



ANNUAL REPORT
OF THE
COMMISSIONER'S OF INLAND FISHERIES
1915







State of Rhode Island and Providence Plantations

FORTY-SIXTH ANNUAL REPORT

OF THE

COMMISSIONERS OF INLAND
FISHERIES

MADE TO THE

GENERAL ASSEMBLY

AT ITS

January Session, 1916

PROVIDENCE:

E. L. FREEMAN CO., STATE PRINTERS
1916.



10168

COMMISSIONERS OF INLAND FISHERIES.

CHARLES W. WILLARD, Westerly, *President*.

DANIEL B. FEARING, A. M., Newport, *Vice President*.

WILLIAM H. BOARDMAN, Central Falls, *Secretary*.

ADELBERT D. ROBERTS, Woonsocket, *Auditor*.

THEOPHILE GUERIN, Woonsocket, *Treasurer*.

ISAAC H. CLARKE, Jamestown.

JAMES G. JOHNSON, Riverside.

LOBSTER DEPUTIES.

WILLIAM T. LUTH, Newport, *Chief Deputy*.

JAMES HARRINGTON, Newport.

JEREMIAH B. ALLEN, New Shoreham.

ANDREW V. WILLIS, New Shoreham.

SUPERINTENDENT OF HATCHERY AND EXPERIMENT STATION.

EARNEST W. BARNES, Wickford.

REPORT

To the Honorable the General Assembly of the State of Rhode Island and Providence Plantations, at its January Session, 1916:

The Commissioners of Inland Fisheries herewith present their forty-sixth annual report, for the year 1915, which contains, as required by law, data and statistics with respect to the fisheries under their jurisdiction and such recommendations as they deem expedient.

MARINE FISHERIES.

Taken as a whole the branches of the marine fisheries that are under the jurisdiction of your Commission have maintained about an average yield. Certain of them, however,—notable the “stub trap” fishing within the bay and the catch of squiteague—have fallen considerably below normal. The catch of lobsters on the contrary exceeded that of the previous year by one hundred and seventy thousand pounds and this occurred in spite of the increasing demands of the past few years upon this industry. Furthermore, as the market price was considerably higher, the value of this fishery was almost exactly double that of 1914. Tables giving the amount of fish and lobsters caught in this State are given in the body of this report and, as in previous years, an account of the deep-sea fishing off Newport is also given.

FRESH WATER FISHERIES.

The increased amount of rain-fall this past year has greatly improved the condition of the ponds and streams of the State over that of the past two years and they were therefore better adapted for the growth and development of the fish with which they were stocked.

The number of fishermen was consequently greatly increased since there was prospect of better fishing. In order therefor to ensure a more satisfactory enforcement of the fisheries laws a larger number of deputies were appointed throughout the State—in fact wherever conditions seemed to warrant it—which resulted in an increased number of convictions and a better respect for the law generally.

As mentioned many times in previous reports conditions within our State with respect to our fresh-water fisheries have greatly changed within the past few years. The rapid increase of automobiles and motorcycles and the extension of trolley lines have caused a great increase in the number of fishermen and has constituted thereby a great drain upon the natural resources of our ponds and streams. Previously those portions of our inland waters which were easily accessible by road and rail and consequently were excessively fished were continually restocked in a natural way from those portions of the same water system which were more remote and therefore less fished. Today in our small State the presence of better roads and motor vehicles have left no places from which over-fished streams may replenish their supply. Indeed, scarcely a stream or pond can truly be said to be remote since one or two hours ride is sufficient to bring any pond or stream in the State within reach of the fisherman's line. This factor taken in connection with two or three dry seasons and extensive deforestation has gone far to deplete our streams. Yet on the other hand this same factor has served to increase the number and zeal of the fishermen who look eagerly forward to a pleasant auto trip to some distant place with new scenes and a chance to "try their luck" on the banks of some stream, new or unfamiliar, to them and return with creel well filled with fish. Soon these streams which at first teemed with fish are themselves depleted, though admirably adapted by nature to support fish life.

As a result your Commission has received through the mail and in person a flood of applications for fish for the various streams and ponds throughout the State. The number of these for which fish is

desired may be judged from the partial list (given farther along in the report) of those which have been stocked by the Commission. A great number of these applications must be denied or at most the applicant given a small fraction of the consignment desired. The chief reason for this lies in the inability of the Commission to obtain the fish—sometimes through lack of funds, but more often because the fish cannot be obtained. The surrounding states have their own hatcheries and the government is able to furnish only a limited number—often not the kind or size desired.

FRESH-WATER HATCHERY.

These considerations have led your Commission, for the past two years to seriously consider the advisability of constructing a small fresh-water hatchery as the best means of supplying this growing need of our State. A need which is not confined to the sportsman alone, but to every individual in our State who enjoys a day's outing on the banks of one of our beautiful streams or ponds with the pleasure and satisfaction of catching a good mess of fish. At a moderate initial outlay sufficient to cover the purchase of the site and the construction of artificial ponds, a hatchery suitable for our needs could be built. A location could be obtained close to our present marine hatchery at Wickford which would enable us to use—to a great extent—the men already employed there. Then at a small annual expenditure many times the number of fish which we can now supply would be available for the waters of our State.

FISH PONDS ON THE FARM.

Another feature which your Commission has in mind in connection with the proposed fish hatchery is the maintenance of a model fish pond such as could be constructed upon any farm at moderate cost and at practically no cost of upkeep. There is scarcely a farm in our State which does not possess some natural pond which could be made productive or some marsh or lowland in which a pond suitable for

raising fish could be built at slight cost. The possibilities of small fish ponds as sources of food—although well known and greatly developed in other countries—has until recently received little attention in this country. Our great natural resources have no doubt been responsible for this, but the increase in population with its consequent great drain upon these resources has brought a greater demand for more careful development of the latent possibilities. In our modern civilization our aquatic resources have been the last to be developed and yet it can be readily proven that there is scarcely any industry from which greater returns can be obtained at as slight a cost. It is not the intention of this Commission to advocate the raising of fish for commercial purposes in such a State as ours with its great marine fisheries—although this is within the bounds of possibility—but the raising of fish in private ponds for home consumption is perfectly feasible and the convenient food supply thus obtained will easily justify the expense of construction and maintenance. Furthermore, these ponds, constructed primarily for raising fish, would be valuable in a number of other ways. Their mere development from unsightly and valueless waste lands would be an asset in itself. Add to this a possible supply of ice, convenient place for watering stock, improvement of surrounding lowlands by drainage, and similar uses which will come to the mind of anyone, and they will be sufficient to warrant taking up the matter seriously.

The work of the Commission in 1915 followed the usual lines as outlined below, more detailed statements will be found in the body of the report.

The stocking of fresh-water ponds and streams.

The enforcement of the laws relating to fresh-water fishes.

The purchase of egg-bearing lobsters.

The employment of deputies to enforce the lobster laws.

The granting of licenses to catch lobsters.

The rearing of lobsters to the bottom-seeking stage.

The gathering of data and statistics with respect to the food-fishes.

The coöperation with fisheries authorities of neighboring states and abroad.

Occasion is here taken to thank The New York, New Haven and Hartford Railroad Company for its courtesy in granting free transportation of fry and messengers.

The financial statement for the year 1915 is as follows:

State of Rhode Island in account with the Commissioners of Inland Fisheries.

1915. DEBIT.

Dec. 31.	To expenses of the Commissioners from January 1 to December 31, 1915.	\$1,362 51
	To expenses and service of deputies under the lobster laws from January 1 to December 31, 1915.	3,836 52
	To expenses at the Wickford Hatchery and Experiment Station, January 1 to December 31, 1915.	7,322 33
	To purchase of egg lobsters.	1,857 97
	To purchase of fresh-water fishes.	733 35
		<hr/>
		\$15,122 68

1915. CREDIT.

Dec. 31.	By received from the State Treasurer.	\$15,122 68
----------	---	-------------

Amount received for 346 lobster licenses, at \$5.00 each, as per receipts from the State Treasurer. . .	\$1,730 00
--	------------

Respectfully submitted,

CHARLES W. WILLARD,
DANIEL B. FEARING,
WILLIAM H. BOARDMAN, *Secretary*.
ADELBERT D. ROBERTS,
THEOPHILE GUERIN,
ISAAC H. CLARKE,
JAMES G. JOHNSON.

STOCKING FRESH-WATER PONDS AND STREAMS.

BROOK TROUT.

A number of the applications for brook trout which were received by your Commission in 1915 have, up to the present time, remained unfilled. This was largely due to the fact that the American Fish Culture Company, from whom the Commission has obtained their trout in the past, was unable to furnish fish of a satisfactory size. It is hoped, however, to fill a large portion of these orders in the early part of this year. An increased amount of rain-fall this past year has put the ponds and streams in a much more satisfactory condition than they have been for the past two or three years.

BLACK BASS.

A small consignment of black bass was received this past year from the United States Bureau of Fisheries. This lot, together with a number of young which were obtained from a small breeding pond in the southern part of the State, was distributed in suitable waters by your Commissioners. The supply while it was all that could be secured was entirely inadequate to supply the needs of our State waters. Your Commission feels that steps should be taken at once to insure a much greater supply of this valuable food and game fish.

STAFFORD'S POND.

During the past season complaints were brought in to the Commission that fish of an illegal size were being taken from Stafford's Pond in Newport County. An investigation was made and in the investigation it was discovered that there were in this body of water large numbers of small bass ranging from five to eight inches in length. As this pond was quite removed from thickly settled lands and good highways, our deputies found it very inconvenient to enforce the law. Owing to this fact and also bearing in mind that this large number of bass if made available for the use of the State

would be a very valuable acquirement, your Commission considered in open meeting the advisability of closing this pond for a period of three years to all fishing. This action was carried into effect and the pond is now and will be for the above period used as a reserve. It is the intention of your Commission to restock many inland waters with fish from this pond.

BLUEGILLED SUNFISH.

The experimental work in the propagation of the Ohio bluegill has brought satisfactory results. It has been demonstrated that this species can be easily propagated in our waters and the young will make very rapid growth. Young fish which were hatched in our experimental pond during May attained a length of one and one-half to two inches during the season. With proper hatching and rearing ponds the propagation of this valuable food fish would undoubtedly result in most satisfactory returns.

WHITE PERCH.

A number of adult white perch of good size were obtained in the latter part of the fall from fish nets in Warren River and were distributed in suitable ponds. It is hoped another year to be able to greatly extend this work.

A partial list of the ponds and streams stocked by the Commission:

BROOK TROUT.

Brook crossing pike above Crompton, East Greenwich.

Putts Bog Brook, East Greenwich.

Card's Sawmill Pond, East Greenwich.

Brook above Searl Capwell's Sawmill Pond, East Greenwich.

Buckeye Brook, Warwick.

Hardig Brook, Centreville, between Centreville and Apponaug.

Queens River, Kingston.

Brook back of Kingston Fair Grounds.

Roaring Brook, Richmond.

White Brook, Richmond.

Meadow Brook, Richmond.

Wood River, Richmond.

Beaver Brook, Richmond.

Brushy Brook, Richmond.

Brook at Wyoming.

Riverlet Brook, Oaklawn; runs into Orebed Brook.

Upper branch of Flat River, westerly of Summit, in district of Parker Hill School.

Pottersville Stream, Coventry.

Aldrich Brook, Limerock.

Breakheart Brook, Coventry.

Peep-toad Brook, North Scituate.

Thompson Hill Brook, Diamond Hill.

Abbotts Run Brook, Diamond Hill.

Great Swamp Brook, through "Great Swamp," South Kingstown.

Kingston Brook, South Kingstown.

Chickarsheen Brook, Barber's Pond to Queens River, South Kingstown.

Chienbry Brook, through "Great Swamp," South Kingstown.

Turkey Meadow Brook, Coventry.

Quidneck Reservoir Brook, Coventry.

Tributary of Wood River, near Hopkinton.

Bear Brook, Washington.

Pierce's Brook, Coventry.

Pocasset Brook, Hughesdale.

Fenner Brook, Hughesdale.

Perkin's Brook, Hughesdale.

Bennett's Brook, Hughesdale.

Big River, West Greenwich.

Bear Brook, Coventry.

Mechanticut Brook, Natick.

Frye Brook, Nooseneck.

Runnins Brook, Riverside.

Calamunt Brook, Abbotts Run, between reservoir and Arnold's Mills.

Peter's Spring Brook, Exeter.

Sweeney Brook, Hillsgrove.

Clark Brook, Westerly.

Mill Brook, Westerly.

Tomaquog Brook, Westerly.

Kenyon Brook, Westerly.

Davis Brook, Westerly.

Mosquitohawk Brook, Gloucester and Scituate.

Huntinghouse Brook, Gloucester and Scituate.

Brandy Brook, Pascoag.

Shippee Brook, Foster.

Hemlock Brook, Foster.

Buck Horn Brook, Coventry.

Tarklin Brook, North Smithfield.

Mowry Brook, North Smithfield.

BLACK BASS.

Waterman Reservoir, between Greenville and Harmony, Gloucester.

BROWN TROUT.

Thirty Acre Pond, Kingston.

Barber's Pond, South Kingstown.

Larkin Pond, Kingston.

Cooma Reservoir, Gloucester.

Brook which runs into Diamond Hill Reservoir.

Carr Pond, North Kingstown.

WHITE PERCH.

Stillwater Pond, Stillwater.

Cooma Reservoir, Gloucester.

Lonsdale Pond, Lonsdale.

Easton's South Pond, Newport.

THE COLLECTION OF DATA AND STATISTICS RELATING TO THE COMMERCIAL FISHERIES.

As mentioned in previous reports, every effort has been made to make this branch of the Commission's work reliable and trustworthy, but the absence of laws making returns compulsory has prevented us from making this data as complete as might be desired.

GENERAL CONDITIONS OF THE FISHERIES IN 1915.

Practically all branches of the fisheries were equally poor in 1915. About the only noteworthy exception to this was the catch of lobsters in which there was a considerable gain.

"Stub trap" fishing within the Bay was extremely poor, although some very large catches of butterfish were made late in the fall.

Hand-lining was not exceptionally poor. Tautog were quite plentiful and the usual fishing up the Bay was about average.

Bluefish on the contrary were notably scarce, as were also swordfish and tuna.

The following tables of the shipments of sea products from Newport are submitted as heretofore. The number of barrels of fish shipped in 1915 was considerably less than it was in 1914, although about equal to that of 1913.

TABLE I.

*Showing the Amount of Fish, Lobsters, and Other Sea Products Shipped Monthly
from Newport by the Principal Transportation Companies
During the Year 1915.*

1915.	Barrels of Fish.	Barrels of Lobsters.	Other Sea Products.
January.....	1,870 $\frac{1}{4}$	.....	897
February.....	2,651 $\frac{1}{4}$	.....	715
March.....	1,797 $\frac{1}{4}$	.....	1,411
April.....	1,035 $\frac{3}{4}$	37	790
May.....	16,547 $\frac{3}{4}$	28 $\frac{1}{2}$	11
June.....	17,490 $\frac{1}{2}$	111 $\frac{1}{4}$	12
July.....	3,951	500 $\frac{1}{2}$	21
August.....	2,952	377 $\frac{1}{4}$	53
September.....	3,141 $\frac{1}{4}$	83	90
October.....	3,791	28 $\frac{1}{4}$	97
November.....	3,289	7 $\frac{1}{2}$	238
December.....	1,240 $\frac{1}{2}$	.....	732
Total, 1915.....	59,757 $\frac{1}{2}$	1,173 $\frac{1}{4}$	5,067

TABLE II.

Table Showing Shipment of Fish, Lobsters, and Other Sea Products from Newport for the Years 1906-1915.

YEAR.	Barrels of Fish.	Barrels of Lobsters.	Barrels of Other Sea Products.
1906.....	61,832	1,306½	385
1907.....	60,075	1,529	380
1908.....	49,116	2,517½	331
1909.....	46,124	3,252½	861
1910.....	53,298	427	1,016
1911.....	39,820½	2,281½	881
1912.....	56,745	1,465	1,344
1913.....	60,189	1,983½	944
1914.....	74,528	2,103	3,201
1915.....	59,757½	1,173¼	5,067

THE LOBSTER INDUSTRY.

The total amount of lobsters caught in Rhode Island waters in 1915 was 1,203,089 pounds, or nearly 200,000 pounds more than in 1914. Furthermore, the price was quite high, which made the value of the catch nearly double what it was in 1914. The number of undersized lobsters present in our waters was again reported by the lobstermen as very large.

The following tables have been compiled from data furnished by William T. Luth, Chief Deputy under the Lobster Law. At the conclusion of these a list of the licensed lobstermen is given as prescribed by law.

TABLE III.

Table Comparing the Number of Pounds of Lobsters, Number of Pots, and Average Number of Pounds Per Pot, for the Years 1911-1915.

YEAR.	Total Catch.	Catch at Newport.	Number Pots.	Average Number Pounds Per Pot.
1911.....	891,886	513,076	23,394	38
1912.....	745,257	372,726	17,259	43
1913.....	1,210,094	520,962	17,335	69
1914.....	1,037,552	488,025	23,122	44
1915.....	1,203,089	433,786	24,524	49

TABLE IV.

Number of Pounds of Lobsters Handled by the Principal Markets in Rhode Island for the Years 1911-1915.

FISH MARKETS.	1911.	1912.	1913.	1914.	1915.
Newport (wholesale).....	390,702	219,076	332,362	322,709	245,915
Newport (retail).....	132,374	153,650	188,600	165,316	187,867
Sakonnet (wholesale).....	63,000	55,618	51,779	32,081	31,374
Tiverton (wholesale).....	84,000	49,043	61,353	45,296	79,283
Block Island (wholesale).....		196,000	376,000	250,000	436,000
Point Judith (wholesale).....	159,000				75,000
Watch Hill (wholesale).....	92,810	71,870	100,000	122,150	25,000
Narragansett Pier (wholesale).....					22,650
Other markets.....			100,000	100,000	100,000
Total.....	921,886	745,257	1,210,094	1,037,552	1,203,089

TABLE V.

Number of Pots, Boats and Men Engaged in Lobster Fishing in Rhode Island in 1915.

LOCATION.	Men.	Boats.	Pots.
Block Island.....	72	46	7,000
Bristol.....	3	3	235
Charlestown.....	3	2	125
Hamilton.....	2	2	160
Jamestown.....	15	13	612
Little Compton.....	10	10	454
Middletown.....	8	8	525
Narragansett Pier.....	26	23	1,785
Newport.....	117	103	8,845
Point Judith.....	5	5	390
Portsmouth.....	7	7	312
Prudence Island.....	7	6	325
Saunderstown.....	8	6	307
Tiverton.....	8	8	370
Wakefield.....	18	14	1,078
Warren.....	5	5	515
Watch Hill.....	5	5	125
Westerly.....	14	14	897
Wickford.....	3	2	50
*Other Places.....	10	10	414
Total.....	346	292	24,524

*In addition to these a few boats fish just beyond the three-mile limit. The bulk of their lobsters are brought into Rhode Island.

List of Lobster Licenses Granted in 1915.

License No.	Name.	Location.
1.	Joseph L. Eaton	Saunderstown.
2	Joseph L. Eaton, Jr.	"
4.	Victor Gray	Tiverton.
5.	Samuel E. Gray	"
6.	William H. Dodge	Block Island.
7.	Louis E. Smith	"
8.	Earl A. Smith	"
9.	Charles O'Connor	Providence.
10.	Arthur E. Dodge	Block Island.
11.	Prentice Lanphear	Westerly.
12.	Wilbur E. Dodge	Block Island.
13.	Manuel Amarante	Newport.
14.	David A. Mitchell	Block Island.
15.	Albert W. Smith	"
16.	George E. Smith	"
18.	Alfred C. Littlefield	"
19.	Samuel R. Littlefield, 2nd.	"
21.	John E. Littlefield	"
22.	Rouse B. Dodge	"
23.	Howard C. Babcock	Westerly.
24.	Simeon A. Ball	Block Island.
25.	Sylvanus Willis	"
26.	Johannes Jacobson	"
27.	Henry T. Mitchell	"
28.	John F. Peabody, Jr.	Middletown.
29.	Albert E. Jones	Narragansett Pier.
30.	Howard Fisher	Block Island.
33.	George Trunejes	Newport.
35.	Curtis H. Sprague	Block Island.
36.	Samuel B. Dickens	"
37.	Owen L. Mitchell	"

License No.	Name.	Location.
38.	Albert S. Hayes	Block Island.
39.	Edgar Littlefield	"
40.	Linus Dodge	"
43.	Albert L. Anderson	"
44.	Courtland H. Collins	Watch Hill.
45.	Gust Anderson	Block Island.
46.	John A. Anderson	"
47.	William N. Ball	"
49.	James Karpetis	Newport.
50.	Elmer E. Babcock	Wakefield.
53.	Stannos Janitos	Newport.
54.	Park A. Slate	Block Island.
55.	Myran D. Sprague	"
56.	Ralph E. Dodge	"
57.	William P. Dodge	"
58.	Edward Evensen	"
59.	Dimitrios Kodilis	Newport.
60.	Millard F. Mitchell	Block Island.
61.	Edwin E. Jones	Narragansett Pier.
62.	Irving M. Ball	Block Island.
63.	Thaddeus A. Ball	"
64.	Chester A. Littlefield	"
65.	Walter R. Littlefield	"
66.	Harold L. Dunn	"
67.	Stanton C. Allen	"
68.	Emery A. Dickens	"
69.	Joshua P. Smith	"
70.	Ulysses E. Westcott	"
72.	Eleazer Allen	"
74.	Ezra B. Dunn	"
76.	John F. Hayes	"
77.	Amanuel Allen	"
78.	Apostolis Fisfis	Newport.

License No.	Name.	Location.
79.	Roswell Mitchell	Block Island.
80.	Carder H. Champlin	Narragansett Pier.
81.	Nicholas Skapinakis	Newport.
82.	Lyman Hall	Westerly.
84.	Richard Steadman	Block Island.
85.	Silas C. Hall	"
86.	Charles A. Hall	"
87.	Frank M. Gross	Prudence Island.
88.	Dimitrios Damascus	Newport.
89.	George Stamatas	"
90.	Oscar T. Dykstra	Wakefield.
91.	Adrian Dykstra	"
92.	Bernal H. Dodge	Block Island.
93.	John Papa	Newport.
94.	Frank S. Furtodo	Jamestown.
95.	Andrew J. Tew	Newport.
96.	Eugene A. Tew	"
97.	Edward Roy	"
98.	Stamatios Stamatas	"
99.	Peter Andrews	"
100.	John Linehan	"
101.	Perikles Booras	"
102.	John Cummings	"
103.	Raftakis Raftakis	"
104.	Restcom E. Peabody	Middletown.
105.	Beck Anderson	"
106.	Daniel A. Jordan	Apponaug.
109.	Harry G. Violet	Newport.
111.	John H. Sherman	Jamestown.
112.	Jerome T. Blount	Newport.
113.	James P. Hennessey	Peacedale.
114.	John Johnson	Newport.
115.	James F. Sullivan	"

License No.	Name.	Location.
116.	R. G. Burdick	Narragansett Pier.
117.	John Townsend	Bristol.
118.	Nicholas Trocotas	Newport.
120.	George Lathrop	Prudence Island.
121.	George A. Carpenter	Saunderstown.
122.	R. R. Matterson	"
124.	Archie C. H. Matterson	"
125.	George Frank	Narragansett Pier.
127.	Thomas F. Nickerson	Little Compton.
128.	Israel A. Smith	Pawtuxet.
129.	Constantine Mataronas	Newport.
130.	Edgar F. Grinnell	"
131.	Anastacio Angelo	"
133.	Nicholas Tsolovicos	"
134.	Nicholas Julias	"
135.	Lazarus Brown	"
136.	Nicholas Mataronas	"
137.	Ernest Shellman	"
138.	Vasilas Hanos	"
139.	Frank Parlenas	"
140.	John Giones	"
141.	John Violet	"
143.	George Prokopios	"
144.	Mark Violet	"
145.	Dimitrios Raptack	"
147.	James Virgines	"
148.	Alton H. Weaver	"
149.	Gustave N. Damask	"
151.	Nicholas N. Card*	"
153.	Dimitrios Giones	"
154.	Vasilas Paris	"
155.	B. A. Kinnecom	Narragansett Pier.

*License revoked.

License No.	Name.	Location.
156.	Constantine Conomus	Newport.
157.	Ernest F. Dickens	Block Island.
159.	Angelo J. Palmer	Newport.
160.	William Handling	Point Judith.
161.	Angelo Maniotis	Newport.
163.	George I. Hargraves*	Narragansett Pier.
164.	Benjamin Smith	Block Island.
165.	Stamos Salonikas	Newport.
166.	Manuel S. De Terra	Jamestown.
167.	Francis A. Dowd	Newport.
168.	Constantine Hanos	"
170.	Walter Chace	"
172.	A. J. Bevan	"
175.	Domotaris Domotaris	"
176.	E. E. McQuaide	Westerly.
177.	Henry P. Wixson	Newport.
178.	Jesse E. Crowell	Prudence Island.
179.	Manuel Kristodolo	Bristol.
180.	Herbert Warner	"
181.	Marcus Huftalen	Warren.
182.	Fotis Tregonis	Newport.
183.	William C. Allen	Narragansett Pier.
185.	Edward E. Littlefield	Block Island.
186.	George A. G. Brown	Jamestown.
188.	Thomas F. Streeter	Wakefield.
189.	Willis E. Clarke	Narragansett Pier.
191.	Fred C. Albro	Newport.
194.	Earl C. Clark	Narragansett Pier.
196.	Everett A. Willis	Block Island.
197.	Hiram C. Matterson	Narragansett Pier.
198.	John H. Sprague	Block Island.
199.	Manuel Jacobs	"

*License revoked.

License No.	Name.	Location.
200.	Edwin D. Montross	Bristol.
201.	Byron J. Hathaway	Newport.
204.	H. Hillyer Burdick	Narragansett Pier.
205.	Walter H. Munro	Warren.
206.	Arthur Damascus	Newport.
208.	Charles H. Albro	"
209.	John H. Chappell	Point Judith.
210.	Fred B. Tucker	Narragansett Pier.
211.	Attmore E. Griffin	Wakefield.
212.	Floyd Huftalen	Warren.
213.	Jared Miner	Prudence Island.
214.	Manuel Silveria	Little Compton.
215.	Frank Brown	"
216.	Lincoln R. Wilbour	"
217.	V. W. Sprague	Block Island.
218.	Ernest E. Streeter	Wakefield.
221.	Angelo Almeida	Newport.
222.	Langworthy H. Pearce	Saunderstown.
223.	Edward Jansen	Newport.
225.	James Driscoll	"
226.	William H. Brown	Tiverton.
227.	Arthur E. Snell	"
228.	John Taylor	Jamestown.
229.	George A. Babcock	Peacedale.
231.	Antonio R. Medeiros	Middletown.
233.	John G. Sousa	"
234.	Thomas Mann	Narragansett Pier.
235.	Procopios Mataronas	Newport.
236.	George Mataronas	"
238.	Stevens Protopapas	"
239.	Robert P. Hall	Westerly.
240.	George M. Nye	"
241.	Elvin M. Scott	"

License No.	Name.	Location:
242.	George L. Payne	Block Island.
243.	Joseph Pomelek	Newport.
244.	John Whitford	Westerly.
245.	Horace E. Sisson	"
246.	Asahel Z. Larkin	"
247.	Adolphus Taylor	Narragansett Pier.
248.	Charles J. Swanson	Pawtucket.
249.	Thomas T. Saunders	Westerly.
250.	Edward Andrews	Wickford.
251.	Charles Gross	Newport.
252.	John E. Rose	Block Island.
254.	John Espaniola	Newport.
255.	Anton W. Arvidson	"
257.	Jacob Anderegg	"
258.	Howard S. Peckham	Little Compton.
260.	Edward M. Slate	Block Island.
262.	Harry S. Champlin	Narragansett Pier.
263.	Reuben McKenney*	Point Judith.
264.	Thomas W. Rhodes	Narragansett Pier.
265.	Joshua G. Champlin	"
267.	Alvin O. Gould	"
268.	Ottowell S. Dodge	Block Island.
269.	Constantine D. Damaskas	Newport.
270.	Horace Tucker*	Wakefield.
272.	Conrad Seibel	Tiverton.
273.	Henry C. Johnson, 2d	Hamilton.
274.	Henry A. Burgess	Newport.
276.	Frank W. Johnson	Hamilton.
277.	John S. Petritis	Jamestown.
278.	Constantine Frank	Narragansett Pier.
279.	Peter Goudy	Newport.
280.	Alfred A. Peckham	Tiverton

*License revoked.

License No.	Name.	Location.
281.	George A. Martin	Newport.
282.	John Mustacas	"
283.	John Sarris	"
284.	Ellis B. Wilbour*	Little Compton.
285.	William F. Freeborn	Portsmouth.
286.	Leman Wardsworth	Wickford.
287.	Charles W. Cowles	Newport.
288.	Roger E. Stillman	Wakefield.
290.	C. Scott Northrup	Wickford.
291.	Willard F. Borden	Tiverton.
292.	Clarence H. King	Jamestown.
293.	John A. James	Newport.
294.	R. H. Coughlin	Portsmouth.
295.	Nicholas Batlis	Newport.
296.	Martin Thompson	Prudence Island.
297.	Marcus M. Wilcox	Tiverton.
298.	F. O. Lanphear	Watch Hill.
299.	John L. Oskarsson	Newport.
300.	George E. Harris	"
303.	John H. Smith	Middletown.
304.	Benjamin Johnson	Newport.
305.	H. M. Barnaby	Narragansett Pier.
306.	Rudolph Schade	Jamestown.
307.	Frank Mateos	"
308.	Edward F. Sweet	Narragansett Pier.
309.	Bernard Murphy	Newport.
310.	Jack M. Neronka	Jamestown.
314.	H. J. Palmer	Newport.
315.	William B. Manchester	Little Compton.
316.	Joshua F. Clarke	Narragansett Pier.
317.	Harry D. Clarke	"
320.	Horace S. Webster	Wakefield.

*License revoked.

License No.	Name.	Location.
321.	Nicholas Petritis	Jamestown.
322.	Christian Nicholson	Block Island.
324.	Herbert Wilcox	Charlestown.
325.	Howard P. Wilcox	"
326.	Stephen C. Peckham	"
327.	Thomas C. Ferguson	Block Island.
328.	Aubrey S. Dunn	"
329.	Percy R. Brownell	Portsmouth.
330.	Thomas P. George	Jamestown.
331.	James Mataronas	Newport.
332.	Anthony Axiotes	"
333.	Jacques A. Biastre	"
335.	Harry Somers	"
337.	Stamos A. Domotaris	"
339.	John Vreira	Middletown.
340.	Ebenezer Crowell	Conimicut.
341.	Anastaco Vulgares	Newport.
342.	Guilherme Socira	Middletown.
343.	Leander W. Coggeshall	Portsmouth.
344.	Patrick H. Dillon	Wakefield.
346.	William Littlefield	Block Island.
347.	Sidney C. Thomas	Portsmouth.
348.	L. C. Luth	Newport.
349.	Charles E. Larkin	Westerly.
350.	Charles R. Payne	Newport.
351.	George G. Douglas	Block Island.
352.	Ernest Kellykoudas	Newport.
353.	Louis Adams	"
356.	Frank E. Case	Riverside.
358.	Maurice Fleetwood	Newport.
360.	Edwin W. Nash	Watch Hill.
362.	William H. Rhodes	Wakefield.
365.	Thomas Spooner	Newport.

License No.	Name.	Location.
366.	Royal B. Tingley	Point Judith.
367.	Henry W. Cook	Wakefield.
368.	Odessas Booras	Newport.
369.	William Christiansen	"
370.	Peter Palmer	"
372.	Charles B. Albro	Prudence Island.
373.	Nicholas Kiouis	Newport.
375.	Anastaso Salonikas	"
376.	George W. Kennedy	Providence.
377.	Anthony Constantine	Newport.
378.	Edward M. Harvey	Portsmouth.
379.	Ernest D. Andrea	Newport.
380.	Constantine Carpeties	"
381.	William H. Dickerson	Warren.
383.	George R. Smith*	Wakefield.
384.	Joseph H. Teal	Newport.
386.	Leon M. Champlin	Narragansett Pier.
388.	Christian T. Luth	Newport.
392.	Isaac E. Meigs	Block Island.
393.	Constantine Conbarchi	Newport.
394.	James Gregory	Watch Hill.
395.	Lester S. Titus	East Greenwich.
397.	Siderys Siderys	Newport.
398.	James E. Dewey	Block Island.
399.	John Olsen	Little Compton.
401.	George L. Hoxsie	Newport.
404.	Horace H. Kinnecom	Wakefield.
405.	Daniel W. Lasell	Narragansett Pier.
407.	Louis Miller	Saunderstown.
408.	James S. Skapinakis	Newport.
409.	Benjamin T. Rogers	"
410.	John Coffinas	"

*License revoked.

License No.	Name.	Location.
413.	August Weber.....	Newport.
415.	Michael J. Donohue.....	Warren.
417.	Norman Brownell.....	Portsmouth.
418.	Leroy C. Wilbour.....	Little Compton.
419.	Henry Bannister, Jr.....	Point Judith.
420.	Clarence H. Webb.....	Watch Hill.
422.	E. A. Larkin.....	Wakefield.
423.	J. R. Larkin.....	“
424.	Josephine L. Towle.....	“
426.	Victor I. Miller.....	Prudence Island.
427.	Gardner T. Caswell.....	Wakefield.
428.	George Grimes.....	Block Island.
429.	William H. James.....	Newport.
430.	Ebin Littlefield.....	Block Island.
431.	Patrick J. Shea.....	Newport.
432.	Thomas James, Jr.....	“
433.	Everett A. Morgan.....	Westerly.
434.	Edward L. Grinnell.....	Little Compton.
435.	Arthur L. Manchester.....	Jamestown.
436.	Harrison M. Littlefield.....	“
437.	Howard L. Vars.....	“
438.	Anne A. Neely.....	Saunderstown.
439.	John F. Maxson.....	Westerly.

FISH-TRAPS SET IN RHODE ISLAND WATERS.

The accompanying tables show that the number of fish traps steadily increased until 1910, since which time they have as steadily decreased.

TABLE VI.

Fish Traps Set in Rhode Island Waters in 1915.

Providence River.....	8
Greenwich Bay.....	10
West Passage.....	15
Mount Hope Bay.....	12
Sakonnet River.....	90
East Passage.....	18
Off Shore.....	68
Block Island.....	11
Watch Hill.....	14
Total.....	246

TABLE VII.

Total Number of Traps Set in 1898 and Every Fifteenth Year.

1898.....	119
1900.....	135
1905.....	240
1910.....	283
1915.....	246

DEEP WATER FISHING OFF NEWPORT IN 1915.

The catch of fish in the deep water off Newport was considerably below that of 1914. There were however some rather large catches of mackerel and about an average quantity of scup. The deep water traps were put down about the first week in April and were retained until the first of July.

SCUP (*Stenotomus chrysops*).—The first scup of the season in Rhode Island waters was caught on April 18th, and as usual came from Point Judith. This was ten days earlier than in 1914. On April 28th the catch had increased from single specimens to barrel quanti-

ties. By May 10th the empounding had begun and the large catches continued until about June 5th. Three weeks later, June 25th, the "run" had ended and the traps were being taken up. (See Table VIII for a record of the run of scup for the past five years.)

MACKEREL (*Scomber scombrus*).—Mackerel appeared on our shore this past year about two weeks later than usual. The first ones were caught in Rhode Island on May 7th. On May 14th a very large catch of mackerel was made near Block Island. May 26th however was the record day for shipments from Newport. One boat alone brought in 20,000. The season's catch while about normal was considerably below that of 1914 as the catch in that year was abnormally large. The period of greatest abundance was from May 14th to June 16th. On this latter date *tinker mackerel* appeared. (See Table IX for a record of the run of mackerel for the past five years.)

BUTTERFISH (*Poronotus tricanthus*).—April 19th a single large specimen, the first catch of the season was taken off Third Beach, Newport. Butterfish were quite plentiful throughout the summer and late in the fall some unusually large catches were made well up the Bay.

STRIPED BASS (*Roccus lineatus*) were first taken on April 29th, near Price's Neck. Occasional good catches were made throughout the summer, but the total amount was under normal.

SEA ROBINS (*Prionotus Carolinus*) were first displayed in the markets on April 13th. The catch after this increased steadily, but the amount was never large.

Four tuna, the first of the season, were caught off Price's Neck on June 28th.

The first reported catch of the various marketable fish in the traps off Newport is given in Table X.

TABLE VIII.

Calendar of Scup Season off Newport, 1911-1915.

	1911.	1912.	1913.	1914.	1915.
First appearance.....	April 26.	April 24.	April 14.	April 28.	April 18.
Run commences.....	May 12.	May 1.	April 25.	May 7.	April 28.
Run ends.....	June 20.	June 10.	June 18.	July 1.	June 25.
Most abundant.....	May 14 to June 1.	May 14 to June 1.	April 29 to May 31.	May 10 to June 9.	May 10 to June 5.

TABLE IX.

Calendar of Mackerel Season off Newport, 1911-1915.

	1911.	1912.	1913.	1914.	1915.
First caught in trap.....	May 6.	May 3.	April 28.	April 25.	May 7.
First large shipment from Newport.....	May 27.	May 22.	May 26.	May 16.	May 14.
Most abundant.....	May 27 to June 21.	May 22 to June 20.	May 26 to June 20.	May 16 to June 25.	May 14 to June 16.
Record day.....	May 27.	June 12.	June 8.	June 12.	May 26.
Season ends at Newport.....	Near Aug. 1.	Near end of July.	July 29.	June 30.	July 1.

TABLE X.

First Appearance of Various Marketable Fish in Traps off Newport, 1911-1915.

	1911.	1912.	1913.	1914.	1915.
Butterfish.....	May 2.	May 21.	April 22.	May 1.	April 19.
King Fish.....	May 13.	May 10.	May 6.	May 18.	May 10.
Mackerel.....	May 6.	May 3.	April 28.	April 25.	May 7.
Sea Bass.....	May 4.	April 30.	April 25.	May 7.	May 1.
Sea Robins.....	April 27.	April 24.	April 26.	April 29.	April 19.
Scup.....	April 26.	April 24.	April 26.	April 28.	April 18.
Squid.....	April 28.	May 1.	April 23.	May 7.	May 1.
Squiteague.....	May 13.	May 13.	April 22.	May 2.	May 10.
Striped Bass.....	April 22.	April 24.	April 13.	May 4.	April 29.
Tuna.....	July 15.	.....	July 18.	June 27.	June 28.

TUNA FISHING.

Owing to an unexplained absence of small bait fish in Block Island waters during the past season, the fishing for tuna as well as for blue fish, mackerel and other surface feeding fishes has been the poorest for many years. The local handline fishermen have reported very light catches.

Notwithstanding these adverse conditions much interest has been maintained in the activities of the Atlantic Tuna Club. A very desirable cottage, centrally and beautifully located upon the bluffs near the Old Harbor, has been rented and used for a club house. These accommodations have been available to all members of the club and have been much appreciated. The club trophy, a beautiful solid silver cup, costing several hundred dollars, which was presented to the club by one of its members was won by Mr. W. B. Thompson, of Long Island, for the largest specimen taken under club specifications pertaining to rod and reel fishing. With the return of normal conditions much interest among sportsmen will undoubtedly follow and substantial increases will be shown in the earnings of hotels, boatmen and dealers in supplies upon the Island.

ENFORCEMENT OF STATE LAWS.

For the enforcement of the State fishery laws under their jurisdiction your Commission employed in 1915 four deputies for the enforcement of the lobster laws—two for the entire year and two additional ones stationed at Block Island during the open season—and thirty-nine deputies employed in various sections of the State to enforce the laws relating to fresh water fishes. These latter serve without compensation and an attempt is made to employ only those who live in close proximity to the various ponds and streams and who have the interests of the fisheries at heart.

The following prosecutions were made and fines imposed and paid (the names are omitted):—

UNDER THE LOBSTER LAWS.

Hamilton, April 14, fishing in close season.	\$20 00
Hamilton, April 14, fishing in close season.	20 00
Westerly, June 8, 28 short lobsters.	140 00
Wakefield, June 27, 11 short lobsters. . . . License revoked.	55 00
Newport, July 3, mutilated lobsters.	5 00
Newport, July 17, 22 short lobsters.	50 00
Newport, July 28, 14 short lobsters.	70 00
Block Island, August 1, 3 short lobsters.	15 00
Newport, August 6, 6 short lobsters.	30 00
Wakefield, August 11, 6 short lobsters. . . . License revoked.	30 00
Wakefield, August 11, 10 short lobsters. . . . License revoked.	50 00
Block Island, August 24, 5 short lobsters.	25 00
Newport, August 26, selling short lobsters. License revoked.	
Wakefield, August 26, dealing in short lobsters. License revoked.	
Little Compton, September 2, 58 short lobsters. . . Not convicted.	
	License revoked.
Wakefield, September 4, hauling other pots, 3 charges. . . .	\$30 00

UNDER THE GENERAL FISHERIES LAWS.

Hope Valley, April 10, pickerel, close season.....	\$20 00
Arctic, July 14, fishing on posted land.....	2 00
Arctic, July 14, fishing on posted land.....	2 00
Arctic, July 14, fishing on posted land.....	2 00
Providence, August 22, 1 short bass.....	On probation.
Newport, September 16, 1 short bass.....	15 00
Newport, September 16, 1 short bass.....	15 00
Newport, September 16, 1 short bass.....	15 00
Newport, September 16, 1 short bass.....	15 00
Newport, September 16, 1 short bass.....	15 00
Newport, September 21, 1 short bass.....	15 00
Newport, September 21, 1 short bass.....	15 00
Newport, September 21, 1 short bass.....	15 00
Watch Hill, October 18, non-citizen trawling.....	50 00
Tiverton, short bass, case not tried as defendant left the State.	
<hr/>	
Total amount of fines.....	\$736 00
Total of licenses revoked.....	6

TRAWLING.

It devolved upon your Commission to proceed in the enforcement of the law passed at the last session of your Honorable Body against otter or beam trawling by non-residents. This law reads as follows:—

“No person, except he be a citizen of this State, shall take any fish with any kind of beam or auto trawl or set any beam or auto trawl for the purpose of taking any fish therewith, from the public waters of this State, and no person shall take any fish by such means from the State waters adjacent to New Shoreham, and every person violating any provision of this section shall be fined fifty dollars for each offence, one-half to use of the complainant and the other half to use of the State, or be imprisoned not exceeding twenty days, or both, in the discretion of the court.”

The use of the word "citizen" made the enforcement of this law very difficult. During the month of September the attention of the Commission was called to the alleged violation of this law in waters adjacent to Watch Hill Point. Our deputies immediately investigated and made an arrest. The man trawling was fined \$50.00 and costs. This example did not restrict the non-resident trawling. On the contrary within a very short time the number of trawlers had increased. Upon investigation it was discovered that about one dozen residents of a Connecticut town had for a time severed their legal residence in their own town and had registered in the town of Westerly. Legal advice from the Attorney General induced the Commission to withhold any further activity in this line for the present. Your Commission is of the opinion that the word "citizen" in this law will always make trouble of this character.

CO-OPERATION WITH FISHERIES AUTHORITIES.

At the meeting of the American Fisheries Society, presided over by a member of your Commission important action was taken along various lines looking toward greater efficiency in State fishery boards. Two members of the Rhode Island Commission were elected to important positions—treasurer and member of an important committee. The subject of the introduction of the Pacific salmon and Pacific shad into Eastern waters was given considerable attention. Large consignments of these fish and also the large sea crab of the Pacific coast will probably be introduced into New England waters in the coming year. Your Commission hopes to have a portion of these for introduction into such waters as are deemed suitable.

Four members of your Commission and the Superintendent of the Hatchery represented this State at Woods Hole, Massachusetts, on July 12th, at a conference called by the Secretary of Commerce and Labor. Delegates were present from Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York and New

Jersey, appointed by the Governors of the various states, and included representative fishermen, dealers, scientists, State and national officials. The following resolutions were adopted:—

“WHEREAS, this convention fully recognizes the fact that the pioneer efforts of the United States Bureau of Fisheries in restraining the short-sighted practices of fishermen and others in destroying the eggs of the lobster have been well devised, economically administered and beyond question have resulted in vast benefits not alone to the fishermen themselves, but also to the consuming public; and

WHEREAS, the unwise methods of exploiting the lobster fishery, which have resulted from the constantly increasing public demand for the lobster as food, has led to such an unmistakable and alarming decrease in the sources of supply, which must shortly menace the best interests of fishermen, dealers and the public of the entire United States and of the Canadian Provinces; and

WHEREAS, we are of the opinion that the Bureau of Fisheries is, by training and experience, amply competent to deal with this great problem if supported by Congress and the people, therefore, be it

Resolved, That we hereby express our unqualified confidence in the Bureau of Fisheries and urge the public necessity of checking the enormous economic waste now existing, particularly in the destruction of lobster eggs and of lobsters below and above the optimum market size, the avoidable loss both in capture and in transportation, the unfair practices in interstate shipments, and the insanitary methods of marketing lobster meat; and be it further

Resolved, That the delegates to this convention pledge support in securing from Congress the federal legislation and appropriations essential for adequately extending the work to the required activities relating to consideration and adoption of improved practices necessary for

- A. A greater annual natural production of lobster eggs; and
- B. The rearing of a greater number of young from the eggs naturally produced.

We are of the opinion that a union of public effort is necessary for securing progress in increasing the annual production of lobsters through extending the efforts for:—

1. Salvage of eggs.
2. Rearing the young for such a period and by such methods as may best minimize the natural destruction during the swimming period.
3. Protection of the adults, male and female, above and below the optimum market size (the so-called “double gauge”);

4. Measurements made on the carapace, thus minimizing the personal equation in legal measurements.

5. Licensing all lobster fishermen and dealers for the purpose of securing facile enforcement of laws.

6. State regulation of methods of capture and possession, and federal regulation relative to interstate shipment.

7. Setting aside suitable places for breeding purposes, upon which fishing is regulated.

And be it further

Resolved, That a copy of this resolution be sent to the Honorable the Secretary of Commerce, and to the Honorable Commissioner of Fisheries at Washington, and to their Excellencies the Governors of all the States of the Union, with the request that this be given consideration at the Conference of Governors soon to be held at Boston, Mass."

Your Commission desires in this connection to acknowledge the many courtesies extended to the president and members of your Commission by the United States Bureau of Fisheries.

BIOLOGICAL RECORDS.

Physical and biological records of various kinds have been continued at the Wickford Hatchery and Experiment Station.

AN EXHIBIT AT KINGSTON FAIR.

An exhibit of marine and fresh water fishes was given as usual at the Washington County Fair at Kingston. Over two hundred fish, including twenty-six different species were kept alive in the glass aquarium tanks during the days of the fair and were viewed by the usual crowds.

PROPAGATION OF LOBSTERS AT WICKFORD.

Your Commission has continued its propagation of the lobster at the Wickford Hatchery and Experiment Station along the same

lines as in former years with the usual amount of success. The rearing season opened on May 20th with a good lot of ripe egg lobsters and for a short time the cars filled up rapidly. However the season as quickly slacked off in the latter part of July. Operations however were continued through the first part of August, although the amount of lobsters on hand was small. The sudden closing of the latter part of the season put a damper on our hopes of rearing a million young lobsters to the bottom stage, although we equalled our last year's output.

No changes of marked importance were made this past year. A few improvements in mechanical details have still further insured a continuance of power and considerably lessened the chances of a serious breakdown. Chief among these was an improvement along original lines in the central gear boxes on each raft which will greatly lessen the amount of care and lengthen the life of this important part of the gearing. Another troublesome factor was eliminated by the use of an angle-iron at the top of each corner post of the rearing cars to hold them up. This will prevent strong tides from "cutting them under," especially when the cars are heavy at the end of the season. Another unit of four rearing cars was added at the stern of the house-boat. This makes a total of fifty-two (52) cars and will doubtless be the limit in number of cars which can be safely run with our present equipment (3 H. P. engine.)

TABLE XI.

Total Number of Fourth and Fifth Stage Lobsters Reared Each Year Since 1900.

YEAR.	Fourth Stage.	Fifth Stage.
1900.....	3,425.....	
1901.....	8,974.....	
1902.....	27,300.....	
1903.....	13,500.....	
1904.....	50,597.....	
1905.....	103,572.....	
1906.....	189,384.....	24,800
1907.....	294,896.....	4,900
1908.....	322,672.....	5,481
1909.....	178,542.....	
1910.....	511,274.....	28,372
1911.....	*299,042.....	
1912.....	*521,861.....	
1913.....	*469,344.....	
1914.....	*682,348.....	
1915.....	*683,840.....	

*The entire number liberated were in the latter part of the fourth or fifth stage.

**TITLES OF SPECIAL PAPERS PUBLISHED IN THE ANNUAL REPORTS
OF THE COMMISSIONERS OF INLAND FISHERIES
OF THE STATE OF RHODE ISLAND.**

- 1 MEAD, A. D. The Starfish. (First paper.) Twenty-eighth Annual Report. 1898.
- 2 MEAD, A. D. The Starfish. (Second paper.) Twenty-ninth Annual Report. 1899.
- 3 TOWER, R. W. Improvements in the Methods of Preparation of Fish for Shipment. Twenty-ninth Annual Report. 1899.
- 4 BUMPUS, H. C. The Extension of the Commercial Fisheries of the State. Twenty-ninth Annual Report. 1899.
- 5 KELLOG, J. L. The Life History of the Common Clam. Twenty-ninth Annual Report. 1899.
- 6 MASON, N. R. A List of the Diatoms Found in the Water over the Clam, Mussel, and Oyster Beds in Narragansett Bay. Thirtieth Annual Report. 1900.
- 7 MEAD, A. D. Observations on the Soft-shell Clam. Thirtieth Annual Report. 1900.
- 8 MEAD, A. D. Observations on the Soft-shell Clam. (Second paper.) Thirty-first Annual Report. 1901.
- 9 RISSER, J. R. Habits and Life History of the Scallop. Thirty-first Annual Report. 1901.
- 10 MEAD, A. D. Habits and Growth of Young Lobsters and Experiments in Lobster Culture. Thirty-first Annual Report. 1901.
- 11 MEAD, A. D. Observations on the Soft-shell Clam. (Third paper.) Thirty-second Annual Report. 1902.
- 12 MEAD, A. D. Habits and Growth of Young Lobsters and Experiments in Lobster Culture. (Second paper.) Thirty-second Annual Report. 1902.
- 13 MEAD, A. D. and WILLIAMS, L. W. Habits and Growth of the Lobster and Experiments in Lobster Culture. (Third paper.) Thirty-third Annual Report. 1903.
- 14 MEAD, A. D. and BARNES, E. W. Observations on the Soft-shell Clam. (Fourth paper.) Thirty-third Annual Report. 1903.
- 15 MEAD, A. D. and BARNES, E. W. Observations on the Soft-shell Clam. (Fifth paper.) Thirty-fourth Annual Report. 1904.
- 16 BARNES, E. W. Preliminary Inquiry into the Natural History of the Paddler Crab (*Callinectes hastatus*) with Remarks on the Soft-shell Crab Industry of Rhode Island. Thirty-fourth Annual Report. 1904.
- 17 MEAD, A. D. Experiments in Lobster Culture. (Fourth paper.) Thirty-fourth Annual Report. 1904.
- 18 MEAD, A. D. Experiments in Lobster Culture. (Fifth paper.) Thirty-fifth Annual Report. 1905.
- 19 HADLEY, P. B. Changes in Form and Color in Successive Stages of the American Lobster. Thirty-fifth Annual Report. 1905.
- 20 EMMEL, V. E. The Regeneration of Lost Parts in the Lobster. Thirty-fifth Annual Report. 1905.
- 21 TRACY, H. C. A List of the Fishes of Rhode Island. Plates I-XII. Thirty-sixth Annual Report. 1906.
- 22 TRACY, H. C. The Common Fishes of the Herring Family. Plates VII-XII. Thirty-sixth Annual Report. 1906.

23. BARNES, E. W. Methods of Protecting and Propagating the Lobster, with a Brief Outline of its Natural History. Plates XIII-XXVI and XXVIII, XXXI, XXXII, XXXVI. Thirty-sixth Annual Report. 1906.
24. HADLEY, P. B. Regarding the Rate of Growth of the American Lobster. Plates XXVI-XXXVII, and XL. Thirty-sixth Annual Report. 1906.
25. HADLEY, P. B. Observations on Some Influences of Light upon the Larval and Early Adolescent Stage of *Homarus Americanus*. Plates XXXVIII-XL. Thirty-sixth Annual Report. 1906.
27. EMMEL, V. E. The Relation of Regeneration to the Molting Process in the Lobster. Plates XL-XLI. Thirty-sixth Annual Report. 1906.
28. TRACY, H. C. The Fishes of Rhode Island, III. The Fishes of the Mackerel Family. Thirty-seventh Annual Report, 1907.
29. TRACY, H. C. A List of Rare Fishes taken in Rhode Island in the year 1906. Thirty-seventh Annual Report, 1907.
30. WILLIAMS, DR. LEONARD W. List of the Rhode Island Copepoda, Phyllopoda, and Ostracoda, with new species of Copepoda. Thirty-seventh Annual Report. 1907.
31. EMMEL, V. E. Regenerated and Abnormal Appendages in the Lobster. Thirty-seventh Annual Report. 1907.
32. WILLIAMS, L. W. The Stomach of the Lobster and the Food of Larval Lobsters. Thirty-seventh Annual Report. 1907.
33. HADLEY, P. B. Regarding the Behavior of the Larval and Early Adolescent Stages of the American Lobster. Thirty-seventh Annual Report. 1907.
34. BARNES, E. W. Lobster Culture at Wickford, Rhode Island, in 1906. Thirty-seventh Annual Report. 1907.
35. BARNES, E. W. Lobster Culture at Wickford, Rhode Island, in 1907. Thirty-eighth Annual Report. 1908.
36. TRACY, H. C. The Fishes of Rhode Island, V. The Flatfishes. Thirty-eighth Annual Report. 1908.
37. TRACY, H. C. The Fishes of Rhode Island, VI. A Description of two young Specimens of Squeteague (*Cynoscion regalis*), with Notes on the Rate of their Growth. Thirty-eighth Annual Report. 1908.
38. EMMEL, V. E. The Problem of Feeding in Artificial Lobster Culture. Thirty-eighth Annual Report. 1908.
39. TRACY, H. C. The Fishes of Rhode Island, VII. The Life History of the Common Eel. Thirty-ninth Annual Report. 1909.
40. SULLIVAN, W. E. Notes on the Crabs Found in Narragansett Bay. Thirty-ninth Annual Report. 1909.
41. MEAD, A. D. A Method of Fish Culture and of Transporting Live Fishes. Thirty-ninth Annual Report. 1909. (Paper Presented Before the Fourth International Fishery Congress, Washington, 1908.)
42. MEAD, A. D. A Method of Lobster Culture. Thirty-ninth Annual Report. 1909. (Paper Presented Before the International Fishery Congress, Washington, 1909.)
43. TRACY, H. C. Annotated List of Fishes Known to Inhabit the Waters of Rhode Island. Fortieth Annual Report. 1910.
44. BARNES, E. W. Notes on the Spring and Summer Fishing in Deep Water off Newport During the Years 1905-1909. Fortieth Annual Report. 1910.
45. BARNES, E. W. The Plague of Sea Clams at Easton's Beach, Newport. Fortieth Annual Report. 1910.
46. HADLEY, P. B. Additional Notes Upon the Development of the Lobster. Fortieth Annual Report. 1910.
47. BARNES, E. W. Revised Edition of Methods of Protecting and Propagating the Lobster with a Brief Outline of its Natural History. Plates IV-XXIV. Forty-first Annual Report. 1911.

THE
LIBRARY
OF THE
MUSEUM
OF
COMPARATIVE ZOOLOGY
AND ANATOMY
HARVARD UNIVERSITY
CAMBRIDGE, MASS.

MBL/WHOI LIBRARY



WH 17UY Z

10168

