessity of action became imbued with the proper spirit and took the initiative for the fight that was necessary.

The Legislature of 1899, under the guidance of Honorable Edward C. Stokes, then Senator from Cumberland county, and since the Governor of our State, passed the law creating the State Oyster Commission with jurisdiction over the vast expanse of water of Delaware Bay and Maurice River Cove. This was the first attempt upon the part of the State to adopt any efficient form of regulation and control of the oyster industry. It was met very naturally by the most violent opposition and aroused intense animosity. It was not long, however, before those engaged in the industry discovered that this form of regu-

lation and control was really for their benefit and the preservation of an industry upon which thousands of residents were depending for their livelihood. After the years have worn on and other laws have followed this enactment, gradually tightening the grip of the State and bringing about more stringent regulation for conservation, the people of those sections adjacent to our shell fish-bearing waters have come to realize the fixed purpose of those who are determined to conserve this industry for posterity.

A look back over the years of effort is punctuated with the dark spots of opposition, but illuminated with the brighter aspects of success. We are able to point out many good results of the determination to obtain laws for better regulation and control of the industry. We realize that there is much yet to be accomplished and shall struggle along with fixed purpose and steadfast aid for their accomplishment.

This report will conclude the twelfth year of the Bureau of Shell Fisheries and the administration of the present Chief, who was its first head. Whatever may be desired in the premises, or whoever may follow as head of the department, we cannot refrain from reflecting upon the progress made in the efforts to enlarge the scope and increase the influence of the Bureau.

In our Legislature of last winter, there was presented on behalf of the Economy and Efficiency Commission, as there had been presented in the session of 1913, bills looking to the elimination of our present Commissions and the Bureau of Shell Fisheries and the creation of a Shell Fish Commission to take their places. These bills were drawn in such manner and under such circumstances as to arouse in the minds of all of our Commissioners, as well as a very large majority of the oyster growers and shippers themselves, a feeling that the contemplated plan would strike a blow at the industry and retard its progress upon every line. The bills provided for the appointment of a board of seven Commissioners, without compensation, to direct the industry in co-operation with the Chief Commissioner at a salary of but \$2,000 a year. We were forced to the conclusion that the Economy and Efficiency Commission had not given that thought and investigation to the situation, as indicated in the draft of these bills, which qualified its members to present a plan of consolidation. It was felt that it would be impossible to obtain the services of a sufficiently competent and experienced man for the post of Chief Commissioner at such a ridiculous salary. The position would require a man of brains, energy, some scientific knowledge and

bent and an experience of years in the oyster business of this and other states. The utter folly of attempting to obtain a man of that character and capacity for such a figure was very apparent upon the face of it. Nor would we feel it possible to ask men of sufficient capacity and experience to accept the places designated as Commissioners without compensation. We have heretofore stated that the industry of the State, comprising such a vast acreage spread along the Delaware Bay and the Atlantic Coast, is of such importance and surrounded with so many details of business necessity that unpaid commissioners would not be effective or their selection wise.

Some comparison has been made between this Department of the State government and that looking to the Fish and Game interests. The comparison is impossible. The Fish and Game interests present a purely sporting proposition, while the shell-fish industry is a great business enterprise in which the State is engaged. Every foot of ground under the tidal waters of the State capable of shell fish production belongs absolutely to the State. This fact has been presented in many and varied forms, but it is again stated with as much emphasis as can be placed upon the words in order to make it conspicuous in the minds of those who have no conception of the situation. The cost to the State of the administration of this industry is an insignificant item. The revenues now derived are within very close margin of the expenditures. The total expenditures for all purposes for the past fiscal year have been, as appropriated by the Joint Committee on Appropriations:

For the chief of the bureau, for salary,	\$1,800.00
For salary of stenographer,	600.00
For blanks, stationery and other incidental expenses,	600.00
For observation and experimental station,	500.00

You will observe by these figures that the revenues derived are within close proximity to the total expenditures. We have for some years called attention to this fact and quoted that this is one of the departments of the State government which yields almost sufficient revenue for its complete operation. We do not believe there has ever been any desire or intention on the part of the State to look to this source for revenue, but if there was any such desire or intention, the income could be greatly increased by an extension of the industry. This would require legislation such as we have suggested from time to time and slightly increased appropriations.

One of the items to be considered for appropriation would be an

increase in the guard service for policing the leased grounds. One of the most persistent and well founded complaints of the lease holders in all of the districts is that there are not sufficient guards to give them the protection contemplated by the law. This is clearly a police regulation and it is curtailed by the fact that appropriations have never been sufficient in the counties of Atlantic and Ocean to meet the requirements. The fact is that present lease-holds would be greatly increased if the oyster planters could be assured of complete protection for their grounds. Under existing circumstances their grounds are not properly guarded at all seasons and their is more or less disregard of the law by those who continuously contest the right of the State to provide such protection. Even if there were no desire or purpose to increase the revenues, this protection should be provided by the Legislature. It is due the shippers and planters who take the leases to provide them the required protection in their rights.

Many other departments of the State government cost very much larger sums with practically no revenue whatsoever. Of course this is perfectly natural and unavoidable, but we cannot refrain from referring especially to the Department of Agriculture. There are some small revenues from this Department, but not within 20% of the total cost, and this Department's energies are directed wholly to the education of our agriculturists and the development of the agricultural industry.

One of the conspicuous features introduced in recent years has been the Department of Poultry Raising, designed to instruct the people of the State in proper methods of raising poultry for market or domestic use. There are other sections of the Department of Agriculture devoted to practically similar purposes and no one, we venture to say, would for a moment, suggest that these plans for educational extension are not valuable and worth all that they cost.

The analogy we desire to urge is that our oyster commissions and this Bureau are engaged very largely in practically the same enterprises and yet it has been impossible to gain from the Legislature any adequate support for the enterprise. After several years' effort we have managed to get a few hundred dollars for the establishment of observation stations along the Bay and sea coast for the purpose of obtaining needed information for the guidance of our oystermen and the furtherance of our efforts for the development of the industry. Unfortunately, the appropriation of \$500 made by the last Legislature was placed in the annual bill instead of the supplemental bill and the fund was not available until the beginning of the fiscal year, November 1st, 1914. We were, therefore,

NOTE—By an error in printing, the financial statement which should have appeared on page 8 will be found on pages 12 and 13.

unable to continue the work of even the small and totally inadequate observation station established in the summer of 1913 at Scullville, on Great Egg Harbor Bay.

We have already taken steps for the reopening of this station early in the present year and with the \$500 appropriation for the work and such funds as can be spared from our regular appropriation, small as it is, we are looking forward to gathering much valuable data on the marine and climatic conditions surrounding oyster growth. We are constrained to make this positive declaration after more than fourteen years' experience in an investigation of the oyster industry of our State: *That with proper legislation and sufficient interest in the subject, we could double the extent of the industry and the consequent revenues to the State within the next five years.* We do not believe that this statement can be controverted.

There is a constantly growing demand for New Jersey oysters. There is an unceasing and growing demand for our clams. Prices of the former have remained substantially stationary for a dozen years or more while the price of clams has risen gradually until the increase has amounted to about 50% in the same period. There are practically no laws governing the taking of clams; such restrictions as are contained in the laws are difficult of enforcement. We should approach this subject unhesitatingly and enact laws which would give more adequate protection for this species of shell fish and greatly extend the output.

As we have stated in previous reports, the difficulty of obtaining such legislation would be the violent opposition of the large number of men in Atlantic and Ocean counties who gather clams all the year around and believe that there should be no restrictions against the catch. We have a law preventing the taking of clams under certain sizes, but this law has not been strictly enforced because of this apparent sentiment upon the part of those who are engaged in this branch of the industry. There is no real reason why the law should not be enforced and we have called to the attention of the Oyster Commissions for those districts, the necessity for such enforcement.

Thus, it appears to us from a careful review of the whole situation, that it is the clear duty of the Legislature of our State to take hold of this question in earnest, to listen to the advice of those who have given it thorough study, considered all of the phases of the questions and problems involved and without regard to the attitude of those who oppose all law, push to speedy passage bills suggested for the extension and betterment of the industry. This was the plan adopted by those

interested in 1899, when the first real control law was enacted by the Legislature, as has been here referred to.

Referring again to the efforts we have put forth for the establishment of observation stations, we would respectfully call your attention to the situation on Tuckerton Bay where Professor Julius Nelson, Biologist of the State Agricultural Experiment Station, has established a laboratory and observation station. This plant is located at the mouth of Sapp's Creek, on Tuckerton Bay, about two miles below the Borough of Tuckerton. Professor Nelson, under laws enacted about ten years ago, was empowered to make observations and gather data for the Bureau of Shell Fisheries upon the oyster ground. He had been for many years engaged in research work on the biology of the oyster and has been for a long period regarded as an eminent authority upon the subject. He devotes the summer months, or vacation period, in which he is not engaged in his classes at Rutgers College, making researches at the laboratory and observation plant here noted. No more conscientious or devoted employee of the State could be imagined. He is not in the service of, nor paid by the State, however, but is a scientist engaged by the Federal Government for the Experiment Station at Rutgers College. All the work from which the State benefits, therefore, is practically voluntary upon his part and we would desire to note especially the fact that the total appropriation given Professor Nelson for his experimental work, covering a period of nearly three months was \$300 last year. From this sum it is necessary to meet all the expenses of the floating laboratory at Tuckerton, including the keep of himself and assistant on the house boat "Cynthia" in which the laboratory is placed. Professor Nelson has with rare skill and ingenuity devised apparatus for automatically taking temperatures and registering tidal flows as an adjunct of his biological observations. He has likewise devised many valuable and ingenious apparatus for the conduct of his work.

The laboratory is moored to the bank of the Bay near the mouth of the creek and the facilities for reaching it are inadequate. The tidal water flows upon the nearby shore and there is a great expanse of meadow between the laboratory and the mainland which must be traversed afoot if no boat is available. Some bits of planking and parts of oyster shell paths have been rigged to make the place approachable, but all about is crude and desolate inadequacy. The State of New Jersey ought to be ashamed to have it known that such conditions could exist for a minute. Here is a valuable work going on three months of every year for the benefit of one of the State's most valuable industries and

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yet because of the unassuming modesty of the Biologist, practically nothing has ever been done to bring about improvements.

We would respectfully urge upon you and the Legislature prompt attention to this matter, which is one of the very great needs for the advancement and betterment of our industry. We shall be at pains to present this matter to the Appropriation Committee at the approaching session of the Legislature with the hope of impressing them sufficiently with its needs to obtain required improvements.

Leases and Licenses.

	No. of Acres Leased.	No. of Licenses Issued.
Oyster Bed Leases, Atlantic County.....	763.91	.....
Propagating Oyster Bed Leases.....	275.85	.....
Delaware Bay and Maurice River Cove.....	28,910.00	246
Ocean County.....	2,833.00	.....
Raritan Bay.....	489.25	17
Shark River.....	207.00	.....
	<u>33,479.01</u>	<u>263</u>

TOTAL RECEIPTS FROM LEASES, LICENSES, ETC.

Atlantic County.....	\$ 2,009.00
Delaware Bay, Maurice River Cove and Raritan Bay.....	24,163.25
Ocean County.....	1,495.25
Shark River.....	225.15
	<u>\$27,892.65</u>

RECAPITULATION.

Total Acres Leased.....	33,479.01
Total Licenses Issued.....	263.00
Total Receipts.....	<u>\$27,892.65</u>

1914 APPROPRIATIONS.

ATLANTIC COUNTY.

Commissioners' Salaries.....	\$ 900.00
Superintendent's Salary.....	1,000.00
Patrol Service.....	2,200.00
Incidental Expenses.....	200.00
Surveys.....	150.00
	<u>\$ 4,450.00</u>

CUMBERLAND COUNTY.

Salaries and Patrol and Office Expenses.....	\$13,000.00
Surveys, etc.....	800.00
Protection of Seed Grounds.....	4,000.00
	<u>\$17,800.00</u>

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OCEAN COUNTY.

Commissioners' Salaries.....	\$ 750.00
Superintendent's Salary.....	1,000.00
Patrol Service.....	1,500.00
Incidental Expenses.....	400.00
	<u>\$ 3,650.00</u>

SHARK RIVER.

Commissioner's Salary.....	
<i>Bureau of Shell Fisheries.</i>	
Salary of Chief.....	\$1,800.00
Salary of Stenographer and Clerk.....	600.00
Incidentals.....	600.00
Observation Station.....	500.00
	<u>\$ 3,500.00</u>
Total.....	<u>\$29,400.00</u>

Report of the Biologist.

The work of the biologist has been confined during the past season to Barnegat and Tuckerton. As there was a decrease by a fourth in the annual appropriation for the season, the Scullville station was temporarily abandoned. On the other hand the special observation work for which stations like that at Scullville stand, and which is by law placed under the jurisdiction of the Bureau of Shell Fisheries, received consideration at the hands of the State for the first time since the passage of the law establishing such service: five hundred dollars having been appropriated, but unfortunately not available until next season. Thus there is a prospect of resuming the work at Scullville unless it should be deemed advisable to establish such a station at some other point.

The question as to where such a station should be established, so that the best returns shall accrue, is one not easy to determine, there being many things that have to be considered, such as accessibility, protection from winds, nearness to seed beds, either natural or artificial, sufficiently abundant supply of grown oysters, etc. In these respects the stations at Barnegat and Tuckerton appear to have no rival in the State as yet discovered to the writer.

As the detailed results obtained at these stations are transmitted to the Governor under the covers of the annual Report of the Agricultural Experiment Station, they need not be repeated here *in extenso*. We herewith give only a brief practical summary of the work accomplished.

We had two regularly appointed and salaried assistants, viz: Dr. J. N. Lowe and T. C. Nelson, both instructors in the University of Wisconsin. Dr. Lowe was put in charge of the station at Barnegat, and while it was necessary to initiate him into the technique of this work, his general qualifications and biological training, not only rendered this an easy task, but assured that his service was of a high character.

T. C. Nelson, who has had years of experience as chief assistant to the biologist, was able to accept appointment for only one month, as he was detailed by the National Bureau of Fisheries to investigate oysters in Alabama. Besides this, the biologist was himself called by the Biological Board of Canada to render a service to the Oyster Industry of Prince Edward Island. This was given during the last week in August and the first week in September when the demands of the work at Tuckerton were least pressing.

It is evident that with his diversified duties, the biologist must be free to leave his station whenever advisable. But it is necessary that some one be present continuously to supervise the automatic recording instruments and to make regular records. In the absence of T. C. Nelson we were fortunate in securing the attendance of F. F. Bacon, son of the Chief of the Bureau of Shell Fisheries, who rendered acceptable service, without compensation, and who secured sufficient experience to render him eligible to future appointment as observer in the Oyster Observation Service. Late in the season Mr. Bacon was succeeded by P. C. Cameron, a graduate of high merit from the Wagner Institute of Science.

While it is primarily the object of the Experiment Station to study food production experimentally, it would be unwise not to use the facilities of its oyster substations for gathering data of the sort which the Observation Service was specially designed to secure. Accordingly we have tried to gather data of this sort, as fundamental; indeed the observation service is a direct outgrowth of the discoveries made at the oyster experiment stations and extension of the plans worked out there. This should be borne in mind in discussing the relations of the Bureau of Shell Fisheries and the Experiment Station. The operations of the two institutions have the same purpose of improving the food supply, as in the case of the other activities of the Experiment Station, in fields known more specifically as agricultural.

It is the height of absurdity for any one to claim that oyster culture is not a branch of agriculture. It is true that the oyster industry originated as a fishery; yet in quite a similar way has the branch of agriculture called "animal industry", the raising of cattle for food, supplanted the original methods of the hunter. It is perhaps suitable that there should be both fish and game commissions so long as there are fish and game. But oyster culture has long ago passed out of the stage of being simply a fishery; and now presents complex and extensive problems quite unlike those involved in the duties of a fish and game commission. The National Bureau of Fisheries, though nominally independent of the Department of Agriculture, has developed a scientific method of research of a scope and character quite similar to that of the scientific work of the Department of Agriculture, and practically in direct continuity with it. In fact, in connection with the pollution of oysters, the U. S. Department of Agriculture has already extended its supervision to include oyster culture. This must be the logical outcome in the nature of things.

Relation of Climatic Conditions to Propagation.

During the past season, the weather conditions have shown their direct influence on oyster propagation. By the middle of June, oysters were in the finest condition as to spawn present, and the prospects were that we were about to experience a most phenomenal exhibition of oyster propagation. By the end of June some of the oysters had thrown out their spawn and locally there was a slight "set" of spat. With the advent of July there was a steady fall in the temperature instead of the usual rise, and the result was that oysters held back their eggs, so that decomposition set in. During July there was a slow dribbling away of eggs, without a special spawning period, though about the middle of July and about July 28th, in connection with some warm waves of moderate extent, there was a slight increase both in the spawning and the spatting. August was almost an identical repetition of July, with spatting periods of slight extent near the beginning and at the middle of this month.

At Tuckerton there was scarcely any "setting" until after the middle of July; the main spawning period fell in the period when July changed to August; and these fry set after the middle of August. Owing to the lack

of warm waves that were favorable to the stimulation of spawning, the eggs that were sparingly emitted were of a deteriorated character, and the resulting fry were weak. A smaller percentage than usual, survived to reach the setting stage. Even after setting the spat were less hardy than usual and an extra large proportion died.

Owing to the dryness of the summer, the fry succeeded in working farther up the river than usual. A fair set was reported up the Mullica, even better than that on the natural beds at its mouth.

Our experimental cultch at no time received a set of spat that would compare with the catches of previous years. Therefore it became impossible to set any date when shells should be planted. It is more than evident that variations in the setting of spat are due to the variations in climatic conditions. But each year offers a special combination of circumstances; hence it must take quite a series of years of recorded observations to enable us to formulate principles, and to give rules for shelling. It is evident that when by microscopical examination of the water, fry ready to "set" are found, there should shortly follow a setting of spat. But when only a few such fry are found, and there is no date when there is a specially large number of such fry present in the water, there can be no corresponding date for the planting of shells. In spite of such a discouraging condition, it is our duty to continue these studies so as to resolve as far as possible the secrets of oyster propagation.

Water Conditions.

At Barnegat, the average temperature of the water on the oyster beds was 74.5 degrees Fahrenheit, with a range from 65 to 86. The highest temperature was not reached until August, but there was an unusual up and down fluctuation of the temperature to an extent of five degrees, or even twice this extent during periods of a few hours or at most a day in length. At Tuckerton the high water temperature averages three degrees higher, the low tide temperature being the same as at Barnegat. It is possible that some special explanation is necessary to account for this, such as the location of sand flats in the path of the incoming tide, and the inrush of colder currents during the outgoing tide.

This question of tidal currents has so far not been studied by us, but it seems necessary that it should be taken up.

In respect to salinity, the mean at Barnegat was 1015.5, ranging from 1006 to 1020. At Tuckerton, the mean salinity was 1019.3, with a range from 1009 to 1021, thus somewhat higher than at Barnegat. In general we found that the temperature varied more than the salinity and that the latter varied less than usual owing to the steady drought, while the former varied more than usual owing to the frequency of cold waves, cool nights and excessive cloudiness. Showers were frequent but not of sufficient extent to affect the salinity of the coves.

Respectfully submitted,

JULIUS NELSON, Biologist,
State Agricultural Experiment Stations,
New Brunswick, N. J.

Report of the State Oyster Commission, Delaware Bay and Maurice River Cove

TO THE BUREAU OF SHELL FISHERIES:

The New Jersey State Oyster Commission respectfully submit this, our annual report for the fiscal year ending October 31, 1914.

Inspection of the natural spawning beds above the "Southwest line" in Delaware Bay shows the catch of spat to be generally poor; being fair on some beds and very poor on others; therefore, the rough cull law should not be very difficult of observance the coming year.

The condition of the industry in Maurice River Cove is thriving. Market oysters during the past year, and especially this Fall, have been of excellent quality, and quantity all that could be desired. Many thousands of the famous Maurice River Cove oysters have been shipped to the markets, materially reducing the cost of living to the consumer. The present indications are (weather permitting) that the oysters will be in good shape for market throughout the Winter.

The Legislature of 1914 appropriated \$7,500 for the purchase of a new guard boat. Your Commission were unable to find a suitable boat for the business which could be purchased or built within the appropriation, consequently the appropriation lapsed and has been returned to the Treasury. We believe that for \$9,000 we can procure a boat fairly suitable, and respectfully recommend an appropriation of that amount, same to be made available during the present fiscal year.

The guard boat "Cypher" is no longer suitable, and is liable to break down at any minute when most needed. Your Commission is of the opinion that it would be poor economy to put new boilers into this boat and to keep her in repair; we therefore believe an appropriation for a new boat to be most urgent.

We refer to the report of our Superintendent for detailed statement of the receipts of this Commission during the past fiscal year.

Respectfully submitted,

ADDINGTON B. CAMPBELL, Chairman,
SAMUEL W. ERRICKSON,
WALTER C. RIGGIN,
SOMERS H. IZARD,

Commissioners.

Delaware Bay and Maurice River Cove Superintendent's Report.

GENTLEMEN:

I herewith submit to you my annual statement of receipts from all sources for the fiscal year ending October 31, 1914.

From licenses issued to vessels in Delaware Bay.....	\$ 7,868.50
" leases issued for oyster grounds in Maurice River Cove..	14,736.50
" survey fees for oyster grounds in Maurice River Cove...	910.50
" sale of maps of oyster grounds in Maurice River Cove....	5.50
" licenses issued to vessels in Raritan Bay.....	153.00
" leases issued for oyster grounds in Raritan Bay.....	489.25
Total	\$24,163.25

Annexed hereto and made a part thereof are schedules of like form and manner as in my former annual reports.

Respectfully submitted,

(Signed) A. T. BACON,
Superintendent.

October 31, 1914.

Report of the State Oyster Commission, District of Ocean County.

TO THE BUREAU OF SHELL FISHERIES:

Pursuant to the provisions of the Act of March 26, 1902 (P. L. 1902, page 170), the undersigned, the State Oyster Commission for the district of Ocean County, make this, their annual report, for the fiscal year ending October 31, 1914.

We are pleased to be able to report an increase of near \$300.00 in rentals for oyster grounds, and we believe that the increased appropriation which will afford us better patrol service, will increase our revenue to a greater amount next year.

We wish to call your attention to a matter that was not provided for when the Act which created this Commission was passed, one of the requirements of which was that there should be grounds set apart as clam grounds, which was done by the Commission during the season of 1913. A very fine catch of spat caught upon a number of mussel and old shell beds on various parts of the ground set apart for clam grounds, causing a lot of dissatisfaction among our baymen, some contending that they had a right to take them at any time and others contending that the closed season applied to all natural oysters. There having been no provision made for a case of this kind the Commission was in a quandary as to what to do, and we would suggest that cases of this kind be provided for by an act of the Legislature.

We also advise legislation that will stop the practice of lessees from giving clammers the right to clam on their grounds, as this practice causes the patrol no end of trouble. We also recommend such legislation as our former reports have contained.

The catch of spat generally speaking is very light in this district. The only place where there is a good catch is the Mullica River. We are very sorry to report that our planted oysters are not as good as last year.

We refer you to the annexed report of our Superintendent for a statement of our receipts, and for moneys expended under our supervision we refer you to the report of the State Comptroller.

Respectfully submitted,

(Signed) GEORGE W. HOLLINGSWORTH,
FRANK V. FRAZIER,
ABRAM H. JONES,

Commissioners.

Superintendent's Report For the District of Ocean County.

GENTLEMEN:

I herewith submit to you my report for the fiscal year ending October 31, 1914.

I trust that you with the Chief of the Bureau of Shell Fisheries and all others interested in the welfare of the oyster industry, will recommend and endeavor to procure legislation which has been recommended in our former reports.

Annexed hereto and made a part hereof you will find schedules in alphabetical form showing the names and post office addresses of all lessees of oyster lands lying under the waters of Ocean County and the acreage leased to each.

The following is a correct statement of moneys received by me:

For oyster ground rentals..... \$1,495.25

Respectfully submitted,

(Signed) GEORGE A. MOTT,
Superintendent.

Report of the State Oyster Commission, District of Atlantic County.

Atlantic City, N. J.,
November 10th, 1914.

TO THE BUREAU OF SHELL FISHERIES:

The State Oyster Commission for the District of Atlantic County herewith submit their annual report for the fiscal year ending October 31st, 1914.

The general conditions of the oyster industry in the territory under our jurisdiction have been very satisfactory during the year just passed.

The planted oysters have made rapid growth and our planters and shippers find ready market for their product as it has been in excellent condition.

On the propagating grounds in the Mullica River at the opening of the season the tongers found very little to catch. We think that less plants were taken from this river than for a number of years. This river needs reshelling very badly.

On the propagating grounds in the Great Egg Harbor River the catch was abundant. On the natural beds below the line of the leased grounds the tongers did remarkably well, in fact some of them caught as many as seventy-five bushels to the boat the first two or three days.

The Commission had the guards strictly enforce the cull law on the natural beds. As a result one arrest was made, but as a general rule they had very little trouble as a majority of the tongers realize that they must for their own good leave the shells for the spat to catch on in the future years.

We again respectfully call your attention to our need of a change in the season for taking plants from the natural beds. We are of the opinion that they should only be taken for about two months in the spring of the year and sincerely hope that there will be some legislation on this matter this winter.

We would also like to call your attention to our need of a new power boat to take the place of the Atlantic. This boat is entirely unsuited for service as a patrol boat and should be replaced by a boat suitable for the work.

The following shows the expenditures as approved by the Commission for the year ending October 31st 1914:

For patrol services	\$2,195.00
For survey	149.49
For incidentals	285.00

Total \$2,629.49

The Oyster Superintendent has collected \$2,009.00 during the year.

Enclosed herewith you will find list of leases of oyster grounds in this District for the year.

Respectfully submitted,

C. P. HAMMELL,
D. F. CAVLEER,
WILLIAM BABCOCK,
Commissioners.

Superintendent's Report For the District of Atlantic County.

GENTLEMEN:

I herewith submit to you my report as Oyster Superintendent of Atlantic County, for the fiscal year ending October 31, 1914.

This has been a very good year for the oyster industry in Atlantic County. The planted oysters have done very good. There was an abundance of plants in Great Egg Harbor River but very little spat. There was a fair catch of spat in Mullica River, also fair oystering for plants.

The following is a correct statement of money received by me during the fiscal year ending October 31, 1914:

For oyster ground rentals..... \$2,009.00

Respectfully submitted,

(Signed) SAMUEL W. GIBERSON,
Superintendent.

Report of the Oyster and Clam Commission of the District of Shark River.

Report of the Oyster and Clam Commission of the District of Shark River, in the County of Monmouth, for the year ending October 17, 1914, pursuant to Chapter 14 of the Laws of 1905.

Receipts from oyster bed leases..... \$232.00

DISBURSEMENTS.

To Henry Flemming for running and staking oyster lots	\$4.50
Wire for running out lots	1.00
Stationery and Stamps	1.35
	\$ 6.85
	\$225.15

State of New Jersey, }
County of Monmouth, } ss.

Henry A. Bennett, of full age, being duly sworn according to law, upon his oath says, that he is the Oyster and Clam Commissioner named in the foregoing report, that the same is a true and correct account of his receipts and disbursements for the year ending October 17, 1914, to the best of his knowledge and belief, for the said Shark River Oyster and Clam District.

HENRY A. BENNETT.

Sworn and subscribed to before me this 17th day of October, A. D. nineteen hundred and fourteen.

CHARLES D. SNYDER,
Notary Public of New Jersey.

The National Convention.

The sixth annual convention of the National Association of Shell Fish Commissioners was held May 6th, 7th and 8th last, at the Hotel Rudolf, Atlantic City, and many topics of interest to the shell fish industry were discussed by commissioners and experts from this and other states.

The great value of this gathering lies in the fact that it brings together men associated with the administration of the shell fish industry in

nearly all of the states having shell fish growth. The three states not represented are on the Pacific coast and have never come into the organization. The other states are Maine, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Maryland, Virginia, North Carolina, South Carolina, Alabama, Georgia, Florida, Texas, Louisiana and Mississippi. It is hoped ultimately to gather also in the membership the Pacific coast states of Washington, California and Oregon, all of which have considerable areas of oyster growth, and it is also hoped to get representation from other countries in order to make the organization wider in its scope and obtain the advantage of information thus gained at first hand.

The commissioners of these various states are usually men enthused for the work and always heartily interested in the conservation of the industry. In the gatherings they exchange information and ideas which prove of great benefit to each other and to the interests of the industry at large. The last convention was especially fruitful of information bearing upon various problems involved in the shell fish industry and showed very much increased interest upon the part of those associated with the administration in all the states. Unfortunately, the Appropriation Committee did not see its way clear to granting us an item to cover the expenses of entertaining the visiting delegation so that it was not possible for us to do all we had contemplated along this line. With drafts upon our small appropriation and individual subscriptions, however, we were able to provide partly for the entertainment of the visitors. The next convention of the Association will be held in the city of New Orleans, probably in the latter part of April next, and we shall endeavor to have New Jersey properly represented in order that the valuable information thus obtainable is laid hold of.

A number of very interesting and instructive papers and addresses were made at the convention in Atlantic City, and we would very much desire to have the most important of them presented with this report, but in the interest of economy, we present but three which we regard as of greatest interest to those engaged in the industry in our State. The Association is not in position to give wide publicity to its proceedings and for that reason these papers are here presented.

Crab Protection.

During the past year we have reached the conclusion from personal observation and information given us from various sources that it is incumbent upon the Legislature to take some action for the prevention of the total destruction of the Blue Crab. At present there is no law whatever affording protection for this species of shell fish and its total destruction is threatened because no regard is felt for its conservation. We have consulted many of those directly concerned and have reached the conclusion that some form of protection is necessary to prevent the threatened destruction. Other states have taken up this course as a necessary step for the conservation of the crab; notably Maryland and Virginia. There the industry is of much larger proportion than in our own State, large numbers of boats and men being engaged in the taking, packing and shipping of the crab for market while larger establishments are devoted to the canning industry. It is stated that unless these steps for conservation had been taken in these states, the industry would have been completely wiped out four or five years ago, because nothing was then done to prevent destruction and annihilation. These states have passed laws restricting the catch to size and seasons, and conditions. In our own State, of course, there is no industry, save that of small numbers of fishermen and pleasure-seekers who enjoy taking the crabs from our waters. We have no canneries, but small catches are made by fishermen for market. There is no

doubt, however, that by proper methods of conservation and restriction, the industry could be built up into such proportions as to make it worth while to afford proper protection and we have concluded to have introduced at the coming session of the Legislature a bill designed to protect the crab at the spawning time and prevent taking of small sizes which tend to prevent propagation and growth. We trust that the Legislature will see its way clear to pass such a law because we believe that this very cheap and palatable article of food should be conserved as well as any other product of the sea.

In this connection, we herewith present for the consideration of the Legislature, an article on the Blue Crab industry by Captain McDonald Lee, of Virginia, an expert who has devoted much time and study to the species.

"Blue Crab of the Chesapeake Bay."

By W. McDonald Lee, of Virginia.

"Hampton has been known generally among the Virginians and somewhat at large as a centre of the crab industry, and right well she maintains her reputation. * * * Hampton, Va., undoubtedly maintains her supremacy in the hard crab market, while Crisfield, Md., has no rival worthy of the name in the soft product.

"The 'soft crab' is a growing crab which must periodically burst its non-growing shell, shedding like a snake, and much larger when emerging from its cast off shed. Within a few hours the soft skin hardens and it has once again a hard shell, which in turn must be cast off. Although a hard coat returns after a few hours when in salt water, yet if taken from this water, or even placed in brackish or fresh water, they will remain soft for days and until their death in such environment. The younger the crab the faster it grows and the more frequently it must shed. When matured, and the crab becomes a 'jimmy crab,' a 'channel crab,' or 'old sow-crab,' whatever it may be called in localities, it sheds no more. It is then a 'hard crab' for good and all, and the bravest thing for its inches that travels the seas; and it is by no means slow, traveling as rapidly and migrating as quickly as many fishes do. A hard crab past the shedding stage is out for meat and gore. He is the scavenger of the sea, snapping, perchance, at a steamboat that may disturb his feast, and it is a pretty large and voracious fish that will attempt to swallow the clawed crustacean. Even then it must be done with lightning rapidity. On the other hand, when shedding, as 'buster,' or 'peeler,' or 'soft crab,' it is afraid of its own shadow. It is then powerless to do anything but swim, and that but slowly. It is then a prey to man, bird and fish, and even to its own tribe. In truth, when shedding it is more afraid of its own kith and kin than of anything else. The female mates only when a 'soft crab,' and, it is said, but once. This is peculiarly unfortunate for her, as well as for multiplied propagation of the species. 'Jimmy, Crab' will devour Mrs. 'Soft Crab' if she does not elude him, or when his love has grown cold; mother and father will feast on the little members of the family if caught out without their hard coats on. Harmless and small fish are brave when the helpless soft crab is in sight. They dote on soft-crab meat, and the soft-crab is much used as fishing bait. The epicure can testify to what a luscious meal it furnishes. This is why, when the shedding period approaches, the coming 'peeler' makes for shoal waters before dropping his armor. And this is also why the Sounds of Virginia and Maryland, with their thousands of acres of shallow water and protective grassy bottoms are the home of the toothsome soft crab.

"One of the evidences that the soft crab is migratory is the fact that few gravid mothers are caught in these shoal Sounds—a veritable Gretna Green for their loves—but are to be found in schools, minus male attendants, upon the sandy bottoms about the Virginia Capes. Becoming pregnant, the sponge crab hikes it for the Capes where are no slick, grassy bottoms, but the much-desired sand. After hatching, the myriads of young cling to their mother, resembling a water-life bee swarm; and if she did not scrape them off by rubbing through the sands they would accomplish her death. This is the way she weans her young. These minute fellows for the most part now strike out for the shoal waters of rivers, creeks and sounds—where are fewer enemies—to shed and grow under protection, and it is in such vicinity they may stay for a whole season or until the mating period has passed. Crabs shed earlier in the rivers and creeks of the bay than they do in the Sounds. * * * When April has worn half away the shores of the estuaries of the Chesapeake are lined with many boys, in skiffs and plying hand-nets or scrapes. At first many of the prizes are no bigger than your thumbnail, and are found hiding for protection under sticks, leaves and the like, at the water's edge. An expert crabber will discern the tiny eye protruding, alert for danger, and with a dextrous dip of the net the baby crab is secured. The unexperienced eye could not have seen the mite even had it been unprotected by the leaf. As many as ten dozen of these have been packed for shipment in an ordinary cigar box, with dead and damp field grass or seos (sea grass) covering, and below, the midgets, bringing as much as \$2.50 a dozen. A dozen would hardly make a good mouthful, but the epicures North must have the first, and we are very willing to supply their cravings—when the season is propitious.

"This is only a passing extract from unwritten 'crabology'. The subject is one that the wisest heads as yet—or probably will ever—know but little about. Nothing in the sea under man's close ken retains as stubbornly unsolved so many secrets of life as the crab. Of course, a good deal is known about them, but this has mostly been written of, and it is my purpose only to give here some practical phases little known. I was to tell you of man's industry and wealth as dependent upon the crab.

"Crisfield, Md., just across the Virginia water borders, on Tangier Sound, is the largest crab centre in America, if not in the world. It has more than seventy houses dealing in crabs, and some of these ship each as many as 1,500 dozens of soft crabs in a day, to say nothing of the thousands of barrels of hard crabs. The latter are shipped in shells or are picked and canned. Prices for the hard ones run from seventy-five cents a barrel up, while the soft species bring at times as low as half a cent apiece, and range as high as \$2.50 a dozen at the opening of the season in the spring. Too large or too small the soft crabs do not bring the best price, except in the case of those first caught, which are small ones. The thumbnail size at the beginning of the season may be worth \$2.50 a dozen, while one as large as your hand a little is worth but twenty-five cents a dozen. The big soft crab is abundant only in summer. Nearly matured, it sheds seldom, requiring warmth of water to effect the change. A giant fellow is worth no more than a half-grown one, and is not desired by the first-class cafes. A Crisfield house that ships 30 dozen a day to the Waldorf-Astoria, getting a fancy price, exercises great care in selecting uniform sizes and consistency of skin. A 'paper-shell' is worth practically nothing—it is passing into a 'hard-shell'—though if caught a day earlier might have been numbered among the fancy-price fellows.

"Not only are hard crabs picked and canned—a common industry—at Crisfield, but one house there has got onto the secret of canning the soft ones, a secret known by but few houses in the United States. This house makes daily shipment to San Francisco, and Californians regale themselves upon soft-crabs from the Chesapeake Bay. Clam chowder is another industry engaged in there.

"But the clamming and canning features, while secondary to the soft crab industry, are in themselves prolific of wide discourse, and cannot be given space in this paper.

"The fleet of soft-crabbers in the Sounds of Virginia and Maryland number during the months of June, July, August and September more than 500 sail. About three-fourths of the best crabbing area of these Sounds is within Virginia jurisdiction. The laws of each state prohibit residents of the other from operating within its confines, and this gives rise to numerous border wars and hereditary hard feeling. The Virginia police boats during the months named are in constant clash with the Maryland crabbers, the poachers always fleeing across the line at sight of the naval police, who sends after him a desultory fire, sometimes returned by the fugitive. * * *

"The type of boat used, for the most part, is a sailing 'skiff' light, flat-bottom and speedy—equipped with a scrape and hand-net. A few larger boats, sloops, and even 'bugeyes,' with two or three scrapes, handled by a crew of two or three men and boys, working on the crabbing bottoms, but they must keep in three feet or more of depth, while the broader area of the soft crab's habitat usually ranges in depth from six to eight inches. Besides the sailing fleet, which uses 'scrapers,' or small toothless dredges, hundreds of men and boys ply the hand-net in the shoaler waters. A 'sailer' will catch as many as a thousand soft crabs and peelers a day at the height of the season, not to mention several barrels of hard crabs, that might be termed a by-product. The true by-product, however, is the shell of the picked hard crab, which is cleaned and shipped in barrels to the marts and used largely by lunch vendors and cafes for holding the cooked crab meat, or deviled crab, handed out to customers.

"The ruling price in midseason a crabber gets—and he demands no less a sum—is one cent apiece for his soft catch, and Crisfield regulates prices for Maryland and Virginia at least; when the price falls from one cent to half a cent the independent waterfarer ties up his boat and refuses to work until the market becomes normal. Big catches in these Sounds will sometimes glut the Northern markets, and it is then prices tumble, and the crabber goes on strike. Though he may be able to catch double the quantity, he will not work when the price is half a cent, and it is a general decree among them that they would rather catch 200 a day at one cent than 500 at half a cent. * * *

"Though generally possessing ready cash and credit—for oystering comes in when crabbing goes out, and vice versa, one following close upon the other—the home life of this people is simple. Every man owns a neat and, usually, small home with a truck patch attached. This patch furnishes diversion, but is for the most part left to the women and children to work. The toiler of the sea, as a rule, abhors land and its tilling. * * *

"In catching the crab, the 'scrape,' an iron-framed thing, with bag to bottom and rear, made from twine, is thrown into the water and the rope 'paid out'. As the boat sails slowly ahead the crabs are scraped from the shallow bottoms into the bag. Then the scrape is hauled in and the contents dumped on a board. The scrape is again thrown overboard on the opposite side, the sailing being uninterrupted, the man and boy (the usual crew of the skiffs) quickly picking out 'peeler,' 'bus'ner,' 'jimmy,' and 'soft crab,' having a box for each, while the small ones and the grass they return to the water. The eye is trained and sure, so that at a glance the stage of a crab's life is taken in. The 'peeler,' or one soon to shed into a soft crab, is distinguished by a faint, small, red tinge around his fin, and he is afterwards put into a float to proceed with his metamorphosis. No gloves are necessary, except for 'greenies,' for the expert crabber quickly secures between his fingers even the fierce 'jimmy,' while snapping at everything in sight and imaginable, catching him by the rear fins. Thus secured, the belligerent fellow may snap away, but he cannot reach back

with his muscular claws. The hold of a big hard crab is almost as tenacious and fully as painful as the turtle's bite.

"From the great onslaught upon the blue crab of the Chesapeake, one would be prompted to advise restriction in their taking, and conservation in other directions. Whether the supply is being depleted is, however, a mooted question. Like the menhaden, crabs are being caught in greater abundance each year, and there seems to be no diminution; yet, for how long this can continue to be the case is not easy to say. In my humble opinion, I do not see any immediate necessity for rigid steps of restriction—provided the catchers and methods of catching do not multiply more rapidly or on a larger scale than has normally been the case year by year in the past.

"Marked complaint is heard to the effect that the taking of hard crabs in such quantities by motor boats and dredges in the lower Chesapeake and Hampton Roads will soon destroy the supply of crabs. If there be a closed season and inhibition as to taking the sponge crab (female with eggs), I should think there need be no other restriction. This the last session of the Virginia Legislature wisely did—prohibiting the taking of hard crabs with scrapes between May first and November first—the season of sponge bearing. Incidentally, I might add that Virginia, last year, succeeded in getting a revision of her oyster, fish and crab laws, which will materially aid in the preservation of useful species. A cull law as to certain fishes and for clams, a close season for crabs and better regulation for fish nets, with total restriction of pounds in some rivers, are a few of the features of our revised laws.

"The crab caught while bedded in Hampton Roads is a fish of no further usefulness; 99 per cent. of them are barren (sow) crabs—past the breeding stage and ostracised from the rest of their kind. Hardly one male is found among a thousand. In fact, the extinction of these hermits would work a hardship upon nothing but those now engaged in their taking. They propagate not, but are consumers of soft crabs and other stuff that is food for water life.

"We are not so confident that the unbridled taking of the soft crab will not eventually work entire depletion, or, at least, great diminution, though, as stated, there are no evidences of this as yet. Let the sponge bearer have a chance, and we think the tribe will take care of itself. * * *

Shall the Nation's Sea Food Supply be conserved by intelligent scientific means, or shall it be slaughtered in payment of local political obligations.

By Honorable John Craft.

Before the dawn of civilization, before that veil which obscured the lights on this continent was lifted; before the making of history for this country; at a period when primitive man subsisted largely on food gathered from the water, the sea bottoms of Alabama, must have yielded immense quantities of shellfish, if the huge heaps of both clam and oyster shells, which may be found on the seashore and along the streams of the State can be reckoned as evidence. Many years after the deposit of these shell heaps, the white man converted them into lime for commercial purposes, thus profiting by the waste of ages when man lived in darkness.

Alabama at one time must have been the favorite stamping ground for many tribes who deposited these shells. Some of the most noted and sanguinary battles waged between the white man and the Indian on this continent took place on Alabama soil. These facts give evidence of large

numbers of prehistoric people. The consumption of shellfish under these conditions must have been enormous, yet not until the coming of improvident white man, not until the tentacles of a commercial octopus had fastened itself on oyster life, not until the creation of cheap and quick transportation, was the possibility of shortage and consequent extermination revealed even to thinking minds. With the coming of new people and the building up of the country the demand for shellfish became greater, and the supply correspondingly decreased.

I can remember way back in the early days of my life while clerking in a wholesale grocery house that the plains of the great northwest abounded in buffalo, that I sold thousands of buffalo hams for eight cents a pound and buffalo tongues nearly a yard long for three dollars a dozen. Now buffalo hams and tongues would be actually worth their weight in gold. They have gone the way the seals are fast going and are pursuing the course which all other things will pursue which belong to the people in common, unless conservation restrictions are imposed. Within the brief span of my life I have seen the diamond back terrapin, which furnished material for an industry of no little magnitude, almost completely exterminated in Alabama.

In many of the states which produce sea food the laws are entirely inadequate and the people seem to be possessed with the idea that the Shellfish Commissioners are created for the sole purpose of providing immediate revenue for the state treasury. Conservation problems seem to be a closed book from which but few are inclined to learn lessons of economy.

In Alabama in the year of 1909, the Commercial Club of Mobile, which was then the active business organization in the shellfish section of the state, at that time realizing the passing of the oyster business, started an investigation which resulted in the discovery that laws for protecting and conserving oysters, especially, were a necessity for Alabama. It was found that the shellfish resources of the state possessed features which were exceedingly attractive, that they stood in a class by themselves and that it required only system and organization to bring them to a point of development for commercial gain.

Consequent to this discovery steps were taken to organize for the enactment of such protective laws as would set the wheels of progress in motion and secure prosperity not alone for the oyster bearing section, but for the whole state in so far as shellfish was concerned. Such eminent authorities as Samuel F. Bowden, the Rhode Island Shellfish Commissioner, was consequently consulted. He became a guest of the Alabama Commission, and after investigating shellfish conditions in the state declared he never before saw such fine opportunities for oyster culture along up to date lines, nor had he ever tasted oysters with a better flavor. Mr. Bowden further stated in support of his proposition to plant oysters he was particularly impressed with the fact that the Alabama bivalve had fewer natural enemies than those of any other section he knew of.

Close study has revealed the fact that the greatest enemy of the oyster in many of the states is man. He who not only recklessly destroys nature's product, but has neglected to improve the advantages thrust upon him for the development of the oyster. * * *

Such laws as have improved the shellfish industry in Virginia, Rhode Island and other successful oyster producing states where the conservation and protection of marine life has been attended with scientific study, will make oyster culture in Alabama a source from which golden wealth will flow.

The oyster states are seemingly divided into two classes, the progressive upon which prosperity has smiled, and the unprogressive, those who are still struggling to get a glimpse of that light which has shed so much lustre upon the efforts of those who have been active.

The oyster merchants of yore cared little for uniform sizes and grade, he of ancient ideas has been rudely awakened from his dreams to find the same business methods applied in oyster bartering as characterized prosperity in other lines of trade.

Alabama was among the last to be aroused. Her oyster merchants spurned the idea of progress until they realized that 90 per cent. of the oyster trade in the state was being supplied by dealers who applied modern methods; her producers resisted all efforts to enlighten them upon the problems of artificial oyster culture until the situation became untenable and they were forced into the measure.

Among the first places on the Gulf Coast to embrace modern ideas and adopt progressive principles was the then little fishing village of Biloxi, in the State of Mississippi, with a population of scarcely more than 2,000. It is needless to say this place won success of that order which built a beautiful city, enjoying all the up to date advantages of a modern commercial mart. Oysters and intelligent manipulation by both producers and sellers did it all. Biloxi, the home of the Mississippi oyster trade and the biggest oyster market on the Gulf of Mexico, is known for the excellence of its product throughout the entire country.

The one great impelling force, the one great organizing power upon which success is entirely dependent, is observing the law, that order of law which stays the hand of the ruthless despoiler in his mad race to promote self interest, even though ruin follow in its wake. Extermination will swiftly and surely follow such tampering with the conservation laws of the country, as has been recently witnessed in some of our states. A step backwafd has been taken. Consumption with an increase in population has in consequence followed, while the possibilities for the increase in production have been fettered.

The doctrine of inherent right, that vague, indefinite pretention of title, the origin and purpose of which no man knows, tinctured with bad politics, the great devitalizer of conservation principles, has been pleaded to a large extent and to the detriment of oyster life in several of our states.

A most pathetic plea is made in the interest of this inactive heir to nature's fortune. Even though the progress and prosperity of the commonwealth is placed in jeopardy, even though activity and enterprise, twin brothers of prosperity, must languish, his strange ideas must be respected.

The time has come when some mighty blow must be struck in defense of that work to the consummation of which scientific attainments have been unselfishly dedicated. It cannot be that the best thoughts of gifted and talented men shall perish in the quagmires of imbecility. There have been statutory laws for the protection of shellfish life, we read, for more than a century. Some have by misconceived ideas been repealed, while others through political patronage have become dead letters on the statute books.

In my own state the oyster laws have been in and out of service for more than a quarter of a century. They at times constituted a special political issue and those who seek the suffrage of the oystermen have been bold in announcing their opposition to systematic and intelligent conservation.

In selecting the material for commissioners men as a rule are appointed to the position through political influence and not for qualification. In many instances they know absolutely nothing of conservation work.

The conservation of our sea food resources is worth more to the people of the nation than all the mines of precious metal in the country, because in due course of time in the mines, exhaustion will follow, while nature will not only replenish marine life but will increase and multiply it under the fostering care of intelligent conservation work.

It is a duty we owe to the Creator, to the present day world and to posterity that we make amends for the mistakes and misconceptions of our ancestors who have permitted such wanton destruction of our food resources.

The value of sea food has never been questioned even by the unsophisticated and unthinking; those of that element who are inclined to be fair do not deny the wisdom of conservation work. They would, however, if permitted, destroy and exterminate in order to advance self interest, rather than build up.

Viewed from a commercial, industrial and food supply stand point the problems of protection and development when applied to the shellfish situation are replete with merit. What then are the remedies by which waste may be avoided?

Born in a section where the principle of state rights as advocated by our sires for generations have left their imprints upon the minds of posterity, to pronounce for federal supervision over our entire fisheries would seem inconsistent, yet, gentlemen, I want to emphasize that although a state right disciple by birth and training, I am not unmindful of the fact that federalism would best serve the purpose of conserving the nation's sea food supply, of which every oyster bed natural or artificial in every oyster producing state is an integral part.

The oyster industry of America is interstate in its aspect because while it is produced from state bottoms under state supervision, it is supplied to the people of the whole nation. This contention seems more plausible when it is remembered that many of the states composing the union possess no sea coast and these must necessarily claim an interstate interest in the coastal front of the country from which their sea food products are obtained.

Several objections have been urged against the policy of federal control for the entire fisheries of the country, chief among which is the claim that the states would resist being divorced from ownership of their shellfish bottoms. A general supervision, however, such as is exercised by the Bureau of Agriculture and the Pure Food Laws should be delegated to the Federal Bureau of Fisheries.

Control regulating the culling, the closed season and such other restrictions as the laws of nature dictate are necessary to check the avaricious greed of man and thereby protect marine life and multiply it, should be considered.

The same rule as is proposed to apply to migratory fish under the provisions of a bill now pending in Congress should control all sea food life. Local laws in addition to being tinctured and controlled by local politics are not infrequently totally inadequate and consequently fall short of the purpose for which they were intended.

In my state no protection is afforded fish, shrimp, or crabs. Those who are so inclined, and there are many such, are at liberty to destroy crabs by countless million during the spawning season, while fish are most desired and taken during a time when they are full of roe. Enormous quantities of small fish are destroyed during the shrimp season by those small mesh seines of the shrimpers, such as the California Fish Commission and the people of that state are rebelling against. The mesh of these destructive instruments is so small that it takes and kills everything down to two inches, among which is the fry of some of the very best fish. Nothing will save the sea food supply of the nation whether it be migratory fish or the shellfish which are fixed to the bottoms except general federal legislation.

Such legislation has put new life into and quickened the animal industry of the country. If the proposed tick eradication and the law governing it were left altogether to local authority for enforcement selfish interests would intervene to prevent this enforcement and destroy its effectiveness.

Picture the condition of agriculture progress struggling with local politics. Here again self interest would creep in and prove damaging to a very great degree in the agricultural development of the country.

View the alarming conditions affecting national health which would arise from local quarantine regulation. The dismal failure of these very local regulations resulted in the Federal Quarantine law. Better sanitation under this government prevails throughout the country. With local laws maritime commerce suffered from inefficient quarantine boards which harassed the movement of ships and did not serve the true aims for which the laws were created. Federal control changed matters and brought order out of chaos.

Under these changes no man can say any state has surrendered its sovereignty or have the people thereof been deprived of any of the rights and liberties they enjoy.

In advocating this measure I have not forgotten that the states own the bottoms within their respective domains; that they have absolute control over them and that they are legally and morally entitled to all the revenue derived therefrom; I am, however, of the opinion that interstate control should regulate the quality of sea food dispensed for the nation the same as any other food product and in the same spirit that it provides for the transportation of oysters. Certainly the general government should say whether shellfish from polluted waters should be sold interstate.

It is surmised that a system thus created and having general federal jurisdiction would scarcely be objected to by the state authorities as it would increase and improve the value of the state's ownership and would at the same time develop the people's industry. * * *

My friends I think it the duty of these commissioners who are charged with the labor of protecting and conserving this priceless inheritance which nature has bestowed so lavishly upon the people of America, to exercise the greatest amount of care and diligence in the discharge of their trust.

In conclusion I would suggest that a committee be appointed to take up this feature of our conservation work. I would like to see this committee composed of a number from each state which has sea food producing area. * * *

Fisheries Legislation

By Joseph Hyde Pratt, State Geologist of North Carolina.

The three natural industries from which a state derives its wealth are: agriculture and forestry; mining and fishing. Upon these three industries all others are dependent for their raw materials. Splendid progress and advancement have been made in agriculture and forestry and in mining, and measures have been advanced and legislation passed to protect and conserve the natural resources connected with these two industries. Central commissions or boards have been created and given authority to make and enforce regulations regarding agriculture, mining, taxation and commerce. In some states this is also true of the fishing industry, in others this industry has not been looked upon as of any particular state value but has been considered as simply a local or county question. Instead of its being of a local question the fishing problem is a state-wide matter, because, in the first place, navigable waters in the state are absolutely under the control of the Federal and State governments and the fish that live in these waters belong to the state as a whole and not to the county or community in which the waters happen to be located; in the second place, every person in the state has a perfect and constitutional right to fish in any of the navigable waters belonging to the state, and because of such rights he is, or should be, interested from a personal standpoint in the protection and conservation

of the fish inhabiting the waters; and in the third place, the protection of the fish and the fostering of the fishing interests cannot be carried on by a county but must be undertaken by the state if the measures advocated are to be carried out successfully. Thus, in passing laws to protect and foster our fishing industries we must consider the state before the county, and the whole people before the individual.

The attitude of the legislatures of many of our states during the past two years has demonstrated very conclusively that neither the peoples of our several states nor their representatives in their respective Legislatures have realized the great economic value of their fisheries; that the product of these fisheries are a very important food supply; and that these products are the property of the state. It seems to me, that in considering fisheries legislation that a fundamental resolution should be passed by every state legislature which should relate to its ownership of the fisheries. If each state legislature would pass a resolution something as follows, it would undoubtedly very materially aid in the passage of the proper legislation for the protection and perpetuation of the fisheries of any state. The suggested resolution is: That the State of _____ herewith recognizes the fact that all natural fishery products are exclusively the property of the state; that the state has the right and power to exercise such control over the fishing for these sea products as shall insure their perpetuation; that the state can prohibit the taking of one or any of these products; and that in authorizing and permitting the citizens of the state to fish for any of these products the state must receive a satisfactory fee or tax for this privilege, and shall pass and enforce such rules and regulations governing the fisheries so that they shall not be destroyed by reason of the legalized fishing.

With the passage of such a resolution by state legislatures it should be possible to obtain the passage of any act that may be necessary to conserve the industry.

Now, it seems to me, that the best results can only be obtained when there is a centralized or general control of the fisheries as opposed to a local one. There must be some central body that has jurisdiction over all the fisheries and has the power to make and enforce rules and regulations governing these fisheries; and that such rules and regulations shall not be made or even enforced by any local body. This centralized authority is particularly important in connection with the oyster and clam, but is necessary in connection with all fisheries.

If a state will recognize its ownership of these fisheries then it should realize that the only way to protect and conserve them is to centralize their control in a commission clothed with power to act and not leave it to any local control. I believe in each state there should be but one commission, "The Fisheries Commission," and that this commission should have jurisdiction over all the commercial fisheries of the state, and that it should be clothed with the following authority: To regulate, prohibit, or restrict, in time, place, character, and dimensions, the use of nets, appliances, apparatus, or means employed in taking or killing fish; to regulate the seasons at which the various species of fish may be taken in the several waters of the state, and to prescribe the minimum size of fish which may be taken in the said several waters of the state; and such regulations, prohibitions, and prescriptions, after due publication, shall be of equal force and effect with the provisions of an act of the legislature; and any person violating the regulations prescribed by the Commission shall be guilty of a misdemeanor, and upon conviction shall be fined or imprisoned at the discretion of the court: Provided, however, that if a petition signed by five or more voters of the district or community which will be affected by any proposed change is filed with the Fisheries Commission through the Fisheries Commissioner, assistant commissioners, or inspectors, asking that they have a hearing before any proposed change in the

territory, size of mesh, length of net, or time of fishing shall go into effect, petitioning that they be heard regarding said change, the Fisheries Commission shall in that event designate by advertisement for a period of thirty days at the court house and three other public places in the county affected, and also by publication in a newspaper of the county, if such is published in said county, for two consecutive weeks, a place at which said board will meet and hear argument for and against said change, and may ratify, rescind, or alter this previous order of change as may seem just in the premises.

This may seem like conferring extraordinary power on the Commission, but is it any more so than that conferred on State Boards of Agriculture, Corporation Commissions, and Tax Commissions? I think not, and in this particular case the state is conferring authority on a commission that is to look after something that belongs absolutely to the state. No general law regulating fishing can be passed that will be applicable to all localities and it is absolutely necessary for some commission or body to be in a position to pass and enforce regulations as will meet local requirements and conditions. Now, what commission, board or body can be more efficient to handle these questions than the commission I have referred to? Such a commission would have appointed by them a commissioner, and deputy commissioners who would be in direct charge of the active work.

The above suggestion is similar to the law in force in the Dominion of Canada that has proved so efficient.

As far as possible the appointments on the Fisheries Commission should be made on account of special qualifications of the appointee for the commissionship and not made simply because the appointee has been of service to the dominant political party, and I believe that it will work out more practically if one or more members of the Commission shall be of the minority party. All appointments made by the Commission should be for merit and absolutely unaffected by political affiliation of the appointee.

There is no disputing the fact that politics has and is playing a decided part in the fisheries of the several states. This has been especially true of Maryland, New Jersey, Virginia, North Carolina, Rhode Island and several other states.

A state's fishing industries demand a rational and business-like treatment removed from politics, and it needs as its controlling factor a practical, unbiased and state-wide interested commission that is beyond politics.

We may carry on the most elaborate investigations regarding the habits of the various fish in our waters, work out practical methods as how to protect them, to conserve them, to market them, and with our shell fish, how to prevent pollution, but such investigations will be almost worthless to us in building up the industry unless we have the means by which results can be utilized, and they will not be utilized to the benefit of the fisheries of a state when the control of the fisheries is left entirely to a legislature or conferred upon local bodies. Only through such a commission as outlined can the results of these investigations be utilized to the best advantage.

It is possible to perpetuate our fish and oyster industries by enactment and enforcement of adequate laws; but the suggestions for the laws should not come from the individual or corporation that is interested in particular localities but should come from a commission that is thoroughly familiar with conditions all over the state and through its investigation is competent to make suggestions that will build up and never in any way destroy any part of the fishing interest. It seems to be the consensus of opinion of those who have made a thorough study of the fish industries that the only method for the practical enforcement of laws regulating fishing and of fostering the industry is through the operation of the fisheries commission. The work of such a commission goes beyond that of simply

enforcing the laws and should carry on investigations relating to the various fishing industries, the studying of local conditions which makes it possible for the commission to render a just decision regarding what is the best thing to be done in relation to the perpetuation of the oyster and any type of fish. As I have already stated, up to the present time, these conditions have been considered locally while they should be considered as state questions, and the best results can only be obtained when they are thus considered.

During the past few years nearly all of the trouble that has come up in connection with legislation suggested to our various legislatures has been caused by the attempt of those interested in some special phase of the fishing industry or in some particular locality to have laws passed that will assist them in some way regardless of the effect that the passage of such legislation will have upon other localities or upon the fishing industry as a whole.

A Fisheries Commission as outlined above will, I believe, in a few years be given such consideration in a state that the General Assembly of such state will not pass any fish legislation that is not approved by the commission. This is as it should be.

The United States Bureau of Fisheries is in a position to give competent, wise and sound advice regarding not only scientific questions that come up regarding our fisheries but also regarding the best way in which a state should handle these industries.

In regard to the question we are discussing, this Bureau states:

"The fish must be given access to their spawning grounds, and the hatchery must be granted every facility for obtaining its supply of eggs. The nets must be restricted as to location and if necessary, as to number and size, so as to furnish an avenue of passage for the fish. Furthermore, the laws must be so drawn that, while restricting reckless fishing, they must not interfere with the capture of fish for the specific purposes of artificial propagation, nor make the cost of obtaining ripe eggs so high as to be prohibitive."

"That these ends may be effectively attained it is obligatory that the administration of the laws be vested in state officers and not committed to county authority with local prejudices and a limited purview. Local regulation of the fisheries has everywhere proved a complete failure, and to experiment with it is to invite disaster to the fisheries committed to its care."

In referring to a law prepared for North Carolina along the lines mentioned above and which was recommended by a committee of the General Assembly of North Carolina, the United States Bureau of Fisheries states:

DEPARTMENT OF COMMERCE AND LABOR,

Bureau of Fisheries,

Washington, November 28, 1910.

Dr. Joseph Hyde Pratt, State Geologist,
Chapel Hill, N. C.

Sir:—The Bureau acknowledges the receipt of your letter of November 15, submitting for criticism the report of the joint legislative committee on fishery matters which will be transmitted to the North Carolina Legislature of 1911. The Bureau has examined the proposed laws with care, and is pleased to observe that they have both the breadth and flexibility essential to meet the conditions obtaining in North Carolina. It centralizes the administration of the fisheries regulations, while at the same time placing at the service of the commissioner the advice, and, if need be, the control, of a body free from bias and local association with the fishing communities.

Safeguarded by this provision, the commissioner properly is given a wide discretion concerning the details of the regulations. While the broad principle of State control of the fisheries is in the opinion of the Bureau the only plan that will prove of lasting value, it is essential that recognition be made of the fact that identical regulations as to nets, close seasons, etc., are not applicable to all localities. After some experience and investigation the commissioner will be in an unequaled position to recommend such regulations as will meet the local requirements and conditions. In respect to this, the Bureau believes that the proposed law is superior to the systems applied in other states and equal to that which has demonstrated its efficiency in the Dominion of Canada. The Bureau is pleased also that there is proposed statutory recognition of the principle of an open channel for the access of fish to the upper waters.

The Bureau feels that it can properly endorse the conclusions of the committee, and express the hope that they may be enacted into law for the benefit of not only the fishing communities, but the State of North Carolina as a whole.

Respectfully,

H. M. SMITH,
Acting Commissioner.

I want to illustrate the ineffectiveness of fish protection without a central body. Take, for instance, the shad industry. It will be absolutely impossible for local legislation to have any effect upon such a fish. During the winter season the shad lives somewhere off the coast; but in the spring at the approach of the spawning season they run into the inlets, up the sounds seeking the fresh water in which to spawn. A local desire for immediate profit will make it quite possible for the people in the lower sections of the sounds and rivers to so place their nets that they can practically take all of the fish that come into these sounds and rivers and thus prevent them from reaching the upper waters. On the other hand, if the men in the lower sounds and rivers fish according to law and do not block the waters with nets it is possible for the fishermen in the upper section to so fish as to take practically all the fish and thus prevent the shad from spawning. Now, the fishermen in the county controlling the lower waters have no right to prevent the fishermen of the upper county from obtaining their supplies of fish any more than the upper counties have a right to destroy the fishing to the detriment of the lower counties. If left to local control, it will mean left to the control of purely local interests. There will be no protection, and there will be constant conflict between the upper and lower counties.

Local control has nearly wiped out the sturgeon industry of North Carolina, and other states; greatly decreased the mullet industry by reason of the catch of undersize mullets; is depleting the striped bass and black bass industries; and has nearly destroyed the oyster industry in many sections. On the other hand, central control of our fisheries has built up the shad industry in many sections; has completely restored the oyster industry in several states, as Louisiana, Virginia, Rhode Island, Connecticut, etc.; and is capable of restoring the fisheries of any state unless they have been completely destroyed.

There is one law that should be passed by every state and which should be rigidly enforced: That no food fish shall be used under any circumstances for fertilizer purposes. The non-enforcement of this law is helping to a considerable extent in the depletion of our food fish. Another regulation relating to size of fish that can be taken, should also be rigidly enforced, and should be so worded that it shall be a misdemeanor for any one to have any undersized fish in his possession. Central control by the Fisheries Commission will enforce such law; local control, as a magistrate or county sheriff, cannot, or more often will not, enforce them.

With migratory fish it may be necessary in many sections of the country to have Federal laws and Federal authority, as in some instances several states border on the sounds and rivers into which migratory fish pass to spawning grounds and it is not always possible to get states to agree to a fishery policy that is just and equitable to all.

In commenting on a Fisheries Committee clothed with power to act, and the need of a central control of fisheries, Mr. W. McDonald Lee, former Fisheries Commissioner of Virginia, said:

"If I catch up with a man who does not live up to our fishery laws I make it sufficiently hard for him so that he will not do it again, and the result has been in the last two years Virginia has had more fish than ever in her history before.

"If you will preserve yours and will refrain from catching everything, all the little fish, and everything that comes into the waters, it will not be long before you will be able to build up your industry, and in order to do this it is necessary to have a commission with sufficient powers to make regulations suitable for the individual cases and with unlimited powers of enforcement. I would say here that local statutes are a curse on any statute book. We have no local statutes, except for the seed oysters in the upper James and Potomac. Tell your Legislature to abolish your local laws. Get together!"

SPECIAL OYSTER LEGISLATION.

While it is important to protect and conserve the natural oyster rock and bed and to do everything practical to make them last as long as possible, yet, it will become absolutely necessary for a state to begin the cultivation of the oyster if it wishes to supply the demand. The Oyster Culture will be under private ownership, but the state should retain its ownership to the sea bottom and derive a revenue for leasing those that are suitable for oyster cultivation. I do not believe it is a wise proposition for any state to sell its ground for oyster cultivation.

With the cultivation of the oyster new rules and regulations must be enforced, and this can only be done satisfactorily through a Fisheries Commission. Cultivated beds must be protected; investigation must be taken up regarding any causes that exist which are destroying the beds; and the public must be protected from polluted oysters.

In connection with the oysters in the natural rocks, culling laws must be enforced, and it shall be a misdemeanor for any one to have uncultured oysters in his possession; the open season for catching oysters must be limited; and the methods of dredging must be controlled.

The question of pollution of the oyster is one of very serious importance and the Fisheries Commission of a state must take every precaution to see that no polluted oysters are put on the market. The commission must also take the necessary steps to prevent the pollution which can in many cases be regulated. It may be necessary in some instances to ask Federal assistance to prevent contamination of our rivers for sewerage and thus pollution of our oysters.

To be able to convince the people that the oysters from a certain state are so protected and tested that they are free from pollution, is a tremendous asset to the state and to the oyster industry of that state. A commission can do this.

In closing there is one more general law that I wish to mention that shall be passed as a Federal regulation: That no state shall be allowed to ship out of that state any food product, the sale of which is prohibited within that state itself.

The reason I mention this is that shipments of oysters have been made to other states where their sale was prohibited in the state where produced, on account of their being caught on polluted ground.

Investigation of the Shellfish Industry of the State of New Jersey.

By R. B. Fitz-Randolph.

The oyster industry of this State is one of considerable magnitude, the value of the annual output being variously estimated at from two to four million dollars. Oysters are grown in portions of the Delaware Bay where the largest grounds are located, and in many places in the tortuous network of bays, sounds and thoroughfares behind the beaches along the Atlantic Coast-line up to and including Raritan Bay, a distance of considerably over a hundred miles. In most sections, the oysters are grown on grounds leased by the oystermen from the State, for which an annual rental of from fifty cents to one dollar an acre is charged; and the property of the planters is protected by patrols maintained by several shellfish commissions which are by law given jurisdiction over various sections of the State.

The supervision over the shellfish industry, insofar as the fitness of the product for human consumption is concerned, is entrusted to the State Board of Health. In 1910 the Legislature passed an act, modelled somewhat after one already in force in Rhode Island, which provided that the State Board of Health should inspect annually or oftener each oyster and clam bed in the State, and issue a certificate showing the result of such inspection to the owner of the bed. There are several thousand oyster beds and innumerable clam beds in the State, the inspection of which would require much time and cost a great deal of money; and as the Legislature rather carelessly neglected to make any appropriation for the enforcement of the act, the Board was quite unable to comply with its requirements. Moreover, the act was found to be unconstitutional, owing to a defect in its title. Some preliminary work was done under this act, however, particularly in the vicinity of the Maurice River Cove, and a number of certificates were issued.

In 1911 the Legislature remodelled the act, omitting the requirement for the annual inspection of each bed and the issuing of certificates, and extending the power of condemnation, which, in the act of 1910, had applied only to the beds, to the shellfish themselves. This act was better than its predecessor, but still left much to be desired, and again the Legislature failed to appropriate any funds for its enforcement. Some little additional work was done in 1911, but not much could be accomplished because of lack of funds.

In 1912 the law was again remodelled by the Legislature; the powers of the Board under it increased, and a sufficient appropriation made to enable it to get a power boat and make a start toward really investigating conditions throughout the State.

The 1912 act is a very satisfactory and sensible piece of legislation. It provides that the Board shall inspect the oyster and clam beds of the State as often as they may deem necessary for the purpose of determining the fitness of the shellfish grown or placed thereon for human food. It gives the Board power to condemn any oyster or clam bed which is found to be subject to pollution, or to any other condition which may render the shellfish dangerous to health; and it also prohibits the sale or distribution of shellfish from any such area. It provides that no excremental or other polluting matter of any kind or character shall be placed in or on the banks of any stream in which shellfish are grown or placed, or any tributary thereto; making an exception, however, to the sewage of municipalities, which can be controlled by the Board under other existing laws. It gives the Board power to make general rules and regulations for the enforcement of the act, and specific orders regarding the growing and handling of

shellfish and the disposal of polluting matter which may affect the purity of shellfish.

It is believed that the powers conferred by this act are ample to enable the Board to insure the purity of the shellfish grown and sold in the State, if sufficient funds are provided for its enforcement, and if the methods of investigation at our disposal are adequate to enable us to determine with accuracy how shellfish should be grown and handled, and under what circumstances they are likely to be dangerous to health.

THE PROBLEM:

This, then, is the problem which now confronts the Board. What should be required of the oystermen in order that their product shall be safe to use for food? What standard of purity, if any, can be fixed for the waters in which shellfish are grown and floated? By what criteria is the purity of the shellfish themselves to be judged? After they are gathered, how should they be handled, transported and sold in order that their purity and wholesomeness will not be impaired?

It is not possible to answer any of these questions definitely and in detail at the present time. The methods of examination of water and shellfish now in use are decidedly imperfect, and the results obtained are at times very difficult of interpretation. Our knowledge of the life history and habits of the oyster and also of those microscopic organisms which are the cause of the disease, which the oyster occasionally produces when infected, are not sufficiently well known to enable us to determine with accuracy, under all conditions, how shellfish can best be protected. And we have not yet been able to study with sufficient care the handling and transportation, and especially the retail distribution of shellfish, to know exactly to what dangers they are exposed and the best means to prevent such exposure. A great deal of investigation is needed along all these before the information at our disposal will be adequate to enable us to take all the precautions necessary to protect the public, and at the same time refrain from imposing unnecessary restrictions and hardships upon a perfectly legitimate industry which deserves encouragement and not the persecution it has received in some quarters.

At the present time, therefore, because of this lack of definite information about the details of the industry and the uncertainty of the meaning of the results of our examinations, it is necessary to proceed with great caution in attempting to regulate the shellfish industry. That it needs supervision and regulation, there can be, of course, no doubt. The epidemics which have resulted from the use of infected oysters are sufficient evidence of this need.

The problem of regulation will be somewhat simplified if we limit our consideration, for the present at least, to the only real danger that has ever been definitely fixed on the consumption of shellfish—the danger of contracting typhoid fever—disregarding for the time being, all aesthetic and sentimental views regarding polluting matter, which, of course, appeal strongly to the more fastidious portion of the consuming public, but which are of little real importance.

The problem, then, reduced to its simplest terms, may be stated in a few words. The task which we have set for ourselves is to keep the typhoid bacillus away from the oyster. Oysters which have no opportunity to take in typhoid bacilli in sufficient numbers to cause infection cannot cause typhoid fever, no matter to what other polluting influences they may have been exposed. The typhoid bacillus, so far as we know, is only found in the excretions of human beings who are suffering from, or have in the past experienced an attack of typhoid fever, or who at least have been invaded at some time or other by the typhoid bacillus. It is, therefore, only necessary either to keep the discharges from such individuals away from the oyster or to so treat them that the typhoid bacilli are destroyed before they reach the oyster. The lower animals do not have typhoid fever. Therefore,

no danger need be feared from their excretions. The typhoid bacillus is so seldom present in any refuse material, except domestic sewage, that the influence of all such wastes may safely be disregarded. The only thing which we must protect the oyster from, therefore, is domestic sewage.

Unfortunately, in a populated section it is impossible to prevent altogether the contamination of the waters in which oysters are grown or placed, by domestic sewage. It, therefore, becomes necessary to determine how to minimize this pollution as much as possible, and how much domestic sewage can safely be permitted in such waters. This is an exceedingly difficult problem, the answer to which is not definitely known at the present time. So many conditions have to be considered: The dilution; the longevity of the typhoid bacillus in both fresh and salt water under various seasonal conditions; the nearness or remoteness of the source of pollution; the degree of infectivity of the polluting material; the opportunity for purification by sedimentation; the season of the year at which the shellfish are taken; all these and many other factors have to be considered and given their proper weight in deciding whether or not a given source of pollution is likely to be dangerous; and in the imperfect state of our present knowledge, it is not possible to do anything more than roughly approximate the relative or absolute importance of the conditions which we find. I say again, therefore, that it behooves us to proceed with great caution in attempting to regulate the shellfish industry, lest we do it irreparable harm without conferring a corresponding benefit on the consumer.

I think you will all agree with me that the danger from eating shellfish grown in American waters is not great. The small number of epidemics which have been traced to them, when compared with the vast numbers which are eaten, is sufficient evidence of this. Nevertheless, the purchasing public is certainly entitled to the benefit of any reasonable doubt, and it will, therefore, be necessary, while we are acquiring the accurate knowledge about the shellfish and their infection which we need so badly, to make our requirements rather more stringent at the present time than will ultimately be found to be necessary.

THE RESULTS IN THIS STATE:

This preamble to a description of the investigations which we have made in this State may seem somewhat lengthy. I have trespassed on your patience in order to try to show clearly what our point of view is, and where we stand.

Our systematic work began in August, 1912, when the power boat which was built especially for oyster inspections was finished, although a number of investigations of certain sections were made in 1909, 1910 and 1911. The work has consisted of the bacteriological examinations of samples of water taken from the vicinity of oyster beds; the examination of samples of oysters and clams from various parts of the State; sanitary surveys of surrounding of the shellfish beds, and particularly of the streams where oysters are floated, and certain other minor investigations. Of this work, we regard the sanitary surveys as the most important, and we place much more reliance on the information which we secure in this way than upon examination of water or shellfish, for the reason that these surveys, if carefully made, give us an idea of the *probable degree of infectivity of the pollutions* which we cannot get at all by analytical methods.

The oyster boat is equipped with laboratory facilities, and during the time she is in commission, from about April 1st to the middle of December, almost all the bacteriological work is done on board immediately after the samples are collected. We thus avoid serious source of error which would interfere greatly with the accuracy of our results during warm weather. In the winter months we have found it possible to transport samples to the laboratory in Trenton without much danger of change in transit, but from many of our oyster grounds this is not possible, owing to their location in

inaccessible places and the consequent delay in the shipment of the samples.

Since this work has been in progress, we have collected and examined from various sections of the State 1807 samples of water on or near shell-fish grounds, and have examined 502 samples of shellfish. Both water and oysters are examined by the standard methods which have been fully described in our annual reports and need not be mentioned here, further than to state that in most instances the work has been limited to the presumptive test for *B. coli* in lactose-bile. A small proportion of the samples were tested by supplementary methods for *B. coli*. Our experience has shown that these methods are unsatisfactory in that conflicting and discordant results are frequently obtained, and the results do not in many cases agree with those which should be expected from the sanitary surveys. There are probably several reasons for these discordant results. Organisms not *B. coli* are sometimes found in considerable numbers, which produce gas in lactose-bile, and, on the other hand, this medium inhibits some of the *B. coli* present tending to produce low figures. It is planned for our next season's work, if time will permit, to make certain changes in the method of water examination, which will undoubtedly give more reliable results.

The difficulties are even greater in the case of oysters where discordant results are still more common. The methods for the examination of shellfish must be materially changed if reliable results are to be secured.

The difficulty of securing concordant results has led us to the belief that it is highly unsafe to draw conclusions from the results of one or a few samples of either water or oysters, but particularly oysters. Many samples from the same source must be tested if even an approximate idea of the average bacterial content of oysters from a particular locality is to be obtained. The examination of single samples, consisting of five or ten oysters, especially after the oysters have been transported any distance, is, in my judgment, almost a waste of time, and liable to lead to the most erroneous results. Time will not permit me to give you the results of all our investigations, so I have selected one locality—the Maurice River and Cove, as representative of what we have been doing in a number of other places in the State.

The Maurice River is a stream flowing into Maurice River Cove, a part of the Delaware Bay, and draining a watershed of 386 square miles. From Millville to the mouth, it is a tidal stream of considerable size, flowing in a tortuous manner through lowland, much of which is actual marsh and more or less flooded at high tide. Millville, at the head of navigation, is a city of about 12,500 inhabitants. The city is partly sewered, the sewage being treated in a disposal plant a short distance below the city. The disposal plant consists of four sedimentation tanks, four contact beds filled with rather coarse stone, an apparatus for adding copper sulphate to the sewage as it leaves the contact beds, and a detention chamber which only discharges on the ebb tide. For various reasons the operation of this plant has never been wholly satisfactory, and the Board has ordered the installation of a hypochlorite disinfecting apparatus, which will shortly be completed.

Oysters taken from the cove are laid out on floats in Long Reach, about two miles from the mouth of the river, at which points, the villages of Bivalve and Maurice River are located. At these points there are shipping wharves where the oysters are sorted, packed in sacks or barrels and shipped by rail. All oysters are shipped in the shell. About 150 oyster boats ply between the beds in the cove and the floats, each having a crew of five or six men. A considerable number of men are also employed on the wharves, so that the total population of Maurice River and Bivalve (including the men on the boats) is not far from one thousand.

Millville, Maurice River and Bivalve are the three principal points contributing polluting matter to the river. There are several small towns between Millville and the mouth, but they are unsewered, and repeated careful inspections by the State Board of Health have resulted in the removal of practically all sources of stream pollutions from them, and there are no important tributaries between Millville and the mouth. There is considerable cultivated land and pasture land along the river, the surface drainage from which the river receives in time of storm.

When our investigations were begun at Maurice River and Bivalve in 1903, conditions at these points were bad. On both sides of the river and extending over the water were shipping houses frequented by large numbers of men. These shipping houses were provided with toilets, at least 30 in number, which emptied directly into the river at high tide. Above and below the shipping houses, near the banks of both sides of the river, were the floats, about 80 in number, in which oysters were constantly placed and over which water from under the shipping houses, heavily polluted by faecal matter was washed at every tide. On the Bivalve side of the river, just opposite one of the floats and a little below the shipping house, a tidal stream carrying the drainage from a large part of Port Norris, emptied into the river. The river also received polluting matter from the men on the boats, as none of the boats were provided with toilet facilities. The attention of the oysermen was called to these conditions and they have been gradually rectified. All toilets have been removed from the shipping houses and toilet facilities provided a safe distance back from the river bank. The stream draining Port Norris was taken out of the river altogether by closing its mouth and digging an artificial channel to a point in the shore of the cove, a considerable distance from the river mouth. A number of small houses occupied by oysermen, which were located on the bank of this stream immediately behind the shipping house on the Bivalve side, were moved back several hundred feet and the low land on which they had previously stood was filled in with cinders by the Central Railroad Company. The local board of health of Commercial Township, in which are located Bivalve and Port Norris, adopted an ordinance, providing for the abolition of open privy vaults and requiring tight receptacles in each out-house, which are periodically cleaned and emptied by the city scavenger, and last of all, pursuant to an order by the State Board, and taking effect on November 15th, each oyster boat is provided with adequate toilet facilities in the shape of covered metal pails which are collected daily by a scavenger boat, taken ashore, cleansed, disinfected and returned to the boats, so that the pollution of the river and cove by the men working on boats has now practically ceased. The Board has also insisted that the cars furnished by the railroad companies for the transportation of oysters be thoroughly cleansed before they are used for that purpose, and has ruled that only clean sacks and barrels can be used for shipping oysters. The conditions which now exist at Maurice River and Bivalve are such that, so far as can be determined by inspection, practically all direct pollution of the river at these points, by substances likely to impair the wholesomeness of the oysters, has ceased.

During 1913 the work in this section, besides the sanitary surveys, consisted in the examination of samples of water from Millville to the mouth, a distance of about twenty-five miles; and the examination of both floated and unfloatoed oysters. This work was done for the most part in September and October, when the temperature of the water in the river varied between 65 deg. F. and 85 deg. F.

For convenience in recording the points from which these samples were taken, a map was prepared, dividing the river into four sections and further sub-dividing these so that points of sampling could be located with sufficient precision.

In the upper part of Section 1, in the vicinity of Millville, samples were collected as follows:

Total number	71	
Numbers showing presumptive test in 0.1 cc	71	100%
Numbers showing presumptive test in 0.1 cc	71	100%
Numbers showing presumptive test in 0.01 cc	58	81%
Numbers showing presumptive test, absent	0	

The pollution of the river, judged by both bacteriological data and the sanitary survey, is considerable at this point.

In sections 2 and 3 and the lower end of section 1, samples were collected as follows:

Total number	227	
Number showing presumptive test in 1.0 cc	219	96%
Number showing presumptive test in 0.1 cc	170	74%
Number showing presumptive test in 0.01 cc	73	32%
Number showing presumptive test, absent	8	3%

The river is considerably better in these sections than at Millville.

In that portion of the river where the oysters are floated, the following results were secured:

Total number	247	
Number showing presumptive test in 1.0 cc	208	84%
Number showing presumptive test in 0.1 cc	103	41%
Number showing presumptive test in 0.01 cc	23	9%
Number showing presumptive test, absent	39	15%

There is no material difference in these figures from those in the preceding sections.

From Long Reach to the mouth of the river and in the cove near the mouth, the following results were obtained:

Total number	60	
Number showing presumptive test in 1.0 cc	48	80%
Number showing presumptive test in 0.1 cc	17	28%
Number showing presumptive test in 0.01 cc	6	10%
Number showing presumptive test, absent	12	20%

And in the Delaware Bay off False Egg Island Point about one mile from shore, the following results were secured:

Total number	14	
Number showing presumptive test in 1.0 cc	0	
Number showing presumptive test in 0.1 cc	0	
Number showing presumptive test, absent	14	

These results show that in the vicinity of Millville the pollution of the river, as judged by the prevalence of *B. coli*, is greatest. The coli content of the river diminishes quite rapidly for a distance of three or four miles below the city, and then remains nearly uniform to the mouth of the river. In the bay, where great dilution occurs and there is ample opportunity for sedimentation, the coli content is much lower. Over the oyster beds *B. coli* is infrequently found in 1.0 cc samples.

Inasmuch as the river is a tidal stream between Millville and the mouth, it is obvious that the *B. coli* in the lower reaches of the river is not derived wholly from Millville, as the sedimentation in the river, as judged by numerous turbidity determinations, is considerable. A considerable proportion of the *B. coli* doubtless comes from cultivated fields and pastures which line the river bank, and this portion cannot be regarded as indicative of serious pollution. Then, too, the temperature of the river is above 85 deg, at times, and the amount of organic matter it carries is high, and the possibility of *B. coli* growing in the water must not be overlooked.

It is interesting to note the effect of floating oysters from the cove in the waters of Long Reach. In 1912 a number of pairs of samples were collected and examined. The average scores of oysters after floating are somewhat higher than those of the salt oysters, although the results are decidedly irregular. Out of 21 pairs of samples, 12 showed higher scores, 5 lower scores, and 4 no change after floating. The scores obtained on these oysters after floating vary between 0 and 230, the average being about 14 samples taken in warm weather. In the winter months the scores are much lower.

A careful watch has been kept of typhoid fever cases on the watershed. This region is, and always has been, remarkably free from this disease. With the exception of a very few cases in Millville in houses connected with the sewer, there has been no opportunity for discharges from the few cases discovered to reach the stream.

We believe, considering all the data already mentioned, that the danger of oysters floated in Long Reach becoming infected with typhoid bacilli is so small as to be negligible, and therefore, the Board is not warranted in interfering with this practice.

The bacteriological results which have been cited are, of course, subject to the inaccuracies previously mentioned, which, I am inclined to believe, have made the *B. coli* figure for the lower river rather higher than it should be. During the coming season we hope to investigate this matter by somewhat improved methods.

It will take us several years to make a complete survey of the State. At the present time, however, we have secured results, particularly in the Navesink River and in certain sewage polluted thorofares, which are sufficient to warrant the condemnation of certain areas. Some have already been condemned; others will undoubtedly be condemned in the near future.

We hope during the coming season to also make some investigations on the practices prevailing in retail establishments where oysters are sold, and on the comparative shipping qualities of floated and unfloat oysters.

Delaware Bay and Maurice River Cove Oyster Bed Leases.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Adams, Charles R.,	Millville,	1	10	\$5 00	6/20/14	1 yr.			436	
Adams, J. Wesley,	Port Norris,	2	58	*28 50	6/20/14	1 yr.	184	226	68	
Allen, Edward H.,	Bivalve,	4	33	*14 00	6/20/14	1 yr.		228	316	218
Adams & Cobb,	Port Norris,	5	52	26 00	6/20/14	1 yr.				495
Bell, Geo. C., Sr.,	Newport,	8	72	*43 50	6/20/14	1 yr.		276-239		310-427
Bell, Geo. C., Jr.,	Bivalve,	9	28	*25 50	6/20/14	1 yr.		230		
Bell & Bell,	Newport,	10	10	5 00	6/20/14	1 yr.		215		
Bacon & Chance,	Mauricetown,	11	66	*33 50	6/20/14	1 yr.	160-138-272		142	
Bacon & Bell,	Mauricetown,	12	27	13 50	6/20/14	1 yr.				402
Baker, Edward,	Haleyville,	14	13	6 50	6/20/14	1 yr.				392-358
Bradford, Lemuel,	Newport,	15	152	*79 00	6/20/14	1 yr.			71-70-430	143-295-
										391-470
Bradford, Lucius E.,	Newport,	16	62	*33 50	6/20/14	1 yr.		247		252
Bradford, Elwood,	Newport,	17	16	8 00	6/20/14	1 yr.				82
Bradford, Chas. L.,	Newport,	20	181	90 50	6/20/14	1 yr.	238		434-134	170-420-
									590	451-489
Bradford & Vannaman,	Newport,	21	31	15 50	6/20/14	1 yr.			274-179	
Bateman, Moses & Claude,	Mauricetown,	23	27	13 50	6/20/14	1 yr.	281			266
Blizzard, Geo. M.,	Cedarville,	24	22	11 00	6/20/14	1 yr.				473
Bateman & Gandy,	Cedarville,	25	18	9 00	6/20/14	1 yr.				360
Bateman, J. Roberts,	Mauricetown,	26	50	25 00	6/20/14	1 yr.	279		114-516	
Bateman & Blizzard,	Port Norris,	27	224	*129 50	6/20/14	1 yr.	167	104-158	632	148-311-
										481
Bateman & Burt,	Cedarville,	28	224	*113 00	6/20/14	1 yr.		242	433-254-	403-450-
									273-275	502
Bateman, Diamant & Elmer,	Cedarville,	29	222	*111 50	6/20/14	1 yr.			448-112-	
									268-499-	
									355-327-	
									270	158-426
Bateman & Emerson,	Cedarville,	30	92	*54 50	6/20/14	1 yr.	148		166-167	30-513
Bateman & Swing,	Cedarville,	31	9	5 00	6/20/14	1 yr.				77

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Bateman & Bateman,	Cedarville,	32	98	*\$45 00	6/20/14	1 yr.			493-618-	
									251-110-	
									323	
Bateman, Luther,	Newport,	34	480	*310 50	6/20/14	1 yr.	264	269-250	459-264-	
									266-447-	
									73-534-354-	465-545-
									265-451-	575
									343-281-	
									556	
Bateman & Welden,	Newport,	35	73	*37 50	6/20/14	1 yr.		251	238-239	136-321
Bateman & Bateman, Est.,	Newport,	36	54	*27 50	6/20/14	1 yr.			72-267	112
Bateman & Turner,	Newport,	37	45	22 50	6/20/14	1 yr.			180	
Bigwell, William,	Bivalve,	38	14	7 00	6/20/14	1 yr.			231	
Brineshults & Mayhew,	Cedarville,	39	384	*189 50	6/20/14	1 yr.		76-77-154-	283-456-	
									169	81-179-324-
									458-558-	421-331-
									455-80-	183-29
									535	
Blackman & Blackman,	Port Norris,	41	181	*93 00	6/20/14	1 yr.		236-273	342-340	94-532-564
Bornhorst, August,	Port Norris,	42	112	*65 50	6/20/14	1 yr.		168	302	256-466-
										569
Bowker, Thomas,	Port Norris,	43	37	18 50	6/20/14	1 yr.	259		363	194
Bowker, & Bowker,	Dividing Creek,	45	85	*47 00	6/20/14	1 yr.		78	184-364	425-524-
										558
Bowker, Charles,	Dividing Creek,	44	34	17 00	6/20/14	1 yr.		201	555-185	241
Burnight & Stites,	Newport,	47	33	16 50	6/20/14	1 yr.			410	351
Balley & Dilks,	Port Norris,	48	17	8 50	6/20/14	1 yr.			2-4	
Balley, Lafayette,	Dividing Creek,	49	36	18 00	6/20/14	1 yr.				279
Balley & Peace,	Port Norris,	50	80	*38 00	6/20/14	1 yr.			248	476-591
Berry, Chas. & Philip,	Port Norris,	52	120	*60 50	6/20/14	1 yr.			117	209-370-
									501	95-467
Berry, Wm. H.,	Port Norris,	53	209	*103 50	6/20/14	1 yr.	225-224	160-241-	485-195-	223-244-
								245-246	378-472	179-210

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Berry, Henry A. & Walter J.,	Port Norris,	55	48	*\$27 50	6/20/14	1 yr.			509	509
Berry, Henry A.,	Port Norris,	56	61	30 50	6/20/14	1 yr.	173	90	369-471	
Berry, Stultz,	Port Norris,	57	296	*151 00	6/20/14	1 yr.	176-181-288	213	542-510-371-218-413	598-431-145
Buck, George H.,	Greenwich,	59	9	5 00	6/20/14	1 yr.				257
Bradshaw, John P.,	Bridgeton,	60	66	33 00	6/20/14	1 yr.				429
Baker, Baker & Sutter,	Haleville,	62	15	7 50	6/20/14	1 yr.	122			
Carlisle, Daniel G.,	Leesburg,	65	14	7 00	6/20/14	1 yr.		188		
Clark, John S.,	Cedarville,	66	12	6 00	6/20/14	1 yr.				571
Campbell, James,	Newport,	67	68	*36 00	6/20/14	1 yr.	129		635-637	576
Callahan, John R.,	Millville,	68	9	5 00	6/20/14	1 yr.		187		
Conahay & Yates,	Port Norris,	69	32	*17 00	6/20/14	1 yr.	290			326
Conahay & Bornhorst,	Port Norris,	70	27	13 50	6/20/14	1 yr.	89			
Cook, E. J.,	Port Norris,	71	175	*82 50	6/20/14	1 yr.		240-165-210-211-112	7-205-252-69-519-518	
Campbell, Archie & W. A.,	Port Norris,	72	8	5 00	6/20/14	1 yr.		141		
Campbell, Winfield A.,	Bivalve,	73	41	20 50	6/20/14	1 yr.		255	58-32-541	328
Campbell, Smith,	Dividing Creek,	74	8	5 00	6/20/14	1 yr.			11	
Campbell & Mints,	Dividing Creek,	75	28	14 00	6/20/14	1 yr.			508	200
Campbell, James, Jr.,	Mauricetown,	76	47	23 50	6/20/14	1 yr.			400-401-576	
Campbell, A. B.,	Newport,	77	31	*17 00	6/20/14	1 yr.		258		
Campbell, James & Wilson A.,	Newport,	78	151	75 50	6/20/14	1 yr.			598-284-332-407-328-408	153
Campbell, James, Sr.,	Newport,	79	119	57 50	6/20/14	1 yr.				154-206-160-539
Campbell, Campbell & Campbell,	Newport,	81	43	21 50	6/20/14	1 yr.				416-499

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Campbell & Robbins,	Bivalve,	83	274	\$137 00	6/20/14	1 yr.	121	233-209	446-605-247-249-533	297-219
Campbell, Sheppard,	Newport,	84	93	*47 00	6/20/14	1 yr.		14-254		122-254-327
Campbell, Peter,	Newport,	85	139	69 50	6/20/14	1 yr.	235		337-293	130-161-286-588
Campbell, Clement L.,	Newport,	86	119	59 50	6/20/14	1 yr.		260	280-352-416	562-578-75
Cox, Champion H.,	Leesburg,	87	43	21 50	6/20/14	1 yr.			14-177	
Cox, Champion H. & Lilburn,	Leesburg,	88	36	18 00	6/20/14	1 yr.	188-293			
Cox, Jonathan & Lilburn,	Leesburg,	89	53	25 00	6/20/14	1 yr.			83	227-553
Cox, Raymond,	Cedarville,	90	13	6 50	6/20/14	1 yr.				366
Clark, John & Howard,	Port Norris,	91	44	22 00	6/20/14	1 yr.	124		549	492
Clark, Joshua,	Port Norris,	93	46	*23 50	6/20/14	1 yr.			360	490
Clark, Howard,	Port Norris,	95	20	10 00	6/20/14	1 yr.				554
Chance, E. W.,	Mauricetown,	96	95	*42 00	6/20/14	1 yr.	112-51-209-101	224	373	
Chance, Chance & Bacon,	Mauricetown,	97	10	5 00	6/20/14	1 yr.		206		
Cosier & Husted,	Newport,	98	28	14 00	6/20/14	1 yr.			259	
Cosier & Gates,	Newport,	99	22	11 00	6/20/14	1 yr.			478	99-78
Cosier, Peter C.,	Newport,	100	241	120 50	6/20/14	1 yr.			604-258-260-241	574-71-110-290
Cosier, Cosier, More & Ware,	Newport,	101	19	9 50	6/20/14	1 yr.			357	72
Cosier, Lucius E.,	Newport,	102	42	*24 00	6/20/14	1 yr.		238		151
Cosier, Wm. W.,	Dividing Creek,	103	16	8 00	6/20/14	1 yr.			480	70
Crossley, Geo. B.,	Newport,	104	15	7 50	6/20/14	1 yr.			495	
Cruise, Benj. B.,	Mauricetown,	105	188	94 00	6/20/14	1 yr.	169	7	512-94	
Chew, William V.,	Port Norris,	106	10	5 00	6/20/14	1 yr.			358-608	335-516
Chew, Bateman & Henry,	Port Norris,	107	50	25 00	6/20/14	1 yr.			207	177-468

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Cain, Ellis L.,	Port Norris,	108	48	\$24 00	6/20/14	1 yr.	301	.....	.....	96-277-461
Chew & Bateman,	Port Norris,	109	20	10 00	6/20/14	1 yr.	.....	.....	.....	587
Cover & Lee,	Leesburg,	110	232	*120 00	6/20/14	1 yr.	111-248-	.....	312-320-	479-485
							197-100-	.....	582	.....
							131-137	.....	.....	.....
Cobb, Glendon, Hunt, Maier & Barnes,	Bridgeton,	111	22	11 00	6/20/14	1 yr.	.....	.....	.....	455
Chambers, Walter,	Heislerville,	114	10	5 00	6/20/14	1 yr.	.....	67	.....	.....
Compton & Errickson,	Leesburg,	115	177	*90 00	6/20/14	1 yr.	109-253	20	206-630	417-586
Campbell & Buzby,	Port Norris,	192	305	*152 00	6/20/14	1 yr.	.....	121-115	208-315-	323-500-
							.....	313-144-	313-144-	146-147-
							.....	121-111-	203	105
Donnelly & Donnelly,	Heislerville,	120	158	*84 50	6/20/14	1 yr.	164-284-	.....	.....	.....
							208-158-	.....	.....	.....
							165	.....	.....	540
Donnelly, Lorenzo G.,	Heislerville,	121	32	16 00	6/20/14	1 yr.	.....	.....	389	.....
Evans, Evans & Evans, ..	Millville,	127	234	*120 50	6/20/14	1 yr.	280-273	195	.....	382-583
Edwards & Garrison,	Millville,	129	71	35 50	6/20/14	1 yr.	69-171	132-19	.....	362
Fidler, Frank,	Dennisville,	131	43	*26 50	6/20/14	1 yr.	.....	24	.....	.....
Fithian & Minch,	Bridgeton,	132	334	*166 50	6/20/14	1 yr.	.....	153	75	465-277-
							.....	.....	482-234-	518
							.....	.....	118-126	.....
		133					.....	.....	.....	.....
		134					.....	.....	.....	.....
Ferguson, Argus S.,	Leesburg,	135	10	5 00	6/20/14	1 yr.	.....	.....	633	.....
Ferguson, Argus S.,	Leesburg,	136	61	*37 00	6/20/14	1 yr.	.....	.....	626	307-66
Fowler & Morris,	Port Norris,	137	227	*118 00	6/20/14	1 yr.	.....	178-100-	563-498-	.....
							.....	272	449	472
Fagan, Raymond,	Port Norris,	139	102	*42 00	6/20/14	1 yr.	201-311	.....	.....	565-592
Fauver, William, Jr.,	Port Norris,	140	20	10 00	6/20/14	1 yr.	.....	204	565	.....
Garrison, Daniel C.,	Heislerville,	142	52	26 00	6/20/14	1 yr.	.....	178	301-550	.....

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Gaskill, Geo. S.,	Port Norris,	143	54	*\$21 00	6/20/14	1 yr.	.....	.....	295	137-433-
							.....	.....	.....	550
Gandy, Miles,	Cedarville,	144	224	*112 50	6/20/14	1 yr.	.....	.....	279-464-	422-173-
							.....	.....	263-282-	174-283
							.....	.....	462	.....
Gaskill, John,	Newport,	148	301	*154 50	6/20/14	1 yr.	213-52-	.....	611-634-	134-294-
							333	267	444-476-	483
							.....	.....	592	.....
Garrison, Joseph,	Dividing Creek,	149	19	9 50	6/20/14	1 yr.	.....	.....	.....	102
Garrison, Frank L.,	Dividing Creek,	151	12	6 00	6/20/14	1 yr.	.....	.....	19	.....
Garrison, Joseph M.,	Port Norris,	152	87	*48 00	6/20/14	1 yr.	.....	.....	162	.....
Gandy & Van Gilder,	Maurice River,	155	128	64 00	6/20/14	1 yr.	156-32	.....	9-628-629	104-292
Green, Socrates,	Port Norris,	158	10	5 00	6/20/14	1 yr.	.....	.....	216	.....
Haley, Clarence,	Mauricetown,	161	48	24 00	6/20/14	1 yr.	.....	6-156	.....	.....
Henderson, Lafayette,	Leesburg,	164	66	33 00	6/20/14	1 yr.	.....	.....	152	355
Hager, Sherman,	Port Norris,	165	110	55 00	6/20/14	1 yr.	.....	.....	84	438
Hasher & Robbins,	Port Norris,	166	45	22 50	6/20/14	1 yr.	.....	.....	254	584
Hearn, Margaret,	Port Norris,	167	33	16 50	6/20/14	1 yr.	.....	.....	437-96	.....
Hearn & Garrison,	Port Norris,	168	21	10 50	6/20/14	1 yr.	.....	.....	.....	236
Harris, John W., Est.,	Leesburg,	169	56	28 00	6/20/14	1 yr.	.....	.....	93	.....
Hiles, Arthur,	Haleyville,	171	6	5 00	6/20/14	1 yr.	.....	.....	300	.....
Hinson & Bateman,	Mauricetown,	172	328	164 00	6/20/14	1 yr.	262-130	.....	431-520-	.....
							.....	.....	432-305-	.....
							.....	.....	224-267-	.....
							.....	.....	97	131-119
Hinson, Harold E.,	Mauricetown,	174	31	*16 50	6/20/14	1 yr.	269	.....	314-380	.....
Hand & Randolph,	Port Norris,	175	53	*31 50	6/20/14	1 yr.	276	.....	.....	531
Hand, Harrison,	Port Norris,	176	38	19 00	6/20/14	1 yr.	.....	.....	118	213-578
Hand, Constant W.,	Port Norris,	178	16	8 00	6/20/14	1 yr.	.....	.....	.....	315
Hand & Joslin,	Port Norris,	179	15	7 50	6/20/14	1 yr.	.....	.....	.....	356
Hand & Berry Wm. H., ..	Port Norris,	180	17	8 50	6/20/14	1 yr.	.....	.....	.....	406
Hand, Berry & Berry,	Port Norris,	181	159	79 50	6/20/14	1 yr.	139	.....	23-368	157-168
Hand & Berry, Benj.,	Port Norris,	182	92	46 00	6/20/14	1 yr.	.....	214-122	488	.....

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Hand & Campbell,	Port Norris,	183	345	*\$170 50	6/20/14	1 yr.	177-299	257	409-421-127	428-505-370-190-251-261-317
Hand, Constant W.,	Port Norris,	184	355	*178 00	6/20/14	1 yr.	270-233-116-58	150-193-418-310-553-474	456-378-494-457-175-176-142-35	
Husted & Campbell,	Bridgeton,	185	20	*14 00	6/20/14	1 yr.			108-412	165-464
Husted, Howard S.,	Bridgeton,	186	70	35 00	6/20/14	1 yr.				16-163-377
Hanners, McClellan,	Newport,	187	39	19 50	6/20/14	1 yr.				18-15
Hunter, Wm. C.,	Haleyville,	188	38	19 00	6/20/14	1 yr.	205-212			235
Hunter, Aaron S.,	Haleyville,	189	27	13 50	6/20/14	1 yr.	204-206			155
Hunter & Hunter,	Haleyville,	190	42	21 00	6/20/14	1 yr.	151	265		521
Hettinger, Henry A.,	Bridgeton,	191	113	*57 50	6/20/14	1 yr.	260		248	
Harrington, Gerald,	Port Norris,	193	30	15 00	6/20/14	1 yr.			155-216	
Hollinger, Harrison,	Port Norris,	194	98	49 00	6/20/14	1 yr.	207-302	218-97	63-214	106
Hollinger & Bradford,	Port Norris,	195	30	15 00	6/20/14	1 yr.				285
Hagemann, Albert C.,	Merchantville,	196	357	*217 50	6/20/14	1 yr.	141-136-161	22-99-127-184	524-88-296	346-568-193-81-208-386-560
Hiles, Hiles & Sutter,	Haleyville,	197	22	4 50	6/20/14	1 yr.				
Hiles & Hiles,	Haleyville,	198	25	12 50	6/20/14	1 yr.		249	602-233	
Howlett, John J.,	Camden,	199	163	*84 00	6/20/14	1 yr.			503-514-486	314-542
Ingorsoll, Chas. M.,	Dividing Creek,	203	13	6 50	6/20/14	1 yr.				397
Ingorsoll & Campbell,	Dividing Creek,	204	9	5 00	6/20/14	1 yr.				481
Isard, Somers H.,	Rio Grande,	206	18	9 00	6/20/14	1 yr.				195
Jenkins, William,	Dividing Creek,	208	17	8 50	6/20/14	1 yr.				260-396-19
Johnson, Chas. F.,	Cedarville,	209	185	92 50	6/20/14	1 yr.	147		93-285-454	340-496
Johnson, Chas. W.,	Newport,	210	73	*38 50	6/20/14	1 yr.		252		263
Joslin & Moncrief Est.,	Newport,	211	9	5 00	6/20/14	1 yr.				171

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Joslin, Moncrief, Est.,	Newport,	212	61	\$28 50	6/20/14	1 yr.			240-411	572
Mulford & Mulford,	Newport,	213	24	12 00	6/20/14	1 yr.			593	590
Joslin, Benj. S.,	Newport,	215	40	20 00	6/20/14	1 yr.			262-84	98
Joslin & Crossley,	Newport,	216	33	*12 50	6/20/14	1 yr.				322-567
Joslin & Johnson,	Newport,	217	10	5 00	6/20/14	1 yr.				639
Jeffries, Robt. L.,	Port Norris,	207	77	*26 50	6/20/14	1 yr.		244	151-532	501-563
Lore, Lore & Lore,	Cedarville,	219	169	*88 00	6/20/14	1 yr.		32	395	491-59-60-273-444
Lore, R. T. & Wm. C.,	Camden,	220	195	*98 00	6/20/14	1 yr.		29	441-271-319-429	488-88-128-156-152
Lore, Louisa,	Millville,	221	6	5 00	6/20/14	1 yr.				166
Lore, Nathaniel J.,	Dividing Creek,	222	6	5 00	6/20/14	1 yr.			554	
Lore, Addie,	Newport,	223	81	40 50	6/20/14	1 yr.				296
Lee, Samuel,	Leesburg,	225	34	17 00	6/20/14	1 yr.				228-424
Lee, Harry M.,	Port Norris,	226	134	*70 00	6/20/14	1 yr.		234	143-138-428	144-401-262-454
Lee, Maurice R.,	Port Norris,	227	57	28 50	6/20/14	1 yr.	60	134		
Lee, Frank V.,	Leesburg,	228	6	5 00	6/20/14	1 yr.	132			
Lee & Newcomb,	Port Norris,	230	20	*15 00	6/20/14	1 yr.		274		
Lee, Addie,	Leesburg,	231	14	7 00	6/20/14	1 yr.	192			
Lake, John T.,	Port Norris,	232	120	60 00	6/20/14	1 yr.	174		165-187	114-423-507
Lake, J. Hammett,	Port Norris,	233	127	*78 00	6/20/14	1 yr.		92	623-561-326	
Land, Geroges,	Port Norris,	234	15	7 50	6/20/14	1 yr.	267-142			
Linnenburg, Harry,	Cedarville,	235	39	19 50	6/20/14	1 yr.				342
Lake, Samuel C.,	Port Norris,	236	96	*51 00	6/20/14	1 yr.		91	638-595	332
Ladow, Sylvanus A.,	Dividing Creek,	237	14	7 00	6/20/14	1 yr.				11
Land, William H.,	Port Norris,	239	135	67 50	6/20/14	1 yr.	193-238-291-125	180	543-547	511
Lake & Miller,	Port Norris,	243	37	18 50	6/20/14	1 yr.	92		603	

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Moore & Newcomb,	Port Norris,	251	18	*\$9 50	6/20/14	1 yr.		275		
Moore & Kelsey,	Fairton,	246	48	24 00	6/20/14	1 yr.				305
Moore, Robert,	Bridgeton,	247	78	39 00	6/20/14	1 yr.			115	187
Moore & Moore,	Bridgeton,	248	104	52 00	6/20/14	1 yr.			521-484	329
Moore, Isaac L.,	Dividing Creek,	249	10	5 00	6/20/14	1 yr.				259
Moore, Oscar,	Port Norris,	250	14	*7 50	6/20/14	1 yr.		152		
Mulford & Mulford,	Bivalve,	255	621	*\$17 50	6/20/14	1 yr.	99	73-130-263	346-333-529-125-120-269-117-331-50-334	390-537-419-341-55-63
Mulford, Mulford & Mulford, Est.,	Bivalve,	256	283	141 50	6/20/14	1 yr.			388-463-130-131-330-124	
Mulford, Ephraim, Est., ..	Bridgeton,	257	14	7 00	6/20/14	1 yr.				181
Meerwald, Augustus J., ...	Dennisville,	258	206	*104 50	6/20/14	1 yr.	31-239			573
McDaniels, Major & Howard,	Port Norris,	260	40	20 00	6/20/14	1 yr.				299-512-458
McDaniels, Major & John,	Port Norris,	261	13	6 50	6/20/14	1 yr.				442
McDaniels, Willard,	Port Norris,	262	19	9 50	6/20/14	1 yr.				523
McLain, Chas. G.,	Leesburg,	263	29	14 50	6/20/14	1 yr.		9-135		67
Newcomb, Moore & Moore,	Port Norris,	266	30	15 00	6/20/14	1 yr.				582
Newcomb & Earl,	Port Norris,	267	22	*12 00	6/20/14	1 yr.				625
Newcomb, Adrian B.,	Newport,	268	169	*\$87 50	6/20/14	1 yr.		261	414-589-256-291-341	389-538-169
Newcomb, Olin W.,	Port Norris,	269	17	8 50	6/20/14	1 yr.			135-141	
Newcomb, Wm. B.,	Newport,	270	31	15 50	6/20/14	1 yr.			426	
Newcomb, Fayette L.,	Port Norris,	271	52	26 00	6/20/14	1 yr.	257	163		
Newcomb, Lewis B.,	Cedarville,	272	47	23 50	6/20/14	1 yr.		87		45-65-337

BUREAU OF SHELL FISHERIES.

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Newcomb, Theophilus, Est., ..	Port Norris,	273	61	*\$26 00	6/20/14	1 yr.		114-171	443	135
Newcomb, Peter F.,	Newport,	274	220	110 00	6/20/14	1 yr.			139-133-297-427	463-162-189-343
Newcomb, P. F. & Geo. W., Estate,	Newport,	275	22	11 00	6/20/14	1 yr.			136-137	
Newcomb, Geo. W. C., Est., ..	Newport,	276	39	*24 50	6/20/14	1 yr.				448
Newcomb, Josiah & Daniel L.,	Port Norris,	277	127	*69 50	6/20/14	1 yr.	135-308-303		551	313-178-585
Nickelson, Henry C.,	Port Norris,	278	92	*48 50	6/20/14	1 yr.		18	67	510
Nieukirk & Nieukirk,	Camden,	279	136	68 00	6/20/14	1 yr.			109-253	28-230-308
Nickerson, Harry E.,	Port Norris,	281	15	7 50	6/20/14	1 yr.				284
Neal, Joseph D.,	Philadelphia,	282	437	218 50	6/20/14	1 yr.	120-157	63-101	450-182-289-335-243-318	74
Newcomb & Stites,	Newport,	283	167	83 50	6/20/14	1 yr.			422	352
Orr, Mark L.,	Dividing Creek,	285	21	10 50	6/20/14	1 yr.			300-299	118
Polhamus, B. William,	Vineland,	287	150	75 00	6/20/14	1 yr.	312-313			
Polhamus & Sockwell, ...	Vineland,	291	82	*40 00	6/20/14	1 yr.	255-306		103-190	
Polhamus & Sharp,	Vineland,	292	95	*46 50	6/20/14	1 yr.	113-295		6-8	
Pashley, Charles,	Dividing Creek,	293	24	12 00	6/20/14	1 yr.				367
Piece, William M.,	Port Norris,	294	31	*15 00	6/20/14	1 yr.			189	202
Peterson & Bateman,	Port Norris,	295	153	79 00	6/20/14	1 yr.		107-108	304-57	225-120
Peterson & Peterson,	Port Norris,	296	86	*46 50	6/20/14	1 yr.			188-192	201-212
Peterson & Moore,	Newport,	297	21	10 50	6/20/14	1 yr.				394-536
Peterson, Geo. C.,	Newport,	298	173	*\$89 00	6/20/14	1 yr.			594-292-256	381
Pierce & Pennell,	Dorchester,	299	67	*\$36 50	6/20/14	1 yr.			338-588-351-345-584	73-324-520
Pierce, Wm. H.,	Dorchester,	300	10	5 00	6/20/14	1 yr.	233			547

BUREAU OF SHELL FISHERIES.

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Pepper & Pepper,	Dividing Creek,	301	119	*\$55 00	6/20/14	1 yr.	163			
Petit, Charles,	Bivalve,	302	9	5 00	6/20/14	1 yr.		111-221		34-478-133-
Peterson, John C.,	Greenwich,	303	34	*14 00	6/20/14	1 yr.				139-140
Peterson, Wm. B.,	Port Norris,	304	104	52 00	6/20/14	1 yr.				517
Pierce, John W.,	Dorchester,	305	10	5 00	6/20/14	1 yr.		109-124	307-149-	
Robbins, Clarence & David, Jr.,	Port Norris,	418	406	202 50	6/20/14	1 yr.			217-303,	
Robbins, Samuel L.,	Port Norris,	306	28	14 00	6/20/14	1 yr.				
Robbins, Robbins & Robbins,	Port Norris,	307	31	15 50	6/20/14	1 yr.				
Robbins, Clarence M.,	Port Norris,	308	107	53 50	6/20/14	1 yr.	117-294	82	286-390	48- 68-498
Robbins, David, Jr.,	Port Norris,	309	164	*83 50	6/20/14	1 yr.	62-220	176	294-246-	108-242-
Robbins & O'Neal,	Port Norris,	310	56	28 00	6/20/14	1 yr.			288-325-	272-555
Robbins & Reed,	Port Norris,	311	158	*82 50	6/20/14	1 yr.			287	
Robbins, Wilbert, H.,	Port Norris,	312	58	29 00	6/20/14	1 yr.			515	318
Robbins, Levi,	Port Norris,	313	29	14 50	6/20/14	1 yr.			76	549-270-
Robbins, Edward C.,	Haleyville,	314	37	18 50	6/20/14	1 yr.				302-519
Robbins, Levi & Edward C.,	Haleyville,	315	214	*111 00	6/20/14	1 yr.	265-266	128-102-		404-115
Robbins, David, Sr.,	Port Norris,	316	323	*166 00	6/20/14	1 yr.	175-185	68- 72-110	64-624	504
									306-458-	
									439-473-	
									487-417-	
									132- 54-	349-514-
									55- 56-197	566

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Robbins, George,	Port Norris,	317	209	*\$102 50	6/20/14	1 yr.	166-252-	71-129	89-440-470	406-506-
Robbins, Daniel T.,	Port Norris,	318	12	6 00	6/20/14	1 yr.	202			561
Robbins, Sheppard,	Port Norris,	319	18	9 00	6/20/14	1 yr.			402	221
Roe, J. Wesley,	Dorchester,	320	10	5 00	6/20/14	1 yr.	144			
Rowley, L. Bates,	Port Norris,	321	34	17 00	6/20/14	1 yr.		137		124-125
Randolph, Andrew,	Port Norris,	322	25	12 50	6/20/14	1 yr.	222		212	
Randolph & Adams,	Leesburg,	323	41	*23 50	6/20/14	1 yr.	154			385-482
Rahr, David W.,	Bricksboro,	324	51	25 50	6/20/14	1 yr.	211		78	533
Rogers, Maurice A., Est.,	Camden,	327	507	*260 00	6/20/14	1 yr.	186-188-	8-106	377-348-	
							189		461- 99-	
									176-226-	
									347	13-141-298
Rogers & Whilden,	Camden,	328	325	162 50	6/20/14	1 yr.	53- 91-190		435-586-	
									75- 74-385-	
									384	33- 62
Riggin, Riggin, Riggin & Stites,	Port Norris,	329	72	36 00	6/20/14	1 yr.				291
Riggin, Riggin & Riggin,	Port Norris,	330	83	41 50	6/20/14	1 yr.				434
Riggin, Walter C.,	Port Norris,	331	121	*60 00	6/20/14	1 yr.	191		573	46- 49-503
Riggin, Walter C. & Chas. M.,	Port Norris,	332	41	20 50	6/20/14	1 yr.			394	61
Riggin, Chas. M. & Edward M.,	Port Norris,	333	34	17 00	6/20/14	1 yr.			572	
Riggin, Edward M.,	Port Norris,	334	111	55 50	6/20/14	1 yr.	221		321-225	493
Riggin, Chas. M.,	Port Norris,	335	57	*27 50	6/20/14	1 yr.			193	566
Sharp, Levi B.,	Heislerville,	336	42	21 90	6/20/14	1 yr.		30- 37		418
Swank, David,	Bivalve,	337	18	9 00	6/20/14	1 yr.			212	
Sharp, Zadok, R., Jr.,	Dias Creek,	338	38	19 00	6/20/14	1 yr.	149		544	
Sutter, William,	Port Norris,	339	20	10 00	6/20/14	1 yr.	229			
Sharp, Zadok C., Sr.,	Leesburg,	340	41	20 50	6/20/14	1 yr.	145	55- 61		
Sharp, Walter L.,	Port Norris,	341	12	6 00	6/20/14	1 yr.	230			
Sharp & Williams,	Heislerville,	343	30	15 00	6/20/14	1 yr.				437

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Sharp, John W.,	Leesburg,	344	21	\$10 50	6/20/14	1 yr.				312
Sharp & Sharp,	Leesburg,	345	98	*61 50	6/20/14	1 yr.	241		614	
Smith, Asa C.,	Leesburg,	346	62	31 00	6/20/14	1 yr.	33-143			460
Sharpless, John T.,	Millville,	347	279	*138 50	6/20/14	1 yr.	90-134-133	205-208	168-405-	570-107-
Sheppard, Ralph A.,	Bivalve,	348	15	7 50	6/20/14	1 yr.		28		344
Sheppard, Harrison,	Mauricetown,	349	236	118 00	6/20/14	1 yr.	168		374-376-	240-474
									90-191-231-	844
									196	27
Smith, Seth S.,	Leesburg,	350	10	5 00	6/20/14	1 yr.	261			
Sheppard, Lewis F.,	Cedarville,	352	266	*141 00	6/20/14	1 yr.		202	344-311-	409-497-
									585-116-	559-180-
									119-336	184-361
Sheppard, S. Ware,	Newport,	353	144	*81 00	6/20/14	1 yr.	227		415-257-	129-430-
									276-278	546
Smith, Henry C.,	Newport,	354	109	54 50	6/20/14	1 yr.			272-298-	
									452	410
Sheppard & Smith,	Newport,	355	23	11 50	6/20/14	1 yr.			615	
Smith, Asa C. & Seth S.,	Leesburg,	358	10	5 00	6/20/14	1 yr.				281
Shull, John L.,	Newport,	361	235	*118 50	6/20/14	1 yr.	234	83-84-266	607-85-	
									237-329	487-64-
										42-172
Shropshire, Edward,	Haleyville,	363	95	47 50	6/20/14	1 yr.	196-216-			
							249	172	386-419	
Sutton, Wm. G.,	Bridgeton,	364	57	*29 50	6/20/14	1 yr.			600	188
Schoch, John E.,	Ocean City,	366	14	7 00	6/20/14	1 yr.	102			
Stites, Gilbert & John, ..	Dragston,	367	32	16 00	6/20/14	1 yr.	226			526
Stites, Edmund, Jr.,	Port Norris,	368	417	*214 50	6/20/14	1 yr.	297	164-173-	433-571-	
								237	393-399-	
									423-617-	
									152-153-	
									322-361	

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Stites, Jr. & Wm. B. Newcomb,	Port Norris,	369	114	*\$56 00	6/20/14	1 yr.		131	255-591	411
Stites, Jr. & F. L. Garrison,	Port Norris,	370	30	15 00	6/20/14	1 yr.			396	369
Stites, Howard,	Newport,	371	18	9 00	6/20/14	1 yr.			398	
Sheldon & Bell,	Newport,	373	4	5 00	6/20/14	1 yr.			531	
Sockwell, Henry S.,	Port Norris,	374	86	43 00	6/20/14	1 yr.		264		
Sockwell & Gaskill,	Port Norris,	375	37	18 50	6/20/14	1 yr.		11	41	
Sockwell, Howard W.,	Port Norris,	376	607	*294 50	6/20/14	1 yr.	274-287	45-50-70	228-349-	
									366-622-	
									52-44-540-	
									222-47-	
									48-49-50-	
									51	460
Schoch, George Y.,	Ocean City,	377	322	161 00	6/20/14	1 yr.	217-243-			
							104-103-			
							105	161-149	339-420	515-37-
										39-535-215
Schoch & Sharp,	Ocean City and Port Norris,	378	92	46 00	6/20/14	1 yr.	214		227	38-93-469
	Ocean City and Port Norris,	379	361	*194 00	6/20/14	1 yr.	219-218-			
							270	119-194	453-92-	
									375-442	36-529
Terry, Bradford & Hand,	Port Norris,	382	28	18 00	6/20/14	1 yr.			610	
Terry, William F.,	Port Norris,	383	7	*4 00	6/20/14	1 yr.			211	
Terry, George N.,	Dividing Creek,	384	39	*23 50	6/20/14	1 yr.			636	117
Terry & Terry,	Dividing Creek,	385	25	12 50	6/20/14	1 yr.			404	
Terry & Veale,	Dividing Creek,	386	85	*42 00	6/20/14	1 yr.		105-232		
Turner, James A.,	Newport,	387	95	*50 00	6/20/14	1 yr.		253	613	452-100-
										432-447
										76-167
Turner, May,	Newport,	388	23	11 50	6/20/14	1 yr.			229-359-	
Townsend, Mark, Est.,	Port Norris,	390	95	47 50	6/20/14	1 yr.			387	

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Townsend, Stacy,	Leesburg,	391	29	\$14 50	6/20/14	1 yr.	.....	.....	.....	356
Tozour, Charles,	Delmont,	392	44	*23 50	6/20/14	1 yr.	.....	133-157	.....	548
Tozour & Foster,	Delmont,	393	35	17 50	6/20/14	1 yr.	.....	.....	545	.....
Taylor, D. O.,	Port Norris,	394	27	13 50	6/20/14	1 yr.	.....	275	.....	546
Turpin & Collins,	Mauricetown,	396	18	9 00	6/20/14	1 yr.	.....	194	.....	364
Tilghman, Eva,	Port Norris,	397	26	13 00	6/20/14	1 yr.	.....	.....	.....	109
Turner, Leaming,	Dividing Creek,	389	32	16 00	6/20/14	1 yr.	.....	.....	.....	123-182
										350
Vail, Wm. A., Sr.,	Bridgeton,	399	10	5 00	6/20/14	1 yr.	.....	192	.....	.....
Vail, Wm. A., Jr.,	Dividing Creek,	400	9	5 00	6/20/14	1 yr.	.....	.....	504	.....
Veale, Moses,	Dividing Creek,	401	18	9 00	6/20/14	1 yr.	.....	.....	575	127
Veale, William,	Dividing Creek,	402	15	7 50	6/20/14	1 yr.	.....	243	.....	.....
Veale & Loper,	Dividing Creek,	403	374	*192 50	6/20/14	1 yr.	277-282-	125-170-	397-570-	534- 21-
							182	203	290-353-	126-132
									457	.....
Van Vliet, William,	Newport,	404	21	10 50	6/20/14	1 yr.	.....	.....	.....	383
Willis, Frank L.,	Cedarville,	405	39	*23 00	6/20/14	1 yr.	.....	.....	.....	471-551
Wallen, Wallen, Est. & Whitaker,	Fairton,	406	273	136 50	6/20/14	1 yr.	.....	33- 34	173-230-	.....
									235-308-	.....
									175-244-	.....
									309	91-186-192
Westcott & Trenchard, ...	Fairton,	407	150	75 00	6/20/14	1 yr.	.....	36	140	57- 58-525-
									.....	543
Whilden, John H., Est., ..	Fairton,	408	41	20 50	6/20/14	1 yr.	.....	38- 74	.....	149
Whilden, Somers H., ...	Mauricetown,	409	46	23 00	6/20/14	1 yr.	.....	187	155	335
Windfohr, Arthur,	Bivalve,	410	77	38 50	6/20/14	1 yr.	.....	148-181	172	157-477
Yates, G. Christy,	Port Norris,	412	56	28 00	6/20/14	1 yr.	.....	.....	.....	398-263
Yates, Lucius E., Est., ...	Port Norris,	413	254	*126 50	6/20/14	1 yr.	.....	227	194-391-	121+224-
									424- 77-	250- 40-
									157-350-	111-164-
									392	198

DELAWARE BAY AND MAURICE RIVER COVE OYSTER BED LEASES—Continued.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Yates, G. C. & Gaskill, ...	Port Norris,	414	12	\$6 00	6/20/14	1 yr.	.....	.....	.....	589
Yates, Est., Peterson, ...	Port Norris,	415	82	42 50	6/20/14	1 yr.	.....	235	.....	.....
Yates, Est., Hoffman & Robbins,	Port Norris,	416	212	*116 00	6/20/14	1 yr.	159-271	123-229	497- 65-	.....
									467-494	.....

*Indicates a credit or debit owing to area being estimated 1913 to 1914.

Delaware Bay and Maurice River Cove Oyster Bed Leases (Supplemental).

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	SECTION			
							A.	B.	C.	D.
Fithian, Samuel P.,	Bridgeton,	133	16	\$8 00	6/20/14	1 yr.	110	15	86	.....
Foster, W. Linwood,	Delmont,	134	21	10 50	6/20/14	1 yr.	146	.....	489	.....
McDaniels, Howard,	Leesburg,	259	20	10 00	6/20/14	1 yr.	119	.....	.....	.....
Rowley, Fred,	Port Norris,	417	20	10 00	6/20/14	1 yr.	.....	.....	.....	.....
Sutton, Joseph,	Leesburg,	365	13	6 50	6/20/14	1 yr.	.....	.....	.....	.....

Raritan Bay Oyster Bed Leases.

LESSEE.	ADDRESS.	Lease No.	Acreage.	Amount of Lease.	Date.	Term.	Ground Numbers.
Hammer & Hammer,	Keyport, ...	2	42 1/4	42 25	6/20/14	1 yr.	4-5-25
Post, Russell B., ...	Keyport, ...	3	91 3/4	91 75	6/20/14	1 yr.	18-83-45-47-48
Woolley, William E.,	Keyport, ...	4	163 1/2	163 50	6/20/14	1 yr.	30-31-32-33-15-6-16-17-27-28
Mason, John W., ...	Keyport, ...	5	17 3/4	17 75	6/20/14	1 yr.	14
Mason, Lorenzo G.,	Keyport, ...	6	35	35 00	6/20/14	1 yr.	12
Maurer, William, ...	Keyport, ...	7	81 1/2	81 50	6/20/14	1 yr.	43-68-9-8-37-38-41-42

Delaware Bay and Maurice River Cove Boat Licenses.

No. of License.	Master.	Address.	Kind and Name of Boat.	Tonn.	Date.	Term.	Amount.
431	Adams, J. Wesley.	Port Norris.	Sloop Sophy & Ina.	15	March 31, 1914	1 yr.	\$22 50
24	Anold, James.	Fairton.	Schr. Helen May Schoch.	34	March 18, 1914	1 yr.	51 00
450	Brand, Robert L.	Fairton.	Schr. Mattie P. Flavelle.	33	March 25, 1914	1 yr.	49 50
473	Boroker, Charles.	Dividing Creek.	Schr. Helen & Sallie.	16	April 1, 1914	1 yr.	24 00
562	Blizzard, Geo. M.	Cedarville.	Sloop Samuel Hanners.	10	April 26, 1914	1 yr.	15 00
588	Bowker, Thomas.	Port Norris.	Schr. Village Belle.	21	April 29, 1914	1 yr.	31 50
332	Bailey, A. J.	Port Norris.	Schr. C. W. & S. Peace.	21	April 1, 1914	1 yr.	31 50
349	Bell, John H.	Newport.	Sloop Mattie B. Sheppard.	14	March 24, 1914	1 yr.	21 00
357	Berry, Henry A.	Port Norris.	Sloop Maud M. Robbins.	14	April 5, 1914	1 yr.	21 00
366	Bornhorst, Henry A.	Port Norris.	Schr. Francis L. Dow.	16	March 31, 1914	1 yr.	24 00
213	Blackman, Smith S.	Port Norris.	Schr. A. & E. Blackman.	23	April 11, 1914	1 yr.	34 50
219	Bornhorst, August.	Port Norris.	Schr. Finette Bornhorst.	17	April 26, 1914	1 yr.	25 50
239	Bateman, Americus V.	Port Norris.	Schr. Carey.	31	April 1, 1914	1 yr.	46 50
250	Bradford, Lemuel.	Newport.	Schr. Samuel C. Lake.	26	April 1, 1914	1 yr.	39 00
101	Bass, George.	Port Norris.	Sloop Eva M. Robbins.	7	April 31, 1914	1 yr.	10 50
106	Blizzard, William.	Port Norris.	Schr. Ratie Burton.	27	April 1, 1914	1 yr.	40 50
111	Bradshaw, John P.	Bridgeton.	Schr. Bohemia.	71	April 28, 1914	1 yr.	106 50
116	Baker, Walter.	Bridgeton.	Ga. St. Sarah M. Mulford.	20	April 4, 1914	1 yr.	30 00
132	Bailey, David.	Port Norris.	Schr. James T. Daniel.	9	April 28, 1914	1 yr.	13 50
156	Bateman, Elmer.	Port Norris.	Ga. St. Wm. E. Fowler.	30	April 4, 1914	1 yr.	45 00
160	Bateman, B. F.	Newport.	Schr. Luther Bateman.	34	April 1, 1914	1 yr.	51 00
195	Berry, Philip.	Port Norris.	Schr. Frances S. Dubois.	23	March 31, 1914	1 yr.	34 50
5	Berry, Stultz.	Port Norris.	Schr. Anna & Helen.	32	March 30, 1914	1 yr.	48 00
7	Bradford, Alford C.	Newport.	Sloop Hattie Jenks.	10	April 1, 1914	1 yr.	15 00
25	Burt, George B.	Cedarville.	Schr. Maggie S. Myers.	24	May 27, 1914	1 yr.	36 00
31	Bateman, Moses.	Mauricetown.	Schr. Jane A. Smith.	16	March 31, 1914	1 yr.	24 00
37	Bradford, Lucius E.	Newport.	Schr. T. B. Husted.	27	January 1, 1914	1 yr.	40 50
52	Bateman, J. Roberts.	Mauricetown.	Schr. Roscoe S. Miller.	20	January 1, 1914	1 yr.	30 00
81	Berry, Benjamin.	Port Norris.	Schr. Arabelle.	26	March 31, 1914	1 yr.	39 00
82	Berry, John W.	Port Norris.	Schr. Annie C. Johnson.	32	April 30, 1914	1 yr.	48 00
96	Bradford, Chas. L.	Newport.	Schr. Chas. L. Bardford.	35	April 1, 1914	1 yr.	52 50
97	Bell, George C., Jr.	Bivalve.	Ga. St. James Mulvey.	18	March 25, 1914	1 yr.	27 00
42	Brineshults, Jon. M.	Cedarville.	Schr. James O. Sheppard.	43	October 5, 1914	1 yr.	64 50
411	Covert, Charles A.	Leesburg.	Schr. Harry & Charlie.	15	April 2, 1914	1 yr.	22 50
426	Campbell, Stetson.	Port Norris.	Schr. Sunlight.	26	April 5, 1914	1 yr.	39 00
427	Cox, Champion H.	Leesburg.	Ga. St. Harry & Willie.	14	April 1, 1914	1 yr.	21 00
479	Crossley, George B.	Newport.	Schr. Bicycle.	16	March 31, 1914	1 yr.	24 00
325	Chance, E. W.	Mauricetown.	Schr. John E. Mehrer.	25	April 28, 1914	1 yr.	37 50
351	Coleman, Wm. M.	Port Norris.	Sloop Two Davids.	10	April 30, 1914	1 yr.	15 00
218	Campbell, Wilson A.	Newport.	Schr. Imelda Campbell.	30	April 1, 1914	1 yr.	45 00

BUREAU OF SHELL FISHERIES.

DELAWARE BAY AND MAURICE RIVER COVE BOAT LICENSES—Continued.

No. of License.	Master.	Address.	Kind and Name of Boat.	Tonn.	Date.	Term.	Amount.
227	Campbell, Peter.	Newport.	Schr. Mary W. Mears.	33	April 19, 1914	1 yr.	\$49 50
241	Campbell, Philip F.	Newport.	Schr. Sarah A. Melson.	26	March 29, 1914	1 yr.	39 00
262	Clark, John.	Port Norris.	Sloop Water Lily.	12	January 1, 1914	1 yr.	18 00
110	Campbell, Winfield A.	Bivalve.	Schr. Bay Queen.	19	March 24, 1914	1 yr.	28 50
120	Cobb, Harry.	Port Norris.	Sloop William R.	8	April 30, 1914	1 yr.	12 00
133	Campbell, Walter J.	Port Norris.	Schr. Daniel M. Bateman.	18	April 1, 1914	1 yr.	27 00
137	Chew, William V.	Port Norris.	Schr. J. W. Fennimore.	15	April 20, 1914	1 yr.	22 50
168	Corson, Dudley.	Port Norris.	Sloop Robert Lamden.	9	April 11, 1914	1 yr.	13 50
176	Carey, James.	Greenwich.	Schr. Susie C. Raynor.	29	April 21, 1914	1 yr.	43 50
180	Cain, Ellis L.	Port Norris.	Schr. Marion Mayne.	16	March 31, 1914	1 yr.	24 00
191	Cruise, Benjamin E.	Mauricetown.	Schr. Araminta.	27	April 1, 1914	1 yr.	40 50
16	Clark, Joshua.	Port Norris.	Schr. Jeremiah N. Ogden.	35	December 16, 1913	1 yr.	52 50
34	Campbell, Clement L.	Newport.	Schr. M. D. & Belle Mulford.	30	March 22, 1914	1 yr.	45 00
43	Conahay, George R.	Port Norris.	Schr. William Dennis.	18	April 12, 1914	1 yr.	27 00
75	Cosier, L. E.	Newport.	Schr. Valentine Cosier.	26	March 31, 1914	1 yr.	39 00
93	Clark, Wm. W.	Port Norris.	Schr. Delaware.	18	April 30, 1914	1 yr.	27 00
32	Diament, Wm. A.	Cedarville.	Schr. Stanton.	22	September 23, 1914	1 yr.	33 00
238	Dillahay, William.	Cedarville.	Sloop Hattie Nelson.	Under	April 10, 1914	1 yr.	10 00
130	Davis, Ell.	Fairton.	Schr. Phillip Ford.	32	April 9, 1914	1 yr.	48 00
135	Donnelly, L. G.	Heislerville.	Schr. T. O. Ladow.	24	April 27, 1914	1 yr.	36 00
197	Daniels, David B.	Bridgeton.	Sloop Lillian.	8	April 24, 1914	1 yr.	12 00
337	Evans, Edgar.	Millville.	Schr. Boyd N. Sheppard.	32	April 1, 1914	1 yr.	48 00
394	Earl, Thomas.	Port Norris.	Schr. Sylvan Dell.	14	April 2, 1914	1 yr.	21 00
154	Evans, Norman.	Millville.	Schr. Alice & Mary.	20	April 1, 1914	1 yr.	30 00
15	Emerson, Horatio.	Cedarville.	Schr. Richard Vaux.	24	April 18, 1914	1 yr.	36 00
49	Errickson, Samuel W.	Leesburg.	Schr. Florence Errickson.	38	April 2, 1914	1 yr.	57 00
392	Fidler, Frank.	Dennisville.	Schr. Martha Ann.	18	March 30, 1914	1 yr.	27 00
266	Ferguson, Leo.	Leesburg.	Schr. Steelman R. Lee.	17	April 1, 1914	1 yr.	25 50
281	Foster, W. Linwood.	Delmont.	Sloop Mary A. Bickley.	13	April 1, 1914	1 yr.	19 50
114	Fauver, William.	Port Norris.	Sloop George W. Jackson.	10	April 1, 1914	1 yr.	15 00
167	Fisher, Charles.	Port Norris.	Sloop Nancy L. Cosier.	14	April 1, 1914	1 yr.	21 00
14	Flynn, John.	Camden.	Ga. St. M. A. Howlett.	31	April 12, 1914	1 yr.	46 50
70	Fisher, John.	Port Norris.	Sloop Sallie R. A.	14	April 1, 1914	1 yr.	21 00
458	Gaskill, Jesse T.	Port Norris.	Ga. St. H. H. Lippincott.	27	April 1, 1914	1 yr.	40 50
328	Gaskill, Jesse, Jr.	Port Norris.	Sloop J. S. Penney.	14	April 27, 1914	1 yr.	21 00
341	Gates, James.	Newport.	Schr. North Star.	25	April 6, 1914	1 yr.	37 50
397	Garretson, Sam. H.	Haleyville.	Sloop Howard T. Leach.	10	April 1, 1914	1 yr.	15 00
400	Goff, Oliver.	Heislerville.	Ga. St. Anna W. Neal.	16	March 29, 1914	1 yr.	24 00
268	Green, Socrates.	Port Norris.	Sloop Shamrock.	11	April 27, 1914	1 yr.	16 50
300	Gaskill, Edward.	Port Norris.	Ga. St. Samuel C. Jacoby.	33	January 1, 1914	1 yr.	49 50
105	Garrison, Charles.	Port Norris.	Schr. Lewis Faulane.	34	April 11, 1914	1 yr.	51 00

BUREAU OF SHELL FISHERIES.

DELAWARE BAY AND MAURICE RIVER COVE BOAT LICENSES—Continued.

No. of License.	Master.	Address.	Kind and Name of Boat.	Tonn.	Date.	Term.	Amount.
161	Gaskill, Elcana,	Port Norris,	Ga. St. Laurence T. Corbitt,	42	April 15, 1914	1 yr.	\$63 00
17	Gaskill, George S.,	Port Norris,	Schr. L. E. Yates,	40	March 18, 1914	1 yr.	60 00
20	Garrison, Daniel C.,	Heislerville,	Sloop Olive Mulford,	12	March 25, 1914	1 yr.	18 00
88	Gandy, Miles,	Cedarville,	Schr. Laura M. Bucksom,	28	April 1, 1914	1 yr.	42 00
205	Garrison, Joseph M.,	Port Norris,	Ga. St. B. H. Minch,	14	September 1, 1914	1 yr.	21 00
3	Hunter, William C.,	Haleyville,	Schr. E. C. Vannaman,	15	September 1, 1914	1 yr.	22 50
430	Hasher, Lummis,	Port Norris,	Ga. St. Mary & Ida,	10	April 30, 1914	1 yr.	15 00
585	Holmes, Edward,	Pierces,	Sloop Friendly,	17	April 24, 1914	1 yr.	25 50
335	Hollinger, Harrison,	Port Norris,	Schr. Gratitude,	23	April 20, 1914	1 yr.	34 50
229	Hand, Harrison,	Port Norris,	Sloop Gypsy,	16	March 31, 1914	1 yr.	24 00
216	Hunter, Aaron S.,	Haleyville,	Sloop Frank V. Bateman,	10	April 1, 1914	1 yr.	15 00
236	Harrington, Gerald,	Port Norris,	Schr. J. Calhoun Johnson,	26	April 28, 1914	1 yr.	39 00
246	Henderson, George,	Millville,	Sloop Effie,	Under	April 30, 1914	1 yr.	10 00
269	Haley, Clarence,	Mauricetown,	Sloop Jennie M. Chance,	14	May 1, 1914	1 yr.	21 00
279	Hanners, John H.,	Newport,	Schr. Jos. L. Mulford,	34	April 30, 1914	1 yr.	51 00
297	Hanners, McClellan,	Newport,	Sloop Hannah B. Gibson,	14	March 31, 1914	1 yr.	21 00
299	Harris, Joseph,	Cedarville,	Sloop Mary C.,	Under	April 30, 1914	1 yr.	10 00
23	Hollinger, George,	Port Norris,	Schr. Mary F. Sheppard,	32	November 13, 1913	1 yr.	48 00
118	Husted, Quincy L.,	Newport,	Schr. Amanda B. Lore,	21	April 30, 1914	5 mo.	31 50
155	Hoffman, Silas,	Port Norris,	Schr. Ellanora,	33	April 28, 1914	1 yr.	49 50
10	Hannan, Otto,	Cedarville,	Schr. Almedia,	21	April 1, 1914	1 yr.	31 50
44	Hager, Sherman,	Port Norris,	Ga. St. Annie Hodges,	39	April 21, 1914	1 yr.	58 50
57	Hillman, Charles,	Leesburg,	Schr. Scarborough,	34	April 22, 1914	1 yr.	51 00
58	Hand, Leonard C.,	Port Norris,	Sloop Mary Alice,	13	March 31, 1914	1 yr.	19 50
60	Hasher, Henry,	Port Norris,	Schr. Helen & Rhodella,	33	April 28, 1914	1 yr.	49 50
63	Hartzog, William,	Dorchester,	Schr. Robie & Ella,	14	April 22, 1914	1 yr.	21 00
79	Hignutt, Frank,	Port Norris,	Schr. Wm. C. Lore,	31	April 1, 1914	1 yr.	46 50
89	Hara, Harry O.,	Port Norris,	Schr. Frank & Theresa,	25	April 1, 1914	1 yr.	37 50
90	Harris, Samuel L.,	Port Norris,	Sloop Minnie M. North,	7	March 14, 1914	1 yr.	10 50
171	Hinson, Arthur,	Mauricetown,	Schr. Martin Anderson,	32	September 5, 1914	1 yr.	48 00
118	Husted, Quincy,	Newport,	Schr. Amanda B. Lore,	21	September 30, 1914	1 yr.	31 50
286	Ireland, Edward,	Heislerville,	Sloop Freda C. Naylor,	10	April 30, 1914	1 yr.	15 00
99	Johnson, Frank,	Greenwich,	Schr. Robert Bould,	35	April 24, 1914	1 yr.	52 50
74	Johnson, Chas. W.,	Newport,	Schr. Cashier,	24	November 1, 1913	1 yr.	36 00
71	Johnson, Chas. F.,	Cedarville,	Schr. Elsie M. Riechert,	18	November 1, 1913	1 yr.	27 00
228	Johnson, George W.,	Cape May,	Sloop Cristina,	8	April 25, 1914	1 yr.	12 00
532	Jenkins, William,	Dividing Creek,	Sloop Rhoda & Edith,	Under	April 30, 1914	1 yr.	10 00
69	Joslin, Harrison,	Newport,	Schr. Paul C. Joslin,	30	April 1, 1914	1 yr.	45 00
56	Joslin, Zephaniah,	Newport,	Sloop Mary Ella Hager,	9	April 7, 1914	1 yr.	13 50
53	Joslin, Zephaniah, Jr.,	Newport,	Sloop L. M. Campbell,	Under	April 28, 1914	1 yr.	10 00
87	Lee, U. S.,	Leesburg,	Schr. Three Sisters,	23	April 20, 1914	1 yr.	34 50

DELAWARE BAY AND MAURICE RIVER COVE BOAT LICENSES—Continued.

No. of License.	Master.	Address.	Kind and Name of Boat.	Tonn.	Date.	Term.	Amount.
38	Lodge, James,	Greenwich,	Schr. Beatrice,	22	April 28, 1914	1 yr.	\$33 00
36	Lodge, Frank,	Greenwich,	Schr. Elvina E. Schoch,	24	April 28, 1914	1 yr.	36 00
21	Loper, Beriah,	Dividing Creek,	Schr. William Veale,	35	January 2, 1914	1 yr.	52 50
18	Loper, Beriah,	Dividing Creek,	Schr. William Veale,	Re-measured			
18	Lore, U. S. Grant,	Cedarville,	Schr. Richard D. Lore,	37	September 5, 1914	1 yr.	55 50
166	Land, Gerges,	Port Norris,	Schr. Wm. B. Stites,	40	November 7, 1914	1 yr.	60 00
165	Lake, John T.,	Port Norris,	Schr. White Wing,	19	April 28, 1914	1 yr.	28 50
146	Ladow, Samuel,	Port Norris,	Sloop John S. Johnson,	23	March 29, 1914	1 yr.	34 50
258	Lee, Frank V.,	Leesburg,	Sloop Belle J. Trout,	13	April 29, 1914	1 yr.	19 50
223	Lee, Maurice R.,	Port Norris,	Sloop Mary C. Sharp,	10	March 31, 1914	1 yr.	15 00
221	Lee, Steelman R.,	Leesburg,	Schr. Chas. I. Covert,	15	April 21, 1914	1 yr.	22 50
207	Lee, Harry M.,	Port Norris,	Schr. David R. Lake,	33	January 1, 1914	1 yr.	49 50
385	Ludlam, Henry,	Pierces,	Schr. Eva,	24	March 28, 1914	1 yr.	36 00
365	Ladow, Sylvanus A.,	Dividing Creek,	Sloop L. Drew,	Under	May 4, 1914	1 yr.	10 00
583	Lake, Samuel C.,	Port Norris,	Sloop Mall,	8	April 30, 1914	1 yr.	12 00
45	Moffett, James,	Greenwich,	Schr. Peter R. Paynter,	13	April 1, 1914	1 yr.	19 50
129	Moore, S. Reelsey,	Fairton,	Schr. Dawning Light,	25	April 1, 1914	1 yr.	37 50
102	Moore, Hamilton,	Dividing Creek,	Schr. Josiah S. Newcomb,	23	April 30, 1914	1 yr.	34 50
285	Moore, Judson,	Port Norris,	Sloop Pilot,	32	April 30, 1914	1 yr.	48 00
439	Moore, Oscar,	Port Norris,	Schr. Forest G. Howell,	Under	April 1, 1914	1 yr.	10 00
209	Mulford, Ernest L.,	Cedarville,	Schr. Ephraim Mulford,	23	March 30, 1914	1 yr.	34 50
204	Meerwald, Augustus J.,	Dennisville,	Schr. Martha Meerwald,	33	March 28, 1914	1 yr.	49 50
354	McDaniels, Howard,	Leesburg,	Sloop William J. Bryan,	27	April 30, 1914	1 yr.	40 50
465	Morris, Henry S.,	Pleasantville,	Sloop Restless,	13	April 1, 1914	1 yr.	19 50
406	McConnell, John, Jr.,	Port Norris,	Sloop H. R. Mulford,	16	April 29, 1914	1 yr.	24 00
55	Nugent, Lorenzo,	Port Norris,	Schr. Mary & Margaret,	16	April 1, 1914	1 yr.	24 00
35	Newcomb, Edward,	Greenwich,	Schr. Grover Cleveland,	21	April 3, 1914	1 yr.	31 50
26	Newcomb, William B.,	Newport,	Schr. Emma F. Newcomb,	35	March 26, 1914	1 yr.	52 50
144	Nickelson, Henry C.,	Port Norris,	Ga. St. Alma & Alvin,	43	April 2, 1914	1 yr.	64 50
376	Nickerson, Harry E.,	Port Norris,	Sloop Gracie,	41	February 17, 1914	1 yr.	61 50
377	Newcomb, Adrian B.,	Newport,	Schr. James P. Nieu Kirk,	11	March 31, 1914	1 yr.	16 50
317	Newcomb, Geo. M. D.,	Newport,	Schr. Tidal Wave,	25	March 29, 1914	1 yr.	37 50
51	Peterson, Aaron,	Newport,	Sloop Pearl & Leila,	30	March 22, 1914	1 yr.	45 00
46	Pepper, Jacob,	Dividing Creek,	Schr. Sarah Jane,	10	April 26, 1914	1 yr.	15 00
6	Peterson, Chas. S.,	Newport,	Schr. Falcon,	9	April 3, 1914	1 yr.	13 50
199	Peterson, James,	Port Norris,	Schr. Marcus L. Godfrey,	21	April 3, 1914	1 yr.	31 50
318	Peterson, John C.,	Greenwich,	Schr. Nellie & Mary,	24	April 1, 1914	1 yr.	36 00
298	Pickering, George,	Greenwich,	Schr. C. J. Peterson,	21	April 3, 1914	1 yr.	31 50
310	Pierce, John,	Dorchester,	Schr. John Guyant,	40	April 3, 1914	1 yr.	60 00
			Schr. Jennie Reeves,	36	March 19, 1914	1 yr.	54 00
				15	March 31, 1914	1 yr.	22 50

DELAWARE BAY AND MAURICE RIVER COVE BOAT LICENSES—Continued.

No. of License.	Master.	Address.	Kind and Name of Boat.	Tonn.	Date.	Term.	Amount.
451	Pierce, William,	Dorchester,	Sloop Excel,	8	April 23, 1914	1 yr.	\$12 00
384	Phillips, William,	Port Norris,	Sloop Anne Virginia,	12	December 18, 1913	1 yr.	18 00
153	Pepper, Frank,	Port Norris,	Schr. Maine,	25	April 4, 1914	1 yr.	37 50
117	Polhamus, William,	Leesburg,	Ga. St. Marcie,	7	April 28, 1914	1 yr.	10 50
189	Polhamus, Alfred,	Leesburg,	Sloop Bertie & Lottie,	Under	May 1, 1914	1 yr.	10 00
131	Polhamus, B. F.,	Vineland,	Schr. Anna & Marie,	14	April 29, 1914	1 yr.	21 00
203	Polhamus, Jos. G.,	Vineland,	Schr. Anna M. Newcomb,	24	March 28, 1914	1 yr.	36 00
316	Peterson, William B.,	Port Norris,	Schr. Anna M. Robbins,	25	September 15, 1914	1 yr.	37 50
255	Peterson, George C.,	Newport,	Schr. Prize,	28	September 19, 1914	1 yr.	42 00
67	Rogers, Maurice S.,	Camden,	Sloop Treasurer,	10	May 19, 1914	1 yr.	15 00
58	Robbins, Silas,	Dividing Creek,	Sloop Mary Alice,	13	November 10, 1913	4½ mo.	19 50
50	Robbins, George,	Port Norris,	Schr. Richard Robbins,	26	April 1, 1914	1 yr.	39 00
9	Riggin, Edward M.,	Port Norris,	Schr. Rosa Lambert,	25	April 3, 1914	1 yr.	37 50
2	Riggin, Walter C.,	Port Norris,	Ga. St. Addie S. Riggin,	33	April 1, 1914	1 yr.	49 50
251	Riggin, Charles M.,	Port Norris,	Sloop Starlight,	18	April 1, 1914	1 yr.	27 00
172	Robbins, David, Sr.,	Port Norris,	Schr. Addie B. Robbins,	35	March 28, 1914	1 yr.	52 50
237	Robbins, David, Jr.,	Port Norris,	Schr. Mary J. Robbins,	23	April 1, 1914	1 yr.	34 50
345	Robbins, Levi,	Port Norris,	Schr. Hattie B. Robbins,	18	April 8, 1914	1 yr.	27 00
240	Reed, John,	Port Norris,	Schr. William H. Berry,	27	April 2, 1914	1 yr.	40 50
403	Randolph, Andrew,	Port Norris,	Schr. Walter H. Hinson,	15	March 31, 1914	1 yr.	22 50
202	Rowley, Joseph C.,	Port Norris,	Sloop Mattie B.,	10	March 29, 1914	1 yr.	15 00
210	Rowley, L. Bates,	Port Norris,	Schr. Daniel Sharp,	20	April 18, 1914	1 yr.	30 00
125	Robbins, Edward C.,	Haleyville,	Schr. Lizzie J. Robbins,	16	April 7, 1914	1 yr.	24 00
115	Robinson, Edgar,	Dennisville,	Sloop Melvin Bailey,	Under	April 30, 1914	1 yr.	10 00
388	Rahr, David,	Bricksboro,	Sloop Helen Hurd,	12	April 7, 1914	1 yr.	18 00
416	Randolph, Geo. W.,	Leesburg,	Schr. Ward B. Smith,	19	March 26, 1914	1 yr.	28 50
418	Roe, Wesley,	Dorchester,	Sloop Laura G.,	13	March 26, 1914	1 yr.	19 50
91	Sutter, John,	Port Norris,	Schr. Effie E. Mace,	10	April 1, 1914	1 yr.	15 00
72	Spiker, George,	Greenwich,	Schr. Annie R. Shillingsburg,	45	April 12, 1914	1 yr.	67 50
59	Sharp, Zadok, Jr.,	Dias Creek,	Schr. Edna & Zadok,	10	November 4, 1913	1 yr.	15 00
30	Sutton, Clarence,	Bridgeton,	Schr. John S. Myers,	25	March 19, 1914	1 yr.	37 50
283	Sutton, Ernest,	Bridgeton,	Schr. Walter M. Johnson,	25	March 26, 1914	1 yr.	37 50
8	Sutton, Harry,	Leesburg,	Schr. Lucy & Willie,	17	April 1, 1914	1 yr.	25 50
185	Shaw, Howard,	Leesburg,	Sloop Helen F. Leaming,	15	March 31, 1914	1 yr.	22 50
181	Sharp, Zadok, Sr.,	Leesburg,	Schr. Annie B. Price,	45	April 30, 1914	1 yr.	67 50
186	Sharp, John W.,	Leesburg,	Schr. William E. James,	42	April 30, 1914	1 yr.	63 00
139	Sharpless Maurice,	Leesburg,	Sloop A. E. Andrews,	10	April 13, 1914	1 yr.	15 00
302	Smith, Seth S.,	Leesburg,	Sloop Hattie W. Mills,	14	March 31, 1914	1 yr.	21 00
174	Shull, John L.,	Newport,	Schr. Annie A. Crosswell,	40	April 23, 1914	1 yr.	60 00
290	Spencer, Elmer,	Newport,	Sloop Blackbird,	Under	March 28, 1914	1 yr.	10 00
215	Smith, Henry C.,	Newport,	Schr. Robert T. Lore,	33	March 22, 1914	1 yr.	49 50

DELAWARE BAY AND MAURICE RIVER COVE BOAT LICENSES—Continued.

No. of License.	Master.	Address.	Kind and Name of Boat.	Tonn.	Date.	Term.	Amount.
330	Sutter, William,	Port Norris,	Sloop Pearl,	15	April 30, 1914	1 yr.	\$22 50
244	Sutter, Jacob,	Port Norris,	Sloop Annie,	18	April 30, 1914	1 yr.	27 00
119	Sutter, Harry,	Port Norris,	Sloop Mary L. Robbins,	15	March 31, 1914	1 yr.	22 50
272	Shull, Roscoe,	Port Norris,	Schr. May Bateman,	16	March 27, 1914	1 yr.	24 00
315	Sharp, John T.,	Port Norris,	Schr. Rebecca T. Brunyate,	21	March 22, 1914	1 yr.	31 50
320	Stites, Nathan,	Millville,	Schr. Perseverance,	21	March 25, 1914	1 yr.	31 50
468	Sharpless, John T.,	Millville,	Schr. Mary C. Sharpless,	21	March 30, 1914	1 yr.	31 50
263	Squarewood, Charles,	Millville,	Sloop Addie Lee,	Under	April 30, 1914	1 yr.	10 00
319	Shaw, George,	Dorchester,	Schr. Mary J. Howlett,	27	March 31, 1914	1 yr.	40 50
214	Stites, Gilbert,	Dragaton,	Sloop John Buzby,	12	April 1, 1914	1 yr.	18 00
122	Shropshire, Edward,	Haleyville,	Schr. James H. Nixon,	32	April 11, 1914	1 yr.	48 00
127	Simpkins, Albert,	Cedarville,	Schr. Lucy,	14	March 27, 1914	1 yr.	21 00
65	Townsend, Stacy,	Leesburg,	Sloop Claude,	11	April 28, 1914	1 yr.	16 50
94	Tweed, John,	Greenwich,	Schr. Annie M. Frome,	45	April 25, 1914	1 yr.	67 50
29	Tarburton, Elmer E.,	Greenwich,	Schr. Neil Johnson,	41	April 30, 1914	1 yr.	61 50
134	Turner, Charles,	Newport,	Schr. Phoebe B. Townsend,	26	March 22, 1914	1 yr.	39 00
264	Taylor, D. Osborne,	Port Norris,	Sloop Willard,	Under	April 29, 1914	1 yr.	10 00
230	Tozour, Charles,	Delmont,	Sloop Sherman,	12	March 28, 1914	1 yr.	18 00
391	Turpin, Howard,	Haleyville,	Sloop Pawn,	12	March 28, 1914	1 yr.	18 00
485	Terry, Wm. F.,	Port Norris,	Schr. H. L. Steelman,	19	April 16, 1914	1 yr.	28 50
340	Wallen, David,	Fairton,	Schr. A. E. Whitaker,	20	March 30, 1914	1 yr.	30 00
378	Whildon, John H.,	Fairton,	Sloop C. & H. Elmer,	11	April 12, 1914	1 yr.	16 50
145	Westcott, Alfred L.,	Fairton,	Schr. Trio,	18	April 1, 1914	1 yr.	27 00
92	Westcott, George H.,	Fairton,	Schr. John H. Orr,	27	April 20, 1914	1 yr.	40 50
100	Warren, Harry,	Fairton,	Ga. St. George S. Cripps,	43	November 21, 1913	1 yr.	64 50
48	Williams, Whitefield,	Heislerville,	Schr. Sarah T. Sharp,	17	April 29, 1914	1 yr.	25 50
40	Whildon, Somers H.,	Mauricetown,	Schr. Virginia,	31	March 28, 1914	1 yr.	46 50
27	Wilcutts, William,	Mauricetown,	Sloop Lizzie May,	10	May 9, 1914	1 yr.	15 00
173	Whildon, Edward,	Heislerville,	Schr. Gen. McClellan,	23	March 9, 1914	1 yr.	34 50
112	Windfohr, Arthur,	Bivalve,	Sloop Thelma,	13	April 28, 1914	1 yr.	19 50
211	Weldon, Wm. H.,	Newport,	Schr. George W. Crist,	21	April 1, 1914	1 yr.	31 50
39	Westcott, William,	Dennisville,	Sloop A. M. Parris,	Under	March 31, 1914	1 yr.	10 00
224	Vail, Wm. A., Sr.,	Bridgeton,	Schr. Elvina English,	27	April 21, 1914	1 yr.	40 50
436	Van Vliet, William,	Newport,	Sloop James H. Turner,	10	April 1, 1914	1 yr.	15 00

Delaware Bay and Maurice River Cove Boat Licenses (Supplemental).

No. of License.	Master.	Address.	Kind and Name of Boat.	Tonn.	Date.	Term.	Amount.
150	Cox, Lilburn,	Leesburg,	Schr. Almira Cox,	18	September 22, 1914	1 yr.	\$27 00
170	Edmonds, Chas.,	Millville,	Schr. E. A. Cranmer,	18	October 12, 1914	1 yr.	27 00
95	Newcomb, Lewis B.,	Cedarville,	Schr. A. G. Mulford,	15	October 8, 1914	1 yr.	22 50
86	Sheppard, S. Ware,	Newport,	Ga. St. R. D. S. Sheppard,	34	October 23, 1914	1 yr.	51 00
459	Smith, Asa C.,	Leesburg,	Schr. Seamens Bride,	28	October 7, 1914	1 yr.	42 00
259	Sockwell, Herbert,	Port Norris,	Ga. St. Lena G. Bateman,	14	October 26, 1914	1 yr.	21 00
76	Terry, George N.,	Dividing Creek,	Ga. St. Anna C. Terry,	22	October 6, 1914	1 yr.	33 00
33	Vall, Wm. A., Jr.,	Dividing Creek,	Schr. Thos H. Robbins,	28	October 25, 1914	1 yr.	42 00
12	Veale, William,	Dividing Creek,	Schr. Columbia,	21	October 16, 1914	1 yr.	31 50

Raritan Bay Boat Licenses.

No. of License.	Owners.	Address.	Kind and Name of Boat.	Tonn.	Date.	Term.	Amount.
42	Birkbeck, Walter S.,	Keyport,	Ga. St. Mattie B.,	12	June 24, 1914	1 yr.	\$18 00
6	Hammer, James L.,	Keyport,	Skiff, No. 6,	Tonging	July 21, 1914	1 yr.	5 00
7	Hammer, James L.,	Keyport,	Skiff, No. 7,	Tonging	July 21, 1914	1 yr.	5 00
8	Hammer, James L.,	Keyport,	Skiff, No. 8,	Tonging	July 21, 1914	1 yr.	5 00
23	Maurer, William,	Keyport,	Ga. St. Sabrina,	14	July 21, 1914	1 yr.	21 00
32	Maurer, William,	Keyport,	Skiff, No. 32,	Tonging	July 21, 1914	1 yr.	5 00
33	Maurer, William,	Keyport,	Skiff, No. 33,	Tonging	July 21, 1914	1 yr.	5 00
34	Maurer, William,	Keyport,	Skiff, No. 34,	Tonging	July 21, 1914	1 yr.	5 00
20	Mason, John W.,	Keyport,	Skiff, No. 20,	Tonging	July 21, 1914	1 yr.	5 00
22	Mason, Lorenzo G.,	Keyport,	Skiff, No. 22,	Tonging	July 21, 1914	1 yr.	5 00
19	Post, Garrett E.,	Keyport,	Ga. St. L. J. Callahan,	7	July 21, 1914	1 yr.	10 50
41	Woolley, William E.,	Keyport,	Ga. St. Alonzo E. Smith,	18	July 21, 1914	1 yr.	27 00
37	Woolley, William E.,	Keyport,	Skiff, No. 37,	Tonging	July 21, 1914	1 yr.	5 00
38	Woolley, William E.,	Keyport,	Skiff, No. 38,	Tonging	July 21, 1914	1 yr.	5 00
39	Woolley, William E.,	Keyport,	Skiff, No. 39,	Tonging	July 21, 1914	1 yr.	5 00
40	Woolley, William E.,	Keyport,	Skiff, No. 40,	Tonging	July 21, 1914	1 yr.	5 00
43	Woolley, William E.,	Keyport,	Ga. St. Katie L.,	11	October 2, 1914	1 yr.	16 50

Oyster Bed Leases—Ocean County.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Abbott, William, ...	Manahawkin, ...	707-745 750-751	22	\$11 00	Aug. 1, 1914	1 yr.
Adams, Elmer, ...	Port Republic, ...	45	11	5 50	Dec. 31, 1913	1 yr.
Adams, Ernest G., ...	New Gretna, ...	68-128	10	5 00	Dec. 31, 1913	1 yr.
Adams, John F., ...	New Gretna, ...	105	5	5 00	Dec. 31, 1913	2 yrs.
Allen, Arnold, ...	Beach Haven, ...	115-134	6	3 00	Dec. 31, 1913	1 yr.
Allen, Caleb F. & J. Gray, ...	New Gretna, ...	11-12-72	7	3 50	Dec. 31, 1913	1 yr.
Allen, Charles H., ...	New Gretna, ...	74-114-116	11	5 50	Dec. 31, 1913	1 yr.
Allen, Chester, ...	New Gretna, ...	143-144	13	6 50	Dec. 31, 1913	1 yr.
Allen, Edward K., ...	New Gretna, ...	67	3	1 50	Dec. 31, 1913	1 yr.
Allen, Harry M., ...	Tuckerton, ...	14	3	1 50	Dec. 31, 1913	1 yr.
Allen, Jos. B., Jr., ...	Philadelphia, ...	30	2	1 00	Dec. 31, 1913	1 yr.
Allen, Jos. B., Sr., ...	Tuckerton, ...	8-8½-79-79½	18	9 00	Dec. 31, 1913	1 yr.
Allen, Lyman L., ...	Tuckerton, ...	X-X-X	6	3 00	Dec. 31, 1913	1 yr.
Allen, Oscar J., ...	Tuckerton, ...	13	2	2 00	Dec. 31, 1913	2 yrs.
Allen, Samuel B., ...	Tuckerton, ...	148	3	1 50	Aug. 1, 1914	1 yr.
Allen, Thomas, ...	New Gretna, ...	27-37	5	2 50	Dec. 31, 1913	1 yr.
Allen, W. S. & S. B., ...	Tuckerton, ...	137-475-9-9½-75-75½	27	13 50	Dec. 31, 1913	1 yr.
Allen, Walter S., ...	Tuckerton, ...	X-76	4	2 00	Dec. 31, 1913	1 yr.
Anderson, S. S., ...	Tuckerton, ...	X-322	10	5 00	Aug. 1, 1913	1 yr.
Bartlett, Chas. P., ...	West Creek, ...	76-94-298	9	11 50	Dec. 31, 1913	2 yrs.
Bates, Henry, ...	Port Republic, ...	103	26	13 00	Dec. 31, 1913	1 yr.
Berry, E. M., ...	Tuckerton, ...	405	2	1 00	Aug. 1, 1914	1 yr.
Birdsall, Jesse, ...	Barnegat, ...	20	2	2 00	Aug. 1, 1914	2 yrs.
Birdsall, John, ...	Barnegat, ...	X	2	1 00	Aug. 1, 1914	1 yr.
Bogan, Annie E., ...	New Gretna, ...	120	5	2 50	Dec. 31, 1913	1 yr.
Bogan, R. S., ...	New Gretna, ...	X-22-113-122	30	15 00	Dec. 31, 1913	1 yr.
Bowker, William, ...	Barnegat, ...	12	2	1 00	Aug. 1, 1914	1 yr.
Brandt, Geo. W., ...	Port Republic, ...	178	2	1 00	Aug. 1, 1914	1 yr.
Brown, Ezra P., ...	West Creek, ...	X-X-90-165-167-197-285-816	23	11 50	Dec. 31, 1913	1 yr.
Brown, Ezra P. & H. Rulon, ...	West Creek, ...	350	10	5 00	Aug. 1, 1914	1 yr.
Brown, James D., ...	Tuckerton, ...	308	6	3 00	Aug. 1, 1914	1 yr.
Brown, John W., ...	Parkertown, ...	939	4	2 00	Aug. 1, 1914	1 yr.
Brown, Markley, ...	Parkertown, ...	827-919	8	4 00	Nov. 1, 1913	1 yr.
Brown, Walter P. & H. Ryan, ...	Tuckerton, ...	420	3	1 50	Dec. 31, 1914	1 yr.
Cavileer, Fillmore, ...	Port Republic, ...	42	2	1 00	Dec. 31, 1914	1 yr.
Cavileer, Gilbert, ...	Port Republic, ...	121	3	1 50	Dec. 31, 1914	1 yr.
Chandler, Alexander, ...	Barnegat, ...	7	2	1 00	Dec. 31, 1914	1 yr.
Chew, Benjamin, ...	New Gretna, ...	3-4-5-117	8	4 00	Dec. 31, 1914	1 yr.
Cobb, Frank, ...	Collingswood, ...	36	8	4 00	Dec. 31, 1914	1 yr.
Cobb, Jonathan M., ...	Mayetta, ...	4-43	7	3 50	Dec. 31, 1914	1 yr.
Cobb, Thomas, ...	Cedar Run, ...	160	3	3 00	Dec. 31, 1914	2 yrs.
Cobb & Patterson, ...	Collingswood, ...	37-45	8	4 00	Dec. 31, 1914	1 yr.
Conklin, Calvin, ...	Cedar Run, ...	12-34½	6	3 00	Aug. 1, 1914	1 yr.
Conklin, Lewis A., ...	Cedar Run, ...	18½-23	9	4 50	Dec. 31, 1913	1 yr.
Conklin, Nehemiah, ...	Cedar Run, ...	20	6	3 00	Dec. 31, 1913	1 yr.
Conklin, Robert, ...	Cedar Run, ...	13-17½-34½	6	3 00	Dec. 31, 1913	1 yr.
Conklin, Samuel B., ...	Cedar Run, ...	X-22-22½	10	5 00	Dec. 31, 1913	1 yr.
Cowperthwaite, Thos., ...	Tuckerton, ...	X	2	1 00	Aug. 1, 1913	1 yr.
Cowperthwaite, W. H., ...	West Creek, ...	241-908-934-55-56-189-190	38	19 00	Dec. 31, 1913	1 yr.
Cox, George M., ...	West Creek, ...	99-181-282	8	4 00	Dec. 31, 1913	1 yr.
Cox, James A., ...	Barnegat, ...	30	3	1 50	Aug. 1, 1914	1 yr.

OYSTER AND BED LEASES—OCEAN COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Amount of	Amount of Lease.	Date.	Term.
Cox, J. O. & Jonathan, ...	West Creek, ...	142	4	\$2 00	Dec. 31, 1913	1 yr.
Cox, Wm. & Harry, ...	Tuckerton, ...	470-854-X-427-467	20	10 00	Aug. 1, 1914	1 yr.
Cox, William E., ...	West Creek, ...	176-178-812-79-128-166	17	8 50	Dec. 31, 1913	1 yr.
Cranmer, Amariah, ...	Cedar Run, ...	25	3	1 50	Dec. 31, 1913	1 yr.
Cranmer, Albert, ...	West Creek, ...	102	2	1 00	Dec. 31, 1913	1 yr.
Cranmer, Arnold, ...	New Gretna, ...	25-71-78-129-139-174-474	36	18 00	Dec. 31, 1913	1 yr.
Cranmer, Arnold, ...	New Gretna, ...	25½-30½-86½-336½-351	40	20 00	Aug. 1, 1914	1 yr.
Cranmer, Arnold & Earl, ...	New Gretna, ...	69½	2	1 00	Dec. 31, 1913	1 yr.
Cranmer, Caleb S. & Son, ...	New Gretna, ...	80-94-172	19	9 50	Dec. 31, 1913	1 yr.
Cranmer, Elmer, ...	Manahawkin, ...	701-720-735-741½	16	16 00	Aug. 1, 1914	1 yr.
Cranmer, Chester A., ...	Mayetta, ...	X-10½-11	9	4 50	Dec. 31, 1913	1 yr.
Cranmer, Fred G., ...	Cedar Run, ...	46-879	5	2 50	Aug. 1, 1914	1 yr.
Cranmer, George A., ...	Cedar Run, ...	16-32	4	4 00	Dec. 31, 1913	2 yrs.
Cranmer, G. Augustus, ...	Cedar Run, ...	27-862	6	3 00	Aug. 1, 1914	1 yr.
Cranmer, Daniel D., ...	New Gretna, ...	26-133-138	17	8 50	Dec. 31, 1913	1 yr.
Cranmer, Harvey G., ...	Cedar Run, ...	X	3	1 50	Aug. 1, 1914	1 yr.
Cranmer, Howard B., ...	Cedar Run, ...	14	5	2 50	April 1, 1914	1 yr.
Cranmer, Howard, ...	Mayetta, ...	8	2	1 00	Dec. 31, 1913	1 yr.
Cranmer, Irving J., ...	Cedar Run, ...	X-44-866	7	3 50	Aug. 1, 1914	1 yr.
Cranmer, James A., ...	Staffordville, ...	208-221	13	6 50	Dec. 31, 1913	1 yr.
Cranmer, James H., ...	Manahawkin, ...	3	6	3 00	Aug. 1, 1914	1 yr.
Cranmer, Joseph W., ...	West Creek, ...	3-8-107-941	12	12 00	Dec. 31, 1913	2 yrs.
Cranmer, Levi, ...	Cedar Run, ...	2-33	6	3 00	Dec. 31, 1913	1 yr.
Cranmer, Lewis A., ...	Cedar Run, ...	X-29	5	5 00	Dec. 31, 1913	2 yrs.
Cranmer, Matthias, ...	Mayetta, ...	43½-51-876-878-881-X-X-X-X-9-34½-40½-41	67	33 50	Aug. 1, 1914	1 yr.
Cranmer, Oliver T., ...	West Creek, ...	39½-42-873	11	5 50	Dec. 31, 1912	1 yr.
Cranmer, Oscar C., ...	West Creek, ...	139-151	6	3 00	Dec. 31, 1913	1 yr.
Cranmer, P. H., ...	Staffordville, ...	1	3	1 50	Aug. 1, 1914	1 yr.
Cranmer, Rufus, ...	Manahawkin, ...	X-718-757	13	6 50	Aug. 1, 1914	1 yr.
Cranmer, Samuel & Jos., ...	West Creek, ...	199	6	6 00	Dec. 31, 1913	2 yrs.
Cranmer, Samuel, ...	Cedar Run, ...	26	2	1 00	Aug. 1, 1914	1 yr.
Cranmer, Samuel R., ...	West Creek, ...	60	2	2 00	Dec. 31, 1913	2 yrs.
Cranmer, Thomas, ...	Cedar Run, ...	24	8	4 00	Dec. 31, 1913	2 yrs.
Cranmer, Thomas H., ...	Manahawkin, ...	725-734-738-740-752-753-X-X-700-704-719-723	98	48 00	Dec. 31, 1913	2 yrs.
Cummings, Charles, ...	Parkertown, ...	912	5	2 50	Aug. 1, 1914	2 yrs.
Cummings, Silas, ...	Parkertown, ...	X	2	1 00	Aug. 1, 1914	2 yrs.
Cummings, Silas & Charles, ...	Parkertown, ...	907	10	5 00	Oct. 1, 1914	2 yrs.
Darby, John W., ...	Tuckerton, ...	X-23-28-29-66	16	8 00	Dec. 31, 1913	2 yrs.
Driscall, Enoch, ...	Tuckerton, ...	154	2	1 00	Dec. 31, 1913	2 yrs.
Driscall, Harry, ...	Tuckerton, ...	X-X-404	6	3 00	Aug. 1, 1914	2 yrs.
Driscall, Houston, ...	Tuckerton, ...	446	6	3 00	Aug. 1, 1913	1 yr.
Driscall, Reuben, ...	Tuckerton, ...	402-447	5	2 50	Dec. 31, 1913	1 yr.
Eayers, Alfonso, ...	Barnegat, ...	X	2	1 00	Aug. 1, 1914	1 yr.
Estlow, Sadoc, ...	Barnegat, ...	5-6	12	6 00	Aug. 1, 1914	1 yr.
Fennimore, Allen, ...	West Creek, ...	38-200-502-53-54-65-88-111	26	13 00	Aug. 1, 1914	1 yr.

OYSTER AND BED LEASES—OCEAN COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Fennimore, A. & O.						
Cranmer,	West Creek,	120	2	\$1 00	Aug. 1, 1914	1 yr.
Fiske, Lewis,	Tuckerton,	385½	5	2 50	Aug. 1, 1914	1 yr.
Frazier, Frank V.,	Tuckerton,	X-167	5	2 50	Dec. 31, 1913	1 yr.
Gale, Edwin A.,	Tuckerton,	476	3	1 50	Aug. 1, 1914	1 yr.
Gale, Harvey,	Tuckerton,	311-333-480-483	19	9 50	Aug. 1, 1914	1 yr.
Gale, Hilton & L. Gifford,	Tuckerton,	431	8	4 00	Aug. 1, 1914	1 yr.
Gale, William H.,	Tuckerton,	102	2	1 00	Aug. 1, 1914	1 yr.
Garrison, Eugene,	Tuckerton,	X-332-464	13	6 50	Aug. 1, 1914	1 yr.
Gaskill, Carlisle,	New Gretna,	145	3	1 50	Dec. 31, 1913	1 yr.
Gaskill, Jesse,	New Gretna,	131	2	1 00	Aug. 1, 1914	1 yr.
Gaskill, Thomas J. & Son,	New Gretna,	56-64-83	10	5 00	Dec. 31, 1913	1 yr.
Gaskill, William F.,	Tuckerton,	346	6	3 00	Aug. 1, 1914	1 yr.
Grant, Jesse,	Bayville,	20	13	6 50	Aug. 1, 1914	1 yr.
Grant, John,	Lanoka,	X-34	13	6 50	Dec. 31, 1913	1 yr.
Grant, S. T.,	Lanoka,	30	11	10 50	Aug. 1, 1914	1 yr.
Grant, William H.,	Lanoka,	2	11	5 50	May 1, 1913	1 yr.
Gray, John A.,	New Gretna,	17-130	5	2 50	Dec. 31, 1913	1 yr.
Haywood, Frank,	Manahawkin,	1-2-708	12	6 00	Aug. 1, 1914	1 yr.
Haywood, Jos. P.,	West Creek,	173-179-204-414	12	6 00	Dec. 31, 1913	1 yr.
Hazelton, Leon,	Manahawkin,	X	2	1 00	Dec. 31, 1913	1 yr.
Headley, Parker C.,	Tuckerton,	452	4	2 00	Dec. 31, 1913	1 yr.
Heintz, Harry,	New Gretna,	X	5	2 50	Dec. 31, 1913	1 yr.
Helfrich, Joseph,	Barnegat,	24-25	8	4 00	Aug. 1, 1914	1 yr.
Hewitt, Jesse,	Port Republic,	X	2	1 00	Dec. 31, 1913	1 yr.
Hewitt, Nelson,	Port Republic,	44	2	1 00	Dec. 31, 1913	1 yr.
Hickman, Oscar,	Tuckerton,	X	3	1 50	Dec. 31, 1913	1 yr.
Higgins, Theo.,	Beverly,	476½	2	1 00	Dec. 31, 1913	1 yr.
Higbee, Samuel,	Port Republic,	45	45	5 00	Dec. 31, 1913	1 yr.
Hollingsworth, Geo. W.,	Barnegat,	10-19-22-27-36-41-46-94	78	39 00	Dec. 31, 1913	1 yr.
Holman, Frank,	West Creek,	58	2	1 00	Dec. 31, 1913	1 yr.
Holmes, Edward L.,	Forked River,	X-X	8	4 00	April 1, 1914	1 yr.
Horner, Ephraim,	Manahawkin,	706-706½	14	7 00	Aug. 1, 1914	1 yr.
Horner, Isaac,	Parkertown,	X	6	3 00	Aug. 1, 1914	1 yr.
Huntley, Charles,	Port Republic,	184	4	4 00	Aug. 1, 1914	2 yrs.
Inman, Clinton,	Barnegat,	11-28-28½-38	10	5 00	Aug. 1, 1914	1 yr.
Inman, Lewis,	Manahawkin,	743	2	1 00	Aug. 1, 1914	1 yr.
Jeffrey, Howard,	Lanoka,	1	10	5 00	May 1, 1914	1 yr.
Johnson, Isaiah,	West Creek,	103	6	3 00	Aug. 1, 1914	1 yr.
Johnson, Samuel L.,	Manahawkin,	2	15	7 50	Aug. 1, 1914	1 yr.
Jones, Abram H.,	West Creek,	91-124-126-909	8	4 00	Dec. 31, 1913	1 yr.
Jones, Abram J.,	West Creek,	89-122	4	2 00	Aug. 1, 1914	1 yr.
Jones, John F.,	West Creek,	128-284	5	2 50	Dec. 31, 1913	1 yr.
Jones, Joseph H.,	Tuckerton,	343-488	5	2 50	Aug. 1, 1914	1 yr.
Jones, Samuel A.,	Tuckerton,	338-385-386-398	23	11 50	Dec. 31, 1913	1 yr.
Kelley, Amanda P.,	West Creek,	218	11	6 50	Dec. 31, 1913	1 yr.
Kelley, Blanch,	West Creek,	228	2	1 00	Dec. 31, 1913	1 yr.
Kelley, Eugene,	West Creek,	103-206-836-836-900-932	23	11 50	Dec. 31, 1912	1 yr.
Kelley, Hugh F.,	West Creek,	87-132-188-212-500-820	14	7 00	Dec. 31, 1912	1 yr.
Kelley, James E.,	West Creek,	86-93-289	11	5 50	Dec. 31, 1912	1 yr.
Kelley, J. Harvey,	West Creek,	136-171	6	3 00	Dec. 31, 1912	1 yr.
Kelley, J. Henry,	West Creek,	70	2	1 00	Dec. 31, 1912	1 yr.
Kelley, Job,	West Creek,	838	3	1 50	Dec. 31, 1912	1 yr.
Kelley, Mrs. Lizzie,	West Creek,	241	2	1 00	Dec. 31, 1912	1 yr.

OYSTER AND BED LEASES—OCEAN COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Kelley, Mannas,	West Creek,	297	7	\$3 50	Dec. 31, 1912	1 yr.
Kelley, N. E.,	West Creek,	826-830-847-848-70-72-98-133-164-172	37	18 50	Dec. 31, 1912	1 yr.
Kelley, T. C. & Son,	West Creek,	207-242-243-237-283-92-100-104-174-177	35	17 50	Dec. 31, 1912	1 yr.
Kelley, T. C.,	West Creek,	833-835-835-852-902	55	27 50	Dec. 31, 1912	1 yr.
Kelley, T. C.,	West Creek,	210-240	18	9 00	Aug. 1, 1914	1 yr.
Lamson, Joel W.,	Cedar Run,	5-23	5	2 50	Dec. 31, 1913	1 yr.
Lamson, Joseph A.,	Cedar Run,	30	5	2 50	Dec. 31, 1913	1 yr.
Leeds, Risley,	Leeds Point,	40	3	1 50	Dec. 31, 1913	1 yr.
Leigh, A. J. (Mrs.),	West Creek,	129½-202	4	2 00	Dec. 31, 1913	1 yr.
Letts, Nathan M.,	Manahawkin,	729-730-731-748-749-756	28	28 00	Aug. 1, 1914	2 yrs.
Letts, Pruden,	Manahawkin,	714-732-744-754	11	5 50	Aug. 1, 1914	1 yr.
Letts, Sela,	Manahawkin,	728-747	19	9 50	Aug. 1, 1912	1 yr.
Loveland, Benj.,	New Gretna,	X-141½-183	8	4 00	Dec. 31, 1913	1 yr.
Loveland, Jesse A.,	New Gretna,	120½-141	9	4 50	Dec. 31, 1913	1 yr.
Loveland, Jesse I.,	New Gretna,	92	3	1 50	Dec. 31, 1913	1 yr.
Malcom, Leslie,	Barnegat,	9	4	2 00	Aug. 31, 1913	1 yr.
Marshall, Harry,	Beach Haven,	313	8	4 00	Dec. 31, 1913	1 yr.
Marshall, Geo. & Jas.,	Tuckerton,	433	4	2 00	Aug. 1, 1913	1 yr.
Marshall, James,	Tuckerton,	307	8	4 00	Aug. 1, 1913	1 yr.
Marshall, Noah,	Tuckerton,	432	5	2 50	Aug. 1, 1913	1 yr.
Marshall, Solomon,	Tuckerton,	X-429	10	5 00	Aug. 1, 1913	1 yr.
Mathis, Alvin,	New Gretna,	73-82	4	2 00	Aug. 1, 1913	1 yr.
Mathis, Caleb A.,	New Gretna,	180	5	2 50	Aug. 1, 1913	1 yr.
Mathis, Daniel E.,	New Gretna,	34½-91	6	3 00	Aug. 1, 1914	1 yr.
Mathis, Daniel S.,	Tuckerton,	334½	2	1 00	May 1, 1914	1 yr.
Mathis, Harry C.,	New Gretna,	55	7	3 50	Dec. 31, 1913	1 yr.
Mathis, Harry V.,	New Gretna,	6-58	7	3 50	Dec. 31, 1913	1 yr.
Mathis, Ira C.,	Tuckerton,	499	4	2 00	Oct 1, 1914	1 yr.
Mathis, John K.,	New Gretna,	X	2	1 00	Dec. 31, 1913	1 yr.
Mathis, J. Frank,	Leeds Point,	10-111-112	24	12 00	Dec. 31, 1913	1 yr.
Mathis, Joshua,	New Gretna,	34	2	1 00	Dec. 31, 1913	1 yr.
Mathis, Walter R.,	New Gretna,	95-96	4	2 00	Dec. 31, 1913	1 yr.
Mathis, Wm. A.,	Tuckerton,	X-453	7	3 50	Aug. 1, 1914	1 yr.
Mathis, Wm. H.,	New Gretna,	70	2	1 00	Dec. 31, 1913	1 yr.
Martin, Frank,	Manahawkin,	X-739	12	6 00	Aug. 1, 1914	1 yr.
Martin, Humphrey,	Manahawkin,	711	3	1 50	Dec. 31, 1913	1 yr.
Maxwell, G. A. & J. H.,	Wading River,	54-182	6	3 00	Aug. 1, 1914	1 yr.
Mills, John,	Barnegat,	62	6	3 00	Aug. 1, 1914	1 yr.
Morris, William A.,	Tuckerton,	326	5	2 50	Aug. 1, 1914	1 yr.
Mott, Eldredge,	Tuckerton,	108	2	1 00	Dec. 31, 1913	1 yr.
Mott, Joel R.,	Tuckerton,	109-110-123	7	3 50	Dec. 31, 1913	1 yr.
McAnny, John,	New Gretna,	32-132	4	2 00	Aug. 1, 1914	1 yr.
McCarthy, Timothy,	Lanoka,	18	5	2 50	Aug. 1, 1914	1 yr.
McDaniels, W. R.,	Tuckerton,	486	4	2 00	Aug. 1, 1914	1 yr.
Parker, Adelbert,	Parkertown,	941	3	3 00	Aug. 1, 1914	2 yrs.
Parker, Charles,	Tuckerton,	387-493	10	5 00	Dec. 31, 1913	1 yr.
Parker, Charles A.,	Parkertown,	466	2	1 00	Aug. 1, 1914	1 yr.
Parker, Hansel,	Parkertown,	227-841-916	12	6 00	Aug. 1, 1914	1 yr.
Parker, Henry,	Parkertown,	X-834	6	3 00	June 1, 1914	1 yr.
Parker, J. C.,	Parkertown,	826½	5	2 50	June 1, 1914	1 yr.
Parker, J. W. & Bros.,	Tuckerton,	327-328-329-428-492-X-X-X-318-321-325	69	34 50	Aug. 1, 1914	1 yr.

OYSTER AND BED LEASES—OCEAN COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Parker, J. W. & Sons,	Parkertown,	803	6	\$3 00	Aug. 1, 1914	1 yr.
Parker, Rudolph,	Parkertown,	804	3	1 50	Aug. 1, 1914	1 yr.
Parker, Samuel B.,	Tuckerton,	X-395-396	13	6 50	Aug. 1, 1914	1 yr.
Peterson, W.,	Barnegat,	40	2	1 00	Aug. 1, 1914	1 yr.
Pharo, Aaron W.,	West Creek,	73-234	5	2 50	Aug. 1, 1914	1 yr.
Pharo, Frank,	West Creek,	81-255	6	3 00	Aug. 1, 1913	1 yr.
Pharo, J. J.,	Tuckerton,	455	8	4 00	Aug. 1, 1914	1 yr.
Pharo, Watson,	West Creek,	196-256-819	9	4 50	Dec. 31, 1913	1 yr.
Phillips, Randolph,	Forked River,	X	10	5 00	Aug. 1, 1914	1 yr.
Potter, Edward F.,	West Creek,	196-216	10	7 50	Aug. 1, 1914	1 yr.
Potter, Wm. H.,	Beach Haven,	157-198-217	18	9 00	Dec. 31, 1913	1 yr.
Potter, Reuben,	Bayville,	X	6	3 00	Dec. 31, 1913	1 yr.
Price, Abram,	Parkertown,	815	11	5 50	Aug. 31, 1913	1 yr.
Price, Clarence,	Parkertown,	809	4	4 00	Aug. 31, 1913	2 yrs.
Price, Merritt,	Parkertown,	808	3	1 50	Aug. 31, 1913	1 yr.
Pullen, Brazilla,	Tuckerton,	443-478-479-X-340-417-418-441	26	13 00	April 1, 1913	1 yr.
Pullen, Frank,	Tuckerton,	416	2	1 00	Aug. 1, 1913	1 yr.
Quinn, George, Jr.,	Tuckerton,	X-406	7	3 50	Aug. 1, 1914	1 yr.
Rider, A. J. & Sons,	Tuckerton,	424-451-465-X-X-412-422	25	12 50	Aug. 1, 1913	1 yr.
Ridgway, Arthur J.,	Barnegat,	43	3	1 50	Aug. 1, 1913	1 yr.
Ridgway, Joseph H.,	Barnegat,	X-11-14-19	17	8 50	Aug. 1, 1913	1 yr.
Ridgway, Oscar,	Barnegat,	1-3-13	11	5 50	Aug. 1, 1913	1 yr.
Ridgway, William,	Barnegat,	8	2	1 00	Aug. 1, 1913	1 yr.
Riley, Benjamin,	Tuckerton,	421	2	1 00	Aug. 1, 1913	1 yr.
Ripley, John,	West Creek,	900	10	5 00	May 1, 1913	1 yr.
Robbins, Charles,	New Gretna,	35-36-65-86-87	12	6 00	Dec. 31, 1913	1 yr.
Robbins, Lorenzo D.,	New Gretna,	89-93-118	6	3 00	Dec. 31, 1913	1 yr.
Robbins, William,	Barnegat,	42	2	1 00	Aug. 31, 1913	1 yr.
Rosenholm, John,	Tuckerton,	X	10	5 00	Dec. 31, 1913	1 yr.
Rulon, Harper,	West Creek,	75-159-201-291	14	7 00	Dec. 31, 1913	1 yr.
Russell, Clarence,	Barnegat,	23	2	1 00	Aug. 1, 1914	1 yr.
Russell, Holmes,	Barnegat,	34-37	4	2 00	Aug. 1, 1914	1 yr.
Rutter, J. W. & F. Holman,	West Creek,	X-59-232-304-821-841	35	17 50	Dec. 31, 1913	1 yr.
Rutter, J. W. & J. S. Kelley,	West Creek,	169	3	1 50	Dec. 31, 1913	1 yr.
Rutter, T. Howard,	Barnegat,	44	2	1 00	Aug. 1, 1914	1 yr.
Rutter & Haywood,	West Creek,	63-68-97-244	12	6 00	Dec. 31, 1913	1 yr.
Rutter, R. F.,	West Creek,	183-191-203	20	10 00	Dec. 31, 1913	1 yr.
Salmons, Daniel,	West Creek,	147	2	1 00	Dec. 31, 1913	1 yr.
Salmons, Edwin,	Beach Haven,	X	2	1 00	Aug. 1, 1914	1 yr.
Sapp, Joseph E.,	Tuckerton,	489½	4	2 00	Aug. 1, 1914	1 yr.
Sapp, W. L.,	Tuckerton,	X	2	1 00	Aug. 1, 1914	1 yr.
Sapp, W. L. & Co.,	Tuckerton,	310-312-314-315-337-456-490	54	27 00	Aug. 1, 1914	1 yr.
Sawyer, Joseph,	Tuckerton,	223	26	13 00	Aug. 1, 1914	1 yr.
Seaman, George A.,	West Creek,	84-144-156-259	22	11 00	Dec. 31, 1913	1 yr.
Seaman, W. S.,	West Creek,	87-96-187-301	10	5 00	Dec. 31, 1913	1 yr.
Shinn, Chas. S.,	West Creek,	74-114-214-224-233	18	9 00	Dec. 31, 1913	1 yr.
Shinn, Edward L.,	West Creek,	X-215-305-840-938	26	13 25	Dec. 31, 1913	1 yr.
Shinn, Frank & Edw.,	West Creek,	225	2	1 00	Dec. 31, 1913	1 yr.
Shinn, Harry S.,	West Creek,	148-161-209-220-222-226-229-906	25	12 50	Dec. 31, 1913	1 yr.

OYSTER AND BED LEASES—OCEAN COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Shinn, S. E.,	West Creek,	219-230-839	9	\$4 50	Dec. 31, 1913	1 yr.
Shinn, Thomas,	West Creek,	125-238	4	2 00	Dec. 31, 1913	1 yr.
Shinn, Wm. Jr.,	West Creek,	235-245	5	2 50	Dec. 31, 1913	1 yr.
Smith, Henry P.,	Tuckerton,	39	4	2 00	Aug. 1, 1914	1 yr.
Smith, Samuel A.,	Tuckerton,	452½	6	3 00	Aug. 1, 1913	1 yr.
Sooy, Daniel T.,	New Gretna,	24-59	10	5 00	Dec. 31, 1913	1 yr.
Soper, Charles H.,	Barnegat,	9-33-56	11	5 50	Aug. 1, 1914	1 yr.
Soper, Philip,	Manahawkin,	713-716-727½-742	12	6 00	Aug. 1, 1914	1 yr.
Speck, J. H. & Bro.,	Tuckerton,	20-119	117	58 50	Dec. 31, 1913	1 yr.
Speck, William,	Tuckerton,	21	10	10 00	Dec. 31, 1913	2 yrs.
Speck, W. H.,	Tuckerton,	X	3	1 50	Dec. 31, 1913	1 yr.
Spragg, A. & L.,	Tuckerton,	X-X-409-471	10	5 00	Aug. 1, 1914	1 yr.
Spragg, Philip,	Tuckerton,	X-410-430-498	20	10 00	Aug. 1, 1914	1 yr.
Sprague, Edward S.,	Staffordville,	40-861-877	6	3 00	Dec. 31, 1913	1 yr.
Sprague, Frank,	West Creek,	62-85	4	2 00	Dec. 31, 1913	1 yr.
Sprague, Frank & John,	West Creek,	78	2	1 00	Dec. 31, 1913	1 yr.
Sprague, John F.,	West Creek,	180	2	1 00	Dec. 31, 1913	1 yr.
Sprague, Philip R.,	West Creek,	100-101-131-205-818	11	11 00	Dec. 31, 1913	2 yrs.
Sprague, Philip A.,	West Creek,	X	2	2 00	Dec. 31, 1913	2 yrs.
Sprague, Reuben,	West Creek,	77	2	1 00	Dec. 31, 1913	1 yr.
Stiles, Ezra,	Tuckerton,	335-392-403-407-408-X-X-X-413-425-855	33	16 50	Dec. 31, 1913	1 yr.
Stiles, James,	Tuckerton,	415	2	1 00	Dec. 31, 1913	1 yr.
Taylor, Henry,	Cedar Run,	21	2	2 00	Dec. 31, 1913	2 yrs.
Truex, George C.,	Mayetta,	863	4	2 00	Aug. 1, 1914	1 yr.
Truex, Jos. J.,	Mayetta,	865	2	1 00	Aug. 1, 1914	1 yr.
Truex, J. W.,	Mayetta,	10-38½	6	3 00	Aug. 1, 1914	1 yr.
Van Vorst, F.,	Cedar Run,	867	2	1 00	Dec. 31, 1913	1 yr.
Wilson, Amasa,	Port Republic,	X	2	1 00	Dec. 31, 1913	1 yr.
Wilson, G. & G. Pierce,	Port Republic,	179	3	1 50	Aug. 1, 1914	1 yr.
Wilson, John H.,	Port Republic,	41	2	1 00	Aug. 1, 1914	1 yr.
White, David M.,	Manahawkin,	X	4	2 00	Sept. 1, 1913	1 yr.
White, Walter,	Tuckerton,	351½	4	4 00	Aug. 1, 1913	1 yr.
Wood, Richard,	West Creek,	226	2	1 00	Dec. 31, 1913	1 yr.

Beds marked X have not been surveyed.

Oyster Bed Leases—Atlantic County.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Allen, Jos. B., Jr.,	Atlantic City,	90a	7.44	\$7 50	Sept. 1, 1908	7 years
Albertson, John C.,	Pleasantville,	21a	1.33	1 50	Sept. 1, 1908	7 years
Allen, Samuel B.,	New Gretna,	227a	1.75	1 75	Sept. 1, 1908	8 years
Allen, Jos. B., Jr.,	Philadelphia,	230a	2.50	2 50	May 1, 1910	10 years
Adams, Ellis, J.,	Pleasantville,	318	5.00	5 00	Sept. 1, 1913	10 years
Adams, E. G.,	Atlantic City,	304	3.50	3 50	Sept. 1, 1913	10 years
Bowen, J. Clark,	Leeds Point,	152a	5.92	6 00	Sept. 1, 1908	7 years
Bowen, Samuel G.,	Pleasantville,	23a	8.63	8 75	Sept. 1, 1908	7 years
Bowen, Somers L.,	Pleasantville,	24a	8.60	8 75	Sept. 1, 1908	7 years
Boice, P. Harlan,	Absecon,	169a	7.50	7 50	Sept. 1, 1908	10 years
Bowen, Samuel G.,	Pleasantville,	9b	1.08	1 25	Sept. 1, 1908	10 years
Bowen, Bartine,	Leeds Point,	126b	3.89	4 00	Jan. 1, 1910	10 years
Babcock, Reuben L.,	Absecon,	150b	10.00	10 00	Jan. 1, 1911	10 years
Boice, Abbie S.,	Absecon,	134b	4.00	4 00	Sept. 1, 1911	10 years
Bogan, Richard,	Atlantic City,	116b	2.75	2 75	Sept. 1, 1912	10 years
Barrett, Japhet,	Scullville,	120b	2.12	2 25	Sept. 1, 1913	10 years
Bowen, Elwood & Ellis Adams,	Pleasantville,	308	4.41	4 50	Sept. 1, 1913	10 years
Bowen, Elwood,	Pleasantville,	319	3.75	3 75	Sept. 1, 1913	10 years
Boice, P. Harlan,	Absecon,	306	1.00	1 00	Sept. 1, 1913	10 years
Bowen, Clark,	Leeds Point,	309	1.35	1 50	Sept. 1, 1913	10 years
Collins, John H.,	Pleasantville,	29a	10.00	10 00	Sept. 11, 1908	7 years
Cramer, Arnold & Caleb,	New Gretna,	189a	.53	1 00	Sept. 11, 1908	7 years
Chew, Benj. W.,	New Gretna,	196a	2.88	3 00	Sept. 11, 1908	7 years
Conover, Harry B.,	Absecon,	260a	1.20	1 25	Sept. 11, 1908	9 years
Collins, Isaac,	Pleasantville,	28a	10.00	10 00	Sept. 11, 1908	7 years
Collins, Almyra,	Pleasantville,	201a	1.75	1 75	Sept. 11, 1908	8 years
Conover, Enoch,	Oceanville,	162a	1.13	1 25	Sept. 11, 1908	7 years
Conover, Roland A.,	Oceanville,	128a	1.50	1 50	Sept. 11, 1908	7 years
Cramer, Albert F.,	Atlantic City,	129a	1.03	1 25	Sept. 11, 1908	7 years
Cramer, Albert F.,	Atlantic City,	190a	1.97	2 00	Sept. 11, 1908	8 years
Conover, Joel A.,	Atlantic City,	91a	10.00	10 00	Sept. 11, 1908	7 years
Conover, Albert,	Atlantic City,	92a	10.00	10 00	Sept. 11, 1908	7 years
Conover, William,	Atlantic City,	93a	1.73	1 75	Sept. 1, 1908	7 years
Conover, Zeph. S.,	Atlantic City,	19a	7.00	7 00	Sept. 1, 1908	7 years
Cramer, John T.,	New Gretna,	253a	1.53	1 75	Sept. 1, 1908	10 years
Collins, Louisa,	Smith's Landing,	31a	3.95	4 00	Sept. 1, 1908	7 years
Collins, Harry P.,	Pleasantville,	30a	9.73	9 75	Sept. 1, 1908	7 years
Conover, Priscilla,	Absecon,	224a	7.21	7 25	June 1, 1909	6 years
Conover, Priscilla,	Absecon,	238a	1.49	1 50	June 1, 1909	6 years
Conover, Harry B.,	Absecon,	11b	1.95	2 00	Sept. 1, 1908	10 years
Conover, Chester,	Oceanville,	20b	1.00	1 00	June 1, 1909	10 years
Chew, Benj. W.,	New Gretna,	25b	2.08	2 25	Sept. 1, 1910	10 years
Conover, Harry B.,	Absecon,	37b	2.00	2 00	Jan. 1, 1909	10 years
Cramer, Arnold & Co.,	New Gretna,	40b	.65	1 00	March 1, 1911	10 years
Conover, Micajah,	Absecon,	165a	6.25	6 25	Sept. 1, 1908	7 years
Conover, Emily F.,	Absecon,	42b	10.00	10 00	June 1, 1911	10 years
Collins, Hugh,	Pleasantville,	47b	7.07	7 25	Sept. 1, 1911	10 years
Conover, John F.,	Atlantic City,	96a	8.25	8 25	Sept. 1, 1911	10 years
Collins, Burris,	Pleasantville,	80a	3.78	4 00	Sept. 1, 1912	10 years
Cramer, Arnold,	New Gretna,	136b	1.45	1 50	Sept. 1, 1912	10 years
Cramer, D. Arnold,	New Gretna,	160b	2.00	2 00	Sept. 1, 1911	10 years
Conover, Gilbert,	Absecon,	135b	7.39	7 50	Sept. 1, 1912	10 years
Conover, William,	Atlantic City,	119b	8.00	8 00	Sept. 1, 1912	10 years
Conover, Arthur W.,	Absecon,	127b	1.80	2 00	Sept. 1, 1912	10 years
Conover, George B.,	Absecon,	106b	2.00	2 00	Sept. 1, 1912	10 years
Conover, Harry B.,	Absecon,	138b	1.44	1 50	Sept. 1, 1912	10 years

OYSTER BED LEASES—ATLANTIC COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Conover, Frank B.,	Absecon,	167b	3.71	\$3 75	May 1, 1913	10 years
Cramer, Carl,	New Gretna,	14b	1.00	1 00	Sept. 1, 1913	10 years
Cramer, Arnold,	New Gretna,	123a	4.93	5 00	Sept. 1, 1913	10 years
Conover, James,	Absecon,	312	1.00	1 00	Sept. 1, 1913	10 years
Conover, Arthur W.,	Absecon,	317	5.00	5 00	Sept. 1, 1913	10 years
Cramer, I. L.,	Atlantic City,	302	4.50	4 50	Sept. 1, 1913	10 years
Conover, George B.,	Absecon,	310	7.00	7 00	Sept. 1, 1913	10 years
Doughty, B. F.,	Atlantic City,	176a	.47	1 00	Sept. 1, 1908	7 years
Dennis, Henry B.,	Scullville,	35a	2.57	2 75	Sept. 1, 1908	7 years
Dennis, Chas. B.,	Scullville,	33a	.94	1 00	Sept. 1, 1908	7 years
Dennis, Chas. B. & Henry B.,	Scullville,	34a	2.40	2 50	Sept. 1, 1908	7 years
Doughty, Edward C.,	Oceanville,	182a	.80	1 00	Sept. 1, 1908	7 years
Doughty, Ezra,	Oceanville,	183a	1.79	2 00	Sept. 1, 1908	7 years
Dennis, B. F.,	Scullville,	32a	6.25	6 25	Sept. 1, 1908	7 years
Darby, John A.,	New Gretna,	188a	2.09	2 25	Sept. 1, 1908	7 years
Doughty, Bertha L.,	Absecon,	51b	10.00	10 00	June 1, 1911	7 years
Doughty, Fraley,	Absecon,	133b	2.38	2 50	Sept. 1, 1912	10 years
Doughty, F. Fraley,	Absecon,	311	2.77	2 00	Sept. 1, 1913	10 years
Downs, William F.,	New Gretna,	327	2.00	3 00	Jan. 1, 1914	10 years
Fish, Alexander,	Pleasantville,	36a	6.88	7 00	Sept. 1, 1908	7 years
Fairbrothers, Lewis,	Pleasantville,	39a	5.00	5 00	Sept. 1, 1908	7 years
Fish, Alexander,	Pleasantville,	2a	2.50	2 50	Sept. 1, 1913	10 years
Garrison, Dennis,	Scullville,	181a	3.11	3 25	June 1, 1909	6 years
Gaskill, Thos. & Son,	New Gretna,	187a	1.35	1 50	Sept. 1, 1908	7 years
Giberson, Thos. J.,	Leeds Point,	219a	2.37	2 50	Sept. 1, 1908	7 years
Giberson, Harvey & Darins, Smith,	Leeds Point,	213a	4.74	4 75	Sept. 1, 1908	7 years
Giberson, Samuel,	Absecon,	115a	5.17	5 25	Sept. 1, 1908	7 years
Giberson, Richard,	Absecon,	113a	1.30	1 50	Sept. 1, 1908	7 years
Giberson, Samuel,	Absecon,	71b	4.50	4 50	Sept. 1, 1911	10 years
Giberson, E. W.,	Absecon,	305	3.00	3 00	Sept. 1, 1913	10 years
Giberson, Richard,	Absecon,	315	1.00	1 00	Sept. 1, 1913	10 years
Griffith, Lewis,	Absecon,	313	1.00	1 00	Sept. 1, 1913	10 years
Higbee, Job M.,	Leeds Point,	130a	2.17	2 25	Sept. 1, 1908	10 years
Higbee, James W.,	Leeds Point,	132a	10.00	10 00	Sept. 1, 1908	10 years
Higbee, John G.,	Leeds Point,	155a	10.00	10 00	Sept. 1, 1908	10 years
Higbee, Allen,	Leeds Point,	131a	1.57	1 75	Sept. 1, 1908	10 years
Hewitt, Nelson,	Port Republic,	243a	1.61	1 75	Sept. 1, 1908	10 years
Horton, Howard,	Pleasantville,	45a	1.92	2 00	Sept. 1, 1908	10 years
Holdzkom, Samuel,	E. Brigantine,	177a	1.37	1 50	Sept. 1, 1908	10 years
Holdzkom, Edward,	E. Brigantine,	98a	6.69	6 75	Sept. 1, 1908	10 years
Hewitt, Norris,	Pleasantville,	161b	4.43	4 50	Jan. 1, 1913	10 years
Hammell, Elmora M.,	Absecon,	163b	1.00	1 00	April 1, 1913	10 years
Hewitt, Norris,	Pleasantville,	191a	2.64	2 75	April 1, 1913	10 years
Hilton, Hannah,	Pleasantville,	168b	2.09	2 25	Sept. 1, 1913	10 years
Higbee, James W.,	Leeds Point,	163b	1.00	1 00	Sept. 1, 1912	10 years
Horton, Howard,	Pleasantville,	39a	5.00	5 00	Sept. 1, 1913	10 years
Horton, Willis,	Pleasantville,	300	4.25	4 25	Sept. 1, 1913	10 years
Higbee, James W.,	Leeds Point,	301	5.00	5 00	Sept. 1, 1913	10 years
Hewitt, Jesse,	Port Republic,	307	1.50	1 50	Sept. 1, 1913	10 years
Hockett, Frank,	Linwood,	326	3.00	3 00	Jan. 1, 1914	10 years
Holdzkom, William,	Brigantine,	124a	1.48	1 50	Sept. 1, 1908	7 years
Horton, Chas. M.,	Pleasantville,	44a	7.12	7 25	Sept. 1, 1908	7 years
Horton, Willis,	Pleasantville,	48a	1.16	1 25	Sept. 1, 1908	7 years
Hammell, Elmora M.,	Absecon,	199a	.78	1 00	Sept. 1, 1908	7 years
Hammell, Chas. P.,	Absecon,	198a	9.84	10 00	Sept. 1, 1908	7 years
Hammell, Wm. A.,	Absecon,	178a	5.94	6 00	Sept. 1, 1908	7 years
Hackett, Frank,	Linwood,	326	3.00	3 00	Jan. 1, 1914	7 years
Hilton, John M.,	Pleasantville,	41a	9.88	10 00	Sept. 1, 1908	7 years
Hilton, Hannah,	Pleasantville,	228a	1.81	2 00	June 1, 1909	6 years
Hackney, Steven R.,	Margate City,	60b	1.50	1 50	Sept. 1, 1908	10 years
Horton, Howard,	Pleasantville,	65b	2.34	2 50	Sept. 1, 1908	10 years
Horton, Charles,	Pleasantville,	68b	1.60	1 75	Sept. 1, 1908	10 years
Horton, Peter B.,	Pleasantville,	72b	6.44	6 50	Sept. 1, 1908	10 years

OYSTER BED LEASES—ATLANTIC COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Hammell, Elmora M.,	Absecon,	246b	4.05	\$4 25	Jan. 1, 1910	10 years
Higbee, Somers T.,	Leeds Point,	74b	3.44	3 50	June 1, 1911	10 years
Haines, Winfield F.,	Linwood,	17b	4.57	4 75	Sept. 1, 1912	10 years
Ingersoll, Jno. B. & Charles,	English Creek,	242a	5.04	5 25	Sept. 1, 1908	9 years
Jacobson, Charles,	Oceanville,	139a	1.10	1 25	Sept. 1, 1908	7 years
Johnson, Monroe,	Port Republic,	316	1.50	1 50	Sept. 1, 1913	10 years
Leeds, Edward,	Oceanville,	172a	3.39	3 50	Sept. 1, 1908	7 years
Leeds, Chas. A.,	Leeds Point,	141a	3.13	3 25	Sept. 1, 1908	7 years
Loudenslager, Wm. B.,	Ventnor City,	211a	2.70	2 75	Sept. 1, 1908	8 years
Lake, Henry,	Pleasantville,	52a	2.85	3 00	Sept. 1, 1908	7 years
Leeds & Blackman,	Oceanville,	197a	3.50	3 75	Sept. 1, 1908	7 years
Lake, Albert P.,	Pleasantville,	50a	5.72	5 75	Sept. 1, 1908	7 years
Le Munyon, Ph.,	New Gretna,	256a	4.36	4 50	Sept. 1, 1909	10 years
Loveland, Benj. F.,	New Gretna,	142a	3.75	3 75	Jan. 1, 1912	10 years
Lake, Henry,	Pleasantville,	54b	1.25	1 25	Sept. 1, 1912	10 years
Leeds, Caleb,	Leeds Point,	164b	4.00	4 00	Sept. 1, 1913	10 years
Leeds, Ira,	Leeds Point,	314	1.00	1 00	Sept. 1, 1913	10 years
Leeds, Risley,	Leeds Point,	301	.93	1 00	Sept. 1, 1913	10 years
Leeds, Wilmer,	Oceanville,	140b	1.00	1 00	Sept. 1, 1912	10 years
Leeds, Chas.,	Leeds Point,	303	.51	1 00	Sept. 1, 1912	10 years
Mathews, D. L.,	Oceanville,	171a	5.07	5 25	Sept. 1, 1908	7 years
Mathis, Edward,	New Gretna,	145a	2.13	2 25	Sept. 1, 1908	7 years
Mathis, Alvin,	New Gretna,	144a	1.57	1 75	Sept. 1, 1908	7 years
Mathis, Caleb B., Jr.,	Pleasantville,	82b	2.00	2 00	Sept. 1, 1908	10 years
Mathis, Pitman E.,	New Gretna,	146a	1.03	1 25	Sept. 1, 1908	7 years
Mathis, Gilbert,	Pleasantville,	58a	9.82	10 00	Sept. 1, 1908	7 years
Mathis, William H.,	Pleasantville,	56a	10.00	10 00	Sept. 1, 1908	7 years
Mitchell, Wm. H.,	Pleasantville,	55a	4.42	4 50	Sept. 1, 1908	7 years
Mathis, Caleb B., Jr.,	Pleasantville,	248a	5.62	5 75	Sept. 1, 1908	9 years
Mathis, John F.,	Pleasantville,	83b	.25	1 00	Sept. 1, 1908	10 years
McKeagne, Seymour,	Scullville,	12a	1.44	1 50	Sept. 1, 1908	7 years
Powers, Elwood M.,	Linwood,	15a	1.88	2 00	Sept. 1, 1908	7 years
Powers, E. M.,	Linwood,	16b	3.00	3 00	Sept. 1, 1911	10 years
Price, Job C.,	Atlantic City,	99b	1.73	1 75	Sept. 1, 1913	10 years
Robbins, L. D.,	New Gretna,	143a	1.06	1 25	Sept. 1, 1908	7 years
Risley, Obediah,	Pleasantville,	69a	4.98	5 00	Sept. 1, 1908	7 years
Robinson, David S.,	Scullville,	13a	2.00	2 00	Sept. 1, 1908	10 years
Risley, Ephraim,	Pleasantville,	64a	4.88	5 00	Sept. 1, 1908	7 years
Reed, Sodin, C.,	Oceanville,	111a	2.63	2 75	Sept. 1, 1908	7 years
Risley, Harry C.,	Pleasantville,	71a	6.65	6 75	Sept. 1, 1908	7 years
Reed, Willis W.,	Oceanville,	107a	1.59	1 75	Sept. 1, 1908	7 years
Robbins, Chas.,	New Gretna,	125b	.43	1 00	Sept. 1, 1912	10 years
Risley, Herman & Curtis,	Pleasantville,	63b	6.11	6 25	Sept. 1, 1912	10 years
Risley, Richard,	Pleasantville,	66a	5.00	5 00	Sept. 1, 1913	10 years
Risley, Frank & Harry,	Pleasantville,	63b	1.90	2 00	Sept. 1, 1912	10 years
Smith, Theodora,	Scullville,	1a	8.18	8 25	Sept. 1, 1908	7 years
Somers, Harris,	Oceanville,	110a	1.66	1 75	Sept. 1, 1908	7 years
Somers, Ezekiel,	Oceanville,	103a	4.29	4 50	Sept. 1, 1908	7 years
Smith, Arron R.,	Scullville,	6a	6.38	6 50	Sept. 1, 1908	7 years
Smith, Abel W.,	Scullville,	5a	8.94	8 50	Sept. 1, 1908	7 years
Somers, Jackson,	Steelmanville,	7a	2.50	2 50	Sept. 1, 1908	7 years
Smith, William J.,	Oceanville,	185a	3.98	4 00	Sept. 1, 1908	7 years
Scull, John B.,	Linwood,	200a	2.00	2 00	Sept. 1, 1908	7 years
Scull, Alfred S.,	Linwood,	89a	1.07	1 25	Sept. 1, 1908	7 years
Scull, Thos. B.,	Leeds Point,	153a	3.49	3 50	Sept. 1, 1908	8 years
Somers, C. Bodine,	Oceanville,	244a	2.00	2 00	Sept. 1, 1908	9 years
Somers, Harry C.,	Oceanville,	109a	1.95	2 00	Sept. 1, 1908	7 years
Smith, David T.,	Scullville,	4a	6.12	6 25	Sept. 1, 1908	7 years
Somers, Richard J.,	Linwood,	18a	9.86	10 00	Sept. 1, 1908	7 years
Smith, J. Frank,	Prigantine,	186a	1.18	1 25	Sept. 1, 1908	7 years
Somers, Leon,	Somers Point,	193a	8.71	8 75	Sept. 1, 1908	7 years

OYSTER BED LEASES—ATLANTIC COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Scull, Elizah,	Scullville,	10a	6.43	\$6 50	Sept. 1, 1908	7 years
Scull, Edwin,	Oceanville,	184a	.57	1 00	Sept. 1, 1908	7 years
Somers, Boice,	Scullville,	8a	3.75	3 75	Sept. 1, 1908	7 years
Sooy, Eli M., John M., Jos. E.,	Leeds Point,	262a	1.92	2 00	Sept. 1, 1908	9 years
Smith, Japhet,	Scullville,	239a	3.18	3 25	Sept. 1, 1908	10 years
Sooy, Elphra S.,	Pleasantville,	77a	10.00	10 00	Sept. 1, 1908	7 years
Sooy, Nancy,	Pleasantville,	78a	8.00	8 00	Sept. 1, 1908	7 years
Scull, M. V. B.,	Atlantic City,	151a	3.00	3 00	Sept. 1, 1908	7 years
Sooy, Robert M.,	Oceanville,	113a	1.74	1 75	Sept. 1, 1908	7 years
Scott, Robert M.,	Leeds Point,	159a	10.00	10 00	Jan. 1, 1909	7 years
Somers, Emily S.,	Linwood,	86b	4.00	4 00	Sept. 1, 1909	10 years
Somers, C. Bodine,	Oceanville,	87b	.70	1 00	June 1, 1909	6 years
Sooy, Danl T., Jr.,	New Gretna,	252a	10.00	10 00	Sept. 1, 1909	10 years
Sooy, S. Leonard & Dow L. Robbins,	New Gretna,	93b	2.12	2 25	Sept. 1, 1910	10 years
Sooy, Samuel B.,	Pleasantville,	95b	2.75	2 75	March 1, 1911	10 years
Somers, Emily T.,	Linwood,	157b	2.50	2 50	Sept. 1, 1911	10 years
Sooy, John M., Eli M., Jos. E.,	Leeds Point,	147b	2.00	2 00	Sept. 1, 1913	10 years
Scull, Thomas,	Leeds Point,	143b	1.43	1 50	Sept. 1, 1912	10 years
Thomas, Jesse,	Scullville,	325	2.12	2 25	Jan. 1, 1914	10 years
Thomas, Jesse,	Scullville,	352	4.12	4 25	May 1, 1914	10 years
Webber, E. A.,	Atlantic City,	101b	1.00	1 00	Sept. 1, 1910	10 years
Yates, Jesse,	Atlantic City,	245a	1.14	1 25	Sept. 1, 1908	9 years
York, William,	Pleasantville,	104b	4.23	4 25	Sept. 1, 1910	10 years

Propagating Oyster Bed Leases—Atlantic County.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Adams, Jas. H.,	Pleasantville,	75	5.00	\$25 00	March 1, 1911	10 years
Adams, Nicholas,	Atlantic City,	106	2.00	10 00	Jan. 1, 1914	10 years
Babcock, R. L.,	Absecon,	77	5.00	25 00	March 1, 1911	10 years
Barrett, L. H.,	Pleasantville,	66	2.00	10 00	Sept. 1, 1910	10 years
Bensel, F. J.,	Atlantic City,	28	4.30	22 50	Sept. 1, 1910	10 years
Bessesen, Wm. R.,	Atlantic City,	84	3.41	17 50	March 1, 1911	10 years
Blackman, Samuel,	Scullville,	107	1.00	5 00	Jan. 1, 1914	10 years
Dennes, B. F.,	Scullville,	8	5.00	25 00	Sept. 1, 1910	10 years
Dennis, Chas. B.,	Scullville,	7	4.00	20 00	Sept. 1, 1910	10 years
Dennis, Glovette,	Scullville,	45	5.00	25 00	Sept. 1, 1910	10 years
Dennis, Elizabeth B.,	Scullville,	49	3.75	18 75	Sept. 1, 1910	10 years
Dennis, Henry B.,	Scullville,	9	4.45	22 50	Sept. 1, 1910	10 years
Dennis, Wm. B.,	Steelmanville,	5	5.00	25 00	Sept. 1, 1910	10 years
Delaney, Robert E.,	Atlantic City,	22	5.00	25 00	Sept. 1, 1910	10 years
Doughty, F. F.,	Absecon,	37	5.00	25 00	Sept. 1, 1910	10 years
English, Walter,	English Creek,	12	5.00	25 00	Sept. 1, 1910	10 years
Goff, A. W.,	Atlantic City,	18	4.40	22 50	Sept. 1, 1910	10 years
Garrison, Dennis,	Scullville,	102	1.03	6 75	Jan. 1, 1914	10 years
Holdzkom, Edward,	Brigantine,	42	2.66	13 75	Sept. 1, 1910	10 years
Hamilton, Thos. J.,	Absecon,	78	5.00	25 00	March 1, 1911	10 years
Hickman, Smith,	Scullville,	100	2.00	10 00	Sept. 1, 1913	10 years
Ingersoll, John W.,	Wargate City,	30	5.00	25 00	March 1, 1911	10 years
Ireland, Samuel,	Pleasantville,	79	5.00	25 00	March 1, 1911	10 years
Ingersoll, Harold,	Atlantic City,	302	4.00	20 00	Sept. 1, 1913	10 years
Jeffries, A. B.,	Scullville,	27	4.50	22 50	Sept. 1, 1910	10 years
Jeffries, Benj. C.,	Scullville,	11	4.00	20 00	Sept. 1, 1910	10 years
Jeffries, George B.,	Scullville,	6	4.50	22 50	Sept. 1, 1910	10 years
Kuehne, Louis,	Atlantic City,	21	5.00	25 00	Sept. 1, 1910	10 years
Lee, George B.,	Pleasantville,	76	5.00	25 00	March 1, 1911	10 years
Lee, Oliver A.,	English Creek,	34	5.00	25 00	Sept. 1, 1910	10 years
Lashley, Clarence,	Scullville,	16	2.00	10 00	Sept. 1, 1910	10 years
Mapel, Newton J.,	Atlantic City,	39	5.00	25 00	Sept. 1, 1910	10 years
Murland, Henry J.,	Atlantic City,	56	3.19	16 25	Sept. 1, 1910	10 years
McElroy, Samuel W.,	Atlantic City,	41	4.83	25 00	Sept. 1, 1910	10 years
McGurk, Michael,	Atlantic City,	73	5.00	25 00	March 1, 1911	10 years
McKeagne, Hannah,	Scullville,	48	4.70	23 75	Sept. 1, 1910	10 years
McKeagne, Seymour,	Scullville,	32	1.75	8 75	Sept. 1, 1913	10 years
Nelson, Alex. H.,	Atlantic City,	36	5.00	25 00	Sept. 1, 1910	10 years
Perkins, Alfred J.,	Atlantic City,	104	5.00	25 00	Aug. 1, 1914	10 years
Reed, Oris,	Atlantic City,	46	5.00	25 00	Sept. 1, 1910	10 years
Robinson, D. S.,	Scullville,	29	2.00	10 00	Sept. 1, 1910	10 years
Scull, Elijah,	Scullville,	47	3.00	15 00	Sept. 1, 1910	10 years
Scull, Jos. G.,	Scullville,	33	5.00	25 00	Sept. 1, 1910	10 years
Scull, M. B.,	Somers Point,	20	4.47	21 25	Sept. 1, 1910	10 years
Scull, Westley,	Atlantic City,	13	3.50	17 50	Sept. 1, 1910	10 years
Sharp, Joseph,	English Creek,	19	5.00	25 00	Sept. 1, 1910	10 years
Shimp, Mark S.,	Atlantic City,	69	4.76	25 00	Sept. 1, 1910	10 years
Shimp, Ida C.,	Pleasantville,	70	5.00	25 00	Sept. 1, 1910	10 years
Smith, Aaron R.,	Pleasantville,	23	3.55	18 75	Sept. 1, 1910	10 years
Smith, Abel W.,	Scullville,	3	4.44	21 25	Sept. 1, 1910	10 years
Smith, Enoch,	Atlantic City,	51	4.80	25 00	Sept. 1, 1910	10 years
Smith, John H.,	Scullville,	17	3.00	15 00	Sept. 1, 1910	10 years
Smith, Theo.,	Scullville,	15	4.00	20 00	Sept. 1, 1910	10 years
Smith, William B.,	Absecon,	44	5.00	25 00	Sept. 1, 1910	10 years
Somers, Boice, Sr.,	Scullville,	4	3.75	18 75	Sept. 1, 1910	10 years
Somers, Jackson,	Scullville,	14	2.00	10 00	Sept. 1, 1910	10 years
Somers, R. J.,	Linwood,	31	4.97	25 00	Sept. 1, 1910	10 years
Steelman, Bolton E.,	Longport,	26	5.00	25 00	Sept. 1, 1910	10 years
Sooy, John L.,	Pleasantville,	65	2.09	11 25	Sept. 1, 1910	10 years

PROPAGATING OYSTER BED LEASES—
ATLANTIC COUNTY—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Steelman, Cora,	Atlantic City,	55	2.25	\$11 25	Sept. 1, 1910	10 years
Steelman, Daniel,	Absecon,	71	3.00	15 00	Sept. 1, 1910	10 years
Steelman, S. S., Jr.,	Atlantic City,	50	4.30	22 50	Sept. 1, 1910	10 years
Smith, Susan B.,	Scullville,	88	3.50	17 50	Sept. 1, 1911	10 years
Smith, Mary Louisa,	Atlantic City,	67	5.00	25 00	Sept. 1, 1913	10 years
Sampson, H. L.,	Steelmanville,	101	1.00	5 00	Sept. 1, 1913	10 years
Smith, Japhet S.,	Scullville,	105	1.00	5 00	Jan. 1, 1914	10 years
Steelman, Elmer,	Scullville,	103	1.00	5 00	Jan. 1, 1914	10 years
Tallman, Eugene,	Scullville,	1	3.00	15 00	Sept. 1, 1910	10 years
Willits, F. W.,	Brigantine,	38	5.00	25 00	Sept. 1, 1910	10 years
Wilson, L. R.,	Absecon,	43	5.00	25 00	Sept. 1, 1910	10 years
Willets, Jennie,	Brigantine,	85	3.00	15 00	March 1, 1911	10 years

Shark River Oyster Bed Leases.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Allgor, Devine,	Como,	11	1	\$1 25	1914	1 year
Allgor, Devine,	Como,	178	1	1 50	1914	1 year
Allgor, Devine,	Como,	124-125-126-133-134-135-137-138	8	7 50	1914	1 year
Allgor, Devine,	Como,	110-109-118	3	5 50	1914	1 year
Allgor, Devine,	Como,	117-190	2	3 00	1914	1 year
Bennett, Eden, Sr.,	Avon,	28	1	3 00	1914	1 year
Bennett, Eden, Sr.,	Avon,	27	1	3 00	1914	1 year
Bennett, Franklin E.,	Avon,	4-5	2	6 00	1914	1 year
Bennett, Franklin E.,	Avon,	47-48	2	1 00	1914	1 year
Bennett, Franklin E.,	Avon,	21-24	4	12 00	1914	1 year
Bennett, Garrett,	Belmar,	2-3-21-22	4	3 00	1914	1 year
Bennett, John H.,	Belmar,	82 to 84				
		66 to 73	11	5 50	1914	1 year
Bennett, Henry A.,	Avon,	6-7	2	6 00	1914	1 year
Bennett, Henry A.,	Avon,	180-169	2	2 00	1914	1 year
Bennett, Henry A.,	Avon,	12	1	2 00	1914	1 year
Bennett, Henry A.,	Avon,	18	1	3 00	1914	1 year
Bentell, E. M.,	Avon,	3	1	3 00	1914	1 year
Bowd Beers Co.,	Bradley Beach,	113-114-127-128	4	5 00	1914	1 year
		7-8-16				
Brown, Harry,	Belmar,	17-29-30	6	6 00	1914	1 year
Bloodgood, Willis,	Belmar,	34	1	2 00	1914	1 year
Brown, Charles,	Belmar,	109	1	2 00	1914	1 year
Campbell, Neil,	Belmar,	181 to 184	4	6 00	1914	1 year
Flemming, Henry,	Avon,	13-19	2	4 00	1914	1 year
Flemming, Henry,	Avon,	64-65				
		74-75-80	7	3 50	1914	1 year
		81-88				
Green, H. D.,	Asbury Park,	23 to 25				
		45 to 51	10	7 50	1914	1 year
Gassin, Chas. E.,	Belmar,	33	1	1 00	1914	1 year
Howland, Chas. Mrs.,	Belmar,	159	1	2 00	1914	1 year
Hall, Sidney M.,	Asbury Park,	37	1	1 00	1914	1 year
Low, C. L.,	Asbury Park,	17	1	3 00	1914	1 year
Morris, Alexander, Sr.,	Avon,	15-16				
		14-20	4	12 00	1914	1 year
Morris, Wm. F.,	Asbury Park,	8-9-10-11	4	10 00	1914	1 year
Newman, Wilson L.,	Belmar,	186-187				
		188-189	4	5 50	1914	1 year
		136-4-5				
Newman, Wilson L.,	Belmar,	153 to 156	7	6 50	1914	1 year
Newman, Wilson L.,	Belmar,	115-116	2	4 00	1914	1 year
Newman, Wilson L.,	Belmar,	145-152				
		157-158	4	3 00	1914	1 year
Newman, Wilson L.,	Belmar,	163 to 166				
		141 to 144				
		129 to 130				
		173 to 174	12	10 00	1914	1 year
Newman & Allgor,	Belmar,	6-9-10-13				
		14-15-18				
		19-20-26				
		27-28-31				
		32-37 to				
		44-52 to 63				
		76 to 79				
		86-87	40	20 00	1914	1 year

OYSTER BED LEASES—SHARK RIVER—Continued.

LESSEE.	ADDRESS.	Ground No.	Acreage.	Amount of Lease.	Date.	Term.
Newman & Allgor,	Belmar,	1-131-132 139-140-161 162-167-168 170-171-172 175-176-177 119-121-122	15	\$13 25	1914	1 year
Newman & Allgor,	Belmar,	123-180	5	3 75	1914	1 year
Palmer, John P.,	Avon,	58-59	2	1 50	1914	1 year
Palmer, John P.,	Avon,	49-60	2	1 00	1914	1 year
Palmer, Chas. H.,	Avon,	30-31	2	3 00	1914	1 year
Smock, John C.,	Avon,	38	1	1 00	1914	1 year
Smock, Uriah,	Avon,	32-34				
		35-36	4	4 00	1914	1 year
		1-2	2	2 00	1914	1 year
Tucker, Edwin,	Avon,	35	1	3 00	1914	1 year
Wight, James,	Belmar,	149-150-151	3	3 50	1914	1 year
Wooley, E. S. V.,	New Bedford,	148	1	1 50	1914	1 year
Wooley, Hiram,	New Bedford,	179	1	1 00	1914	1 year
Wooley, William,	New Bedford,	146-147	2	2 00	1914	1 year
Wooley, William H.,	New Bedford,	185	1	1 00	1914	1 year
Wooley, William H.,	New Bedford,	185	1	1 00	1914	1 year
Van Note, Frederick H.,	Asbury Park,	25-26	2	3 25	1914	1 year

Total Receipts for 1914

\$232.00.

Disbursements

\$6.85

Balance

\$225.15

HENRY A. BENNETT,
Oyster and Clam Commissioner, of Shark River.

80

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