

# 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)

MAINE PUBLIC DOCUMENTS

July 1, 1934 - June 30, 1936

STATE OF MAINE

---

**Ninth Biennial Report**

---

**DEPARTMENT OF  
SEA and SHORE FISHERIES**



**1 9 3 6**



STATE OF MAINE

---

**BIENNIAL REPORT**  
**DEPARTMENT OF SEA AND SHORE FISHERIES**

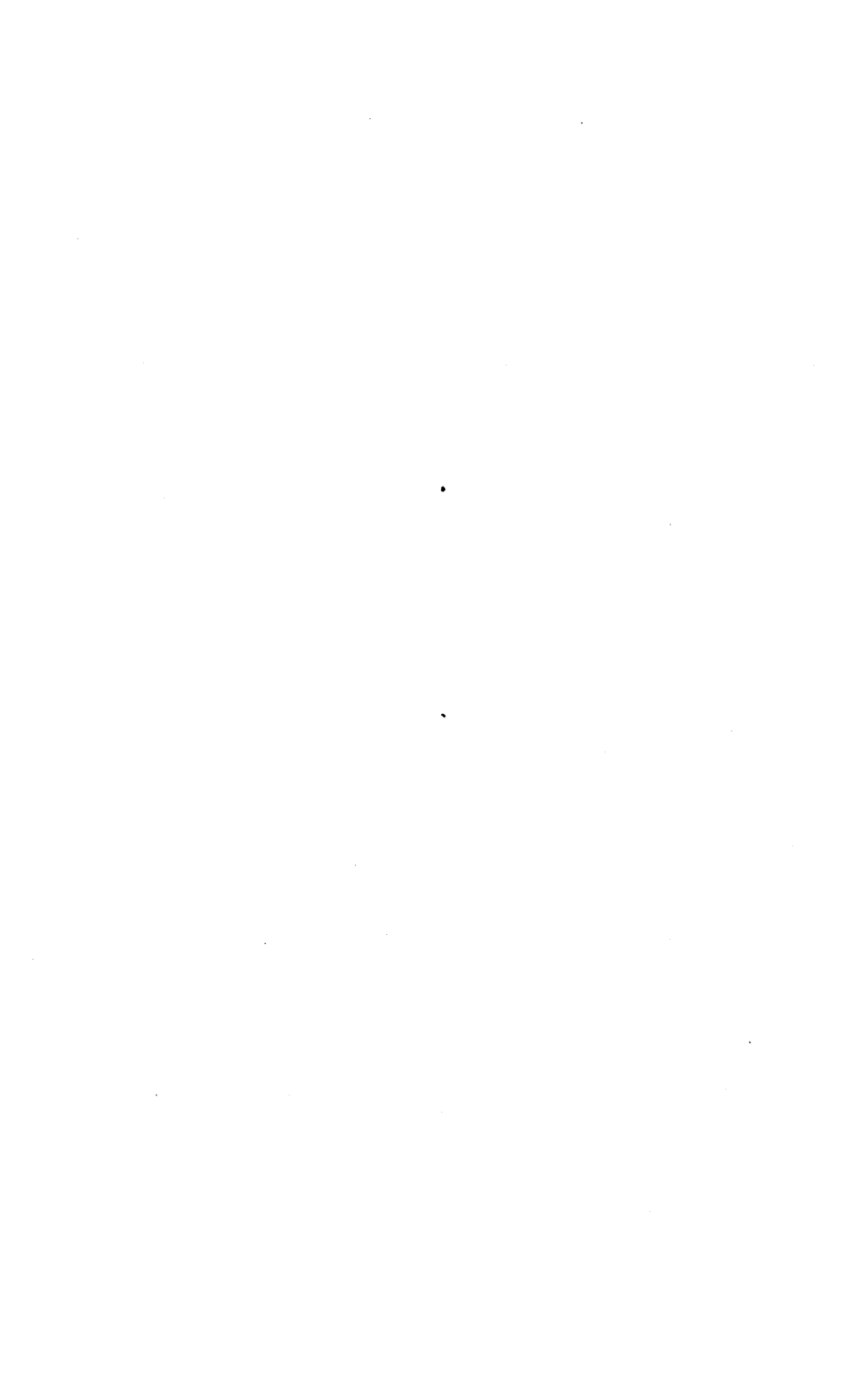
Thomaston, Maine

*To the Honorable Governor and the Executive Council:*

Sirs:

I have the honor to transmit herewith, in compliance with the law, the report of the Department of Sea and Shore Fisheries, for the two years ending June 30, 1936, together with recommendations for a program of rehabilitation of the fishing industry.

RODNEY E. FEYLER,  
*Commissioner*



## BRIEF HISTORY OF THE DEPARTMENT OF SEA AND SHORE FISHERIES

Prior to 1867 there was no official head to this Department but the Governor of the State appointed Wardens to enforce the laws. In 1867 by legislative resolve entitled "Resolve Relating to Restoration of Sea Fish through the Rivers and Inland Waters of Maine," was passed. You will note that the two departments, the Inland, and the Sea and Shore Fisheries were one and continued as such until 1895. Under the Resolve of 1867, Nathan W. Foster, of East Machias, and Charles G. Atkins of Orland, were appointed Commissioners.

Charles G. Atkins of Orland was appointed Commissioner and served until 1872 when E. M. Stilwell of Bangor and Henry O. Stanley of Dixfield were appointed. In 1879 E. M. Stilwell and Everett Smith of Portland were appointed Commissioners of Fisheries and Game. (Authority over Game was given this Commission on March 9th, 1880.

In 1881 Henry O. Stanley served alone for a time, until Mr. Stilwell's re-appointment.

In 1885 the law was amended so that in addition to the two persons appointed Commissioners of Fisheries and Game, the Governor should appoint one other Commissioner to have general supervision of the Sea and Shore Fisheries, and E. W. Counce of Thomaston was first appointed, and served with Messrs. Stanley and Stilwell, until 1891, when Edwin W. Gould of Searsport was appointed.

In 1893 Orrin B. Whitten of Portland was appointed to succeed Mr. Gould, and Thomas H. Whitten of Bradford and Henry O. Stanley served as Commissioners of Fisheries and Game.

In 1895 by legislative act, the departments were entirely separated and Mr. Whitten served as Commissioner of Sea and Shore Fisheries until Alonzo Nickerson of Boothbay Harbor was appointed on Feb. 23rd, 1898.

On Feb. 6th, 1907, Mr. Nickerson was succeeded by James Donahue of Rockland.

On March 5th, 1913, Henry D. S. Woodbury of South Portland succeeded Mr. Donahue.

On March 1st, 1916, William Brennan of Port Clyde succeeded Mr. Woodbury. Mr. Brennan resigned, and on December 29th, 1916, Oscar H. Dunbar of Jonesport was appointed.

The Legislature of 1917 abolished the office of Commissioner of Sea and Shore Fisheries and created in place thereof a Sea and Shore Fisheries Commission; the Commission to appoint a Director of Sea and Shore Fisheries with all the powers and duties of the former Commissioner. This law was held up for some time after July 7th, when it would have taken effect, because of an effort being made to invoke the referendum, but on Dec. 26, 1917, the Governor decided that sufficient number had not legally petitioned him to refer the law to the people, and on January 3rd, 1918, H. D. Crie of Castine, H. C. Wilbur of Portland and E. W. Gould of Rockland were appointed Commissioners with a salary of \$5 a day for what time actually employed. The Commissioners appointed Oscar H. Dunbar of Jonesport as director, at a salary of \$2000. Mr. Dunbar resigned and in April, 1918, Harry L. Sanborn of Vinalhaven was appointed to this position.

In 1920, H. D. Crie was appointed Director and served until 1931 when the Commission was abolished. Mr. Crie was then appointed Commissioner with "power, with the approval of the governor and council, to organize the work of the Department in such manner as he may deem necessary for its efficient and economical administration."

In 1934, Rodney E. Feyler of Thomaston was appointed Commissioner to serve for 3 years under the same set-up as was created in 1931.

The Department maintains a force of 27 wardens, general offices at Thomaston in a block on the Main street purchased by the State in 1933, a machine shop and wharf on Tillson avenue, Rockland, two patrol boats and a machinist. The offices were moved from the State House to Rockland in 1918.

The Commissioner directs the activity of the Department which functions for the enforcement of all laws regarding the fisheries, the general welfare of the industry and its maintenance on a favorable plane of prosperity.

The Department has advanced with increased progress in the fishing industry and is now considered one of the most important organizations in the State Government.



## THE MAINE FISHING INDUSTRY WHAT IT REPRESENTS

It is estimated that 50,000 persons are dependent upon the fishing industry for a livelihood. This represents the fishermen and their families, the dealers and their employees, the peddlers, marketmen and factory workers.

---

This is now a \$20,000,000 industry and with the right amount of effort may be twice as valuable. It ranks second to agriculture in importance in that it furnishes food and keeps many small communities alive and prosperous.

---

In 1934, more than 98,000,000 lbs. of fish and shellfish were landed by Maine fishermen. This catch was valued at several millions of dollars. The sardine pack in 1935 was valued at over \$6,000,000 and was larger in 1936.

---

The production of packaged and frozen fish in 1935 was valued at over \$330,000. Our lobster business was valued at well over \$1,000,000. The investment in plants and boats is set at several millions.

---

Along our coast we have many long established communities that came into existence through fishing. These communities like our rural towns are the backbone of our thrift and solidarity and should not be allowed to disintegrate.

---

We have thousands of able bodied, law abiding citizens who have made fishing their life work and have learned no other occupations. They depend upon the sea for a living and should be given every encouragement.

---

If the fishing industry is allowed to decline, the State will find itself faced with a serious situation. These 50,000 people must live. If they move to the industrial centers the situation would of course become acute.

---

We have dozens of abandoned fish plants of all kinds that could be put into operation at little cost. We have hundreds of unemployed, experienced workers. If these plants were operating the entire State will feel a boom in business.

---

In our fishery we have a great natural heritage. There is no reason why it can't be preserved for all time. The time has come to act and the Department of Sea and Shore Fisheries will act if given greater financial support.

**APPROXIMATE AMOUNT EXPENDED****July 1, 1934 to July 1, 1935**

|                                  |          |
|----------------------------------|----------|
| Salaries and Clerk Hire.....     | \$5,956  |
| General Office Expenses.....     | 5,264    |
| Pay and Expenses of Wardens..... | 44,793   |
| Propagation of Shell Fish.....   | 3,620    |
|                                  | <hr/>    |
|                                  | \$59,633 |

**July 1, 1935 to July 1, 1936**

|                                  |          |
|----------------------------------|----------|
| Salaries and Clerk Hire.....     | \$5,529  |
| General Office Expenses.....     | 3,375    |
| Pay and Expenses of Wardens..... | 49,007   |
| Propagation of Shell Fish.....   | 13,488   |
|                                  | <hr/>    |
|                                  | \$71,399 |

**APPROPRIATIONS REQUESTED FOR NEXT TWO YEARS**

|                                  | July 1, 1937<br>to<br>July 1, 1938 | July 1, 1938<br>to<br>July 1, 1939 |
|----------------------------------|------------------------------------|------------------------------------|
| Salaries and Clerk Hire.....     | \$7,000                            | \$7,000                            |
| General Office Expenses.....     | 7,500                              | 7,500                              |
| Pay and Expenses of Wardens..... | 69,110                             | 69,110                             |
| Propagation of Shell Fish.....   | 34,000                             | 34,000                             |
|                                  | <hr/>                              | <hr/>                              |
|                                  | \$117,610                          | \$117,610                          |

**PREVIOUS APPROPRIATIONS**

|                                  | July 1, 1934<br>to<br>July 1, 1935 | July 1, 1935<br>to<br>July 1, 1936 |
|----------------------------------|------------------------------------|------------------------------------|
| Salaries and Clerk Hire.....     | \$6,700                            | \$6,000                            |
| General Office Expenses.....     | 4,050                              | 6,000                              |
| Pay and Expenses of Wardens..... | 45,000                             | 51,000                             |
| Propagation of Shell Fish.....   | 2,250                              | 7,000                              |
|                                  | <hr/>                              | <hr/>                              |
|                                  | \$58,000                           | \$70,000                           |

**Expended for Seed Scallops, Seed Lobsters and Seed Clams**

|                                   |          |
|-----------------------------------|----------|
| July 1, 1934 to July 1, 1935..... | \$1,410  |
| July 1, 1935 to July 1, 1936..... | \$13,488 |

### FUNDS DEPOSITED IN STATE TREASURY FROM FINES, LICENSES, ETC.

|                          | July 1, 1934<br>to<br>July 1, 1935 | July 1, 1935<br>to<br>July 1, 1936 |
|--------------------------|------------------------------------|------------------------------------|
| Fines.....               | \$215.00                           | \$1,613.30                         |
| Licenses.....            | 4,563.00                           | 4,849.00                           |
| Rent of Apartments.....  | 400.00                             | 480.00                             |
| Rebate on Gasoline.....  |                                    | 5.79                               |
| Sale of Commodities..... |                                    | 477.38                             |
|                          | <hr/>                              | <hr/>                              |
|                          | \$5,178.00                         | \$7,425.47                         |

### DIFFERENT KINDS OF LICENSES ISSUED

|                                     | July 1, 1934<br>to<br>July 1, 1935 | July 1, 1935<br>to<br>July 1, 1936 |
|-------------------------------------|------------------------------------|------------------------------------|
| <b>Lobster Licenses</b>             |                                    |                                    |
| Fishermen.....                      | 2925                               | 3102                               |
| Dealers.....                        | 146                                | 147                                |
| Merchants.....                      | 317                                | 315                                |
| Hotels and Restaurants.....         | 505                                | 760                                |
| Domestic Smacks and Trucks.....     | 65                                 | 70                                 |
| Foreign Smacks and Trucks.....      | 40                                 | 32                                 |
| Lobster Meat Permits.....           | 14                                 | 20                                 |
| Permits to set Traps on Trawls..... | 74                                 | 80                                 |
|                                     | <hr/>                              | <hr/>                              |
|                                     | 4086                               | 4526                               |
| <b>Clam Licenses</b>                |                                    |                                    |
| Clam Shippers.....                  | 47                                 | 15                                 |
| Clam and Quahaug Cultivation.....   | 3                                  | 2                                  |
|                                     | <hr/>                              | <hr/>                              |
|                                     | 50                                 | 17                                 |

## A BRIEF REPORT ON THE ACTIVITIES OF THE DEPARTMENT DURING 1935-1936

Immediately after I was appointed Commissioner by Governor Brann in January, 1935, I made a thorough study of all phases of the fishing industry and quickly saw the need for drastic measures to check a serious decline. This study coupled with lifelong experience in the fish business enabled me to draw up a program which I believe would be of untold value if funds could be provided to put it into effect. An outline of the situation and recommendations for improvement will be found elsewhere in this report.

Lack of funds has prevented the Department from adopting aggressive remedies but we have through curtailing all unnecessary expenses been able to lay the foundation for greater service and in a small way demonstrate to the people of Maine the importance of the industry and the importance of taking greater advantages of its possibilities.

With an increased appropriation I feel that amplification of our efforts will be of tremendous value.

### General Activity

The general offices at Thomaston, with an expert staff, have functioned smoothly and efficiently. There is a multitude of detail and hard work in handling the lobster licenses, warden reports, complaints, violations, correspondence, accounts and other activities. I am more than pleased with the way this has been done and feel that the public has been given good service.

The warden staff has taken care of its duties, in most cases, with commendable efficiency. I believe that the laws have been impartially and efficiently enforced and that these men have at all times worked for the best interests of the industry.

The fishermen, dealers and others have been most kind and courteous and have coöperated with the Department in its work. I wish to take this occasion to thank all who have helped make my first two years as Commissioner a pleasant and satisfying work.

### Groundfish

A Commission on the Revision of the Laws Relating to the Protection and Taking of Groundfish was appointed two years ago. This group, made up of representative business leaders and fishermen, has studied the groundfish situation and will recommend necessary legis-

lation to improve this phase of the industry. The Department has made a careful study of the various species and kept in close touch with all new developments in harvesting and merchandising.

### **Scallops**

The formerly great beds along our coast are practically exhausted. With corrective measures in mind we contracted with several of the Georges Bank fleet to bring seed scallops to Maine waters and release them on good breeding but poor dragging bottom. The seed was kept alive by constant streams of water and in good condition when released. Most of this work was done in 1935 and results should be noticed by next winter.

In order to thoroughly study the activity of released scallops we placed a small quantity on an area near Cushing where they can be watched. We have obtained much information on the habits of the released scallops in this manner and from this survey will come a method of future work along these lines.

### **Seed Lobsters**

During 1936 we purchased approximately 60,000 pounds of seed lobsters, from the fishermen through the dealers, at market prices. About \$15,000 from our regular appropriation was spent for this work and men in the industry are much pleased with this activity.

The lobsters were punched by our wardens and released where they were caught. In this manner we have protected a great number of seed bearing lobsters and allowed them freedom in hatching their young. Once a lobster is punched it becomes the property of the State and cannot be sold or kept. Punching eliminates the old practice of scraping the seeds from the female and selling the lobster.

The fishermen brought the seeders to the dealer. Our boat made frequent trips along the coast taking them from the dealers and releasing them. It is estimated that more than 300,000,000 seeds were given a chance to mature by this work. About ten thousand pounds were impounded at Beals Island and Pemaquid to be used in a rearing program at Boothbay Harbor in the spring.

We are convinced that the protection of seed lobsters is a necessary work.

### **Shrimp**

We joined with Federal agencies in an attempt to establish a shrimp fishery in the Gulf of Maine. Fishermen were encouraged to try this new field of endeavor and we have outlined a definite program

of activity to ascertain the commercial possibilities of shrimp and to have Maine take the lead in profiting from this fishery. Lack of funds made it impossible for us to make as an extensive survey as we wished.

### **Sport Fishing**

In the interest of this type of sport as an attraction for tourists we made an effort to stimulate interest and activity.

The Denny's River in Washington county was closed to weir and seine fishing and a first class salmon stream is now developing. A large number of these fish were taken out by sportsmen during the past season and members of the Denny's River Salmon Club are making many improvements with the hope of building their stream to be as big an attraction as the Bangor Pool.

Along the Penobscot River, Warden Lester Stubbs did everything possible to protect the salmon. He did a fine job and has received the thanks of all sport fishermen.

We are planning to stock several rivers with salmon fry soon and have studied this situation.

We issued pamphlets on tuna fishing, listing boats and known areas where they are found. We encouraged fishermen and party boat owners to equip for this sport which has great possibilities. We also have started interest in rod and reel fishing for mackerel and pollock and in general deep sea fishing parties.

We participated in the New York, Hartford, Springfield and Boston shows in conjunction with the Inland Fish and Game Department distributing literature and generally selling the idea of fishing off the coast of Maine to thousands of interested persons.

### **Trade Marking Lobsters**

We are attempting to arrive at some practical plan to trademark Maine lobsters in line with the Maine Development Commission's activity along these lines on other products. We are coöperating with the Commission and have interviewed the dealers and held several meetings to see what can be done. This plan is somewhat indefinite at present but we hope that something may be worked out. By trade marking it is believed that our lobsters will command a premium in the markets.

### **Clams**

We are firmly convinced of the need of work to conserve our clam supply. It is only through lack of funds that we have failed to do more. Our main effort has been made to study the conditions and

proven methods of improving them. In the summer of 1936 we planted several acres near Friendship and are watching results. Even now we see a noticeable improvement and expect this area to give a big yield in a year or so. Clam farming is not an experiment but a recognized worthwhile activity.

### **Kelp**

This is a phase of the industry that has possibilities. The Pacific Coast has a million dollar kelp industry and it is used extensively abroad. The principal use of kelp is to extract certain chemicals found only in this growth, for manufacturing purposes. Tests showed that kelp on the Maine coast contained a greater percentage of valuable substances and a Philadelphia chemical firm became interested. As a result this company has purchased an abandoned sardine plant at Rockland and will commence operations in the spring employing from 30 to 40 men to start.

Several other companies have been interested in the possibilities of Maine kelp and the time has arrived when measures for State control of the supply should be taken. Industry is becoming more and more interested in the chemical value of this marine growth.

### **Wardens**

We have put the warden force on a year around basis. Previously they got but several months work each year and with the fear of losing their job always prevalent their efficiency was impaired. We have also reached the conclusion that these men are worthy of a merit system with ample reward for long years of service.

### **Rearing Station Activity**

We are convinced of the seriousness of the lobster situation, especially the supply, and feel that a rearing station is the best method for attacking an ever growing menace. Something must be done, even more effort than that of protecting seed lobsters, to check the long and steady decline that has seen our catch go to less than 5,000,000 pounds a year.

Soon after I had taken office I advocated the construction of a rearing station with an extensive operating program. For two years we tried to take advantage of Federal spending to get a grant for this project. After a great deal of correspondence, conferences and pressure, many times when we felt that we had won out, the hopes

of a Federal grant was abandoned. It is believed by prominent men in the industry that a State owned and controlled station is more desirable, anyway, as it would be free from the whims and fancies of the Federal government.

Commissioner Bell and Deputy Commissioner Jackson of the U. S. Bureau of Fisheries who were most considerate and active in our behalf did make it possible for us to use the Federal hatchery at Boothbay Harbor for one year. We shall commence rearing operations there in the spring. More detailed information on the work planned and the functions of a rearing station can be found elsewhere in this report.

We believe that we are on the right track and that the dealers, fishermen and general public are convinced of the need of this project. Our efforts have been strenuous and at times discouraging but the pleasant thought of having achieved results is now our reward.

### **A Publicity Campaign**

After formulating a definite program for the rehabilitation of the industry I saw that the chances of obtaining results were small without a more general statewide understanding of the importance of the fishing industry. Until recently the Department of Sea and Shore Fisheries was practically unknown except in some of the coastal communities and any demands that this Department might make for support were to little avail.

In May I launched a publicity campaign to sell the fishing industry to the people of Maine and the results have been more than satisfactory. People now know that we have a fishing industry and that it occupies an important position in the economic life of the State. It is being discussed. It is being considered and best of all there is a definite trend towards its uplift.

We appealed to the newspapers and radio stations for support and received it to a most satisfying degree. Every activity of the Department was printed and given good headlines. It makes interesting reading as there is a romantic appeal in the lives of the fishermen, a touch of human interest seldom found in any other industry. Fishing journals and other organs fell into line and the Maine fishing industry became more and more prominently mentioned. Today you can hardly pick up a trade journal or newspaper that does not have some mention of our industry. This is catching. It becomes the object of conversation and soon there is renewed public interest in this great and declining natural resource. The results are bound to be worthwhile.



We obtained a moving picture camera and projector and took intensely interesting movies of various phases of the industry. These are being shown before civic clubs and other organizations. They tell a definite story and leave the audience with a better realization of the importance of our fishing business. To date this program has been given more than 100 times and is booked up for many more. The public has received this propaganda stunt with great acclaim.

Pamphlets have been mimeographed describing the various species, the methods of harvesting them and ways of preparing them for the table. These pamphlets have been in great demand and hardly a day goes by without several requests for copies in the mail. At the Springfield Exposition we gave away several thousands and the summer visitors took many more. We are putting these in the schools of the State in order to help educate the children about our fisheries and their importance.

We have carried out many more progressive activities in this Department and have seen a greatly stimulated interest in the industry and in the appreciation of our sea foods.

This publicity department is the nucleus for a more extensive exploitation. It has proven that its efforts are merited.

I feel that I am fortunate to have been able to obtain Dick Reed, well known Maine newspaperman for this work.

### **Commissioner**

My one desire has been to run this Department as I would my own business. Every decision I have made has been with the utmost regard for the good of the whole industry and no individual or individuals in particular. I have tried to make the Department a progressive, businesslike organization and submit this report on our activities for you to consider the merits of my efforts.

RODNEY E. FEYLER,

*Commissioner*

U. S. BUREAU OF FISHERIES STATISTICS  
ON MAINE FISHING INDUSTRY FROM 1880 TO 1934  
CATCH OF CERTAIN PRINCIPAL SPECIES

(Expressed in thousands of pounds; that is ,000 omitted)

| Year | Alewives | Cod    | Flounders | Haddock | Hake   |
|------|----------|--------|-----------|---------|--------|
| 1880 | —        | —      | —         | 17,729  | 24,448 |
| 1887 | 2,526    | 56,004 | 659       | 8,901   | 14,060 |
| 1888 | 2,836    | 45,020 | 829       | 8,659   | 14,948 |
| 1889 | 4,022    | 40,252 | 829       | 7,809   | 13,333 |
| 1892 | 2,276    | 20,556 | —         | 6,112   | —      |
| 1898 | 3,619    | 21,678 | 787       | 9,188   | 18,141 |
| 1905 | 3,082    | 12,261 | 97        | 8,785   | 15,309 |
| 1908 | 2,085    | 20,013 | 31        | 10,513  | 17,398 |
| 1919 | 1,296    | 15,062 | 470       | 11,271  | 16,118 |
| 1924 | 1,583    | 22,443 | 343       | 15,559  | 11,724 |
| 1928 | 2,132    | 16,187 | 1,175     | 12,204  | 7,681  |
| 1929 | 2,821    | 17,661 | 1,570     | 14,539  | 10,074 |
| 1931 | 2,129    | 13,483 | 1,949     | 12,508  | 11,685 |
| 1932 | 2,795    | 12,652 | 1,328     | 11,694  | 5,643  |
| 1933 | 2,296    | 12,105 | 866       | 9,798   | 6,171  |
| 1934 | 1,703    | 9,336  | 1,178     | 9,306   | 7,084  |

| Year | Halibut | Smelt | Swordfish | Herring | Mackerel |
|------|---------|-------|-----------|---------|----------|
| 1880 | —       | —     | —         | 34,695  | 31,694   |
| 1887 | 627     | 1,204 | 235       | 33,570  | 5,568    |
| 1889 | 551     | 1,005 | 635       | 32,156  | 1,176    |
| 1892 | 501     | 1,617 | —         | 40,814  | 5,072    |
| 1898 | 305     | 1,608 | 879       | 46,596  | 1,661    |
| 1905 | 118     | 589   | 780       | 65,926  | 917      |
| 1908 | 200     | 654   | 513       | 92,985  | 380      |
| 1919 | 219     | 524   | 425       | 86,979  | 604      |
| 1924 | 142     | 627   | 863       | 64,685  | 2,311    |
| 1928 | 191     | 832   | 693       | 91,860  | 1,596    |
| 1929 | 239     | 852   | 1,025     | 32,456  | 3,995    |
| 1931 | 103     | 720   | 572       | 55,784  | 3,042    |
| 1932 | 93      | 567   | 342       | 31,988  | 5,421    |
| 1933 | 70      | 270   | 579       | 43,744  | 7,661    |
| 1934 | 50      | 529   | 323       | 42,899  | 4,499    |

SUMMARY OF U. S. BUREAU OF FISHERIES  
STATISTICS LANDINGS FOR MAINE AND MASSACHUSETTS  
FROM 1887 TO 1934  
ALSO TOTAL FOR NEW ENGLAND STATES  
FOR SAME PERIOD

(These totals are for all species of fish and shellfish)

| Year | Maine       |             | Massachusetts |              | New England |
|------|-------------|-------------|---------------|--------------|-------------|
|      | Quantity    | Value       | Quantity      | Value        | (Pounds)    |
| 1887 | 131,380,000 | \$2,365,000 | 299,544,000   | \$6,464,000  | 520,214,000 |
| 1889 | 129,560,000 | \$2,111,000 | 299,218,000   | \$5,858,000  | 653,170,000 |
| 1898 | 123,405,000 | \$2,655,000 | 202,258,000   | \$4,464,000  | 394,450,000 |
| 1902 | 242,390,000 | \$2,919,000 | 230,646,000   | \$6,482,000  | 534,075,000 |
| 1908 | 173,843,000 | \$3,257,000 | 244,313,000   | \$7,095,000  | 530,029,000 |
| 1919 | 147,956,000 | \$3,889,000 | 246,951,000   | \$10,860,000 | 467,340,000 |
| 1924 | 116,707,000 | \$4,137,000 | 243,363,000   | \$10,799,000 | 406,822,000 |
| 1928 | 123,326,000 | \$4,231,000 | 380,169,000   | \$15,649,000 | 603,598,000 |
| 1929 | 162,940,000 | \$4,897,000 | 447,689,000   | \$18,053,000 | 694,286,000 |
| 1931 | 116,235,000 | \$3,433,000 | 355,833,000   | \$12,951,000 | 540,297,000 |
| 1932 | 90,601,868  | \$2,413,280 | 347,593,000   | \$8,928,000  | 480,520,000 |
| 1934 | 98,498,000  | \$2,307,000 | 373,670,000   | \$9,506,978  | 499,936,000 |

VALUE OF BY-PRODUCTS AND CANNED FISH PRODUCTS  
FOR THE FIVE LEADING STATES FOR THE YEAR 1935

| State                | Canned Products | By-Products  | Total        |
|----------------------|-----------------|--------------|--------------|
| California . . . . . | \$28,252,965    | \$10,543,900 | \$38,796,865 |
| MAINE . . . . .      | \$6,073,550     | \$289,384    | \$6,362,934  |
| Washington . . . . . | \$4,955,117     | \$2,378,468  | \$7,333,485  |
| Oregon . . . . .     | \$2,851,987     | \$461,110    | \$3,313,097  |
| Iowa . . . . .       |                 | \$3,029,461  | \$3,026,461  |

PRODUCTION OF FRESH AND FROZEN PACKAGED FISH  
FOR THREE SECTIONS YEAR 1935

|                  | Maine     | Massachusetts | New York and<br>New Jersey |
|------------------|-----------|---------------|----------------------------|
| Pounds . . . . . | 3,298,605 | 83,250,216    | 7,167,822                  |
| Value . . . . .  | \$331,391 | \$7,515,422   | \$1,845,258                |

## A Survey of the Serious Decline of the Maine Fishing Industry and Recommen- dations for its Improvement

We, herewith, present statistics on the Maine fishing industry, comparisons with Massachusetts, and undeniable proof of a serious decline in activity centered around this great natural resource. The figures are taken from the reports of the U. S. Bureau of Fisheries from 1880 to 1934. The 1935 and 1936 figures have not been released but will show but a slight upward trend despite great advances in other business circles. We still have a \$15,000,000 fishing industry upon which close to 50,000 persons are dependent for a livelihood, yet, potentialities much greater are being overlooked.

The most illuminating fact found in these figures is that despite fears of eventual destruction of our fishing grounds by uncontrolled waste and overfishing, Massachusetts has shown a steady gain while Maine suffers from a steady decline.

You will note that from its peak year of 242,390,000 pounds of fish and shellfish landed in 1902 the total fell to but 98,498,000 in 1934. From 1902 the decline has been fairly consistent. On the other hand Massachusetts had its peak year, 447,689,000 pounds in 1929 and this has not fallen off to any great extent in 1934. It is believed that the 1936 total for Massachusetts will be well over 400,000,000. Since 1887 Maine has decreased 33,000,000 pounds while Massachusetts has gained 85,000,000 pounds. You will also note that the total New England catch has remained fairly consistent while Maine goes down.

There are of course reasons for this situation. We have talked with most of the prominent dealers of both states and have been interested in their theories. The concensus of opinion is that Maine is slipping in prominence as a fish producing state not so much from the lack of fish and fishermen, as the lack of intelligent and coöperative effort to keep up with the modernization of industry and merchandising.

Maine's fishing industry began to decline with the passing of the salt fish business. Not so many years ago practically every town along the coast had its fish plant or plants and found them important figures in community prosperity. Some phases of the industry has remained fairly stable but generally speaking it is away below its

level of importance of years ago. Of course an ever growing scarcity of fish in coastal and nearby waters has been a contributing factor to the present situation, but Massachusetts has been up against the same problem and has faced it with intensive activity that has brought results.

When the huge salt fish market disappeared many of the Maine dealers and fishermen deprived of their principal source of income failed to develop new products and seek new customers. They continued the best they could in the fresh fish business and, as the small boat catches began to grow smaller, they were forced out of business or looked for more profitable fields of endeavor. This does not apply so much to the lobster business, as the decline in this phase of the industry is based entirely upon a fast disappearing supply.

Confronted with a similar situation the Massachusetts dealers and fishermen were determined to stay in the fish business and went out to find ways to do so. Receiving the full coöperation of the state government and the citizens they developed new ways of harvesting, handling, and merchandising fish products. When the fish gave out near port they built bigger and better boats to go longer distances after them. When a certain product lost favor in the market they developed a better one to take its place. When other foods threatened to push fish out of the picture they found ways to overcome this threat by high pressure merchandising. These are the reasons why, that despite a diminishing supply, the State of Massachusetts is selling more fish and catching more fish than it did in the old salt fish boom days. There are a few live dealers in Maine who have weathered the changes and combatted progressive competition with progressive methods, but there has not been enough of them to make up for the loss of the hundreds of smaller dealers who failed to make the grade.

In 1935 Maine produced 3,298,605 pounds of frozen and packaged fish valued at \$331,391 as compared with the Massachusetts total of 83,250,216 pounds valued at \$7,515,422. About 4% of the Maine catch was handled in this manner while our neighboring state used 25%.

This comparison alone serves to show that we are not alert to the more modern methods of merchandising fish products. Today there is great competition in the food market. A fish is no longer just a fish or a potato just a potato. It has become a matter of skillful selling; attractive packages, new ways of preparing products, new methods of distribution and transportation and the adoption of scientific methods for freshness and sanitation. Behind this is packed the dynamite of advertising and promotion. The fishing industry

as a whole has tackled this problem. It has applied all these things to the sale of fish products. As a result satisfactory progress in this battle for favor with other foods has been made.

Never has the future of the fishing industry appeared so bright. From Coast to Coast, the fisheries are caught in a new tide of optimism that has expressed itself in a wave of vessel building, vessel modernization and replacement, plant construction and modernization and inspired merchandising. Maine must and can get on the bandwagon of this new business if the right measures are applied and applied intelligently.

### WHAT CAN MAINE DO FOR ITS FISHERIES?

We have tried to diagnose the ailment. The big problem is to prescribe a cure. We base our theories upon discussions with the leading fish men of Maine and Massachusetts and our own experience and study of the situation.

The Department of Sea and Shore Fisheries is now rapidly shaping into an efficient, modern and progressive organization. We have discarded many antiquated methods and hidebound theories that have prevailed for years. We believe that this Department should take the lead in advancing the welfare of the industry and serve as a clearing house for new ideas and activities. There have been oral solutions of the problems at hand for years but that is as far as it has gone. The idea that this is a moth eaten little Department maintained only to keep a few tax paying fishermen satisfied and to enforce the law has been harbored for years.

The Department of Sea and Shore Fisheries represents a great industry and a greater potential one. Law enforcement is a big item of activity and rightfully so but there are other functions necessary if Maine is to remain in the fish business. The problems of other North Atlantic states are similar to ours. They have gone ahead, and largely so, through the effort and coöperation of fisheries organizations such as this. We can do well by adopting their spirit of progress and function to assist the development of every phase of the industry, with action and not words.

The Department has asked for an increased appropriation. The increase, although large compared with our present allotment, is small considering the prize at stake. We have a definite plan of action which we will outline shortly and plead with the people of Maine, in view of the very evident serious situation, to grant this money to the Department and give us a chance to demonstrate that what is taking place in Massachusetts can also take place in Maine.

## A DEFINITE PROGRAM

A live wire Department active at all times in its various duties is necessary. We would not only seek to enforce and maintain the laws that were for the general good of the industry. We would launch a determined drive to bring the fishermen, the dealers, the peddlers and the marketmen into closer coöperative effort for the advancement of the industry. We would seek the support of the general public in passing necessary and practical legislation and spare no effort to assist the dealer in exploiting his product and the fishermen in bringing a better product to market. We would take steps to carry out urgent measures for conservation and propagation. A Department such as we hope to make this would at all times be in step with the pacemakers of modern industry and would be bound to bring to the dealers and fishermen practical and moral support that would give them more courage to carry on.

## THE WARDENS

We now have a staff of 27 wardens. For two years these men have been on year-round pay. This was possible through measures of economy that naturally did hamper other activities. Previously these men got in but a few months work each year. I believe this new treatment of these valuable men is a good move. It promotes greater efficiency and interest in the important work at hand. I recommend a merit system for these men, assurance of year-round work and the employment of at least two more wardens.

## EQUIPMENT

The Department maintains a machine shop in Rockland, general offices in Thomaston and two boats. The shop is efficiently equipped and the offices entirely adequate. The boats are a matter for immediate attention. They are used for patrol duty and seed lobster work. One is absolutely unsafe and not worth fixing up. The other is usable but inefficient. The motor is worn out and the upkeep great and entirely away from the principals of good business. We have two skilled boat builders on the warden staff and I recommend that the Department be allowed to build a new boat from specifications that will assure us of just what we need. The engine, lumber and fittings can be purchased for about \$7,000 and that would represent the total cost. This would give the state a new boat, economical and practical to operate. This last summer we had to hire a boat for several weeks to do our work.

## FISHERMEN

The fishermen, although many do not realize it, are hurting themselves when they bring inferior fish to the dealer. They must do their part to help the dealer create a greater demand for Maine fish products. Many use second-hand salt. This does not improve the appearance of the condition of the fish. They still make widespread use of the pitchfork in handling undressed fish. This practice tends to leave dark stains in the meat and the removal of these stains, a necessary operation, is an expensive proposition for the dealer. Some feel that they are saving money by inadequate icing. I recommend an educational campaign to bring to these men the latest methods of harvesting and caring for fish,—the grade of fish that must be available to find favor in the modern market.

## GROUND FISH

That most species of groundfish are growing scarcer in our bays, harbors and inlets is an established fact. Cod, haddock, hake, cusk, flounders, sole, redfish and catfish are the backbone of the great North Atlantic fishery. It is from these species that dealers can supply an ever expanding market with fillets, packaged, canned, glass packed and fresh seafoods. Until Maine dealers can attract the big offshore beam trawlers and draggers to Maine ports, or equip their own ships, the bulk of our supply must come from the inshore or small dragger, handliner, gill netter and trawler. This type of fishing now provides work for a large number of men and boats. If its is falling off, there must be a reason and an attempt should be made to remedy conditions.

We believe that closing certain inshore spawning grounds during the spawning season to all fishing would do much to bring our groundfish back. Another factor believed to be responsible for the decline in Maine fish landings is the many out of state draggers that fish in our inland waters at certain times of the year. A law to close the territorial waters of Maine to non-resident commercial fishermen during several months of the year, for conservation purposes should be studied. The otter trawl, a blessing to the industry because of its efficiency, is a necessary form of harvesting, but under the present form of operation causes the waste of hundreds of thousands of pounds of small, unmarketable fish. We believe that the adoption of a regulation allowing no boats to use a mesh of less than  $4\frac{3}{4}$  in otter trawling in Maine waters is worthy of consideration.



## SCALLOPS

Compared with the great harvests of twenty years ago, our in-shore scallop beds are yielding insignificant catches, yet they are providing work each winter for about 100 boats and several hundred men. Recommendations for measures to revive the beds could be made only after more intensive and exhaustive research and experimentation. Several boats sail each summer from Maine ports to Georges Bank after scallops and it is these craft that keep the supply adequate. The market for scallops is expanding to the four corners of the Nation. New York and New Bedford are now the principal scallop ports. It might be possible, with encouragement, to bring more of the dragger to Maine and it would be entirely possible to have more Maine draggers go to the banks. The scallop market offers an ever great field of activity. If the Department can find some way to improve the beds it intends to do so.

For the past two years seed scallops have been brought in from Georges Bank at the expense of the Department and released in Maine waters. The results will not be known until at least another year. We have also released a few Georges scallops on a likely bed near Cushing and are anxiously watching their progress. The influx of Canadian scallops is hurting the price for Maine fishermen this winter. A continuation of this practice will be of great harm to our fishery.

## CLAMS

We have hundreds of thousands of acres of clam flats. These great fields are especially suitable for clams and yet they are seriously depleted due to excessive digging without measures for conservation and propagation. Sections where clams were abundant are now practically barren. We have been forced to call upon the Canadian diggers for such large quantities that the Provincial Government is contemplating additional regulations to protect the supply. Canada is going to profit by our mistakes and protect its clam beds at all costs.

The marine farming of clams is a proven and practical operation. At a comparatively small cost per acre vast beds could be cultivated and planted to yield from \$450 to \$750 an acre each year. We have an opportunity to build up an industry that would rival the Aroostook county potato crop or the Washington county blueberry fields. Work would be given to hundreds of persons and the natural wealth of the state greatly increased.

The Department, this summer, planted several acres at Friendship and now sees signs of very favorable results. We definitely recommend a marine farming program and the income will amount to many times the expenditure. With an increased appropriation we would go in for a more advanced program of clam culture and show real results.

We also recommend the revival of the former law which prohibited shipping clams out of the state in May, June, July and August. This will protect the supply to some extent during the spawning season and gives the beds a temporary rest from excessive digging. This law was in effect until 1933 when it was changed on account of the period of depression. It should become effective again as soon as possible and be strictly enforced.

### OYSTERS AND QUAHAUGS

Oysters and quahaugs were plentiful in the rivers and bays of Maine at one time but now have practically disappeared. Our coastal waters are suitable for the raising of these species and there is no reason why they cannot again become abundant. The Department would like to conduct work in the propagation or marine farming of oysters and quahaugs. We believe that once beds were started they would, with sufficient care and protection, spread to large areas and bring back a once valuable phase of the industry. Oysters and quahaugs are prevalent in Canadian waters and great care is being taken for their protection. Our clams will go the way of our oysters and quahaugs unless protected.

### SHRIMP

Experimentation by the U. S. Bureau of Fisheries, the Fisherman's Relief Corporation and the Department during the past summer have demonstrated that there are many prolific shrimp beds in the Gulf of Maine. The shrimp taken are of marketable size and quality, and many fishermen have become interested in the development of this fishery. With funds to do so the Department would take the lead in the development of a shrimp industry. If this species can be commercially taken on a profitable basis, it certainly should not be overlooked. The state should encourage its fishermen to launch a wide-spread shrimping operation.

## SPORT FISHING

This is a phase of the industry that can stand plenty of exploitation. Our inland lakes and streams have long been famous for their abundance of fighting game fish. Sportsmen are developing equally exciting sport on our coastal waters. We have several salt water species that will rival the salmon or sailfish for action and thrills.

Our giant tunas are receiving worldwide fame. Each year more and more boats are rigged for this sport. The taking of pollock and mackerel by rod and reel is gaining in popularity. A deep sea fishing trip is always exciting because of the variety of species and the expectancy of what might be coming up next.

Maine has a great opportunity in promoting its salt water sport fishing as an attraction for tourists. The Department would like to see this activity properly publicized. We published pamphlets this year listing the boats available for hire and will go into this in greater detail next summer. We are encouraging the boat owners to go after this profitable party business and expect to see much greater activity in 1937.

## SHAD—SALMON—SMELTS

These migratory fish are growing scarcer each year. The shad catch in 1902 was 731,000 pounds and in 1935 it was much less than 100,000. This species is rapidly growing extinct. Our salmon are thinning out and are now obtainable only on a few streams. The smelts are growing scarcer because of improper enforcement of the law and the tendency of the public to catch them illegally.

We would like to see greater activity in the propagation of shad, salmon and smelts and greater effort to get the coöperation of mill owners in eliminating pollution from our rivers. We also would like to see several streams stocked with salmon and shad fry. Many students of fish culture are of the opinion that the rapid disappearance of shad has been caused by pollution of our rivers by the paper mills. Several states, especially Pennsylvania, have coöperated with the mill owners in successfully lessening the water pollution. The results have been most favorable.

## STATISTICS

The gathering of statistics on the entire industry should be carefully carried out each year. In this manner we can keep a check on the rise and decline of various species and act accordingly. The Department has been keeping figures on lobsters since 1930 and this

year we have started on other phases of the industry. Complete figures were not available when this report was written.

Lobster fishermen are required to send in the data on that industry as they get their licenses. A similar arrangement might be successfully carried out on other species. At the present time we are delegating this work to the warden force and believe that a successful and practical method can be worked out.

## EXPLOITATION

The exploitation of our industry and our fish products is an important item. Many dealers do this work for themselves but would welcome assistance from the Department. We recommend more activity along these lines such as cook books, menus, window displays, pamphlets, stickers and other proven merchandising stunts. We have assisted several big restaurants and hotels in getting up displays of Maine seafoods and the results have been exceedingly satisfactory. There are many ways that we can help put Maine fish over and we firmly believe in the value of greater Departmental activity in the promotion line.

## LOBSTERS

The lobster situation is taken up in more detail elsewhere in this report. That the matter of supply is reaching an alarming state is unquestioned. The two main activities necessary to bring the lobster business back into its own are, we believe, the continuation of the protection of seed lobsters and the immediate operation of a rearing station.

---

I present this survey for the consideration of the people of Maine. I believe that it sums up the situation in a reasonably plausible manner and that with an increased appropriation we can start the industry back on the way to greater things and greater prosperity.

RODNEY E. FEYLER  
*Commissioner*

OPERATING EXPENSES OF CATCHING LOBSTERS ALSO NUMBER OF POUNDS OF  
 LOBSTERS CAUGHT AND VALUE OF SAME AS TAKEN FROM LOBSTER FISHER-  
 MEN'S APPLICATIONS JULY 1, 1933 TO JULY 1, 1934

| County                   | Lobsters Caught |              | Gasoline  |              | Bait    |             | Traps   |              | Cars |            | Boats |              |
|--------------------------|-----------------|--------------|-----------|--------------|---------|-------------|---------|--------------|------|------------|-------|--------------|
|                          | No. Lbs.        | Value        | No. Gals. | Value        | No. Bu. | Value       | No.     | Value        | No.  | Value      | No.   | Value        |
| Cumberland . . . . .     | 715,507         | \$126,729.66 | 81,224    | \$14,803.36  | 31,029  | \$13,612.61 | 26,684  | \$51,724.00  | 460  | \$2,191.25 | 737   | \$83,827.00  |
| Hancock . . . . .        | 1,089,194       | 165,666.24   | 184,035   | 31,520.25    | 44,688  | 22,399.50   | 38,598  | 65,026.85    | 288  | 7,107.00   | 836   | 159,781.00   |
| Knox . . . . .           | 1,280,387       | 203,946.74   | 185,378   | 33,214.94    | 47,453  | 23,774.32   | 76,509  | 91,804.85    | 1389 | 5,013.00   | 1014  | 152,951.00   |
| Lincoln . . . . .        | 496,739         | 86,470.96    | 55,681    | 10,625.54    | 16,404  | 8,000.06    | 23,481  | 42,509.75    | 337  | 2,728.25   | 585   | 48,525.50    |
| Washington . . . . .     | 461,163         | 139,228.29   | 62,978    | 22,812.06    | 37,428  | 18,225.12   | 12,319  | 61,747.30    | 462  | 4,626.00   | 364   | 123,932.00   |
| York . . . . .           | 937,706         | 84,707.82    | 118,034   | 11,302.83    | 38,036  | 9,884.35    | 46,667  | 28,632.50    | 316  | 767.50     | 926   | 53,322.00    |
| Small Counties . . . . . | 396,582         | 80,206.10    | 14,743    | 2,990.45     | 4,243   | 2,061.72    | 5,183   | 9,936.05     | 130  | 714.67     | 235   | 17,386.00    |
| Totals . . . . .         | 5,377,278       | \$886,955.81 | 702,073   | \$127,269.43 | 219,281 | \$97,957.68 | 229,441 | \$351,381.30 | 3382 | 23,147.67  | 4697  | \$639,724.50 |

OPERATING EXPENSES OF CATCHING LOBSTERS ALSO NUMBER OF POUNDS OF  
LOBSTERS CAUGHT AND VALUE OF SAME AS TAKEN FROM LOBSTER  
FISHERMEN'S APPLICATIONS JULY 1, 1934 TO JULY 1, 1935

| County             | Lobsters Caught |              | Gasoline  |              | Bait    |              | Traps   |              | Cars |             | Boats |              |
|--------------------|-----------------|--------------|-----------|--------------|---------|--------------|---------|--------------|------|-------------|-------|--------------|
|                    | No. Lbs.        | Value        | No. Gals. | Value        | No. Bu. | Value        | No.     | Value        | No.  | Value       | No.   | Value        |
| Cumberland . . . . | 817,990         | \$161,924.44 | 108,279   | \$22,030.73  | 35,495  | \$17,261.85  | 28,833  | \$53,513.21  | 469  | \$1,929.44  | 787   | \$99,128.50  |
| Hancock . . . . .  | 1,016,042       | 180,165.69   | 99,939    | 31,497.00    | 43,974  | 23,479.32    | 45,644  | 73,078.75    | 242  | 3,143.50    | 951   | 163,422.75   |
| Knox . . . . .     | 1,353,106       | 184,729.55   | 168,726   | 35,754.50    | 54,649  | 28,165.92    | 50,448  | 87,072.08    | 410  | 3,756.75    | 1029  | 147,536.75   |
| Lincoln . . . . .  | 521,683         | 99,922.87    | 55,222    | 13,048.19    | 17,416  | 8,673.24     | 24,814  | 44,133.30    | 304  | 2,316.19    | 675   | 68,651.00    |
| Washington . . . . | 843,904         | 130,223.47   | 94,334    | 18,847.37    | 35,167  | 16,795.16    | 40,371  | 47,271.05    | 286  | 2,998.25    | 785   | 110,626.25   |
| York . . . . .     | 495,088         | 104,587.31   | 66,504    | 12,071.21    | 26,389  | 11,026.67    | 14,650  | 33,940.25    | 151  | 652.71      | 410   | 65,245.00    |
| Small Counties . . | 166,248         | 34,948.25    | 26,730    | 4,885.75     | 7,752   | 3,102.03     | 6,169   | 11,639.75    | 7407 | 3,014.48    | 285   | 21,900.00    |
| Totals . . . . .   | 5,214,061       | \$896,501.58 | 619,734   | \$138,134.75 | 220,840 | \$108,504.19 | 210,929 | \$350,648.39 | 9269 | \$17,811.32 | 4922  | \$676,510.25 |

## THE LOBSTER SITUATION

### Why a Rearing Station Project would be Beneficial

#### How the Plan Operates—Estimated Cost— Production—Equipment, etc.

Production figures for the past thirty years are sufficient evidence of a steady and serious decline in the lobster industry. A drop from the peak of 19,936,542 pounds in 1910 to 5,214,061 pounds in 1935 demonstrates that drastic steps must be taken if this famed Maine seafood is to remain on the market.

Figures from 1902 to 1935 are:

| <i>Catch in Lbs.</i>                   | <i>Value</i> | <i>Year</i> |
|--|--------------|-------------|
| 14,324,348                             | \$1,226,355  | 1902        |
| 13,365,098                             | \$1,219,870  | 1903        |
| 12,456,054                             | \$1,066,879  | 1904        |
| 13,567,284                             | \$1,394,568  | 1905        |
| 14,001,767                             | \$1,640,466  | 1906        |
| 17,397,342                             | \$1,888,468  | 1907        |
| 17,635,688                             | \$1,558,252  | 1908        |
| 16,954,270                             | \$1,786,837  | 1909        |
| 19,936,542                             | \$2,145,204  | 1910        |
| 16,189,244                             | \$2,052,288  | 1911        |
| 16,298,370                             | \$2,041,567  | 1912        |
| 8,116,776                              | \$1,616,905  | 1913        |
| 8,632,915                              | \$1,660,901  | 1914        |
| 11,535,800                             | \$2,349,000  | 1915        |
| 10,155,047                             | \$2,228,319  | 1916        |
| No figures available from 1916 to 1929 |              |             |
| 7,456,907                              | \$1,567,980  | 1929        |
| 6,890,980                              | \$1,670,910  | 1930        |
| 6,340,453                              | \$1,124,340  | 1931        |
| 6,008,978                              | \$1,005,670  | 1932        |
| 5,640,567                              | \$967,890    | 1933        |
| 5,337,278                              | \$886,955    | 1934        |
| 5,214,061                              | \$896,501    | 1935        |

These figures until 1929 are taken from the bi-annual reports and from then on from actual statistics provided by the fishermen when they make their license applications. From 1902 until 1916 the Department estimated production through the reports of the wardens who checked with the fishermen and dealers each week. The amounts should be at least 80% correct.

What is happening? Our lobster supply is diminishing through overfishing without sufficient measures for conservation and propagation. For a few years the State purchased seed lobsters, marked and released them. This was helpful but was stopped for lack of funds. We commenced this work again during the past summer but only after economy measures that hampered in many respects other functions of the Department.

Canada exports to the American market twice as many lobsters as we catch in Maine. For years we were known as the great lobster producing center of the nation. The excellence of our products was universally recognized and today, hundreds of thousands of pounds of inferior lobsters are sold in the metropolitan markets for the Maine product. Our lobsters are in demand everywhere. Our market is unlimited and an increased supply would bring greater prosperity to the entire state.

Now that we have allowed our supply to decline to its present state the problem of rehabilitation is a big one. It does not call for ordinary measures but a determined effort with a sizeable expenditure. It must be done. The protection of seed lobsters is not sufficient. A proven plan of artificial rearing is advisable and necessary. I shall ask the Legislature to supply the money needed for this work and feel sure that it will be forthcoming.

### **A Rearing Station**

Experts have been experimenting in the artificial rearing of lobsters and crawfish for years. Many different methods have been tried out, some successful and some failures. The U. S. Government has recently completed a crawfish hatchery at Key West. Several foreign countries are working on artificial propagation. Previously the Federal Hatchery at Boothbay Harbor did some work on lobsters. The method used has been discarded by modern students of shellfish culture.

The State of Connecticut, after a long study and experimentation, has incorporated the best ideas of the various operations and now has a successful project in operation with increased results and public interest each year. The men in the industry are solidly behind the activity and production figures are on the upswing. This coming year the Noank hatchery will reach an all time peak in lobster work.

Our plan is copied from that used in Connecticut with some improvements. We have kept in touch with the leading lobster and fish culturists and have received much good advice from them on the



latest developments. Ernest W. Barnes, chief biologist of the Massachusetts Department of Marine Fisheries has offered his services free of charge to help us get started and we are getting excellent coöperation from Connecticut and Federal officials. We believe that the program we have drawn up is the latest and most practical system of lobster culture.

### **How the Plan Will Operate**

The plant should be located with regards to transportation costs as the distribution of the fry is a big item. It should also be away from the influence of fresh water and pollution as much as possible.

A wooden building is sufficient. The equipment of a rearing plant will not be especially heavy but will require a reasonably large amount of space.

The seed lobsters would be purchased from the fishermen either through the dealers or direct. The seeders would be placed in wooden troughs partitioned off in sections, with one lobster to each section. Water with a regulated temperature would flow through the troughs, speeding the process of throwing the seeds and yet allowing the mother to function normally. Once thrown the seeds would flow with the water to a special compartment.

They would then be taken inside for the rearing operation and placed in especially built tanks. In a short time they would become active youngsters who required plenty of care. As lobsters are cannibalistic the feeding of the young is a vital problem. They must be given nourishment every hour or so and the feeding is a big item of expense. Beef liver is recognized as the best basic food. It is ground and mixed with other ingredients and fed in small quantities. There will be from 50 to 500 young in each tank.

After about 20 days of careful attention the seeds will have developed into fourth or fifth stage lobsters. They will be well formed and very active. Young lobsters when first hatched from the adult float on the surface of the water subject to the vagaries of wind and tide, a natural food for all predatory fishes and quickly destroyed by oil and other surface pollution. Under natural conditions lobsters reach the fourth, shedding or diving stage, in five or six weeks. By the plan we advocate, the young are protected until they reach the stage where, when placed in shallow water, they quickly go to the bottom where they find protection by hiding in crevices and weeds.

The fry would be distributed along the coast impartially on all known lobster beds. This work would keep on during the months of April, May, June and July, each year.

We would like to start with one central hatchery and as the results warranted establish several smaller hatcheries along the coast.

### Production and Cost

We estimate that it will cost about \$20,000 to build and equip a station. It could be successfully operated for about \$10,000 a year.

Mr. Frank N. Banning, chief of division of wild life protection and law enforcement of the State of Connecticut, has supplied us with figures on lobster work in that state.

The Noank hatchery cost about \$20,000 to build and equip. The cost for 1935 to rear and release 492,000 fourth stage lobsters were as follows:

|   |            |
|---|------------|
| Cost of Help . . . . .                  | \$1,650.33 |
| "    Liver . . . . .                    | 813.87     |
| "    Power . . . . .                    | 543.78     |
| "    Maintenance . . . . .              | 111.31     |
| "    Egg-bearing Lobsters . . . . .     | 836.28     |
| "    Maintenance Boat and Car . . . . . | 154.43     |
|   | <hr/>      |
| Total . . . . .                         | \$4,110.00 |

Of course our situation is much different than that of Connecticut as we have a much longer coastline and should rear many more young. We estimate that we can rear 10 times as many young for less than three times the cost. The planting of 5,000,000 fourth stage lobsters along the coast of Maine would be a tremendous help to the lobster supply in several years. Systematic continuance of this work with greater output and diminishing cost as the plan of activity improved and became more efficient would see Maine lobsters coming back into their own.

The hatchery would be utilized also for the propagation of shad, flatfish, groundfish and other species. It would also serve as a scientific laboratory for the Department to carry on study and experimentation on our fishery problems.

A pound, near the hatchery, in which to keep seed lobsters during the winter to be in readiness for rearing in the spring would be a valuable asset.

Many persons maintain an idea that our plan is for a rearing pool or pools in which the seeders would be placed and allowed to hatch their seeds naturally, letting them drift off to shift for themselves. We do not advocate this plan or believe it practical.

Lobster rearing is a proven process for the rehabilitation of over-fished beds. Maine should and must do something about its lobsters. I submit this plan as the logical move forward. The cost is not prohibitive. We can still maintain our present plan of buying and marking seed lobsters until we are fully convinced that the rearing station can take full care of the problem.

This great lobster industry, according to a survey made in 1924 brought six million dollars annually in the state, furnished a business for more than 4000 fishermen and dealers, fed and clothed 18,000 men, women and children and generally contributed to the prosperity of the state. Due to the decline the figures would run less now. However shouldn't the state be willing to spend at least \$20,000 to provide a way to save such a great natural asset? I believe that if the situation was more generally understood there would be no question of an increased appropriation for the Department of Sea and Shore Fisheries going through.

### THE WARDEN FORCE

The Department maintains a force of 27 wardens who patrol 2500 or more miles of coastline. These men, all of whom have had wide experience in the fishing industry, have been chosen with the utmost care and are expected to be loyal and conscientious in the fulfillment of their duties. I feel that I have an excellent group of men to represent the Department in the various localities and that they have the best interests of the industry at heart.

These men report by mail weekly and on many other occasions by person. It has been through their efforts that conditions are now the best in years. I try to make these men realize that they are the lifeblood of the Department and that its welfare depends a great deal upon their conduct. They are free to consult me on any problem and I endeavor to make my associations with them, one of sympathetic and considerate understanding.

The wardens are now on year around pay. When I entered office they were getting in only a few months work each year and admitted that the efficiency of the organization was greatly impaired. It is hard for these men to get along on their meager pay, as it is, without asking them to struggle along the best they can during the more quiet months. I believe that the work of the Department has been greatly improved by giving these men a fair deal.

Several of the wardens receive \$28 a week and the rest but \$21. Considering the hardships that they must go through in the performance of their duties during most of the year, I recommend the adop-

tion of a merit system, with pay increases based upon the years of duty. With this plan the men would have something more to work for than a bare livelihood and a general uplifting of conditions in the fishing industry would be the result.

Each warden is assigned to a section of the coast. Most of them have their own boats and are paid at the rate of \$1 per day for their use when in operation. These men are expected to carry out the functions of the Department in their respective territories.

They are instructed to be impartial and yet work in the closest coöperation with the fishermen. The warden of today is a friend of the fisherman and interested in his welfare. They are on duty to see that the work of the Department is carried out and the functions of the Department are expressly designed to promote and preserve the general welfare of the fishing industry and the men who are a part of it.

I wish to thank my staff for their kind coöperation and support during my two years of office.

### LAW VIOLATIONS

#### July 1st, 1934 to July 1st, 1935

|   |       |
|---|-------|
| Possession of illegal lobsters.....         | 41    |
| Digging clams illegally on reservation..... | 13    |
| Fishing without license.....                | 7     |
| Interfering with traps.....                 | 2     |
| Refusing to show license.....               | 2     |
| Buying and selling without license.....     | 2     |
| Hauling others' traps.....                  | 9     |
| Possession of illegal clams.....            | 1     |
| Illegally catching smelts.....              | 3     |
|   | <hr/> |
|   | 80    |

#### July 1st, 1935 to July 1st, 1936

|   |       |
|---|-------|
| Possession of illegal lobsters.....         | 12    |
| Digging clams illegally on reservation..... | 19    |
| Fishing without license.....                | 2     |
| Buying and selling without license.....     | 1     |
| Hauling others' traps.....                  | 1     |
| Illegally catching smelts.....              | 4     |
| Lobstering in closed waters.....            | 2     |
| Refusing warden's orders.....               | 3     |
|   | <hr/> |
|   | 44    |