

MAINE STATE LEGISLATURE

The following document is provided by the
LAW AND LEGISLATIVE DIGITAL LIBRARY
at the Maine State Law and Legislative Reference Library
<http://legislature.maine.gov/lawlib>



Reproduced from scanned originals with text recognition applied
(searchable text may contain some errors and/or omissions)

PUBLIC DOCUMENTS OF MAINE:

1903

BEING THE

ANNUAL REPORTS

OF THE VARIOUS

DEPARTMENTS AND INSTITUTIONS

For the Year 1902.

VOLUME II.

AUGUSTA
KENNEBEC JOURNAL PRINT
1903

REPORT

OF THE

Commissioner of Sea and
Shore Fisheries

OF THE

STATE OF MAINE

1902.

AUGUSTA
KENNEBEC JOURNAL PRINT
1903



STATE OF MAINE.

DEPARTMENT OF SEA AND SHORE FISHERIES,
BOOTHBAY HARBOR, ME., December 31, 1902.

To His Excellency, John F. Hill, Governor of Maine:

SIR: I have the honor to present herewith, as required by law, the biennial report of this department for the two years ending November 30, 1902.

Respectfully,

ALONZO R. NICKERSON, *Commissioner.*





CONTENTS.

	PAGE
Alewife Fishery	49
Clam Fishery	40-45
Explanatory statements	9, 10, 11
Fisheries, grand summary of yield and production, 1901.....	63
Fisheries, grand summary of yield and production, 1902.....	63
Ground Fishery	54-57
Herring Fishery	12-19
Inspectors of pickled fish, list of	69
Lobster	21-38
Mackerel Fishery	57-58
Menhaden Fishery	38-39
Persons employed, 1901, Table.....	66
Persons employed, 1902, Table.....	67
Salmon Fishery	60-61
Scallop Fishery	40-45
Shad Fishery	59
Smelt Fishery	45, 46, 47, 48
Summary of Investments, 1901, Table.....	64
Summary of Investments, 1902, Table.....	65
Sardines	12-21
Wardens, list of	68

REPORT.

The fisheries are in a healthy condition and show a general improvement over previous years.

I believe all branches of the fisheries are more intelligently conducted than heretofore, and that the individual fisherman is better qualified to carry on the business and perform the work connected with its successful operation, and that as a consequence the fisheries of all kinds are more profitably conducted—both for the owner and dependent and independent fisherman—than ever before.

The usual tables are presented for the convenience of those interested in comparative statistics, and the general tables for both years will show in pounds in each case, fish, or fish product, the yield of the fisheries by species, and fishery, the totals in each, and the grand totals.

In making up this table this explanation is necessary: Barrels of fish of all kinds are reckoned at 200 pounds.

Box herring at 5 pounds.

Bloaters, 40 pounds per box.

Oil, $7\frac{1}{2}$ pounds per gallon.

Scallops and clams 12 pounds per gallon.

Clams, 10 pounds meats to the bushel in shell.

Clams, canned, 50 pounds per case.

Alewives, $\frac{1}{2}$ pound each.

Lobsters, $1\frac{3}{4}$ pounds each.

There were 427 vessels of a tonnage of 8,259 tons, and 58 steam and sailing smacks in the several fisheries and lobster transportation in the year 1901, and 438 vessels of 8,114 tons, and 73 steam and sailing smacks during the year 1902.

These vessels having been engaged in several branches of the fisheries are not tabulated in any fishery, but are to be properly found in the grand summary tables of investment, numbers 19 and 20.

The apparatus and appliances used in the fisheries are constantly increasing, the total value of same in 1901, being \$2,790,234, and in 1902, \$2,864,040.

In the year 1902 these vessels and this machinery for the capture of the fish were manned and operated by no less than 19,617 men, through whose efforts, as appears by the grand summary tables of yield, a magnificent catch and production of the total value of \$3,319,424 were landed. All the catch being reduced to weight, as before explained, the total catch for the year 1901 was almost 185,000,000 pounds.

The lobster fishery is very much the largest in value of any single fishery, the total in 1902 being \$1,226,561.

In the year 1901 there were 2,788 men engaged in lobster fishing, attending to 171,770 traps, averaging to each man engaged 61 traps. In the same year this number of men caught 7,790,265 lobsters, averaging to each man a catch of 2,874, while in the year 1902 2,541 men engaged in this fishery with 167,045 traps, averaging 65 traps to a man, caught 8,185,342 lobsters, which averaged 3,221 lobsters to each fisherman.

While so many people claim the lobster is on the decrease in our State, statistics for the past four years will not bear out this statement, as will be readily seen by the following figures:

In 1899 (according to the report for that year) there were in use in the State, traps to the number of 186,724, which caught 7,267,506 lobsters. In 1900 from the same report 185,766 traps caught 8,232,115. In 1901, 171,770 traps caught 7,990,265 lobsters. In 1902, 167,045 traps caught 8,185,342 lobsters, which gives an average yield to each trap as follows: 1899, 38; 1900, 44; 1901, 46; 1902, 48.

Knox county is considerably ahead of any other county in the lobster fishery.

As second in value the ground fishery in 1902 produced 46,278,946 pounds of fish worth \$892,028, oil worth over \$26,000, and tongues and sounds worth over \$13,000. One thousand nine hundred sixty-three men were thus engaged. Knox county again comes to the front in this fishery, while Cumberland is second and York third.

Next in value to the ground fishery comes the herring. In 1901 the catch was 111,684,800 pounds, and the value was \$740,743. One thousand nine hundred fifty-seven men were employed

in this fishery. Washington county leads with two-thirds of the production and value of the whole State in this fishery.

The clam fishery next comes forward with a yield of 7,617,480 pounds, of a total value of \$332,682. One thousand six hundred fifty-five men produced this result. Cumberland county makes report of largest catch and value, and the special table will show the importance of this business to our fishermen.

In the smelt fishery in 1902, 1,001,762 pounds were marketed and returned the 753 men engaged \$95,833. Although the number of persons employed was less by one hundred than in 1901, the average to each fisherman engaged was \$129.

Each fishery is fully shown in the appropriate tables under its title, and these figures are well worth a perusal of all interested in the development of a department and industry which needs the care and protection of the State, employs and engages a great many people, gives them a living, and responds most quickly to a liberal hand.

Early in the season of 1902 the wardens were requested by me to send a letter to this department at the close of the season (if they cared to do so) giving their views upon the fisheries, and suggesting any change in the present laws which they might think necessary, and were informed that perhaps the whole of no one letter would be published in this report on account of lack of room, therefore if some part of the different letters are not quoted I trust they will understand the omission is for the above reason.

Under each fishery I shall quote from these letters what the different wardens say.

THE HERRING FISHERY.

This continues to be one of the most important industries in our State. Many hundreds of people are directly and indirectly engaged in catching with nets, seines and weirs, and transporting, packing, pickling and smoking.

The canning of sardines gives employment to a greater number of men, women, and children than any other branch of the fisheries. It is safe to say that for the 2,576,070 cases of sardines packed in this State for the two years last past that 90 cents per case has been expended for the one item of labor, which means \$2,318,463 distributed among a class of people needing the money, and who pass it along to the great advantage to the business community in which they reside. The towns near by these industries are found to be in a thriving and prosperous condition. There continues to be a good demand for herring for bait from our own State of Maine vessels and also from vessels from other ports. Cold storage plants are filled with this bait fish, to be supplied at times when herring are not available from the water.

This fishery, as well as others, will be injured seriously by the adoption of the Hay-Bond treaty now before the U. S. senate for ratification.

While our vessels seek Newfoundland ports only when they cannot procure bait in our own or Nova Scotian ports, on the other hand it will allow the merchants of Newfoundland to send fish products here in their own vessels, which means herring as well as codfish, thereby driving our vessels which go after herring during the winter months out of the business entirely, for we cannot compete with them in fitting and furnishing vessels. At the present time there are more than fifty American vessels on the way to and from Newfoundland for cargoes of frozen and salted herring. Eight vessels of the fifty are owned in our State of Maine. The herring are purchased of the Newfoundland fishermen and brought to Bucksport, Boothbay Harbor, Gloucester, Boston, New York, and Philadelphia for food. Those which are frozen are sold fresh, and those which are salted are mostly smoked for bloaters and sold all over this country.

It is to be hoped that our senators in Congress will be able to defeat the ratification of this treaty, which, if it becomes effective will strike a crushing blow to both Maine and New England fisheries.

While we have such able men as now make up the delegation from Maine at Washington, little fear is entertained that it will be ratified if hard work on their part will accomplish anything. I would recommend that their constituents show their interest in the matter by some form of vigorous expressions of dissent from the treaty.

Maine cannot afford to give up any of its present fish markets to Newfoundland for the very little that is offered in return.

There are different opinions in regard to the length of the season for packing sardines. Some say "Commence late in the spring and run later in the fall." My opinion would be to allow the packing the year through. If the fish are with us in December, January, February, March and April, pack them if the packers can make it profitable to do so. I think the close time was asked for, more in the interest of the packers than it was to conserve the supply of fish. Years of an over-pack, thereby producing a glut in the market, was one of the reasons for the asking for a close time.

Warden Alfred Small of Lubec goes at length into a criticism of the canning law in a letter from which I quote as follows:

"As one of your wardens I can truthfully say that the past season has been a very trying one indeed. I presume your different wardens, as well as myself, have been obliged to use their own judgment in many cases the past season in regard to the quality of fish arriving at the different plants for canning. Could I have felt that the law would have borne me out quantities of fish that have been canned would have found their way to the fertilizer. No one canning factory has been to blame, but all are equally guilty in this respect and most assuredly goods have been put up that should not have been. I think a law should be passed giving the wardens positive instructions in this matter, and the penalty attached a severe one. At the opening of the season when the fish were of suitable size there was no difficulty in the packing six or more fish to a can, but as the season advanced the fish increased in size and a daily struggle commenced between the wardens and the packers for the required number of fish for the can. Five decent fish and

a broken one were made to do duty. The law should be amended in this respect and either allow five good fish to a can instead of five and a tail.

"Every packer has been anxious to pack as many $\frac{1}{4}$ oils as possible, and the fish have been cut back by fish hands and after passing through the oven have been broken by the packers so that a mass of broken fish has been the result. Not a very dainty morsel of food to say the least after they have been passed through the bath. The breaking of fish should be strictly prohibited.

"The snipping of fish has been attempted as I wrote you, and the steaming process I found myself unable to cope with. Those having ovens have begged me to allow them to 'snip,' but in every case they were told that they would be held strictly to the law. This also should be amended, for if not factories will be fitted with steam appliances and the same fish on which we depend for a supply of large (later) will be a thing of the past. I would amend the law by having it read 'Whoever bakes, fries, steams, or in any other manner packs sardines, etc.,' and make the penalty a severe one in every case.

"Sardine packers are by no means angels of light, and as long as quantity and not quality is the aim, a system of cheating will be carried on which commences in the cutting shed and is carried through every department until the cases are ready for shipment. In the flaking rooms the wardens find difficulty at times to get the work done in a suitable manner, but the wardens are helpless.

"The mending of leaks is another thing that should receive attention, as the factories have a system of 'quashing' the cans, and in many instances are not re-filled with oil or re-bathed. Should an attempt be made to call one packer to account the same would be true of all, as all are equally guilty.

"The ten or more factories under my supervision, scattered over quite a section, have been my daily care since the 15th day of May, and not anything has been done beyond my personal knowledge; yet I have not been entirely satisfied with the season's work, but have tried my best to carry out my instructions."

Warden Joseph Hamilton of Pembroke writes:

"I think that there should be something done to prevent the destruction of the small fish called brit, as there are thousands of tons of them spread on the land every year. If they were left in the sea they would make good $\frac{1}{4}$ oils in another season.

The present season has been the worst in my experience to obtain a suitable fish for canning, owing largely I think to the destruction of the small fish.

"I think there should be a law requiring every owner of a weir to have a gate, or opening, to allow the small fish to go to sea, which would, I think, be a great benefit to the packers of sardines. I find that the packers are all of that opinion."

Under this head Warden W. W. Blood of Milbridge says:

"The law in Narraguagus Bay and other waters for the protection of spawn herring should have the western limit closed up by having a line from some part of Petit Menan point to the light house."

Warden N. J. Hanna of New Harbor says as to this fishery:

"A vast business has come to our State through the herring fisheries. Many hundred men are employed on land and sea, and many women and children are given employment in our sardine factories packing these fish, while an enormous business is conducted with the net and twine factories, in the purchase of materials for seines and for constructing the many weirs on our coast, which cost from four to eight hundred dollars each. With this enormous outlay in this one branch of our fisheries consisting of factories, steamboats, seines, and much other material, we think the law should be changed so as the greatest possible results might be acquired from the best outlay of capital. The present law prohibits the taking of herring in all of the rivers and bays from Kittery Point to the west shore of the Penobscot River by drag or purse seines inside of certain lines drawn from shore to shore, thereby cutting out large bays and rivers where for weeks during the summer months these fish lay in large bodies unmolested. The law has said hands off, while our factories are laying idle for lack of material to work with. Then again, the law is so passed that most all bays, harbors, inlets, and rivers to the east of the west shore of the Penobscot river less than three miles across its mouth from mainland to mainland are prohibited to the use of purse and drag seines.

"It is said that these fish are migratory. If so, I would recommend the repeal of this law as far as the herring fisheries are concerned, and give to our herring fishermen absolute freedom of our bays and rivers.

"I would also recommend the extension of the packing season through the month of December for this reason, viz.—that for the past five years it has been a noticeable fact that the herring have first struck in on the eastern border of the State and the packing season in that section has been, or nearly so, in August and September, and for the past three years by the time the herring school has got as far west as Lincoln county the packing season was about over. And again not until the last of October does the herring leave the forbidden fields, or until the water becomes chilled, then they are in better condition to pack in the month of December than any other month.

As the law stands in regard to sardine packing we are beaten three ways, viz.: We are beaten by the early catch on the eastern part of our State, we are beaten by being cut out of much valuable fishing ground, we are beaten by not being allowed to pack through the month of December when fish are plentiful."

Herring tables for 1901 and 1902 follow—Numbers 1 and 2.

The sardine industry is also shown in tabulated form in Numbers 3 and 4.

TABLE No. 1.

SHOWING IN DETAIL AND BY COUNTIES, STATISTICS OF THE HERRING FISHERY IN THE STATE OF MAINE FOR THE YEAR 1901.

County.	FRESH.		SALTED.		SMOKED.		BLOATERS.		SMOKEHOUSES.		BOATS AND STEAMERS.		WEIRS, TRAPS, NETS AND SEINES USED.		Persons engaged.*
	Barrels.	Value.	Barrels.	Value.	Boxes.	Value.	Boxes.	Value.	No.	Value.	No.	Value.	No.	Value.	
Washington	387,000	\$348,300	8,978	\$35,912	2,254,200	\$225,420	7,625	\$7,625	180	\$33,300	537	\$103,200	820	\$80,800	1,260
Hancock	45,123	41,150	380	1,925	1,200	150			1	100	156	30,250	202	23,725	148
Knox	23,732	24,918	140	637					7	490	96	7,417	224	19,672	76
Lincoln	27,204	31,176	1,750	3,200			8,500	8,500	26	3,750	118	27,950	364	35,150	330
Sagadahoc	962	962									21	825	9	2,450	17
Cumberland	7,250	6,689			8,000	1,280	4,000	2,600	2	200	42	1,130	31	835	86
York	300	300									40	800	273	2,970	40
Total	491,571	\$453,495	11,248	\$41,674	2,263,400	\$226,850	20,125	\$18,725	216	\$88,040	1,010	\$171,602	1,923	\$165,602	1,957

* Includes smokehouse employes.

In Lincoln county 1 fertilizer plant valued at \$2,500, in Washington county 3 fertilizer plants valued at \$60,150, produced 64,895 gallons herring oil, value \$13,998.

The Cold Storage Company at Boothbay Harbor owns a refrigerating plant valued at \$10,000, used for preserving herring.

2,259 tons of herring scrap, value \$28,985.

1,735 tons of herring scrap (manufactured), value \$28,465.

SEA AND SHORE FISHERIES.

TABLE No. 2.

SHOWING IN DETAIL, AND BY COUNTIES, STATISTICS OF THE HERRING FISHERY IN THE STATE OF MAINE FOR THE YEAR 1902.

County.	FRESH.		SALTED.		SMOKED.		BLOATERS.		SMOKE-HOUSES.		BOATS AND STEAMERS.		Weirs, traps, nets and seines used --value.†	No. persons engaged.*
	Barrels.	Value.	Barrels.	Value.	Boxes.	Value.	Boxes.	Value.	Number.	Value.	Number.	Value.		
Washington.....	1323,373	\$249,999	17,034	\$61,702	1,535,000	\$142,880	15,100	\$11,325	155	\$67,400	491	\$93,200	\$78,050	1,017
Hancock	27,493	21,993	650	1,900	500	75	-	-	1	200	156	28,480	13,660	114
Knox	18,723	19,740	89	472	-	-	-	-	-	-	92	4,292	19,881	74
Lincoln.....	43,985	38,571	846	3,241	19,400	1,940	16,000	12,800	31	5,350	149	43,780	38,670	297
Sagadahoc	-	-	-	-	-	-	-	-	-	-	22	742	2,375	15
Cumberland	3,678	5,028	-	-	7,000	1,120	3,000	2,375	3	300	53	2,085	6,140	96
York	2,500	3,750	-	-	-	-	-	-	-	-	40	800	3,450	25
Totals	419,152	\$339,081	18,619	\$67,315	1,561,900	\$146,015	34,100	\$26,500	190	\$73,250	1,003	\$173,379	\$162,226	1,638

* Includes smoke-house employes.

† 324 weirs, 309 seines, 1,238 nets and 24 traps make up this value.

In this item of boats and steamers there is included, Washington county 17 steamers, value \$42,800; Lincoln county 15, value \$27,000; Cumberland I, \$600.

Bloaters are usually put up one hundred large fish per box.

‡ 1520 cases Kippered herring and 600 cases "Ovals" included.

Two can-making plants in Washington county valued at \$26,000, and three in Cumberland county value \$900, will be found in Table No. .

The Cold Storage Company at Boothbay Harbor owns a refrigerating plant valued at \$10,000, used for preserving herring.

Cold storage plant in York county, \$500, is used for same purpose.

In Lincoln county, one fertilizer plant valued at \$2,000, produced 480 gallons oil valued at \$130, and 40 tons pomace valued at \$240.

In Washington county, two fertilizer plants valued at \$60,000 produced 93,700 gallons oil valued at \$18,740, and 1,474 tons pomace valued at \$20,336, \$35,260 was paid to smoke-house laborers.

TABLE NO. 3.

THE SARDINE CANNING BUSINESS IN THE STATE OF MAINE BY COUNTIES FOR THE YEAR 1901.

County.	PRODUCTION.		FACTORIES.		EMPLOYEES.	
	Cases.	Value.	No.	Value.	No.	Wages paid.
Washington.....	1,157,093	\$3,534,762	71	\$545,500	7,257	\$1,044,442
Hancock.....	136,253	405,312	10	62,000	815	108,400
Lincoln.....	103,556	332,491	8	102,500	720	100,914
Totals.....	1,396,902	\$4,272,565	89	\$710,000	8,792	\$1,253,756

The product was put up in the following manner:

1,115,239 cases.....	1/4 oils
28,817 cases.....	1/4 oils
221,078 cases.....	3/4 mustard
27,499 cases.....	1/4 mustard
2,100 cases.....	1/4 spiced
1,149 cases.....	3/4 spiced
565 cases.....	1/4 tomatoes
455 cases.....	1/4 sauce
1,396,902 cases.	
Washington county put up 932,506 cases.....	1/4 oils
Washington county put up 24,443 cases.....	1/4 oils
Washington county put up 179,119 cases.....	3/4 mustard
Washington county put up 20,310 cases.....	1/4 mustard
Washington county put up 57 cases.....	3/4 spiced
Washington county put up 203 cases.....	1/4 tomatoes
Washington county put up 1,156,638 cases	
Washington county put up 455 cases.....	1/4 sauce
Total.....1,157,093	
Lincoln county put up 79,886 cases.....	1/4 oils
Lincoln county put up 1,736 cases.....	1/4 oils
Lincoln county put up 13,515 cases.....	3/4 mustard
Lincoln county put up 4,865 cases.....	1/4 mustard
Lincoln county put up 2,100 cases.....	1/4 spiced
Lincoln county put up 1,092 cases.....	3/4 spiced
Lincoln county put up 362 cases.....	1/4 tomatoes
Total.... 103,556 cases	
Hancock county put up 102,847 cases.....	1/4 oils
Hancock county put up 2,638 cases.....	1/4 oils
Hancock county put up 28,444 cases.....	3/4 mustard
Hancock county put up 2,324 cases.....	1/4 mustard
Total.....136,253 cases	
12,250 cases "Sea Quad" were packed in Washington county valued .. \$19,600	
102 bbls. Russian sardines were packed in Washington county valued.....1,224	
1,600 cases of 1, 2 and 3 pound ovals (herring) in Washington county valued....1,800	
3,706 cases of (round cans) herring in Washington county valued.....7,11	
682 cases of (round cans) herring were packed in Lincoln county valued....1,87 ⁶	
950 cases of (round cans) herring were packed in Hancock county valued....1,90	
3,001 cases of (round cans) herring were packed in Cumberland county valued.8,253	

TABLE NO. 4.

SARDINE CANNING BUSINESS IN THE STATE OF MAINE BY COUNTIES FOR THE YEAR 1902.

County.	PRODUCTION.		FACTORIES.		EMPLOYEES.	
	Cases.	Value.	Number.	Value.	Number.	Wages paid.
Washington.....	1,017,760	\$3,047,107	71	\$550,000	5,873	\$868,246
Hancock	91,319	278,269	10	80,000	709	74,055
Lincoln.....	68,630	209,970	7	\$6,500	436	63,924
Cumberland ...	1,459	4,634	1	5,000	60	2,980
Total	1,179,168	\$3,539,980	89	\$721,500	7,078	\$1,009,205

The product was put up in the following manner:

829,274 cases	$\frac{1}{4}$ size oils.
353 cases	$\frac{1}{2}$ size oils.
20,138 cases	$\frac{1}{4}$ size mustard.
337 cases	$\frac{1}{2}$ size mustard.
327,663 cases	$\frac{3}{4}$ size mustard.
1,156 cases	$\frac{3}{4}$ size spiced.
247 cases	$\frac{3}{4}$ size tomatos.

Washington county factories put up 716,891 cases $\frac{1}{4}$ oils, 308 cases $\frac{1}{2}$ oils, 285,505 cases $\frac{3}{4}$ mustard, 14,080 cases $\frac{1}{4}$ mustard, 337 cases $\frac{1}{2}$ mustard, 528 cases $\frac{3}{4}$ spiced, 111 cases $\frac{1}{4}$ tomatos.

Lincoln county factories put up 45,051 cases $\frac{1}{4}$ oils, 45 cases $\frac{1}{2}$ oils, 17,391 cases $\frac{3}{4}$ mustard, 5,379 cases $\frac{1}{4}$ mustard, 628 cases $\frac{3}{4}$ spiced, 136 cases $\frac{1}{4}$ tomatos.

Hancock county factories put up 66,185 cases $\frac{1}{4}$ oils, 24,455 cases $\frac{3}{4}$ mustard, 679 cases $\frac{1}{4}$ mustard.

Cumberland county put up 1,147 cases $\frac{1}{4}$ oils, 312 cases $\frac{3}{4}$ mustard.

THE LOBSTER FISHERY.

No fishery in the State can show better results than this, and no state in our Union can compare with our own in this branch of the fishery, and I think that no state can ever equal us in this business, providing the 10½-inch law is retained and observed.

I cannot say that the present law is not violated or that it has no detractors, but it is *generally* observed, and in some localities where the business is the most prosperous and successful, an intentional violation of its provision is seldom known.

I wish to say that I think the fishermen are not so much to be blamed for the violations of the law as the people at large. If there were no purchasers for the illegal short lobster there would be no object for the fishermen's taking them from the traps and keeping them, instead of liberating them as required by law. If the people—the buying public—would consider the question and think what it means to this State and to the poor fishermen, there would be few customers asking for short lobsters, and few men or women who would sympathize with those who violate the law for their intended profit.

When we stop to consider we will see that one hundred 10¼-inch lobsters sold in July, which bring the fishermen from three to six dollars, if sold in August or September of the same year (when the lobster has moulted and taken a new shell and gained one-fourth of an inch in length and become a legal lobster) will bring from twelve to twenty dollars.

Instead of assisting the violators, in about every case the people might assist the State in prosecuting, and thereby benefit the honest fishermen, and instead of helping to make criminals would be making law-abiding citizens. At the same time fishermen that now make a business of handling short lobsters will have received more money for their season's work by complying with the law.

During the five years that I have served as Commissioner there has been *one* instance where a person has come to me and

said "Go on and prosecute the violators. I will stand by you, and if necessary contribute my money to that end." In this same period of time I can call to mind hundreds of cases where the violators have been told they might have assistance with influence and money to fight the State.

A law with which the people are not in sympathy is hard to enforce, whether it is a law prohibiting the sale of certain fish or intoxicating liquors.

In my last report I said: "The law as to the legal length of lobsters— $10\frac{1}{2}$ inches—should remain as it is. I do not believe that making the limit less than $10\frac{1}{2}$ inches would be any advantage. I think the law is generally working well, and when strictly observed is the best for the fishermen and the State that can be at present devised." As I said then, I shall recommend a change in the law which will affect the sale of "picked out meat," and a slight change in that part which relates to the seizure and sale.

The United States Fish Commission will, I am informed by the department, erect its hatchery at Boothbay Harbor early in the season of 1903, which I trust will assist in keeping up our supply.

Following the custom of the past few years the United States Fish Commission has taken under permit from this department from the Maine coast waters, during the two years last past, 5,543 egg-bearing lobsters for the purpose of securing the eggs for artificial propagation.

The following report and statement from the Gloucester, Mass., Station will give detailed information of these highly important experiments in scientific fish culture for 1901 and 1902.

GLOUCESTER, MASS., STATION--DISTRIBUTION OF LOBSTER FRY IN MAINE WATERS, 1901.

Date of shipment.	Fry in shipment.	Date of plant.	Fry in plant.	Point of deposit.
1901.		1901.		
June 10.	1,000,000	June 10.	250,000	Gulf of Maine, 1 mile northeast by east from Cape Porpoise Light.
		June 11.	250,000	Casco Bay, $\frac{1}{2}$ mile west from Small Point.
		June 11.	250,000	Boothbay Harbor, $\frac{1}{4}$ mile east northeast from Cape Newagen.
		June 11.	250,000	Gulf of Maine, between Damariscove and Heron Island.
June 15.	1,100,000	June 15.	1,100,000	Casco Bay, near north point of Long Island.
June 17.	1,100,000	June 17.	1,100,000	Near south shore of Great Diamond Island.
June 19.	3,500,000	June 20.	1,000,000	Gulf of Maine, near east shore of George's Island.
		June 20.	1,000,000	Gulf of Maine, near southeast shore of Mosquito Island.
		June 20.	1,000,000	Gulf of Maine near northeast side of Seal Harbor.
		June 20.	500,000	Gulf of Maine, northeast side of Owl's Head Bay.
June 21.	1,500,000	June 21.	1,500,000	Casco Bay near south shore of Cow Island.
June 22.	1,500,000	June 22.	1,500,000	Casco Bay, midway between Peak and Long Islands.
June 24.	1,300,000	June 24.	1,300,000	Casco Bay, near west shore of Peak Island.
June 25.	1,500,000	June 25.	1,500,000	Casco Bay, near south shore of Little Diamond Island.
June 26.	1,400,000	June 27.	250,000	Gulf of Maine, Merchant Row, Deer Island.
		June 27.	250,000	Gulf of Maine, Lunt's Harbor, Long Island.
		June 27.	250,000	Gulf of Maine, north shore of Cranberry Island.
		June 28.	250,000	Gulf of Maine, midway between Schoodic and Petit Manan.
		June 28.	250,000	Gulf of Maine, Moosabec Reach and Cutler Harbor.
		June 29.	150,000	Gulf of Maine, Johnson's Bay near Lubec, Maine.
June 27.	1,100,000	June 27.	600,000	Gulf of Maine, Wood Island Harbor.
		June 27.	500,000	Gulf of Maine, Cape Porpoise Harbor.
	15,000,000	.....	15,000,000	planted in 1901.

LOBSTER FRY PLANTED IN MAINE WATERS DURING 1902.

Date planted.	Number of fry.	Point of Deposit.
1902.	1902.	
June 5...	300,000	Goose Fair Bay near West Goose Rocks.
June 9...	500,000	Casco Bay, Diamond Cove, Great Diamond Island.
June 9...	500,000	Casco Bay near west shore of Cow Island.
June 10...	500,000	Casco Bay, Trefethern's landing, Peak's Island.
June 10...	500,000	Casco Bay near west shore of Long Island.
June 11...	1,000,000	North side of Biddleford Pool.
June 12...	500,000	Casco Bay, west shore of Long Island.
June 12...	500,000	Casco Bay, south shore of Great Diamond Island.
June 13...	1,200,000	Off Kittery Point, Maine.
June 14...	500,000	Northwest from Portland Head Light, near shore.
June 14...	700,000	Near northeast shore of Cape Elizabeth.
June 18...	200,000	Merchants Reache, near Isle au Haut.
June 18...	200,000	In outer Bass Harbor.
June 18...	200,000	Little Cranberry Island Harbor.
June 18...	200,000	Prospect Harbor near Schoodic Island.
June 18...	250,000	Mouth of Indian Harbor.
June 19...	150,000	Eastport Harbor.
June 19...	1,000,000	Near southwest point of Cape Porpoise.
June 20...	1,500,000	Near west shore of Small Point.
June 20...	1,000,000	Black Rocks, northeast from Sequin Island.
June 20...	1,500,000	East shore of Cape Newagen.
June 20...	1,000,000	West shore of Pemaquid Point.
June 20...	1,000,000	In West Harbor, Boothbay Harbor.
June 20...	1,200,000	Off Kittery Point.
June 21...	1,500,000	Entrance of Fore River, Portland Harbor.
June 23...	1,500,000	Off York Harbor.
June 24...	1,500,000	Off York Harbor.
June 25...	1,500,000	Casco Bay, near west shore of Mackie's Island.
June 26...	1,500,000	Casco Bay, near south shore of Clapboard Island.
June 27...	500,000	Along Kennebunk Beach near Breakwater.
June 27...	1,500,000	Cape Porpoise, Goose Fair Bay.
June 27...	1,000,000	Wood Island, near northeast shore.
June 28...	500,000	Georges Island Harbor and Monhegan Island.
June 28...	1,000,000	North Shore Metinic Island and Mussel Ridge Channel.
June 28...	1,500,000	In Rockland Harbor.
June 28...	1,500,000	Casco Bay, along north shore of Great Diamond Island.
June 30...	1,500,000	Casco Bay, west shore of Two Brothers Island.
July 3...	500,000	Cranberry Island Harbor.
July 3...	500,000	Little Machias Bay, east shore.
July 4...	500,000	Eastport, near Long Island.
July 5...	1,500,000	Off Kittery Point.
July 7...	1,500,000	Off Kittery Point.
	37,100,000	Total fry planted in Maine waters in 1902.

Warden Hanna says: "The mother, or egg-lobster, has no protection under our present law; (although the law prohibits) the eggs are removed by fishermen with a brush, then they can safely put them in a car and sell.

"The pound owners are not allowed to put egg-lobsters into their pounds, but after impounded four months there will be from one to three thousand lobsters that will be seed bearing—they are taken out and sold, and I ask where is the protection for the goose that lays the golden egg?"

My remedy for this evil is this, that the owners of every pound shall be compelled to keep not less than 2,000 egg lobsters the year around for breeding purposes. The investment would be only about \$200. They have discovered that 23 per cent

of all lobsters impounded die inside the pounds, and what argument can they use against the request to keep seed lobsters as a source of propagation? With twenty-three lobster pounds on the coast of Maine, each with 2,000 seed lobsters, it would give 46,000 egg lobsters, continuously seeding the coast of Maine. It would far surpass any artificial methods that have ever been brought out by men."

The 10½-inch law has no very material defects, but there is grave need of amendments to that law. For the first three years there was but one method used to violate this law—to hide them (short lobsters). Soon a new method of attack was sought. It was discovered that the meat taken from the shell of a 10½-inch lobster could not be detected from the meat taken from a legal lobster, and it was also discovered that the law was silent on the "meat" question. This new method of violation had its origin in Casco Bay. They were looking for cheap lobsters, and successfully punctured the law by cooking their little lobsters on the islands of the bay, picking out the meat and shipping it in large quantities to market. The method has not spread much beyond this locality.

The dealers in Portland find fault because this small lobster meat runs against their business, ruins their local trade. The fishermen know if the hotels and cottages were not supplied with unlawful meat that they would maintain better prices, and that they would be able to supply legal lobsters.

Cumberland county with her 875 lobster fishermen, almost double any other county, and with her large lobster territory, makes the smallest showing of any county in the State. Little Lincoln county with 500 fishermen produced in 1899, 1,565,131 legal fish against Cumberland county 495,650 with 849 men; Hancock county with 465 men landed 2,122,110 legal fish.

Where the largest amount of violations exist, the smallest number of legal lobsters are taken.

Other counties have shown a steady increase. Cumberland has grown less. There are fears that this will spread and destroy the good results achieved by this law.

I would recommend that wardens be empowered to seize all lobster meat in transit, and that the owner be given twenty-four hours to prove before a magistrate that the meat was taken from the shell of legal fish.

There is a custom among offenders to shield each other, and to secrete their ill-gotten gains. I would amend the law so that the party may be held for aiding and abetting a criminal in violating the law.

On the subject of close time, I have talked with fishermen on the subject all along the Maine coast during the year. They are about equally divided. Some claim that a close time of three months—from April 15 to September 15—would effectually stop the violation by summer tourists, who feel they are privileged characters.

Again we have a class of weir fishermen that only lobster during the summer and fall months. They range from 55 to 65, are aged and unfit for the winter fishing and are content. The close time (as above) would destroy their privilege. A close time in the winter would be very pleasing to that class that live on the coast. River fishermen would be pleased. Then the smacks must lay idle, the dealers must close up, and pounds go unreplenished, and business transferred to Massachusetts.

My opinion is decidedly against a close time. Amend by a good "meat" law, and compel owners of pounds to retain a certain number of seed fish in pounds.

This fishery should have more than a passing notice. It is worthy of protection. It is a home industry. As each year rolls around more men, more boats, more traps, are being added to the business. It is unlike any other fishing. There is no salting, no curing, no waiting for a market, no anxiety about a market. They are staple goods as gold from Klondike mines.

Prior to '95 we had many canning factories on our coast, whose only business was to can lobsters from April 15 to July 15 upwards of nine inches in length. The lobster business was almost annihilated. The can lobster filled almost every grocery store from the Pacific to the Atlantic. The people of the great West knew only canned lobster. Prior to '95 there had never been a live lobster shipped beyond the western border of New York state. Lobsters had become scarce on our coast owing to the constant drain upon the small lobsters for factories. One of the methods of destruction in the canning days was the habit of carrying from three to five inches lobsters before the close time was off, crowding from 3,000 to 5,000 into space not large enough for 2,000, and on the 15th of April when the factories

could secure them, more than half of the small fish were dead. It is said that one million were lost in this way each spring. We had but five wardens then and they were very poorly paid to look after the business. I have only shown a part of the wilful destruction under the old law to compare with what has been done under the law of '95, when factories practically went out of business, never to return, I hope.

The 10½-inch law is the best for the protection of the young lobsters we have ever had. The fishermen claim that it is the salvation of the lobster industry, but it does not suit everyone—the violators or the summer tourists.

The business has increased since '95. The number of men has increased four-fold; the traps and gear have increased; the prices received have increased; pounds from four in '95 to twenty-three in 1902. Steam smacks have taken the place of sailing smacks; rapid transit and refrigerator cars are carrying our lobsters all over our country. Each year the demand is greater, and the question is—Can we ever supply the demand? Answer—Yes. Good liberal appropriations, great care and attention will increase the supply of lobsters and all will be benefited thereby.

Warden W. W. Blood states his position upon the present lobster law in the following language:

“I have never been in favor of the present lobster law as it now stands. It is my opinion it would be far better to catch the medium lobster, between nine and twelve inches, or what length could be decided on. I do not think the law obtains the results for which it was intended—to protect and increase the lobster.

“To free all lobsters above twelve inches and below nine would, in my opinion, tend to protect and increase them. Above twelve inches would save so many spawn fish for breeders; those below nine are rather small to catch and make use of. There is no question but that many fishermen destroy the spawn and save the lobster, which, if the fish above twelve inches were illegal, they can have no object to do so.

“I do not think it would decrease. It would rather increase their catch. In my opinion something of this kind will be done sooner or later. Local close time will not do it. Perhaps general close time may help some.

"Could there be some arrangement made with pound owners to collect and keep for breeding all spawn fish they could obtain, it would, in my opinion, tend to increase them; the young fish would be protected by being in the bays and rivers, shoal water, and eel grass, and not disturbed and destroyed by the other kinds of fish, as cod, hake, haddock, pollock, as perhaps the fry from United States Commission boats are being disposed of at sea.

"I don't believe in local close time on fish of any kind in sea water. They should be general.

"Local laws are more or less discriminating and cause a lot of trouble between fishermen. As near as possible they should all share and share alike in all waters. Weirs should not monopolize more waters than they enclose—the weir laws ruin lobster fishing, are unjust, and the fine excessive. If they are to have protected waters, owners of weirs should have notices on the weirs, also perches around these waters that the lobster fishermen may know when they are outside the limit. Should the weir owners fail to have such notices and perches then they deserve no benefit from the law. As it now stands the wardens have the laboring oar, as they are obliged to measure all the distances from the weirs. Lobster cars should have the name of all who occupy them, or any part of them, as well as the owner, or owners, or be liable to the same fine.

"There should be a fine on all lobster traps found in the waters of Pigeon Hill Bay during close time, between the first of July and the first of September.

"There is so much to write, or so much could be written about this question of fish, that I will leave to someone else the many perplexing questions, pro and con."

Warden D. O. French of Jonesport suggests:

"A close time on lobsters from August 1 to October 1 of each year. My reason for making this suggestion is that there are so many lobsters destroyed in the above months getting them to market. The shipments of lobsters have not decreased any from this town (Jonesport) in the past two years."

Warden William Hale of Bangor advises:

"That in regard to the lobsters I think there are a great many short lobsters killed at the summer resorts which help to destroy the propagation of them, and it is my candid opinion that there should be more protection at such places."

Warden J. F. Goldthwaite of Biddeford recommends as to the lobster fishery laws as follows:

"It has been wisely said by you that the State of Maine is the great fishing ground for lobsters, and feeling that the country must depend largely upon our State for its supply in the future, it looks to me as though our supply will soon run short unless we take good care and well protect them by wise laws that have sharp teeth in them, as laws without such teeth do but little good. And here I would have every one that fished for, bought, or sold, or transported from place to place, or to a team, railroad or express company, file their true names with the Commissioner of Sea and Shore Fisheries, or one of the wardens, and then have the wardens in each county file a list of names of all persons that have delivered lobsters to the express companies and railroads in his locality that are near tide-water, the company to receive only from men whose names have been filed.

"Then I would have a heavy penalty for using any fisherman's name in any way about the catching or shipping. You see the way it is now a man fills his barrels with lobsters—short or long—puts any name on he has a mind to, leaves it at a landing, and the express or any team goes and takes it and the charge is collected at the other end of the road, and so you can't find out who the real shipper is. This is the way a large part of the lobsters are shipped now. I would have the team or express take the lobsters direct from the shipper, and the local buyer direct from the fishermen.

"I should have all traps, pots, or anything used to catch lobsters, made with an open space all the way round next to the bottom long enough to let any lobster under the legal length to go through, and have all traps inspected by the wardens before they are put into the water; and any pot not so made found in the water, cut the buoy off and let it go, and I would have a heavy penalty for the violation of any of these laws.

"Every man that fishes from Cape Elizabeth to Kittery Point (that is what ground I cover, as you know) wants a close time, and I think myself that a close time of five or six weeks each year would be best for all in the end.

"To section 21 I should add after 'liberated,' a line as follows: 'When taken from the trap.' As you know, Judge Peters ruled at Wiscasset that was the intent of the law, and in section 24 I should strike out all after 'disposed of' and add the words,

'by the wardens,' so as to do away with expense of officers and libels, which in most cases cost much more than the lobsters sell for.

"In section 26 I would add after 'so marked' the words, 'all buoys not so marked shall be cut from the trap and turned adrift.' This will also save expense of libels, and in section 29 I should have the sale without appraisals or libels also."

Warden Abner C. Johnson of Ashdale, evidently satisfied with the law, is interested in the lobster question, for he says:

"There is really only one matter I am interested in and that is the lobster law, which I believe is one of the best laws that can be enacted for the benefit of the community, and more especially for the lobster fishermen.

"There is one thing, the penalty is not severe enough, for the law-breakers do not fear the law as it is at present.

"I know that the present law has been a great benefit to most of the fishermen in this county, but in Cumberland county where they have been mutilating them and selling the picked out meats it has not been a benefit, as in places where they do not such a business.

"I only hope there will be a law enacted to stop the sale of picked out meats, and give the wardens a right to inspect all such contraband goods.

"There should be a law made to stop handling lobsters less than 10½ inches, alive or dead, cooked or uncooked."

Warden Richard Orr of Orr's Island states at length his views as to certain phases of the lobster situation:

"I think there might be some changes made in the sea and shore fishery laws that would greatly help to increase certain kinds of fish along our shores, especially the lobster fishery, which to my mind is of the most importance, and something should be done at once to protect this industry. Now I believe first we want a law to prohibit the boiling and picking out of short lobsters less than 10½ inches, or in other words stop the sale of lobster meats, and until some such a law is passed we never can expect to increase lobsters.

"I have talked with a number of the lobster dealers in Portland and they tell me that this shipping of the meat through the country is taking away their boiled lobster trade. Where two years ago they were shipping thousands of pounds weekly,

now if they get orders for two or three hundred pounds they are doing well.

"I believe there should be inspectors under the present law, men who have had experience in the lobster business, and have the meat examined by them wherever it is found, and when from small lobsters of illegal length said meat to be sold for the benefit of the State.

"I expect a law, or trying to get such a law to stop sale of lobster meats, would meet great opposition on account of the summer visitors coming to our shores—people claiming large lobsters too costly to use in the business of keeping boarders. But I believe one should look out for the poor as well as the rich, and I trust you will use your influence in trying to get a law different from the present. We want a law to give the wardens power with a warrant to search a dwelling house by day or night for illegal fish. It wants to be in plain language so there can be no doubt about it as there is to-day. There should be a bounty paid by the State for egg lobsters caught. Let the wardens mark them and liberate them in some good place where they can hatch their young and take care of them according to nature, or else turn them over to the State, or United States hatchery, and when the young shall have arrived to that stage or size where they can look out for themselves have them returned to our shores near where they were taken.

"There should be a law that no lobster trap while in use catching lobsters should have the laths upon it less than two inches apart, and no trap—while fishing—should be covered with any netting, so all small lobsters might have a chance to crawl out, as under the present law they lath their traps or put the laths so near together, and some put netting over them, so nothing can get out.

"I believe a good thing under the present law would be a small steam or naphtha boat, something that would accommodate about three wardens besides engineer, and have a tender with them so that they could land at any place the fishermen did. I believe more lobsters could be saved and more illegal fishermen caught by these four men than by all of the wardens along the coast."

Warden George E. Cushman gives expression to his views in the following quotation from his letter :

"Now take the lobster law. There are certain clauses in our lobster law which make it very hard to enforce. The clause 'mutilated, uncooked lobster is prima facie evidence of their being short,' while mutilated cooked lobsters although short are all right. I have found in several instances mutilated cooked claws and tails of lobsters. If not less than the required length where were the bodies of these lobsters?

"The lobster dealers may say it will hurt their business to make a law stopping the sale and transportation of lobster meat, but it should be done. What is the lobster meat that the dealers sell? It is nothing more or less than 'dead' lobster which they pick out of their cars every morning and boil and pick out the meat. Now this is no guessing, but something that I have seen for years.

"Another way the dealers get rid of a good many dead lobsters is by selling them to the hawkers or peddlers, and they will take all they can get. In certain localities the fishermen will break the claws and tails from the bodies and throw the bodies away. At their homes someone will have the water hot and in a few minutes the claws and tails will be cooked, so the wardens cannot take them if they can get into their houses, which they can't do without a search warrant which is about impossible to get.

"Now the present 10½-inch lobster law was presented to the Legislature and passed to benefit the fishermen of the State of Maine, and I talked with a good many before we had the present law and they said if we could have a 10½-inch law they would be satisfied, but in some localities they don't seem to be satisfied. Would recommend a steam launch for the use of the department."

Warden S. P. Cousins, although not entirely off soundings, acknowledges that he is in pretty deep water on the lobster question. He says:

"I am taking in the usual amount of 'lobster probabilities,' but find such diversity of opinion as to what new law should be made, or old ones changed, that I have almost lost my bearings."

Warden Isaac H. Snow states in his letter:

"I would have the lobster law changed so that wardens can take mutilated lobsters cooked as well as uncooked.

"I would have fifty cents paid for every seed lobster delivered to wardens, and it should be the duty of the wardens to put such lobsters in the safest and best places.

"I would have a penalty of ten dollars imposed for hauling a lobster trap on Sunday, whether by owners or anybody else excepting wardens."

Warden Albert French says:

"As a change in the lobster law either have a close time for a number of years, or protect the large lobsters. That is, make diameter of the ring so small that a large lobster cannot enter the pot. Change law so the large lobster will be protected. Let the small ones be taken. As it is now the small and large are taken despite the law, and the lobsters are fast disappearing. Large lobsters can be readily detected. The law should not allow any broken or mangled lobsters of any size to be sold, or allow any female lobster to be taken in any way for a period of years. Give the large lobster a chance. Diameter of ring is the important factor. As it is the large females are taken and their eggs scraped off and thousands of lobsters destroyed. I would advise heavier penalties by fine and imprisonment."

Upon the all important "lobster" question Warden Peter M. Kane says, quoting from his letter, that:

"It is a question of importance to all the citizens of the State, and especially those on the coast line, and there are great differences of opinion and it is hard to tell which is for the best. I do think that the lobster fishermen on the whole would receive a benefit if we could have a close time from the 1st of July to October 1, as a great many of the lobsters taken during that time are soft shelled and unsuitable for market. I would suggest that our lobster fishermen in the State be required to take out a license or permit from the wardens in his section, with the approval of the Commissioner, the license having some form attached binding the fisherman to abide by the conditions of the permit by which he would agree to liberate alive all lobsters under legal size, and all seed lobsters unless otherwise instructed by the Commissioner of Sea and Shore Fisheries. I think that a law like this with a penalty and revoking of license unless the agreement was kept would have a tendency to preserve the law."

Warden F. M. Trundy says:

"I haven't seen a lobster fisherman on my route but is satisfied with the lobster law the way it is now. I don't see where they could make any change for the better than it is now.

"I have less lobsters on my route this year than last year and more stock. A little over fifteen thousand more this year than last year."

Warden Frank L. Hodgdon put the lobster question from an ethical standpoint:

"I would say that the laws, as a rule, have been well observed. The lobster fishermen are nearly unanimous in their opinion that the present lobster law has been the means of preserving the lobster, and that without such law the fishery would be very much depleted. We believe that in the enforcement of the laws we should appeal to the good judgment of our fishermen, and thus seek to create a public sentiment in favor of a faithful observance of the same."

Warden George A. Dow gives his ideas upon the lobster law as follows:

"1.—The law protecting the lobster fisheries should prohibit the sale of mutilated cooked as well as mutilated uncooked lobsters.

"2.—It should also prohibit the sale of lobster meat unless such meat has passed the inspection of a warden or of some person appointed for that purpose. I believe much of the lobster meat offered for sale is unfit to eat. It is taken from lobsters of illegal length, and packed while hot in wooden boxes, and frequently becomes tainted before it is put upon the market.

"3.—The State should pay the fishermen for all lobsters brought to market with seeds attached. I believe the seed lobster should be branded and not again captured or offered for sale until after shedding the branded shell. The more protection we can give the seed lobster the greater the success of propagation.

"4.—All lobster traps or pots used for catching lobsters should be so constructed that the slats will not be less than one and one-half inches apart, thus enabling the small lobsters to escape. As the majority of lobster traps and pots are now constructed the slats are placed so closely together that nothing can escape.

"5.—All lobster fishermen should be licensed by the State through the Commissioner of Shore Fisheries, the expense of such license to be borne by the State. If a fisherman is caught disobeying the laws his license should be revoked for a certain length of time; this in addition to his fine."

Warden Charles E. Sherman of Boothbay Harbor in his letter says:

"I think if the State owned or chartered a steam or naphtha launch in which the Commissioner and his wardens could move along the coast it would be money well invested."

The Hon. George Malcolm, a high British American authority on scientific fish culture, some years ago very pertinently says:*

"The advances recently made in the art of fish culture can hardly be described as less than marvellous."

Referring to the culture of marine food fishes, he adds: "It is still improbable that more than a small minority of the British public, at least, ever associated the ocean with the land as a field fitted and prepared for a great cultivation of food. And yet it really is so. When the creative fiat went forth, man was awarded dominion over the sea and all therein, just as much as over the land; but just as he must win the gains of the soil by the sweat of his brow, so must he reclaim the harvest of the sea by unceasing and intelligent methods of labor.

"All, or nearly all, the conditions and methods of land cultivation have their analogues in the economic cultivation of the waters. The sounds and shoals and banks in the ocean are the great fish farms; the ocean-going fish craft are the necessary farm offices, and the various appliances of fish capture are the complements of our scientific implements of land husbandry....."

The following tables show the catch and value, apparatus and value, and number of persons employed for 1901 and 1902:

TABLE No. 5.
EXHIBITING BY COUNTIES, DETAILED INFORMATION AS TO THE LOBSTER FISHERY IN THE STATE OF MAINE, FOR THE YEAR 1901.

County.	LOBSTERS TAKEN.		BOATS USED.		CARS.		POUNDS.		POTS.		Men engaged.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
Washington.....	1,620,349	\$208,982	463	*\$34,638	365	\$4,550	3	\$7,000	23,640	\$23,640	394
Hancock	1,896,577	211,516	510	69,000	405	5,000	2	3,000	38,256	38,250	510
Waldo.....	2,821	459	8	125	5	50	.....	.....	90	125	8
Knox.....	2,149,221	279,182	876	47,764	533	5,630	.....	13,000	46,164	57,705	574
Lincoln	1,509,180	199,114	649	50,565	467	3,415	7	21,000	43,450	51,450	497
Sagadahoc	122,734	16,708	78	3,025	74	202	.....	.....	2,400	2,400	96
Cumberland.....	452,533	61,798	368	19,100	337	7,170	1	3,000	10,676	10,676	573
York.....	236,850	36,020	146	4,000	126	950	.....	.....	7,100	8,887	136
Totals	7,990,265	\$1,013,779	2,978	\$228,217	2,312	\$26,967	15	\$47,000	171,770	\$193,133	2,788

* Includes one steam and one naphtha launch in Washington county.

Forty-two sail and sixteen steam smacks valued at \$94,525 engaged exclusively in the transportation will be found in summary table No. 20.

Lobsters collected by smacks were marketed by wholesalers at Portland to the number of 2,623,058, and at Rockland to the number of 1,153,592. In the valuation of pounds the nets and gear used exclusively in connection with the pounds are included.

TABLE No. 6.

EXHIBITING BY COUNTIES, DETAILED INFORMATION AS TO THE LOBSTER FISHERY FOR THE STATE OF MAINE, FOR THE YEAR 1902.

County.	LOBSTERS TAKEN.		BOATS USED.		CARs.		POUNDS.		POTS.		Men engaged.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
Washington	1,601,185	\$219,154	392	\$34,712	320	\$5,400	7	\$17,500	23,160	\$23,160	394
Hancock	1,889,226	288,927	488	58,320	405	4,590	3	6,500	34,100	34,100	488
Waldo.....	810	128	5	100	5	50	-	-	82	61	7
Knox	2,138,511	321,931	883	46,982	555	6,033	2	13,000	47,315	59,144	589
Lincoln ..	1,775,265	274,371	882	46,990	517	3,640	7	25,000	45,135	53,919	531
Sagadahoc	140,055	12,451	91	2,375	85	235	-	-	2,671	2,671	102
Cumberland.....	367,340	62,871	228	4,900	309	7,010	2	3,300	7,632	7,632	268
York ...	272,950	46,728	167	5,060	165	960	-	-	6,950	8,687	162
Totals.....	8,185,342	\$1,226,561	3,136	\$199,439	2,361	\$27,918	21	\$65,300	167,045	\$189,374	2,541

In the valuation of "pounds" the nets and gear used exclusively in connection with pounds are included.

Lobsters collected by smacks were marketed by wholesalers at Portland to the number of 2,302,889. 222,950 of these were imported from Nova Scotia, and at Rockland 1,135,004 marketed.

Fifty-eight steam and twenty-five sailing smacks, valued at \$156,400, engaged exclusively in the transportation, will be found in summary Table No. 21.

SEA AND SHORE FISHERIES.

THE MENHADEN INDUSTRY.

There has been no return of the menhaden schools to our coast, and consequently I am again compelled to report no business in our State in this important fishery either in 1901 or 1902.

While this discouraging report is made as to the State of Maine waters, I am gratified to state that in the southern grounds, south of Cape Cod, during the season of 1902 the schools of fish have been very large, and the catch has far exceeded in quantity and quality any other season.

The Fisheries Company of New York, controlling the menhaden fishery of this country, has done a very prosperous business. While these remarks have reference to the year 1902, in the previous season of 1901 the fish were abundant, the catch large, and returns satisfactory.

Though we cannot report any fishing on our coast there are three factories in condition, and in the season, in readiness to take fish at short notice, and we hope the fish may come next season and a large and profitable catch made on our coast, to be utilized in our factories. These factories are located in Lincoln county, and a large amount of money is invested in the plants, which is shown in the general table.

For the information of many, who are in different ways interested in this one-time great fishery in our State, I am enabled through the courtesy of Mr. Church, general manager of the Fisheries Company, to present very interesting and quite full information and figures as to the menhaden fishery and manufactory for the present year, up to November 22, as per following letter and tables.

NEW YORK, December 6, 1902.

Mr. A. R. Nickerson, Boothbay Harbor, Maine.

DEAR SIR: I am in receipt of your favor of the 4th inst. and note your request for a report of our catches. I enclose you herewith copy of our last weekly report which gives you about all the information that you require. This does not contain the number of steamers, or their valuation, or men employed, but

I think if you will take a rough estimate on steamers which would amount to \$250,000 to \$300,000, and from 1,500 to 1,700 men employed on board and ashore; about 700 men on the boats, I think.

Trusting these figures will give you the information desired, I remain,

Yours very truly,

N. B. CHURCH,

General Manager.

RESULTS OF FISHING TO NOVEMBER 22, 1902.

	Barrels of fish received.	Barrels of oil made.	Tons of dried scrap made.	Tons of acid scrap made.
Promised Land, R. I.....	625,571	28,248	8,998	7,390
Tiverton, R. I.....	382,533	18,142	.....	14,831
Lewes, Del.....	282,897	7,975	1,613	7,292
Wilmington, N. C.....	84,785	383	282	2,333
	1,375,786	54,728	10,893	31,846

TOTAL TO NOVEMBER 22D.

	1901.	1902.
Fish received.....	867,210 barrels	1,375,786 barrels
Oil made.....	29,975 barrels	54,748 barrels
Dried scrap made.....	9,007 tons	10,893 tons
Acid scrap made.....	16,119 tons	31,846 tons

CLAMS AND SCALLOPS.

I am aware that the drain on our clam supply is very large and the demand for the Maine clam still increasing, and to conserve and increase the yield is the all important question. The clam fishery is one of the most important for reasons I have given in former reports.

Many suggestions and recommendations are proposed to increase the supply. What legislation to propose, if any, is a very serious matter. Many things that are proposed as remedial, corrective, and ultimately beneficial in increasing the yield and product, are impracticable on account of difficulty of enforcement and attendant expenses.

I quote below what the wardens from those sections of the State most interested have to report upon the subject.

While I don't believe in legislating one party out of business that another may thrive in the same, it may be some time necessary to stop the canning of clams by legal enactment.

Warden Hanna says:

"A few years ago the clams along our coast had become so scarce by the enormous drains for canning and shipping purposes that a close time of three months was made, during which no clams should be shipped across the borders of the State. This law has greatly helped to replete our clam flats with fine, edible clams.

"It is said by scientists that a clam will grow to be a good sized edible clam in seven weeks, and our own experience on the growth of clams proves the statement to be true. This close time was a step in the right direction and was not one moment premature, and our Commissioner ought to receive the hearty commendation of all lovers of the precious bivalves for his timely intercession in behalf of these shell fish.

"But the drain is still enormous, and if the increased demand for Maine clams continues, it is only a question of a few years when this close time will be here to be extended six months instead of three. To give but a faint idea of the demand for Maine

clams in the shell, in four months time there were shipped from four towns in the eastern part of Lincoln county into Connecticut and Rhode Island, 3,200 barrels, returning \$6,400 in cold cash, and the demand for this luscious bivalve in the shell has been so great that it has in my section practically closed the canning factories. The day is not far distant when further legislation in this direction will be necessary."

Warden J. F. Goldthwaite of Biddeford says:

"I think there is great danger of the clam supply running short, as the demand increases every year. I have looked this matter up very carefully and I have come to this conclusion, that about the only way to keep up the supply is to seed the flats—that is, to take very small clams that grow near the marshes and never grow large there, and put them in low flats, and in a year they will be very large clams. This has been tried by a friend of mine for several years, and he says if his town should put in \$300 seeding flats one year that they would yield many thousand dollars the next year. Now my plan would be to divide the flats and seed one half and protect it for one year, and then seed the other half and protect it for one year, and so on, and in that way have a good supply of large clams all the time."

Warden Johnson writes:

"I believe the clam law is a great benefit to everybody, and I know the present law has helped the clam men out wonderfully, for it gives them a right to ship at a time of the season when they most need it."

Warden Dow says:

"I believe the close time on the shipment of clams out of the State should be amended: instead of from June 1 to September 15, as the law now reads, make it from March 1 to June 15. From my observations I believe the real spawning season of the clam occurs between the dates I have suggested, and such an **amendment** to the present law would prevent the shipment out of the State of clams during the spawning season. It would also give the clam plenty of opportunity in which to breed."

Warden Cushman says:

"The clam law is satisfactory to most of the people that I have talked with."

Warden Richard Orr, of Orr's Island, says:

"About the clam law. I do not hear much said about that, as each town has a chance at their annual meeting to have that law fixed according to the minds of the people."

Warden F. M. Trundy of Oceanville writes:

"I haven't heard anyone speak of the clam business. I should say that everybody was satisfied with it."

Tables follow which furnish information to those who seek it.

TABLE No. 7.

THE CLAM AND SCALLOP FISHERY: DETAILED INFORMATION, INCLUDING DISPOSITION OF PRODUCT OF THAT FISHERY FOR THE STATE OF MAINE FOR THE YEAR 1901.

County.	CLAMS SOLD IN SHELL.		*CLAMS SOLD FOR BAIT.		CLAMS SOLD FRESH.		SCALLOPS.		CLAMS CANNED.		CLAM JUICE.		CLAM CANNING FACTORIES.		BOATS.		†Number of persons engaged.
	Bushels.	Value.	Barrels.	Value.	Gallons.	Value.	Gallons.	Value.	Cases.	Value.	Cases.	Value.	Number.	Value.	Number.	Value.	
Washington	6,114	\$1,834	1,545	\$6,403	.....	.....	95	\$95	10,031	\$31,535	200	\$425	2	\$1,000	135	\$2,700	440
Hancock	27,279	8,183	7,841	32,750	.....	.....	13,648	8,730	18,743	59,856	.....	.....	8	5,700	225	2,200	728
Waldo	3,675	1,837	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	195	25
Knox	40,347	13,115	203	812	.....	.....	.....	.....	14,803	38,494	2,440	1,952	3	5,000	108	900	174
Lincoln	53,682	28,845	308	1,352	.....	.....	.....	.....	2,350	7,200	.....	.....	3	2,000	136	2,050	172
Sagadahoc	8,301	4,611	165	495	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41	496	41
Cumberland	101,703	50,851	693	3,465	.....	.....	339	339	7,870	23,723	445	850	8	10,500	270	2,700	523
York	20,601	10,300	.....	.....	14,750	\$7,375	.....	.....	.....	.....	.....	.....	.....	.....	126	1,260	126
Total	261,702	\$119,576	16,755	\$45,277	14,750	\$7,375	14,082	\$9,164	53,797	\$160,808	3,085	\$3,227	24	\$24,200	1,054	\$12,501	2,229

* Bait clams, both salt and fresh included.

† Includes factory employees.

Washington county paid clam factory employees \$15,991.
 Hancock county paid clam factory employees \$14,057.
 Knox county paid clam factory employees \$9,852.
 Lincoln county paid clam factory employees \$2,500.
 Cumberland county paid clam factory employees \$12,854.

SEA AND SHORE FISHERIES.

TABLE No. 8.

THE CLAM AND SCHLLOP FISHERY; DETAILED INFORMATION, INCLUDING DISPOSITION OF PRODUCT OF THAT FISHERY FOR THE STATE OF MAINE,
FOR THE YEAR 1902.

County.	CLAMS SOLD IN SHELL.		*CLAMS SOLD FOR BAIT.		CLAMS SOLD FRESH.		SCALLOPS.		CLAMS CANNED.		CLAM JUICE.		CLAM CANNING FACTORIES.		BOATS.		Number of persons engaged.
	Bushels.	Value.	Barrels.	Value.	Gallons.	Value.	Gallons.	Value.	Cases.	Value.	Cases.	Value.	Number.	Value.	Number.	Value.	
Washington	6,222	\$2,593	341	\$4,132	290	\$145	1,022	\$1,022	7,182	\$25,265	75	\$213	1	\$1,000	120	\$2,000	282
Hancock	40,935	13,654	5,750	26,346	4,780	2,390	9,010	7,900	27,486	85,769	.....	.....	6	4,700	225	2,250	560
Waldo	2,709	1,355	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	195	19
Knox	62,211	19,845	141	564	.....	.....	47	35	18,525	44,364	5,379	4,303	3	5,000	115	1,015	192
Lincoln	57,840	23,775	149	596	.....	.....	.....	.....	.....	.....	.....	.....	2	2,500	155	2,380	136
Sagadahoc	7,725	4,528	160	480	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	42	562	46
Cumberland	79,590	39,795	363	1,815	.....	.....	406	406	6,400	19,642	300	566	8	9,600	178	1,780	304
York	8,544	4,272	.....	.....	12,560	6,275	.....	.....	.....	.....	.....	.....	.....	.....	116	1,160	116
Totals.....	265,776	\$109,817	7,504	\$33,933	17,630	\$8,810	10,485	\$9,363	59,593	\$175,040	5,754	\$5,082	20	\$22,800	964	\$11,342	1,655

† Includes factory employees.

* Bait clams both salt and fresh included.

Wages were paid clam factory employees as follows: Washington county, \$5,380; Hancock, \$18,750; Knox, \$10,952; Cumberland, \$10,552. \$45,634 was paid out to factory help during 1902.

THE SMELT FISHERY.

This is a very considerable business in a very small fish. Many men are engaged therein, and large shipments are made out of the State to the decided advantage of the many transportation and express lines.

There are many amendments proposed to the present law, mostly of local application, which will probably be presented to the committee at the proper time and place for consideration. If any change is to be made I would suggest a uniform close time throughout the State so far as practicable.

Warden Hanna writes in his letter :

"The smelt law seems to meet the general approval of all classes of our citizens. This, like other fishing industries, has flourished, and the smelt fisheries net a large reward in the winter months to many of our fishermen, more so on our inland rivers, bays, and coves that freeze over in the winter than on the coast. There needs be a more rigid enforcement of the law in the spring or fall while the smelt is taking the brook for spawning purposes. People thinking they have a right to take a mess will often destroy a bushel in getting the mess. I would recommend an absolute close time from April 1 until October 30 during which time no smelts should be taken in any other way than by hook and line. This would drive the swarms of violators from our brooks in spawning time that go there for no other purpose than to destroy the spawning fish."

Warden George E. Cushman says :

"In regard to the smelt law I think a uniform law, a close time from the 1st day of April to the first day of September, would be more satisfactory to the fishermen than the present law."

Warden George W. Frisbee has this to say :

"The smelt fishermen say that they have got more smelts in November this year than they have got for the last ten years."

Warden George A. Dow of Portland puts it this way :

"I would suggest that the present law regarding smelts be so amended that smelts taken in any manner or caught in any county

in the State should not be sold or offered for sale or shipped from the State between April 1 and October 1. As the law now stands smelts can be taken in some counties between April 1 and May 1. These are shipped to the Portland market and offered for sale. The present law prevents taking smelts in April unless they are dipped. I believe the adoption of this amendment would be of universal fairness to all the fishermen, and thus avoid the discrimination which seems now to exist in some counties."

Warden Isaac H. Snow of Brunswick tersely states it thus:

"I would have a close time for two years on smelts, except that I would allow to be taken the year round by hook and line. Four out of five of all smelts taken by net have to be thrown away, and I would have all pounds and traps taken from the water by September 1st. The mackerel come into the bays in the spring and the young grow to be five or six inches long the first season, and when they go out in the fall the pounds get most all of them, and a very large part of them taken only to be thrown away."

Warden Joseph Hamilton of Pembroke has this:

"The smelt fishing here is quite an industry, but not carefully looked after. There is a great waste of them during the ice-fishing with bag nets. The meshes of the bag nets are so small that nearly one-half of the smelts are left on the ice. Nets should have larger meshes so the small fish could get through."

Warden Ruel T. York of Damariscotta Mills writes:

"A law which shall better protect smelts in the spawning season is needed. In the months of April and May, when they go into the brooks to spawn, there is in many cases a wholesale destruction of these fish. I am informed that in these months cart loads of them have been taken from brooks which flow into the Damariscotta river and used for hen food and fertilizer."

TABLE No. 9.
THE SMELT FISHERY IN THE STATE OF MAINE, BY COUNTIES, FOR 1901.

County.	SMELTS CAUGHT.		BOATS USED.		WEIRS.		SEINES AND NETS.		CAMPS.		Number of persons engaged.
	Pounds.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	
Washington	149,267	\$12,382	60	\$1,385	54	\$1,350	18	\$440	25	\$700	101
Hancock	102,523	8,419	38	380	18	620	40	2,000	140	1,500	223
Waldo	45,540	2,849	14	350	-	-	32	1,600	15	150	34
Knox	24,042	1,923	10	120	-	-	12	558	-	-	20
Lincoln	214,085	20,529	41	3,000	1	75	28	2,120	236	2,205	270
Sagadahoc	79,056	5,800	8	175	18	2,035	4	644	137	264	137
Cumberland	71,815	5,028	47	890	-	-	41	1,790	-	-	74
Totals	686,328	\$56,930	218	\$6,300	91	\$4,080	175	\$9,152	553	\$4,819	859

SEA AND SHORE FISHERIES.

TABLE NO. 10.

THE SMELT FISHERY IN THE STATE OF MAINE, BY COUNTIES, FOR THE YEAR 1902

County.	SMELTS CAUGHT		BOATS USED.		SEINES AND NETS.		WEIRS.		CAMPS.		Number of persons fishing.
	Pounds.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	
Washington...	249,088	\$27,762	70	\$1,125	132	\$1,900	52	\$2,130	20	\$640	136
Hancock	187,034	18,550	23	230	23	230	23	690	120	1,100	195
Penobscot.....	-	-	-	-	-	-	-	-	2	40	-
Waldo	28,425	2,543	12	360	20	1,000	-	-	11	165	28
Knox	52,900	3,238	14	168	18	960	-	-	10	120	28
Lincoln.....	297,320	30,966	156	8,890	40	2,700	3	400	134	1,340	211
Sagadahoc	67,940	4,926	11	350	6	950	18	2,700	105	210	109
Cumberland ..	119,055	7,848	29	875	26	1,115	8	320	10	200	46
York.....	-	-	-	-	-	-	-	-	-	-	-
Totals	1,001,762	\$95,833	315	\$11,998	265	\$8,855	104	\$6,240	412	\$3,815	753

ALEWIFE FISHERY.

This fishery shows a very considerable decline in the production as compared with previous years.

The great reduction in the catch is in Lincoln county where is located the largest privilege in the State.

I can account for this decline in but one way, and that is a lack of proper care on the part of the town authorities of New Castle and Nobleboro in the removal of filth and accumulation from sawmills located upon, or at the head of the stream upon which the fishery is located. For many years sawmill refuse has been gathering and has gradually filled the approaches to the fishery, leaving the water very shallow indeed, so that when a school of fish of any depth enter, it is almost impossible for them to swim, and they are so near the surface, that with the least movement or noise in the vicinity of the stream, the fish immediately return to deeper water in the bay below and there stay, and instead of getting up through the locks on to their natural spawning grounds in the Damariscotta lake, many of them cast their spawn in the brackish water of the bay, where it never matures.

I have suggested to those in authority the dredging of the channel and the basin below the falls, so as to obtain a good depth of water, and give the fish ample room to remain as long a time as they may require before starting on their journey to the spawning ground.

The town fish agents *did* attempt to dredge in 1902, but about that time the alewives appeared and at once the dredging was discontinued and never again resumed.

The foregoing is only my opinion, but if it is correct and nothing is done in the direction of dredging the channel it is a question of but a few years when the New Castle and Nobleboro fishery will be classed with those at East Machias, Columbia Falls, and Dennysville.

Tables are appended giving the statistics of the fishery, to which all are referred, and following I quote what is said by Warden S. P. Cousins of East Lamoine as to the fishery in other counties than Lincoln.

Warden Cousins states the difficulties in his locality in the following communication:

“EAST LAMOINE, October 14, 1902.

“Dear Sir:—I can think of no branch of the fisheries industry that is so poorly protected as the alewife fishery. In Orland the catch has decreased more than one-half in five years. In East Machias and Dennysville it is nearly, or quite as bad. In each locality I have seen the fishways. In East Machias the lower end of the fishway has no connection with the water, and in each of the others mentioned refuse from the mills obstruct the fishways and make them useless. In the town of Franklin, with a proper fishway that would cost but very little to build, there being no dams excepting such as hold a screen to prevent landlocked salmon going out of the pond (Donnell’s), I think one of the best alewife privileges in the country would result—in a few years. In each of the localities mentioned the towns have the superintendence of the alewife privileges; also in each one I think the owners of the mills and dams on the alewife runs have made the town law inoperative.

“The remedy that suggests itself to me is to have every alewife privilege in Hancock county and Washington county subject to the sea and shore fisheries laws; that fishways for the passage of alewives or salmon should be under the jurisdiction of the Commissioner of Sea and Shore Fisheries, and that his wardens should see that the fishways are kept free from obstructions while the fish are running.

“The reason I have for giving the Commissioner of Sea and Shore Fisheries supervision, is that there are no fish and game wardens near the above mentioned localities, where they would be needed in case the work of fishways, etc., is left in the hands of the fish and game commissioner.

“Finally I do not know of any branch of the fishing business that is so poorly looked after, or one that better methods would give better results.

Yours respectfully,

S. P. COUSINS, (*Warden*).”

Warden Kane says as follows :

“I would like to see the alewife fishing put under the State law. The Dennys river fishing will be ruined if something is not done to protect it, as all the fish are dipped at the mouth of the fishway and it is impossible for the alewives to get above the dam.”

The tables following show in detail the alewife fishery for the two years last past.

TABLE NO. 11.
SHOWING BY COUNTIES, STATISTICS OF THE ALEWIFE FISHERY IN THE STATE OF MAINE FOR THE YEAR 1901.

County.	ALEWIVES TAKEN.		SMOKE-HOUSES.		WEIRS AND NETS.		BOATS AND SCOWS		Number of men.*
	Count.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
Washington.....	141,800	\$463	-	-	-	-	-	-	40
Hancock.....	430,000	2142	-	-	40	\$1,400	22	\$340	50
Waldo.....	8,400	50	-	-	-	-	-	-	31
Knox.....	557,600	2,756	7	\$490	6	600	10	76	18
Lincoln.....	1,112,000	5,560	11	340	350	5,867	57	1,005	86
Sagadahoe..	433,000	1,756	-	-	-	-	-	-	13
Totals.....	2,688,800	\$12,727	18	\$830	396	\$7,867	89	\$1,421	238

* Including shore employees.

Alewives are smoked in herring smoke-houses in most counties, therefore, some smoke-houses are included in herring table. In counties where salmon or shad are taken, this apparatus is often used for capturing alewives, and where no weirs or nets are reported, such portion of the fish that were not taken with dip nets were captured in salmon weirs.

TABLE NO. 12.
SHOWING BY COUNTIES STATISTICS OF THE ALEWIFE FISHERY IN THE STATE OF MAINE FOR THE YEAR 1902.

County.	ALEWIVES TAKEN.		SMOKE HOUSES.		WEIRS AND NETS.		BOATS AND SCOWS.		*Number of men.
	Count.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
Washington	426,000	\$1,933	.....	.....	.....	.....	.....	.....	18
Hancock	322,000	1,887	.....	.....	40	\$1,200	22	\$290	20
Waldo	18,620	229	.....	.....	41	2,050	30	550	28
Knox	331,900	1,349	9	\$580	7	700	14	118	18
Lincoln.....	1,775,000	9,025	12	350	568	4,399	108	2,500	94
Sagadahoc	261,600	654	.....	.....	.....	.....	.....	.....	22
Totals	3,135,120	\$15,077	21	\$930	656	\$8,349	174	\$3,458	200

* Including shore employees.

In counties where salmon or shad are taken this apparatus is frequently used in the capture of alewives. Herring smoke-houses are also used in curing alewives in most counties and where no weirs or nets are reported such portion of the fish that were not taken with dip nets were captured in salmon weirs.

GROUND FISHERY.

This fishery will be materially affected by the Hay-Bond treaty with Newfoundland. If ratified it allows salt and dry codfish and cod oil into this country free, which will give Newfoundland the opportunity to send their prepared codfish all over our country, and with which we cannot successfully compete. It is well known that the United States cannot produce fish as cheaply as either Newfoundland or Nova Scotia, therefore it stands us in hand to look sharp to see that the above mentioned treaty is rejected.

I am still an earnest advocate for a bounty to be paid to our fishermen by the government, and I hope to see Senator Frye's subsidy bill pass, especially that part which provides for a bounty to be paid owners and crews of fishing vessels. If I were asked to make a suggestion as to this bounty I would say the amount proposed is not large enough.

Warden Benjamin F. Howard of Deer Isle reports:

"The present sea and shore fisheries' laws seem to be entirely satisfactory to those engaged in that industry in my district, and the only suggestion, or change, that I have heard is that a law should be passed prohibiting the taking of flounders by seines."

Tables numbered 13 and 14 show at a glance the production, value, etc., in this fishery in all the counties for the term covered by this report.

TABLE NO. 13.
STATISTICS OF THE GROUND FISHERY IN THE STATE OF MAINE, BY COUNTIES, FOR THE YEAR 1901.

County.	FISH TAKEN.		TONGUES AND SOUNDS.		HAKE SOUNDS.		OIL.		FISH STANDS AND HOUSES.		BOATS.*		Men.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Gallons.	Value.	Number.	Value.	Number.	Value.	
Washington	4,274,887	\$91,722	.....	.....	1,800	\$450	18,774	\$4,895	73	\$34,950	160	\$5,113	300
Hancock	7,964,108	218,180	.....	.....	14,555	3,638	35,000	8,750	35	36,500	106	14,420	519
Waldo.....	27,431	525	.....	.....	.....	.....	.....	.....	.....	.....	14	210	14
Knox.....	†12,082,421	185,548	2,000	\$80	86,800	4,008	21,601	5,400	64	63,249	37	9,151	257
Lincoln	5,031,619	94,085	10,000	500	17,750	1,450	9,750	2,509	198	31,500	54	8,110	270
Sagadahoc	2,059,562	23,036	.....	.....	9,858	968	2,876	805	111	10,325	48	10,796	140
Cumberland	8,821,408	165,134	.....	.....	11,986	2,260	13,650	3,479	92	21,975	136	17,589	323
York	6,124,750	112,716	.....	.....	.....	.....	3,300	891	75	13,600	217	14,257	167
Totals	46,386,186	\$590,946	12,000	\$580	142,749	\$12,774	104,951	\$26,729	648	\$212,099	772	\$79,646	1,990

* Value here includes gear used with the boats.

† Includes 2,629 cases of canned fresh fish.

Ground fish includes cod, hake, haddock, pollock, cusk, halibut, tomcod, cunners, flounders, eels, sword-fish.

\$89,319 was paid for labor at fish stands.

Documented vessels engaged in above fishery will be found in Summary Table No. 20.

195 flounder seines \$1,675, and 41 flounder boats \$1,870, used in above fishery will be found in Table No. 20.

27,431 pounds tomcods taken in Waldo county appear in above table.

TABLE NO. 14.

STATISTICS OF THE GROUND FISHERY, BY COUNTIES, IN THE STATE OF MAINE FOR THE YEAR 1902.

County.	FISH TAKEN.		TONGUES AND SOUNDS.		HAKE SOUNDS.		OIL.		FISH STANDS AND HOUSES.		BOATS.*		Men.
	Pounds.	Value.	Pounds.	Value.	Pounds.	Value.	Gallons.	Value.	Number.	Value.	Number.	Value.	
Washington	5,293,399	\$100,565	-	-	2,340	\$1,035	7,950	\$1,937	74	\$52,500	179	\$12,402	390
Hancock	7,209,640	142,907	-	-	16,363	7,363	18,234	5,652	35	36,500	113	14,286	419
Waldo	15,376	190	-	-	-	-	-	-	-	-	15	1,050	15
Knox	†11,221,110	160,498	11,000	550	72,971	7,460	19,380	4,840	71	66,560	32	9,894	260
Lincoln	4,676,285	92,113	12,800	704	12,800	3,960	18,250	4,643	198	50,380	120	16,665	233
Sagadahoc	1,291,166	23,451	-	-	6,840	1,392	1,750	490	115	12,315	58	13,240	70
Cumberland	9,573,720	216,492	-	-	14,710	3,064	15,392	4,467	89	17,490	62	17,213	305
York	6,998,250	155,812	-	-	-	-	2,100	588	75	13,600	207	19,911	271
Total	46,278,946	\$892,028	23,800	\$1,254	126,024	\$24,274	82,856	\$22,617	657	\$249,345	786	\$104,661	1,963

* Value here includes gear used with boats. † Includes 2032 cases canned fresh fish, 24 cans to each case.

Groundfish includes cod, hake, haddock, pollock, cusk, halibut, tomcod, swordfish, cunners, flounders and eels.

Documented vessels engaged in above fishery will be found in summary table No. 21.

49 flounder seines, \$2280, and 215 flounder boats, \$2225, used in above fishery will be found in table No. 21.

\$84,258 was paid for labor at fish stands. 75 bass nets, valued \$450, will be found under table No. 21.

15,376 pounds tomcods taken in Waldo county appear in above table.

THE MACKEREL FISHERY.

In this important fishery I can say that for 1901 the business was much better than for 1902. In the year 1901, the first and middle part of the season, the fish were fairly plentiful in southern and Maine waters, but in the latter part of the season there was complete failure, and many skippers as well as owners of vessels were very much disappointed as they had entertained hopes of rounding out the year's work with large catches, as well as stock.

One gasoline auxiliary schooner was added to the Maine fleet this year.

The year 1902 was much the same as 1901. It started in with quantities of fish in the south and good indications of fish on our coast of Maine and in the Bay of Fundy, but the prevalence of fog and bad weather, just at the time when clear weather was necessary to sight the fish, retarded the movement of vessels, and when the fog cleared—which was after several weeks' duration—the weather became blustering and after a continual series of gales, the fishing was given up and the vessels withdrawn from that business to go into other pursuits where the owners anticipated better returns.

Captain Eben Lewis, of the new auxiliary schooner *Natalie B. Nickerson* of Boothbay Harbor, took the "high line" honors in the State in 1902 as well as in 1901. Many Maine skippers are in charge of auxiliary, as well as sailing vessels, from Gloucester and elsewhere, and are among the "high liners" from these localities.

Our fleet of mackerel vessels number but a few and show a very small increase since last report.

Full information is tabulated as follows: In table No. 15 showing for the two years, covered by this report.

TABLE No. 15.

The Mackerel Fishery.	FOR THE YEAR 1901.		FOR THE YEAR 1902.	
	Quantities.	Values.	Quantities.	Values.
Fresh mackerel landed, pounds	650,000	.....	424,600	.....
Value of fresh mackerel.....		\$33,466		\$63,492
Salt mackerel landed, barrels	3,122	.....	1,444	.....
Value of salt mackerel... ..		32,918		18,485
Number of seines used.....	31	.....	35	.....
Value of seines		12,800		10,700
Number of nets used	1,757	.....	1,659	.....
Value of nets		13,621		12,291
Number of pounds and traps.....	37	.....	22	.....
Value of pounds and traps . ..		15,250		9,000
Number of boats.....	126	.....	119	.....
Value of boats		*21,501		13,190
Number of persons engaged in fishery...	402	.....	369	.....
Total value of catch and apparatus used		\$129,556		\$127,158

*Includes two steamers in York and Cumberland counties.

A part of the mackerel catch were landed by our vessels in out-of-State ports.

Documented vessels engaged in this fishery are included in Summary Tables 20 and 21.

125 cases mackerel were packed in Cumberland county, value \$611.

SHAD FISHERY.

One million and a half pounds of shad have been taken since my last report by Maine fishermen, and there has been considerable increase in the value—\$13,500. One hundred sixteen more men have engaged in the business and there has been a material increase in the value of the apparatus employed. The gear and apparatus engaged has been \$95 per man in this business. The catch 2,298 pounds per man.

Tables combining the information for both years—1901 and 1902—are added for easy reference.

TABLE NO. 16.

The Shad Fishery.	For the year 1901.	For the year 1902.
Pounds Shad taken, (Fresh and Salt)	731,000	773,400
Value of Shad.. .. .	\$19,335	\$26,722
Number of boats shad fishing.....	267	354
Value of boats shad fishing.....	2,963	16,521
Number of nets used	257	318
Value nets used	4,743	6,160
Number weirs used	279	148
Value weirs used	8,015	9,425
Number persons shad fishing.....	175	337
Total value of catch and apparatus.....	\$35,056	\$58,628

SALMON FISHERY.

There has been an increased catch of salmon for the period of this report as compared with previous report of 37,599 pounds. The increase in value of catch is \$30,097.

It is believed that the catch in the Penobscot and St. Croix rivers, at least, can be increased materially. This department will neglect no measures or effort which will insure better results at these points, as well as elsewhere, in connection with the salmon fishery.

Warden William Hale of Bangor, as to the salmon fishery in his district, writes:

"I will say that there should be a good liberal appropriation for the protection of the salmon because after close time I understand that quite a number are killed up in the head waters of the Penobscot by the use of dynamite cartridges, and the same are shipped out of the State to the various hotels at the summer resorts.

Now where I am stationed at the dam in Bangor I find it necessary to keep my man with me all the summer to prevent poaching, so I think the more protection the more fish you will have. I also think that if there was one day a week close time on the weirs that the fish would have a better chance to reach their spawning grounds in large numbers."

Warden Frisbee reports conditions satisfactory in his territory. He says: "The fishermen in this county are satisfied with the law as far as I know. The salmon fishermen think the hatchery has done good work. They have gotten good many small salmon the last two years and think that is the cause of it."

Warden Albert French of Calais says:

"We must do something to protect the salmon in the St. Croix river. The present methods of fishing kill the salmon and ought to be stopped. I would advise the weirs on the river be closed 48 hours from Saturday morning until Monday morning same as the set nets, that (would be) giving both equal rights, and the 500 feet above the ferry point bridge struck out."

A comprehensive table showing the statistics for both 1901 and 1902 is presented here.

TABLE No 17.

The Salmon Fishery.	For the year 1901.		For the year 1902.	
Pounds of salmon taken.....	96,891		39,935	
Value		\$21,107		\$8,990
Number of boats and scows engaged.....	148		118	
Value		2,833		2,220
Number of weirs and traps.....	137		124	
Value		12,450		7,850
Number of nets and seines	89		83	
Value		862		1,576
Number of persons fishing	187		140	
Total value of catch and apparatus.....		\$37,252		\$20,636

WARDENS AND THEIR WORK.

These officers have, I believe, attended to their duties during the last two years and shown more interest in their work than I have ever known them before.

The result of their work shows that they must have spent a large portion of their time in watching and bringing to justice guilty parties for in that time 547 persons, (who have in one way or another violated our fish laws), have paid to our State treasurer, fines to the amount of \$3,166.95, and have seized 67,608 illegal lobsters.

They have furnished to this department valuable statistical information, without which it would be impossible to give the statistics contained in this report as to the value and importance of Maine's fisheries.

TABLE NO. 18.

GRAND SUMMARY, SHOWING BY FISHERIES AND SPECIES THE TOTAL YIELD AND VALUE OF THE FISHERIES OF MAINE FOR 1901 AND 1902.

Fishery and Species.	1901.		1902.	
	Pounds.	Value.	Pounds.	Value.
Alewives ..	1,344,400	\$12,727	1,547,560	\$15,077
Bass	13,462	1,322	23,972	3,225
Clams	7,612,300	328,828	7,617,480	332,682
Ground fishery	46,386,186	890,946	46,278,946	892,028
Herring, fresh	98,314,200	453,495	83,830,400	339,081
Herring, salted	2,249,600	41,674	3,723,800	67,315
Herring, smoked	11,121,000	245,575	9,173,500	172,515
Lobster	13,982,964	1,013,779	14,324,348	1,226,561
Mackerel, fresh	650,000	33,466	424,600	63,402
Mackerel, salted	624,400	32,918	288,800	18,485
Oil	787,132	26,729	621,420	22,617
Salmon	96,891	21,107	39,935	8,990
Scallops	218,984	9,164	125,820	9,363
Shad	731,000	19,335	773,400	26,722
Smelts ..	686,328	56,930	1,001,762	95,833
Sounds, hake	142,749	12,774	126,024	24,274
Tongues and sounds ..	12,000	580	23,800	1,254
	184,973,596	\$3,201,349	169,965,567	\$3,319,424

Includes cod, hake, haddock, pollock, cusk, halibut, tomcod, swordfish, cunners, founders, eels.

TABLE NO. 19.

SUMMARY OF THE VESSELS, BOATS AND APPARATUS USED AND THE VALUE, SHOWING
TOTAL INVESTMENT IN THE FISHERIES IN THE STATE OF MAINE, NOV. 30, 1901.

Fishery.	Items.	Value.	Fishery totals.
General fishery ..	427 vessels, 8,259 tons	\$433,300	\$528,825
	58 steam and sailing smacks	95,525	
Ground fishery ..	772 boats and gear	\$79,646	295,290
	648 fish stands and houses	212,099	
	195 flounder seines	1,675	
	41 flounder boats	1,870	
Alewife	37 boats and scows	1,421	10,118
	58 weirs and traps	6,720	
	338 nets	1,147	
	18 smoke-houses	830	
Mackerel	126 boats	\$21,501	63,172
	37 pounds and traps	15,250	
	1,757 nets	13,621	
	31 seines	12,800	
Salmon	145 boats and scows	\$2,833	16,145
	137 weirs and traps	12,450	
	89 nets and seines	862	
Shad	267 boats	\$2,963	15,721
	257 nets	4,743	
	279 weirs	8,015	
Bass	60 nets	\$300	300
Menhaden	4 menhaden factories	\$70,000	70,000
Smelts	218 boats	\$6,300	24,351
	175 seines and nets	4,080	
	91 weirs	9,152	
	553 camps	4,819	
Sardine	89 factories	\$710,000	736,900
	5 can making plants	26,900	
Clam	1,054 boats	\$12,501	36,701
	24 factories	24,200	
Lobster	2,978 boats	\$228,217	495,317
	2,312 cars	26,967	
	15 pounds	47,000	
	171,770 pots	193,133	
Herring	1,010 steamers and boats	\$171,602	497,394
	216 smoke-houses	88,040	
	1,923 weirs, traps, nets and seines	165,602	
	4 fertilizer plants	62,150	
	cold storage plants	10,000	
Total investment in fisheries	\$2,790,234

SEA AND SHORE FISHERIES.

65

TABLE No. 20.

SUMMARY OF THE VESSELS, BOATS AND APPARATUS USED AND THE VALUE SHOWING TOTAL INVESTMENT IN THE FISHERIES IN THE STATE OF MAINE NOVEMBER 30, 1902.

Fishery.	Items.	Value.	Fishery totals.
General fishery ..	438 vessels, 8,114 tons.....	\$410,700	\$567,100
	73 steam and sailing smacks	156,400	
Ground fish	786 boats.....	\$104,661	358,511
	687 fish stands.....	249,345	
	49 flounder seines.....	2,280	
	215 flounder boats	2,225	
Alewife	174 boats and scows	\$3,458	12,737
	656 weirs and nets	8,349	
	21 smoke-houses	930	
Mackerel	119 boats ..	\$13,190	45,181
	22 pounds and traps.....	9,000	
	1,659 nets	12,291	
	35 seines	10,700	
Salmon	118 boats and scows	\$2,220	11,646
	124 weirs and traps.....	7,850	
	83 nets and seines	1,576	
Shad	354 boats	\$16,521	32,106
	318 nets	6,160	
	148 weirs.....	9,425	
Bass ..	75 nets	\$450	450
Menhaden... ..	4 menhaden factories	60,000	60,000
Smelt.....	315 boats.....	11,998	30,908
	104 weirs.....	6,240	
	265 seines and nets	8,855	
	412 camps.....	3,815	
Sardine.....	59 factories.....	\$721,500	721,500
Clam.....	964 boats.....	11,342	34,142
	20 factories.....	22,800	
Lobster	3,136 boats.....	\$199,439	482,031
	2,361 cars	27,918	
	21 pounds.....	65,300	
	167,045 pots.....	189,374	
Herring	1,003 steamers and boats	\$173,379	507,755
	190 smoke-houses	73,250	
	324 weirs, 24 traps, 238 nets, & 309 seines	162,226	
	3 fertilizing plants	62,000	
	cold storage plants	10,000	
	5 can-making plants	26,900	
	Total investment in fisheries	\$2,864,067		$2,864,067

TABLE NO. 21.

SHOWING NUMBER OF PERSONS ENGAGED IN THE SEVERAL BRANCHES OF THE FISHERIES IN THE STATE OF MAINE, BY FISHERIES AND BY COUNTIES, FOR THE YEAR 1901.

Fishery.	Washington.	Hancock.	Penobscot.	Waldo.	Knox.	Lincoln.	Sagadahoc.	Cumberland.	York.	Totals by Fisheries.
Alewive	40	50	.....	31	18	86	13	.....	.....	238
Clams and Scallop....	440	728	.....	25	174	172	41	523	126	2,229
Ground Fishery	300	519	.....	14	259	270	140	321	167	1,990
Herring	1,260	148	.....	.....	76	330	17	86	40	1,957
Lobster	394	510	.....	8	574	497	96	573	136	2,788
Mackerel .....	.....	.....	.....	.....	33	146	31	152	40	402
Salmon	40	73	.....	31	.....	.....	43	.....	.....	187
Sardine	7,257	815	.....	.....	.....	720	.....	.....	.....	8,792
Shad	10	.....	.....	.....	.....	42	111	12	.....	175
Smelts	101	223	.....	34	20	270	137	74	.....	859
County totals	9,842	3,066	.....	143	1,152	2,533	629	1,743	509	.....
Grand total* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19,617

†* Persons engaged in whole State.

Factory and shore employees included in above tabulations.

TABLE NO. 22.

SHOWING NUMBER OF PERSONS ENGAGED IN THE SEVERAL BRANCHES OF THE FISHERIES IN THE STATE OF MAINE, BY FISHERIES AND BY COUNTIES, FOR THE YEAR 1902.

Fishing.	Washington.	Hancock.	Penobscot.	Waldo.	Knox.	Lincoln.	Sagadahoc.	Cumberland.	York.	Totals in Fishery.
Alewives	18	20		28	18	94	22			200
Clam and scallop	282	560		19	192	136	46	304	116	1,655
Ground fishery.....	390	419		15	260	233	70	315	271	1,973
Herring.....	1,017	114			74	297	15	96	25	1,638
Lobster	394	488		7	589	531	102	268	162	2,541
Mackerel						175	17	140	37	369
Menhaden						50				50
Salmon.....	20	70	50	28			22			190
Sardine	5,873	709				436		60		7,078
Shad.....	30					72	193	42		337
Smelt.....	136	195		28	28	211	109	46		753
County totals.....	8,160	2,575	50	125	1,161	2,235	596	1,271	340	
Grand totals*.....										16,784

* Persons engaged in whole state.

Shore and factory employes included in above tabulation.

LIST OF FISH WARDENS NOW IN COMMISSION.

YORK.

J. F. Goldthwaite Biddeford.

CUMBERLAND.

George A. Dow Portland.
Richard Orr Orr's Island.

SAGADAHOC.

A. C. Johnson Ashdale.

LINCOLN.

R. T. York Damariscotta Mills.
N. J. Hanna New Harbor.
C. E. Sherman Boothbay Harbor.

KNOX.

W. L. Blackington Rockland.

WALDO.

George W. Frisbee Belfast.

HANCOCK.

S. P. Cousins East Lamoine.
F. L. Hodgkins Lamoine.
F. M. Trundy Oceanville.
B. F. Howard Deer Isle.

WASHINGTON.

W. A. Henderson Cutler.
P. M. Kane Eastport.
W. W. Blood Milbridge.
D. O. French Jonesport.

Deputy Fish Wardens now in Commission.

George E. Cushman Cape Elizabeth.
I. H. Snow Brunswick.
L. S. Nickerson Boothbay Harbor.
William Hale Bangor.
Albert French Calais.

Sardine Wardens now in Commission.

Henry D. Avery North Lubec.
Alfred Small Lubec.
Joseph Hamilton Pembroke.
S. P. Cousins East Lamoine.
W. A. Henderson Cutler.
W. J. Fisher Eastport.
J. H. McDiarmid Eastport.
John E. Kelley Boothbay.
F. M. Trundy Oceanville.
W. W. Blood Milbridge.

LIST OF INSPECTORS OF PICKLED FISH.

Name.	Residence.	Date of Commission
Charles B. Meserve	Bristol.....	September 20, 1898
F. J. Dugo.....	Steuben	September 20, 1898
Joseph W. Sheppherd.....	Portland	October 25, 1898
Joseph W. Lord	Portland	August 23, 1899
Samuel F. Bearce.....	Portland	August 22, 1901
Charles A. Dyer	Portland	June 15, 1900
Falmer Lakeman	Jonesport	July 13, 1899
Gilman N. Williams.....	Cutler	September 7, 1900
William B. Holmes.....	Eastport.. ..	August 23, 1899
Joseph Farris.....	Eastport.....	August 23, 1899
E. W. Holmes	Eastport.....	September 25, 1899
Eben A. Holmes	Eastport.....	October 18, 1899
Robert Spear	Eastport.....	September 25, 1899
Abner Leonard	Eastport.....	September 25, 1899
Hiram Blanchard	Eastport.....	September 25, 1899
S. W. Leonard	Eastport.....	September 25, 1899
J. E. Wickerson.....	Eastport.....	August 21, 1902
B. M. Pike.....	Lubec.....	September 25, 1899
Jacob Pike	Lubec	September 25, 1899
James J. McCurdy	Lubec.....	September 25, 1899
George A. Mowry	Lubec.....	September 25, 1899
Elias P. Lawrence.....	Lubec	October 8, 1900
Everett Reynolds	Lubec	September 25, 1899
John E. Crie.....	Criehaven Plantation	November 13, 1899
Charles E. Mills	North Haven	December 13, 1899
C. E. Weeks	Rockland.....	February 28, 1900
Thomas M. Nicholson	Bucksport	July 20, 1900
William Brennan.....	St. George	October 8, 1900
Nathan B. Dyer.....	Milbridge	October 8, 1900
S. J. Roberts	Milbridge	June 26, 1899
Clinton M. Hamilton.....	Chebeague	October 29, 1902
Arthur E. Nickerson	Boothbay Harbor.....	July 22, 1902
A. M. Powers	Boothbay Harbor.....	October 18, 1902
Andrew R. Holmes.....	Perry	November 1, 1901
M. J. Powers.....	Pittston	November 25, 1901

The above are commissioned for five years.