

10r, J.B
5

SURVEY

of

OYSTER GROUNDS

in

VIRGINIA

To ascertain
the extent & value of
REPORT OF J. B. BAYLOR TO THE
GOVERNOR OF VIRGINIA

RICHMOND
J. H. O'BANNON, SUPERINTENDENT OF PUBLIC PRINTING
1895.

SURVEY OF OYSTER GROUNDS
IN VIRGINIA

His Excellency Charles T. O'Ferrall,

Governor of Virginia:

Dear Sir, — I have the honor to submit a report of the work of the survey of the natural oyster beds, rocks, and shoals of the Commonwealth of Virginia, in accordance with act approved February 29, 1892, and (as amended) with act approved March 2, 1894.

In a report dated December 1, 1893 (State Senate document No. 11), I gave an outline of the organization of the force employed on this survey, the methods adopted in delineating and mapping the natural oyster beds, rocks, and shoals of Virginia, and at the same time drew comparisons between the condition of the oyster and fishing interests of Virginia and those of some other States, recommending such changes in our oyster laws as would probably be beneficial to these interests.

Since that report was issued the survey of the natural oyster beds, rocks, and shoals of Virginia has been pushed to completion. This includes the survey of Chesapeake Bay and its tributaries, and also the survey of the very extensive beds of the Atlantic Ocean shores of Virginia. All the records have been published and the charts photo-lithographed. The published records contain 439 pages of closely-printed matter, and thirty elaborate oyster charts have been issued.

The positions of all the corners of the natural oyster rocks, as determined from marked shore stations were computed by rigorous logarithmic computations. Immense labor was expended on the survey and the preparation of these records and charts. The expense to the State has been greatly lessened by the aid she has received from the general government.

The United States Coast Survey furnished an officer for the work, the surveying instruments, and projection sheets, while the United States Commission of Fish and Fisheries gave the State the use of a steam launch and her crew while actively engaged in field operations. Without the steam launch we would have made slow progress in our field work. To quote from my last report: "After years of experience in such surveys, I am safe in saying that the assistance the general government has been able to render the State of Virginia in connection with the survey has diminished its cost to the tax-payers of the State fully 50 per cent. The questions involved in connection with this survey do not affect the people of this State alone. They have their influence on the food supply of the whole people, as well as upon the character of the bottoms, as indicated on the United States Coast Survey chart of the coast of Virginia. Upon these grounds two of the important bureaux of the general government have been willing to lend their aid to the State of Virginia."

Since writing my last report the original act authorizing this survey has been so far amended as to omit the words, "provided, if any natural rock, bed, or shoal is left out of these surveys they shall not be used for planting grounds, but shall be subject to the general oyster law of the State."

The official charts and field records defining the boundaries of the natural oyster beds cannot now be changed except by a special act of the Legislature in each individual case.

Unless these charts and records are used as a legal guide in settling disputes between those who gather oysters from the natural oyster rock (public grounds) and those who stake in and rent bottoms from the State for the cultivation and propagation of oysters, the considerable sum of money which has been expended by the tax-payers of this State upon this survey, and the time and labor which has been consumed in its prosecution, will have been wasted so far as the development of the oyster interest of Virginia is concerned.

This survey, together with the expense of publishing the records and photolithographing the charts, has cost the tax-payers of this State about 7.5 cents per acre for every acre of oyster ground surveyed; a considerable sum of money in the aggregate, but a small cost per acre for extensive and complicated water surveys.

It is now by law simply a question of interpreting the official oyster records and charts by a competent surveyor as to what bottoms can or cannot be rented from the State.

My experience as an engineer convinces me that in order to settle all questions of boundary from the official records of this survey in a satisfactory manner, it will be absolutely necessary for the State to have a thoroughly competent hydrographic engineer employed by the year for the purpose.

The county surveyors, with the means and instruments at their disposal, cannot be expected to do this class of work unaided.

The hydrographic engineer should also be required to test the accuracy of the areas returned as staked out and rented from the State by the oyster planters in the various oyster counties. The salary of a competent engineer could be easily paid, and at the same time the revenue derived from the rental of oyster grounds would be considerably increased by corrected surveys. It is of the utmost importance that the employment of such an en-

gineer should be urged upon the next Legislature if the survey is to be properly utilized. I trust you may feel justified in recommending to that body the employment of such a person, supplied with the necessary instruments.

There are in the whole State of Virginia 201,216.3 acres of natural oyster beds, rocks, and shoals. The legal records and charts of the whole survey have been published.

This enormous area of natural oyster rock has been delineated by three county commissioners in each of the various counties having oyster beds within their limits. These commissioners were selected by the county judges on account of their long familiarity with the oyster grounds. They were selected largely from the tonging class.

Unless some of this enormous area happened to have been assigned for the cultivation and propagation of oysters prior to the 25th day of February, 1892 (and as a matter of fact, very little of it was assigned), not one single acre of it, under existing laws, can be rented from the State by any private individual or firm. It is held for the common benefit of the people of Virginia. (Article X., Section 11, of the State Constitution.)

Let us look into the question of the revenue which the State of Virginia is likely to obtain from the rental of her tidal bottoms not embraced within the boundaries of her natural oyster rocks.

A large majority of the tax-payers of the State can by no possibility derive any direct advantage from their part ownership of her oyster grounds on account of their remoteness from them. To benefit this class a direct revenue must be obtained from their rental.

The act authorizing this survey, as amended, reads: "All areas of Chesapeake Bay and its tributaries not embraced in the survey of the natural oyster beds, rocks, and shoals authorized by the act shall be construed to be, in all courts of the Commonwealth, barren area and disposable by the Commonwealth for the purpose of planting or propagating oysters thereon, under Section 2137, Code of Virginia, as amended and re-enacted by act approved February 25, 1892."

Section 2137, Code of Virginia, as amended, authorizes the rental of all barren area, for a period of twenty years, at a uniform rental of \$1 per acre for bottoms, situated anywhere in Chesapeake Bay and its tributaries, and at an annual rental of twenty-five cents per acre for bottoms on the Atlantic coast shores of Virginia.

The question of revenue to be derived from the rental of oyster grounds must depend upon the number of acres of barren area suitable for the profitable cultivation of the oyster and the present demand for it.

First, as to the acreage available under existing laws. The 201, 216.3 acres of natural oyster rock unquestionably contain a large percentage of the area of tributaries of Chesapeake Bay suitable for the cultivation of the oyster. If the State of Virginia should ever receive a large direct revenue from the rental of her oyster grounds, this result must be obtained by utilizing the broad area of Chesapeake Bay proper. ^{TWAJ} That portion of the area of Chesapeake Bay properly called natural oyster rock by law is now surveyed. Outside of this natural oyster area, there are at least four hundred thousand acres of "barren area disposable by the Commonwealth for the propagation of oysters."

If all this area could be rented at an annual rental of \$1 per acre, it would mean a revenue of almost \$400,000 a year. What portion of this area can be rented at a uniform rental of \$1 per acre is an open

BP LAW

question.

Deep water oyster culture in this bay is largely a matter of experiment. It has proved profitable on Long Island Sound in about the same depth of water as that in Chesapeake Bay.

In Virginia we have no deep water oyster planters with capital and labor-saving appliances ready to rent this area. If she is to derive direct revenue from the rental of this barren area, she must let in capital from sister States for its cultivation. That this would ultimately be to advantage of the oystermen in the bays and rivers tributary to Chesapeake Bay, there can be little doubt.

To establish their beds in Chesapeake Bay, the deep water oyster cultivators must have shells and oysters. Here our own oystermen will find a market for a class of oysters for which there is now little or no sale. Should these deep water oyster culturists succeed in Chesapeake Bay, an enormous direct oyster trade will spring up with Europe and the North, for these deep water ^{oyster} planters must own their own steam dredges. They will utilize a barren area that can never be used by small oyster planters. It is claimed that outside capital would introduce into our midst a foreign population -- the scum of Europe. Let us see what ground there is for this belief.

The percentage of foreigners in the vessel fisheries of the entire country is only twenty-one per cent. Seventy-one per cent of the vessel fishermen of the New England States are United States citizens. Nine-two per cent of the vessel fishermen of the Middle Atlantic States are native born or naturalized citizens. The vessels sailing from the South Atlantic ports are manned wholly by our own citizens. (Bulletin of United States Fish Commission, Vol. XIII., 1893, page 393.) From the very nature of the work, the deep water culturists must, of necessity, get their labor from this class of men in the United States.

The views expressed above would be met if the following bill was to become a law in Virginia. Without some such law, Virginia cannot, under present conditions, derive a large direct revenue from the rental of her oyster grounds:

TO PROMOTE OYSTER CULTURE IN CHESAPEAKE BAY.

1. Be it enacted by the General Assembly of Virginia, That any of the area of the Chesapeake Bay proper which is more than two statute miles from mean low-water mark and is not embraced in the survey of the natural oyster beds, rocks, and shoals of the Commonwealth, which said survey was authorized by an act approved February 29, 1892, and as amended by act approved March 2, 1894, entitled "an act to protect the oyster industry of the Commonwealth," may be occupied for the purpose of planting or propagating oysters thereon under section 2137 of the Code of Virginia, as amended and re-enacted by act approved February 25, 1892, by any person or persons other than a non-resident of the United States.
2. It shall be lawful, two years after the passage of this act, for any person to rent oyster-planting ground in Chesapeake Bay proper and afterwards sub-rent or sub-let the same to another person.
3. Chesapeake Bay proper shall be construed to mean; in all the courts of the Commonwealth what is designated as Chesapeake Bay on the official charts of the United States Coast and Geodetic Survey.
4. All acts and parts of acts inconsistent with this act be, and the same are, hereby repealed.
5. This act shall be in force from its passage.

There are along the shores of the Chesapeake Bay and its tributaries large areas of salt marshes and mud flats between the level of high and low water. These areas yield nothing either to the State or their owners in their present condition, because they are unavailable for oyster culture, under the system of leasing adopted by the State of Virginia, by reason of the large expenditure necessary to fit them for the purpose. They should be converted into oyster ponds. Pond culture has proved extremely profitable in France, and may prove so here. There is no difficulty in raising oysters in the open bays and rivers of Virginia, but it is difficult to get our oysters fat enough for market. The construction of ponds might bring about a change in this respect. Lynnhaven Bay is a natural oyster pond. It would be well if such a law as the following could be enacted in Virginia:

Whereas there are in the Chesapeake Bay and its tributaries large areas of salt marshes and mud flats between the level of high and low water; and

Whereas these areas are now unavailable for oyster culture under the system of leasing adopted by the State of Virginia, by reason of the large expenditure necessary to fit them for this purpose; therefore

1. Be it enacted by the General Assembly of Virginia, That any person or corporation desiring to do so, may, as riparian owner, or in cooperation with the riparian owner or owners, abutting on the water front proposed to be improved, undertake the conversion of such tracts into enclosed areas for the rearing and production of oysters, and all such tracts as may by reasons of such work and expenditure be permanently enclosed and converted to the uses aforesaid, shall become the property in fee simple of the person or persons effecting these improvements, and title in the same shall be duly affirmed to them by patent, after paying the fees and complying with the regulations and requirements governing the entry of public lands, and thereupon the lands so recovered and acquired in fee simple shall be assessed and taxed as are the agricultural lands of the State of Virginia.

2. All acts or parts of acts inconsistent or in conflict with this act be, and the same are, hereby repealed.

3. This act shall be in force from its passage.

To encourage the rental of barren area, every facility should be given the planter. The use of labor-saving appliances should be authorized in such a way as not to injure the natural oyster beds of the State. Such a law as the following would accomplish this end:

TO ENCOURAGE THE OYSTER INDUSTRY OF THE COMMONWEALTH.

1. Be it enacted by the General Assembly of Virginia, That any person or persons renting one hundred or more acres of ground from the State of Virginia, for the purpose of planting or propagating oysters thereon, under section 2137 of the Code of Virginia, as amended and re-enacted by act approved February 25, 1892, are authorized to own, run and use one or more steamers for the purpose of dredging, cultivating, or propagating oysters on any planted oyster grounds in the State of Virginia, provided said person or persons shall forfeit to the State of Virginia said steamer or steamers and outfits thereof and five thousand dollars, for which they shall be required to give a good and sufficient bond, to be approved by the Governor, if they or their agents are proved to have used any of said steamers in gathering oysters from any of the natural oyster beds, rocks and shoals of the State of Virginia as surveyed under act approved February 29, 1892, and as

amended by act approved March 2, 1894, entitled "an act to protect the oyster industry of the Commonwealth," or to have gathered oysters from any planted oyster grounds without the authority of the owner or owners thereof, which said authority shall only be legal when granted in writing, ~~a copy of which said authority shall only be legal when granted in writing,~~ a copy of which said authority shall be filed with the Fish Commissioner of Virginia, and another copy shall be retained by the owner or owners of said steamer or steamers, or are proved to have used the steam dredge or dredges between the hours of sunset and sunrise for any purpose whatsoever.

2. All acts and parts of acts inconsistent with this act be, and the same are, hereby repealed.

3. This act shall be in force from its passage.

The revenue derived from those who gather oysters from the natural oyster beds of Virginia might be increased if every tongman was made to pay \$2 per season hand tong tax and \$5 per season patent tong tax in advance. This end would be attained if, where the tongman elects to pay a percentage in his weekly sales, he was require to render to the county clerk of his county a weekly account of these sales. He would then be glad to pay his annual tong tax in advance. All would fare alike if this was done, and the gross frauds often practiced, where a percentage is paid by tongmen on their weekly sales, would be prevented.

There are about ten thousand tongmen in the State, and this would mean a gross revenue from this source alone of twenty thousand dollars a year to the State, and would inflict no great hardship on the tongmen. There seems no reason why Virginia should not derive a revenue from her fishing interests, and laws might be so framed as to accomplish this and at the same time to benefit these interests.

Take, for instance, the pound nets of Virginia. The statistics I am about to use are taken from the bulletin of the United States Fish Commission, Volume XIII., 1893. They represent the personal inquiries of field agents of the United States Fish Commission. That office has a permanent force trained for the collection and compilation of the statistics of the ocean,

shore, river, and lake fisheries of this country. Ample encouragement has been given to this statistical service, and Congress has appropriated annually, since 1888, a specific sum for its use. The figures must be essentially correct.

At the time these statistics were collected there were in the State of Virginia 916 pound nets, trap nets, and weirs, valued at \$162,690, their average cost \$177.60. The value of the products taken from these pound nets, trap nets and weirs was \$476,294 — an average annual product of \$519.97. A net is usually owned and run by a very few men, who are employed in this business only a small portion of the year. The apparatus is attached firmly to stakes, and is kept, while in use, in the same position. Under our present laws there is no way of regulating the location of these nets along the shores of Chesapeake Bay proper and along the Atlantic coast shores of Virginia. The value of one of these nets can be very seriously impaired by placing another in close proximity to it. By a system of license taxes the location of the nets might be regulated, and at the same time the wholesale destruction of fish be prevented. There seems no good reasons why Virginia should not obtain an annual revenue of, say, \$25,000 for such license taxes, and in the end those engaged in this business would be greatly benefited by such license taxes.

A reasonable license tax should also be imposed on all purse nets, gill nets, fyke nets, seines, and on all boats used in crabbing. Thus only can their use or abuse be regulated.

The annual value of the product of Virginia fisheries (exclusive of oysters) is \$1,121,214. This enormous product should yield some direct revenue to the State. An annual revenue of \$50,000 might be obtained by a system of license taxes which would in the end prove beneficial to the people from whom the money was obtained.

The writer has taken the trouble to obtain from every oyster State in the United States the exact amount of the direct revenue derived by each oyster State from her oyster interests. No State in the Union has so far derived a large direct revenue from such interests. It is not difficult to see why this has been the case. Only such States as Connecticut, New York and New Jersey have largely developed their oyster industries by the rental of bottoms to individuals and firms. None of these States has so urgent a need for revenue as has the State of Virginia.

One of the largest and most successful oyster planters in Connecticut is on record as having frankly admitted that his State parted with her oyster grounds on terms entirely too liberal. Virginia cannot afford to be as liberal as Connecticut was. The interest on her State debt will in a few years be very largely increased, and she will need all her resources to meet it.

I do not believe that the recommendations embodied in this report would meet with violent opposition, even in the oyster regions, if they were to become laws.

The legislatures of this State and its Chief Executives have been extremely liberal in their attitude towards the survey. It will be a source of great disappointment if the results obtained shall be of no real value to the tax-payers of the State, or in settling the complicated questions involved.

The recommendations heretofore made in regard to the purchase of steam launches of light draft and economical construction for the use of the Virginia oyster police force were partially carried out when the Legislature made an appropriation for the purchase of "The Accomack." Under your immediate direction she was armed and equipped. How efficient the Virginia

oyster police has been during the past season is best shown by the fact that the papers have been entirely free of any complaint as to depredations on the Virginia oyster grounds by illicit dredgers. The oystermen themselves in Tangier and Pocomoke Sounds have had no complaint to make during the past winter. This should be conclusive evidence as to the efficiency of the oyster police force of Virginia. The very extensive natural oyster beds along the ocean shores of Accomac and Northampton counties still have no protection! The class of oysters found there will be ultimately very extensively used by planters. A small launch of very light draft is needed to protect these beds from outside depredations.

Before closing I must give full credit to the cordial and efficient service rendered by Mr. Burton Marye and Mr. P. C. Warwick, Jr. Most of the field^{work} along the Atlantic coast shores of Virginia was executed by these gentlemen. To Mr. Burton Marye much of the credit of the preparation of the Atlantic coast charts is due.

The demand for some of these oyster charts has been so great that those^{of} part of Chesapeake Bay and its tributaries are largely exhausted.

It would be well for the Legislature to have all of these thirty charts republished in colors. They can be so published for about \$1,200. The State would be reimbursed if a charge of 75 cents per chart was made.

Dr. John W. Bowdoin, the Commissioner of Fisheries for Virginia, has cordially seconded me in my efforts to bring the survey to a successful completion. He will himself embody his views in a report.

The revenue derived from the oyster and fishing interests during the last fiscal year, for which the returns are complete, are given in the subjoined table furnished by the State Auditor:

Statement of amounts reported by inspectors of tax collected during the fiscal year ending September 30, 1894, and from what sources derived — to wit:

From patent tongs	\$ 2,270.00
" tongers	9,097.62
" dredgers	2,723.02
" rent of oyster grounds	20,677.08
" fines	<u>593.13</u>
	\$ 35,360.85

The annual revenue which Virginia obtained for the fiscal year ending September 30, 1894, from those who rented "barren area disposable for the purpose of planting or propagating oysters thereon", was \$5,993.31 greater than the annual revenue which she obtained from her 201,216.3 acres of natural oyster rock, whether the oysters were taken with tongs or dredges.

In conclusion, I must express my appreciation of the uniform consideration shown by all with whom I have been brought in personal contact while engaged in this survey. Taking into account the strong feeling on the oyster question in Eastern Virginia, it seems remarkable that there should have been so little friction where such important interests were involved.

The detailed statistics of the survey are given in the sub-joined table:

County		Area Acres
Accomac (Bay side	19 Natural oyster rock (Public Ground)	35,447.6
Accomac (Ocean side	" " " " "	14,242.2
Essex	" " " " "	615.5
Gloucester	" " " " "	4,391.0
Isle of Wight	" " " " "	4,939.6
Lancaster	" " " " "	15,280.3
Mathews	" " " " "	19,538.5
Middlesex	" " " " "	26,378.6

County						Area Acres
Nansemond	6	Natural	oyster	rock	(Public Ground)	4,459.0
Norfolk	14	"	"	"	"	6,944.0
Northampton (Bay side)	3	"	"	"	"	305.3
Northampton (Ocean side)	49	"	"	"	"	30,349.3
Northumberland	114	"	"	"	"	13,475.1
Princess Anne	5	"	"	"	"	986.0
Richmond	4	"	"	"	"	2,725.2
Warwick	3	"	"	"	"	18,425.0
Westmoreland	28	"	"	"	"	461.9
York	9	"	"	"	"	<u>2,252.2</u>
Total acreage of the 391 natural oyster rocks of the State of Virginia						201,216.3

Two thousand, six hundred and forty corners of natural oyster beds, rocks and shoals were determined by angular measures and their positions fixed by logarithmic computations.

Very respectfully,

J. B. BAYLOR.