



FISHERIES
GAME AND
FOREST
COMMISSION



First Annual Report

of the

Commissioners of Fisheries,

Game and Forests

of the

State of New York.

384350

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State of New York.

Commissioners of Fisheries, Game and Forests.

Barnet H. Davis, President,	Palmyra, N. Y.
Henry H. Lyman, Commissioner,	. . . . .	Oswego, N. Y.
William R. Weed,	“	Potsdam, N. Y.
Charles H. Babcock,	“	Rochester, N. Y.
Edward Thompson,	“	Northport, L. I., N. Y.
Franklin B. Mitchell, Secretary,	. . . . .	Albany, N. Y.

Standing Committees.

Forest Preserve and State Lands,	. . . . .	Messrs. Weed, Lyman and Davis.
Executive,	. . . . .	Messrs. Lyman, Babcock, Davis.
Hatcheries, Fish Culture and Game,	. . . . .	Messrs. Babcock, Thompson, Davis.
Shellfish, Licenses and Permits,	. . . . .	Messrs. Thompson, Lyman, Davis.
Legislation,	Messrs. Davis, Weed, Babcock.

State Fish Culturist.

A. Nelson Cheney,	Glens Falls, N. Y.
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Superintendent of Hatcheries.

James Annin, Jr.,	Caledonia, N. Y.
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Superintendent of Forests.

William F. Fox,	Albany, N. Y.
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Chief Game Protector and Forester.

J. W. Pond,	Malone, N. Y.
Wm. Wolf, Clerk to Chief, etc.,	Albany, N. Y.

Assistant Chief Game Protectors and Foresters.

John E. Leavitt,	. . . . .	Johnstown, N. Y.
Mannister C. Worts,	. . . . .	Oswego, N. Y.

A. J. Mulligan, Audit and Pay Clerk,	. . . . .	Albany, N. Y.
A. B. Strough, Special Agent,	. . . . .	“ “
M. C. Finley, Special Agent,	Palmyra, N. Y.
J. J. Fourquarean, Stenographer,	Albany, N. Y.

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THE PRINTING OF THIS ENTIRE BOOK, INCLUDING THE
COLORED AND GELATINE ILLUSTRATIONS, HALF-
TONES AND TEXT, WAS EXECUTED BY
WYNKOOP HALLENBECK CRAWFORD CO
ART PRINTING WORKS,
ALBANY AND NEW YORK.



IT is not customary to introduce the Report of a State Commission with a formal preface, but the character of the Fisheries, Game and Forests Commissioners' Report for the part of a year ending September 30, 1895, is so unusual in some respects that it appears to be justifiable in this instance to depart from custom, particularly as there are some explanations to be made concerning it that cannot well be made elsewhere.

It is the desire of the Commission that its first report shall be something more than commonplace; something more than a dry recital of work accomplished, such as is commonly supposed to be required by law, with prosaic facts and cold figures as to the numbers of fish propagated, game law offenders punished and forest fires extinguished; for, important and necessary as all these and kindred matters may be when tabulated and explained, they are not apparently of themselves sufficient to appreciably interest the general public in the work of the department, as the general public might become interested if the facts and figures were presented for inspection and approval with auxiliary matter, and all in an attractive dress.

While it is the object of the Commission in the following pages to interest and in a degree instruct the great mass of the people of the State in regard to the fisheries, game and forests by adding other than statistical information, it must not be understood that the value of statistics is in any way, even by implication, underestimated.

On the contrary, the United States Fish Commission says truly: "The dependence placed upon fishery statistics by those who are connected directly or indirectly with the industry is attested by the avidity with which statistical reports are received and by the frequent demands for such data on the Fish Commission by the general fishing public, State officers, economists and National legislators. In the consideration of all important international fishery questions in recent years, in the enactment of State and Federal laws affecting the fisheries, in gauging the effect of artificial propagation and the necessity for resorting thereto, statistics have played a very important part.

“Mention should be made of the very creditable statistical work being done by several of the States through Fish Commission Boards and industrial and statistical bureaus. Massachusetts, Connecticut, Maryland, and, doubtless, other States, have made valuable contributions to the literature of fishery statistics, and many of the Fish Commissions have from time to time presented original statistical information of importance in their annual reports.”

It will be observed that this State is not mentioned specifically as having contributed statistical information except through this Commission, for the reason that this State has no separate statistical bureau such as exists in other States, and very naturally a Fishery Commission, or a Forestry Commission, or both combined, is in a better position to gather accurate information in regard to its own work than any bureau organized for the purpose of gathering general statistics. This was exemplified in the case of the United States Census Bureau when it took up the matter of the Fisheries of the United States.

When the Commissioners came to determine the scope of this report, it seemed to be best that some of the fishes of the State should be figured, and as figures in black and white, however faithful, appear to lack something, figures of some of the fishes in colors were decided upon. The general color of a fish is not regarded as a sure guide to species, and scientists consider the structure of a fish as well as its color in determining species. The people generally regard color as of the first importance, and it would be worse than useless to attempt to portray any fish in colors, unless it were done with absolute fidelity in every detail. Mr. Sherman F. Denton, the artist of the United States Fish Commission, was engaged to make sixteen color drawings of fishes and game, and this he did so faithfully that they will serve to identify the originals of the drawings, for fin rays and scale formation are as faithfully represented as the external colors of the subjects.

These color-drawings have been reproduced so exactly, that no colored figures of fishes in existence exceed them for truthfulness or beauty of execution. They are absolutely faithful reproductions, which can be said of no other work of this kind. For perfectly fresh specimens of some of the fishes for the artist's use, the Commission is indebted to Mr. Walter C. Witherbee, of Port Henry, and Mr. W. W. Whipple, of Glens Falls. For the figures of the fishes and shellfish in black and white, thanks are due to the United States Fish Commission for the use of original and accurate drawings.

The swimming buck is reproduced through the courtesy of *Forest and Stream* Publishing Company, and some of the deer hounds and deer heads through the courtesy of Major Robert Lennox Banks and Mr. John L. Wendell, and the examples were carefully selected from a great number submitted. That Judge Greene's article, on the Chinese pheasant, might be properly illustrated, Mr. J. Roberts Mead, of

Portland, Ore., very kindly sent a perfect mounted specimen of the bird from which to make the colored drawing and plate.

The nomenclature of certain fishes is referred to in another portion of this report, but one inconsistency was not mentioned. The Game Law of the State provides a close season and other regulations for a fish under the name of Salmon Trout. We have no salmon trout in any waters of the State, and the fish should be called by its proper name, Lake Trout. The lake trout is wholly unlike the salmon, and why it should have been called salmon is beyond comprehension. There is a fish called salmon trout in Europe, and it is a migratory fish like the salmon. There is a fish in Canadian waters called salmon trout, and that, too, is migratory. The steel head trout on the Pacific Coast is called salmon trout, and that also is a migratory fish. Years ago Jordon declared that it was wrong to call our lake trout by the name of salmon trout, and a former Fisheries Commission of this State passed a resolution that the fish in question should be called by no other name than lake trout, but the statutes still adhere to the misnomer.

The landlocked salmon is another example of inapplicable names for our fishes. It is not landlocked and never was landlocked in its original habitat, whether that was Maine, Province of Quebec, Labrador, or Sweden. It has been established that the original common name of the fish (in the Indian tongue) was ouananiche, pronounced as though it were spelled whon-na-nishe, and that is what it should be called, whether it is found in the Dominion of Canada, Maine, New Hampshire or New York, reasoning from the standpoint of the scientist who calls a bass "trout-like," because it was the first name applied to the fish. If the first scientific name applied to a fish should hold, why not the first common name, particularly when it is appropriate, musical, distinctive, and a departure for once from such names as "tin mouth" and "red eye?" Reforms of this kind can be worked much more effectively through the fishery newspapers and the great body of fishermen, but a Fisheries Commission may put the seal of approval upon them.

Under Chapter 335 of the Laws of 1895, \$4,000 was appropriated to purchase additional land and water (spring) for the hatchery at Pleasant Valley, and the purchase was made on the 28th of September, 1895. On the land purchased are located some of the finest springs in the State. There is a large volume of constant flowing, pure, cold water running nearly full-head in the dryest season. The temperature of the water at surface of the storage pond is 44 degrees, in August, and 42 degrees beneath the surface.

It is expected that so much of the additional land as may be available will be utilized to construct rearing ponds to raise yearling fish. This hatchery, although the last to be built, promises to be one of the best in the State.

It is believed that by planting yearling and older trout of some species, rainbow and brown trout particularly, that they may be established or re-established in waters that are thought to have become unfitted for them because of the presence of predacious fish. This experiment will be thoroughly tried in some of the lakes in the State until it is successful or found to be impracticable.

There are laws providing close seasons for the different trout and regulating the size of trout and salmon that may be killed when caught with hook and line, but it is equally important that there should be a law regulating the number of trout to be taken. Other States have laws restricting the catch of an angler in one day to about ten pounds of brook trout and about twenty-five pounds of lake trout. Now that a beginning has been made in limiting the number of black bass to be taken in one day, it is to be hoped that trout may receive attention in this respect and some limit placed by law upon the number to be taken.

The construction of fishways in the streams of the State has been referred to elsewhere. That this is most important is recognized by all familiar with the fishing industry. A Canadian report uses this language: "The construction and maintaining of proper fishways is absolutely necessary, and this can be done so cheaply that there is no excuse for neglecting it when a dam is built." Owing to the indiscriminate manner in which predacious fish have been transplanted in the waters of the State, care must be exercised in the building of fishways, that the territory of the predacious fishes may not be extended to the injury of other fish; but there can be but one opinion in regard to the necessity for fishways in our streams to permit the free passage of anadromous and other fish to and from their natural spawning grounds, if the supply is to be kept up even with the aid of artificial propagation.

The various important recommendations of the forestry department of this Commission will be found in the text of the main report, and will need no further reference here.

The Game Law of the State, with the latest amendments thereto, has been added as an appendix, with a complete index.

Finally, the thanks of the Commission are extended to Mr. Robert B. Marston, Dr. Tarleton H. Bean, Mr. E. T. D. Chambers, Judge S. H. Greene, and Mr. Granville Hills for the original papers contributed to this report.

THE COMMISSIONERS.

REPORT

OF THE

Commissioners of Fisheries, Game and Forests.

To the Honorable the Legislature of the State of New York :

IN compliance with section 8 of chapter 395 of the Laws of 1895, we have the honor to submit herewith a detailed report of our official proceedings for the period commencing with the organization of this Board and ending September 30, 1895.

This Commission was appointed under the provisions of chapter 395, Laws of 1895, on the 25th day of April, 1895, and having taken the constitutional oath of office, met for the purpose of organization at their rooms in the Capitol, in the city of Albany, N. Y., on the same day.

Barnet H. Davis having been named by the Governor as President of this Board, called the Commission to order. Edward Thompson was designated as Shellfish Commissioner, and Edward P. Doyle, late Secretary of the Commission of Fisheries, was elected Secretary, who at the same time filed his resignation, to be accepted at the pleasure of the Board. J. Warren Pond, Chief Protector

of the late Fisheries Commission, was appointed Chief Fish and Game Protector and Forester, and Miss J. J. Fourqurean stenographer.

A committee was appointed to prepare and submit a plan for the organization of the work of the Board, and rules and regulations for the conduct and control of its business.

On the 7th of May, 1895, A. N. Cheney was appointed State Fish Culturist; James Annin, Jr., former Superintendent of Hatcheries, was appointed Superintendent of Hatcheries, and William F. Fox, Superintendent of Forests under the late Forest Commission, was appointed as Engineer of this Commission, with duties similar to those he had heretofore performed. The new law or Consolidation Act imposed many duties upon this Commission beyond those of the two old Commissions. The new game laws also extended its jurisdiction and added much to its labors, while the work connected with the Forest Preserve and State Land Department was made much heavier by placing upon us certain duties formerly performed by the Comptroller and the Land Board. Again, the increased and popular demand for Adirondack lands for lumber and pulp-wood, for private preserves, park, sporting and land speculative purposes, has greatly increased the duties of the Commission. The conditions mentioned have stimulated litigation and attacks upon the State's titles and multiplied the vexatious questions we are called upon to investigate and settle.

A constant decrease in the flow and permanency of heretofore unfailing springs and streams and increased difficulties in obtaining eggs for hatching has greatly added to the work of the hatchery department, while many troublesome questions have arisen regarding the surveying, leasing and occupancy of State lands under water for shellfish cultivation.

With the increased duties came additional expenses and increased financial transactions requiring close attention to the details of audit and payment of many hundreds of bills and claims each month.

To facilitate the proper transaction of the business we were compelled to divide it into departments to be under the charge and control of committees, and on the 29th of May, 1895, the following rules and regulations were adopted for the government of the Board when in session and transaction of its business when not in session, viz. :

1. Regular meetings of the Board shall be held on the second Tuesday of January, April, July, and October, at the office of the Commission in Albany, and at such other times and places as the same may be called.
2. Special meetings of the Board may be called at any time by the President, or, in case of his disability, by the Executive Committee, or upon the written request of any three Commissioners. Written notice of all special meetings must be given at least twenty-four hours previous thereto.

3. A majority of the Board shall constitute a quorum for the transaction of business, and all questions shall be determined by a majority of those present, a quorum voting.

4. The presiding officer, and all other members present, shall vote upon all questions unless excused by the Board.

5. The presiding officer shall determine all questions of order; and, in case of an appeal, a majority present may overrule his decision.

6. The President shall preside at all meetings when present. In the absence of the President the Board shall select one of their number to preside.

7. The order of business of the Board shall be :

- (1.) Roll-call.
- (2.) Reading and correction of minutes of last meeting.
- (3.) Report of Shellfish Commissioner.
- (4.) Report of State Fish Culturist.
- (5.) Report of Engineer (Superintendent of Forests).
- (6.) Report of Chief Protector.
- (7.) Secretary's Report.
- (8.) Report of Auditing and Pay Clerk.
- (9.) Reports of Standing Committees.
- (10.) Reports of Special Committees.
- (11.) Miscellaneous and unfinished business.

8. The following standing committees of three each, of which the President shall be one, shall be appointed by the President :

Committee on Forest Preserve and State Lands.

Committee on Hatcheries, Fish Culture and Game.

Committee on Licenses and Permits, and Shell Fishery.

Executive Committee.

Committee on Legislation.

9. It shall be the duty of the Committee on Forest Preservation and State Lands to consider and report upon all matters of land purchases and business incidental thereto, including the examination of offers which may be submitted, questions of land value, the extent and nature of timber thieving and measures which should be adopted to suppress it; also to consider and suggest plans for the better organization of the Firewarden system, and other matters arising out of the business connected with the forest and State lands in the care and custody of the Commission.

10. It shall be the duty of the Committee on Hatcheries, Fish Culture and Game to have charge of all matters pertaining to the hatching, culture and distribution of fish ;

repairs and improvements to hatcheries, also to look after the business and interests of the Commission in reference to the protection and preservation of fish and game.

11. The Committee on Licenses, Permits and Shellfish shall formulate and submit the rules for licensing net fishing as provided by law; and, also, for granting permits, and shall from time to time examine all licenses and permits granted, and ascertain whether the terms and conditions of the same have been abused or violated. They shall also have general charge of matters pertaining to the shellfish department not specially delegated to the Shellfish Commissioner by law.

12. The Executive Committee shall examine and audit all accounts, bills and pay-rolls and endorse the same with their approval when passed; and no bills or accounts shall be paid until so approved; examine and check all books and accounts; examine and check all regular and special reports of employes as often as once in each month, and report the result of such examination to the Commission at its first meeting thereafter. They shall also have a general supervision of the business of the Commission, and care and control of its interests when the Board is not in session.

13. The Committee on Legislation shall look after the necessary legislation of the Commission; shall examine and consider all proposed amendments or changes in the fish, game and forestry laws or new laws affecting these interests, and shall submit to this Board their opinion upon matters which, in their judgment, require legislative action.

14. The foregoing rules may be altered or amended by vote of a majority of the whole Commission, upon ten days' notice being given, which notice may be in open meeting and entered on the minutes or by serving written notice.

The following standing committees were appointed:

Committee on Forest Preservation and State Lands: Messrs. Weed, Lyman and Davis.

Committee on Hatcheries, Fish Culture and Game: Messrs. Babcock, Thompson and Davis.

Committee on Licenses, Permits and Shell Fishery: Messrs. Thompson, Lyman and Davis.

Committee on Legislation: Messrs. Davis, Weed and Babcock.

Executive Committee: Messrs. Lyman, Babcock and Davis.

A bookkeeper and accountant was employed and the Comptroller requested to pay only such accounts as had first been duly audited by the Executive Committee.

At first it was thought necessary to establish a branch office in New York, but upon investigation of the matter it was decided by the Governor, whose approval thereof is necessary, that it was not advisable to do so, a conclusion in which the Commission later on fully concurred.

It was found that many of the important records of the Commission, including all maps and charts of the surveys, records of leases and franchises for lands under water, and books and accounts connected therewith, were at 53 Broadway, New York, where the late Fish Commission had what was called a branch office. The Commission deemed this unwise and unsafe, and by resolution of June 7th ordered them transferred to their office in the Capitol, but did not succeed in having them removed until December 11th. The valuable maps now in our custody are to be deposited, as public records, with the Secretary of State, or in the office of the State Engineer, who will in future have charge of the surveying of the lands of the State which are to be leased.

Receipts and Disbursements from April 25, 1895, to September 30, 1895.

GENERAL MAINTENANCE.

Balance from former Commissions reappropriated for use of this Board as per Appropriation Bill May 10, 1895,	\$32,250 82
Less amount withdrawn by old officials prior to June 1, 1895, when funds were credited to this Commission,	9,536 35
Net amount placed to credit of this Commission, June 1, 1895,	\$22,714 47
Special Appropriations as per Supply Bill, May 10, 1895,	10,500 00
Oyster Protectors fund, balance,	1,130 97
Credits given by Comptroller against advances made to former Secretary, E. P. Doyle,	730 43
Appropriation as per chapter 1009, Laws of 1895,	50,000 00
	\$85,075 87

DISBURSEMENTS.

From Organization of Board, April 25, 1895, to September 30, 1895:	
Hatchery maintenance,	\$11,650 49
Salaries and expenses of Protectors and Foresters,	8,264 36
Salaries of officials and office employes,	6,808 44
Miscellaneous expenses,	3,694 21
Total,	30,417 50
Balance October 1, 1895,	\$54,658 37

Fisheries and Game.

The Commissioners desire to call attention to the fact that under the old Game Law, section 273, chapter 31, of the General Laws, 1892, power was conferred upon boards of supervisors "to pass at their annual session such laws and ordinances as shall afford additional protection to and further restrictions for the protection of birds, fish, shellfish, and wild animals, except wild deer, and to prohibit the taking and killing of the same." This law was repealed by the game law now in force, Chapter 974, Laws of 1895, Section 302, except as to Suffolk county, and all protective laws must come from the Legislature. The Commissioners have occasion, not infrequently, to stock new waters with plantings of trial fish, to restock old, worn-out waters with the fish that once abounded therein, and to introduce new species into the lakes, ponds, and streams of the State; and to obtain the best results, the fish so planted should remain unmolested until they establish or re-establish themselves. Special laws to cover such cases seem only to make the general Game Law burdensome and conflicting.

Following the precedent established by sister States, we would recommend that power be conferred upon the Fisheries, Game and Forest Commissioners to close streams or other bodies of water in the State for a term of years, not to exceed five, when, in their judgment, it is necessary to resort to such procedure to enable fish planted by the Commission to obtain suitable size, before fishing of any kind is permitted, the waters to be closed by a printed notice signed by the Commissioners and erected on the banks of stream, pond, or lake, or by a similar notice published in the papers of the county in which the water is situated.

The Commissioners would also recommend that all bills relating to the fisheries, game and forest interests of the State should be referred to them for their consideration by the legislative committees having them in charge, before action is taken upon them. The Commission is in session practically throughout the year, and through its agents and employes, distributed over the State, is in a position to know of and

advise intelligently regarding needed legislation in its department. This course would tend to do away with conflicting legislation, make the laws more simple and less confusing, and the State would be protected from the harmful influence of ill-advised fish and game laws.



All just fish and game laws, broadly stated, are enacted to protect the fish and game of the State during the breeding seasons and to allow for recuperation afterward, and without such laws, rigidly enforced, artificial propagation, which is simply aiding and improving upon nature, would be practically useless to maintain the supply of food which comes under the head of fish and wild game.

Of necessity, there are auxiliary laws to support the laws governing the breeding seasons, and one which demands attention at this time is that which relates to the pollution of streams. The present law on this subject is almost inoperative, because of the provision that dyestuff, sawdust, etc., shall not be allowed to run into any waters "in quantities destructive to the fish life," and it is a difficult matter to prove just where the dividing line between life and death may be. Seven years ago a select committee of the Senate of the Dominion Parliament conducted an inquiry into the expediency of preventing sawdust and other refuse being cast into Canadian waters, and in summing up the situation, after obtaining testimony on the subject from engineers, fish culturists and scientists in the Dominion and a number of the States, the following language was used :

"Settling here and there in its course down the streams, the sawdust forms a compact mass of pollution all along the bottom and the margins of the rivers and inlets, filling up the crevices on the gravel beds, and among stones, where aquatic life is invariably produced and fed. It becomes a fixed, imperishable foreign matter, and adheres to the beds of streams and other waters, and forms a long, continuous mantle of death, and constitutes an endless graveyard to the innumerable colonies of insect life which inhabit this well-adapted abode for their existence. These, then, are only some of the pestilential effects produced by sawdust and mill rubbish in the waters of the country on fish life, and independent of its evil influences, from a sanitary point of view, on human life, and its damaging effects by seriously impeding navigation on many waters. Then why should the few, for self-aggrandizement only, be permitted to continue this wicked devastating work for depleting the waters of their legitimate supplies of food originally supplied by an allwise Providence for the use of mankind ; and why should the many suffer for the few who still pursue and unscrupulously advocate a continuance of this insidious and direful proceeding for entailing ruin upon the fisheries of our country ?"

It is claimed by some that sawdust and refuse from mills and factories will not injure adult fish. Be that as it may, if the young fish and the food for both young and adult fish are destroyed there will be no adult fish.

To extract briefly from a report prepared for the Vienna Exposition on the decrease of food fishes :

“ The basis on which a rational system of pisciculture is founded is very simple : Preserve the natural conditions of those places where the fish spawn, conditions which favor the spawning process and tend to preserve the spawn and protect the first development of the eggs; thus everything which diminishes the supply of fresh water, everything which changes the quality of the water, or the character of the bottom, everything which hinders the growth of aquatic plants; in fact, everything which, at its source, can destroy the health of fish of a whole basin. * * * Leave a free passage for the fish to pass to the places which are favorable for spawning. * * * Protect the young generation so that it can arrive at the age of maturity and contribute its share towards the increase of its species.”

We know, personally, of two instances where mill refuse has been diverted from a stream in this State, with but little cost to the mill owners. In one case, the poisonous chemicals of a pulp and paper mill have been conducted to vats on the shore, and, later, the contents of the vats have been marketed. In the other case, the sawdust of a large mill plant has been conducted by a series of boxes and belts, requiring no hand labor, to a central storage pit and used for fuel. Under the circumstances, we think we are warranted in recommending that the law be changed to forbid the pollution of our streams and waters without conditions of any sort.

It will be observed that one of the rules upon which a rational system of fish culture is founded, is that the fish shall have a free passage to the places which are favorable to spawning. This means that fishways must be built over natural and arti-

ficial obstructions in our streams containing food fishes, if the supply is to be kept up. We have a law that provides that in the future no dams shall be built in any stream over six miles long, unless at the same time a fishway is built in the dam; but concerning the dams already built the law is silent.

The United States Supreme Court has given a decision as to the rights of proprietors to erect and maintain dams on any stream. This is the language in part of the decision: “ Ownership of the

banks and bed of the stream gives to the proprietor the exclusive right of fishing opposite his land, as well as the right to use the water to create power to operate mills, but neither the one nor the other right, nor both combined, confer any right to erect an obstruction in the river to prevent the free passage of fish up and



down the river at their accustomed seasons, as such obstruction would impair and ultimately destroy all such rights owned by other proprietors both above and below the obstruction on the said stream.

“Fish rights below a dam constructed without passageways for the fish are liable to be injured by such a structure, as well as those owned above the dam, as the migratory fish, if they cannot ascend to the headwaters of the stream at their accustomed seasons, will soon cease to frequent the stream at all, or in greatly reduced numbers.”

Through the contributions of young salmon planted in the Hudson River by the United States Fish Commission, it has been demonstrated that the waters of the stream are suitable for this grand fish. Planted in the headwater trout streams the smolts have, in season, descended to the sea, and at the proper time returned as adult fish to the river and attempted to ascend to the streams of their babyhood, to reproduce their kind. Dams and falls, without passageways, and fyke nets, in which they are taken contrary to law, have thus far conspired to prevent the Hudson from becoming a self-sustaining trout stream.

The river Tay, in Scotland, commands for its salmon fishing (and it is a smaller river than the Mohawk, in this State) an annual rental of \$200,000, and the expenditure of a sum less than a quarter of that amount would open the Hudson to salmon from mouth to source; and, to shad up to the point at least where they were known before the building of the Erie Canal.

Streams, other than the Hudson, are in need of fishways to provide the best results in furnishing the people with an abundance of suitable and cheap food fish.

Occasionally it has been charged by those ignorant of the subject that this Commission is largely, if not chiefly, engaged in propagating game fishes for the few at the expense of the many. The absurdity of this charge is demonstrated by an examination of the tables of fish reared and planted by the Commissioners. In the abstract, all fishes are food fishes, but there is no fixed standard by which to determine which fishes are the so-called game fishes. For the purpose of showing how idle this charge is, we will divide the fish into commercial and hook-and-line fish. During the year ending September 30, 1895, the State has planted 196,247,840 fish of various kinds and ages. Calling the brook trout, brown trout, rainbow trout, land-locked salmon, sea salmon, mascalonge and black bass hook-and-line, or “game fishes,” there have been planted of these species 8,627,908. Of white fish, pike-perch, tomcod, smelts, ciscoes, shad, bullheads, frost fish, etc., or of the commercial or “food fishes,” there have been planted 187,619,932. In other words, for every single “game” or hook-and-line fish planted in the State the Commissioners have planted twenty-one and a fraction of “food” or commercial fishes. It must be taken into account that the so-called game fishes are the highest order of food fishes, and that the love of angling is on the

increase among the people as a healthy relaxation from the counting-house, the pulpit, the workshop, the forge and the factory, and the whole people must be considered in the matter of propagating and planting fish in the waters of the State. The angler and the commercial fisherman both have rights which we are bound to respect, but our efforts are directed entirely to the propagation of food fishes, by whatever special names their adherents may choose to call them.

It will be the policy of the Commission, so far as its means and facilities will permit, to radically change the manner of rearing and planting young fish. Heretofore it has been the practice, largely, to plant the fry of the fall spawning fishes soon after the yolk sac was absorbed. At this period of their existence the young fish are helpless and an easy prey to their enemies. Fry of trout are of necessity planted in the spring at a time when they are just beginning to feed, and the waters are apt to be high and roily, and the natural food produced in the streams is not fully hatched out as it will be later when the sun has warmed the air and water and developed the larvæ of all insect life.

Fingerling trout planted in the fall are stronger, larger, and more active fish, and find an abundance of food hatched out for them; the waters having been tempered by the summer's sun and subsided from spring freshets, the trout have a better start in every way to fight the battle which they must fight in wild waters. Improved methods demand that the young fish be retained in rearing-boxes or ponds and fed until they reach the age of from four to twelve months before they are planted in wild waters. This will require additional rearing-boxes and ponds, and a greater expenditure for food and labor, but the advantages and benefits to be derived from this method of planting fish, in a great measure able to care for themselves, has been demonstrated, and will well repay the outlay. It will be some time before all the young of the fall spawning fishes can be reared to fingerlings before they are planted, but so far as practicable this will be the method pursued.

Four years ago the late Colonel Marshall McDonald, then United States Fish Commissioner, writing to one of the staff of this Commission, said of one who was an ardent "fry" man (*i. e.*, one who believed in planting the helpless fish fry as soon as they were ready to feed): "If he chooses to attack the policy of the United States Fish Commission in planting yearling fish, it will simply stamp him as unprogressive and past his period of usefulness. The desirability of planting yearlings instead of fry has been recognized everywhere, particularly abroad.

"In France and Spain several of the establishments have for a number of years been engaged in rearing their fry before turning them out. In changing from fry to yearlings in our work, I have only followed the indications of advantage which were apparent to me from the reports and experience of others, and from similar expe-

riences of the advantages which I had arrived at by actual test of the matter. The question of the cost seems to be the only material one entering in; but, if 100,000 fry can be reared to yearlings at a less cost than 1,000,000 fry can be collected, hatched and distributed, then there is no question but that the results in the first will be vastly in advance of those obtained in the second. My judgment is that 1,000 yearling fish is the equivalent of 100,000 fry when planted in waters frequented by small predaceous fish, such as blobs, darters, and small perch, which are found almost universally in our streams. And certainly it will cost much less, allowing the largest measure of expenditure for it, to hatch and rear 1,000 trout than it will to hatch and plant 100,000 fry.

"I think I mentioned to you before that we reared last year at the Green Lake Station, Maine, in an improvised hatchery, about 140,000 yearling land-locked salmon, at a cost of about \$1,100. This illustrates what may be accomplished where prudent, conservative and economical administration is enforced."

In the work of the United States Fish Commission 83 per cent. of the healthy fry have been reared to an age of twelve months, and we think that no one will dare assert or guess that anywhere near that percentage of fry planted in the wild waters will survive the first year. Advanced fish culturists in Europe are united in acknowledging the superiority of fingerling fish for stocking waters successfully, at minimum cost, all things considered. So good an authority as Sir James Gibson Maitland, proprietor of the Howietown Fishery, Sterling, Scotland, has said: "Our experience is that there is no half-way house between *ova* sown in redds and *three months old fry*. Young fry are too risky. They may do, but only where *ova* would do as well and at half the cost." *Ova* in *redds* means that an artificial spawning bed is made in the gravel, and the eggs, when the eye-spots of the embryo show, are planted therein.

The late Thomas Andrews, of Guilford, England, one of the most successful fish breeders in Europe, placed a higher value upon yearling fish, as compared with fry, than did Colonel McDonald. He said: "My experience has taught me that one yearling fish is worth a thousand fry for stocking purposes. Yet I do not deny that a great many fish can be saved in the fry stage by artificial feeding. * * * We cannot get anything like enough yearlings, or two years old, to supply the demand, and most people over here have given up stocking with fry."

Mr. Andrews fed his fish natural food, shrimps, snails, and the larvæ of insects which he bred in large numbers. The only serious objection that has ever been raised to rearing yearling fish, after the matter of water and room for rearing-boxes or ponds has been disposed of, has been the cost, and this has been until quite recently a matter of conjecture. It is admitted that young fish can be better protected from their enemies in the rearing-boxes of a hatching station than in wild waters, and when a yearling fish is turned out it is far better able to care for itself than a baby fish that has just

absorbed the umbilical sac. So the cost is the only thing to consider. This was discussed at a meeting of the American Fisheries Society, and as no figures were produced to show the actual cost of rearing yearling fish, Mr. Frank Clark, Superintendent of the Northville Station of the United States Fish Commission, promised to investigate the subject and give the result at a subsequent meeting. We quote from Mr. Clark's report: "One of the arguments introduced against the work of rearing yearling fish was the expense, some thinking the outlay would be so much greater than in the case of planting fry; others that the trout accustomed to liver would not adapt themselves to other food. I promised to give some facts and figures relating to the expense of rearing trout to the age of one year at the Northville Station. It must be borne in mind that the food used at this station for feeding fry is wholly beef's liver bought from the slaughter-houses in Detroit, and shipped by express to Northville. For the years 1890 and 1891 we reared and distributed 250,000 yearlings, about one-half of them being lake trout and requiring at least one-half more food than brook, Von Behr (this is the brown trout), or Loch Leven trout. The cost of the food for this lot of fish was \$740, making the cost per thousand \$2.95. The cost for labor, based on actual trial, was \$600, or \$2.40 per thousand. In addition to this amount there should be added \$3 per thousand for expressage, draying and superintendence, making a total cost, when ready for distribution, of \$8.35 per thousand, or less than one cent for yearling fish; and with facilities for rearing four times as many, the cost as to labor would be much less per thousand.

"Not only are the arguments from figures strongly in favor of yearling plantings, but those drawn from well-known facts also speak with no uncertain sound; for instance, the condition of fry when planted is such that they must have food at once or they perish; while on the other hand, the yearlings are in a condition to go without food for a considerable length of time. Also one of the greatest losses suffered in planting fry is their being devoured by larger fish, which loss in planting yearlings we do not find as great. To test this difference I placed 100 fry in a tank eight feet long, two feet deep, and eighteen inches wide, containing twelve yearlings. In another tank of same dimensions, I placed twelve yearlings with six three-year-old trout; this, for the purpose of noting how soon each would disappear as prey. The fry were all gone in six hours, while in the tank where yearlings were with three-year-olds, only two were gone the second day. Remember, please, that our argument rests upon actual experience and not theory."

Another argument against yearlings is that they do not bear transportation as well as fry; but Mr. Clark demonstrates that in the transportation of 80,000 yearlings the loss was about two per cent., and that over fifty per cent. of the loss was owing to an accident which ordinarily would not occur. Last October this Commission planted in

State waters two carloads of fingerling land-locked salmon, contributed by the United States Fish Commission, without losing a fish, except such as were caught in the dippers when the men were working the cans in the night. Both carloads were on the road over 48 hours.

Almost since the date of the creation of the New York Fish Commission, in 1868, it has been dependent in great degree upon the waters of the Great Lakes for a supply of lake trout and other fish eggs. In recent years the supply of eggs from this source has been growing gradually less, and it is a matter of serious consideration where we shall look for a supply of eggs of the food or commercial fishes. With our increasing population and the growing interest taken in the hook-and-line fishes, it is also a serious matter to obtain a sufficient quantity of the eggs of such fishes to supply the demand for young fish for distribution in State waters. The demand each year is several times greater than the supply. The hatcheries of the State have at best but limited facilities for keeping stock fish; and the building of stock ponds, and the food and labor required to maintain the stock fish in them amounts to a considerable sum each year. This will be augmented when the proposed rearing ponds for fry are constructed, and we must look elsewhere for a considerable part of the eggs to keep the hatcheries in operation up to their capacity.

We would recommend as a public necessity that two bodies of water in the Adirondack region, to be selected by the Commission, be set aside by law to be controlled by the Commission and used as stock waters to supply eggs of lake trout and other fish for public waters of the State. For this purpose the waters would be thoroughly stocked with the species of fish most in demand and maintained as natural stock ponds. It would not be necessary to erect hatcheries on the shores of these stock waters or disfigure them in any way, as the eggs would be taken at the spawning season and conveyed to State hatcheries for development.

It is the desire of the Commission to greatly increase the output of commercial or so-called food fishes. Last year the Commission planted 41,205,000 pike-perch fry (also called wall-eyed pike), one of the best of table fishes, and hook-and-line fish as well; 24,080,000 white fish, and 18,000,000 ciscoes. These are the very choicest of food fishes, but the annual output should be doubled or trebled, and we would recommend a special appropriation of \$25,000 to be used for the purchase of suitable lands (and water, if necessary), and to erect buildings in such place or places as may be selected by the Commission for the propagation of pike-perch, white fish, ciscoes, black bass, etc.

The initial experiments conducted last year in hatching black bass artificially, convinced the Commissioners that it may be quite possible to hatch black bass in large quantities and thus supply the demand for this excellent fish, which each year is far in

excess of the number to be obtained by the Commission. The spring spawning fishes, and some of those spawning in the fall, should be planted in the fry stage of their existence, as it is not practicable at this time to attempt to rear them to yearlings, except, perhaps, in the case of shad; and where 1,000 are now planted, 100,000 should be planted to make them sufficiently abundant to be within the means of every one in the State to obtain.

It is our wish and our duty to so manage the affairs of the Commission as to produce the best edible fishes in abundance and cheapen this important food product.

Heretofore the Commission has been hampered by lack of facilities to bring about this desired result, but with such a plant as is here recommended, the Commission should, and doubtless will, be able to increase the commercial fishes of the State in a manner commensurate with the demands of the people.

We feel that we must utter a word of caution to those who apply for fish, particularly for the different species of trout, other than lake trout, and for black bass. The annual applications call for more of these fish than it is possible to supply under the most favorable conditions. Applications are made for 25,000 trout, when the water named may not support more than 5,000. The question of food for the fish seems not to be considered, and really it is of vital importance. Without food in abundance fish will not thrive any more than farm stock. Last year the applications for black bass amounted in the aggregate to several millions, while the State, by strenuous effort, was able to obtain less than 20,000, and some of them had to be purchased. One application called for one million black bass for Lake Ontario, when we were looking to this lake to furnish a small number of black bass for other waters. During thirteen years of the life of the New York Fish Commission a total of 8,043 small-mouthed, and 4,821 large-mouthed bass were distributed, or a grand total of 12,864, and from this it will be seen how idle it is to ask for black bass in million lots.

A dozen adult black bass thoroughly protected will do wonders in the way of stocking a pond.

A trout stream can be more certainly stocked by planting 5,000 fry annually in the headwater rivulets of the stream than by turning in 25,000 in one year and leaving it to fate. If there is no food for the fish in the stream planted, it is simply a waste of fish to plant them. We have just received a letter on the subject, from which we make an extract.

A good trout stream in this State seemed to lack fish food, and it was suggested to a resident at its headwaters to plant shrimps for food. He not only planted the shrimps, obtained from the Caledonia Station, but procured a lot of trout eggs from the United States Fish Commission and hatched and planted them. A small pond was built on a tributary stream and in it the fry were placed and reared until they

were fingerlings, when allowed to run down into the main stream. The letter says: "Our river holds out wonderfully well, and the trout are fat, showing plenty of food. I think the shrimps I put in account for the condition of the trout. I do not know anything about the shrimps in the river, but do know that since they were planted the trout have grown noticeably fatter. I do know, however, that the shrimps that I put in the little pond multiplied wonderfully. For once when I drew it down the bottom was fairly alive with them, and I have no doubt but there are millions upon millions in the river. I think that the question of food supply for the fish in our streams and ponds is of the utmost importance, and I also know that the fry we hatched and fed in our pond for weeks after the sac was absorbed were worth very much more for stocking. In fact, planting fry as soon as the sac is absorbed is largely a waste of effort, judging from my own experience."

It may be well to refer to the standing of the State of New York, based upon the value of its food product derived from commercial fisheries. A statistical report on the fisheries of the United States, by Dr. Hugh M. Smith, of the United States Commission, in 1893, places New York third of all the States in the Union in the value of the product from its fisheries, Massachusetts being first and Maryland second.

The value of the annual catch in New York waters was \$5,041,000, and the capital invested, \$5,981,000. As late as May, 1895, Dr. Smith made another statistical report on the fisheries of the Middle Atlantic States, New York standing second in the value of its fisheries, and in 1891, of shad alone 3,044,956 pounds were taken, valued at \$161,209, which was less than the catch of 1889, but unforeseen causes of temperature, freshets, etc., operate to produce fluctuations in the catch, in spite of the best efforts of man to the contrary.

If New York is to keep her place as second of the Middle Atlantic States, and third of the States in the Union, in the value of her fishing products, her fish cultural efforts must be assisted by liberal appropriations and necessary laws to maintain this proud position.

New York with its area of 49,170 square miles, with jurisdiction over 1,550 square miles of water, has but thirty-five men to protect its interests in the fish, game and forests, a number entirely inadequate for the task set before them. Within the past year the State has added to its great public park in the Adirondacks, by purchase, about 110,000 acres of land, mostly virgin forest. This great tract of land and water has for years been thoroughly protected by its former owner as a private preserve, and in all probability, now that it is thrown open to the public, it will afford the best fishing and shooting in the State. We would recommend that additional fish, game and forest protectors be provided by law, that the newly acquired territory, and other

territory requiring better supervision, may be more thoroughly guarded and protected, as otherwise the best efforts of the Commissioners will fail of what is demanded of them.

Last June the largest hatching station in the State, situated on Caledonia creek, in Monroe county, experienced what can only be called a visitation of Providence. Spring creek, as it is locally known, has its source in a number of large springs in Livingston county, which form a mill pond not controlled by the State. The extreme heat and drouth which visited that region in early summer caused the springs to dry up in a degree; the pond filled slowly, and the rank water vegetation created a water mold or fungus which, when the pond was opened, came down the creek working destruction to the fish-life in its path. All the young fish, and most of the stock fish, at the hatchery below, were killed, as the poisoned water reached them. Every effort was made to counteract the evil, but without avail. Except for a temporary embarrassment at the hatchery, and, perhaps, a decrease the coming year in the number of young fish that will be furnished from the station for planting in other waters, the loss was a blessing in disguise. From the fact that the different species of stock fish have been crossed and recrossed in years past hybridism was the rule, and pure bred fish the exception in the stock ponds. The loss has been made good in part with young, vigorous, pure bred fish, and all the stock ponds will soon contain their full quota of breeding fish of pure lineage, better adapted for producing fry and yearlings for planting than fish with a taint of hybridism.

At the Caledonia Station we have commenced to make a collection of the fishes of the State, native and introduced, and will preserve them in jars, showing their natural coloring, for the purpose of inspection and identification.

The matter of food for our commercial fishes is something that demands most earnest consideration. We know little or nothing about the food upon which some of our fishes subsist, except, perhaps, in a general way; but we do know that without an abundance of proper fish food we cannot hope to propagate food fishes successfully. Doubtless there are waters lacking only this indispensable factor to make them fish producing, and, so far as practicable, we wish food planting to go hand in hand with fish planting. Before this can be done systematically and intelligently, a scientific inquiry should be inaugurated to obtain definite knowledge concerning the fauna of our large lakes and streams. We know all about the food of trout, knew about it before we hatched trout; but we know very little, positively, about the food of white fish in its younger stages, and it is a subject that will bear investigation most thoroughly when we consider the monetary and food value of our commercial fisheries to the State.

The language of the various sections of the Game Law relating to the use of nets in different waters is loosely worded. In one section the size of mesh is described by

length of bar, in another as "suitable meshes," and in others the size of the mesh is not mentioned. We would recommend that the size of the mesh be explicitly stated where nets are permitted to take commercial fishes, and, so far as possible, the netting laws be made uniform in their application.

The present law provides an open season for catching black bass, beginning on May 30th, and extending to January 1st. The continuance of this open season is a menace to the future of this species of the fish in the waters of the State.

Black bass spawn all through the month of June, and to open the season during the breeding time is most ill-advised, and no amount of artificial stocking within the means of the Commission will make up for the waste of killing spawning bass. It is difficult for the State to obtain any large number of black bass at this time, even by purchase, and every section that is visited to obtain bass for transplanting protests most vigorously. The black bass is the one fish of all the hook-and-line fishes that guards its spawning bed during the development of the ova, and watches over the brood of young fish after they are hatched, so they really require more consideration as to length of close season than any other fish in the State. When cold weather approaches black bass gather on deep shoals and lie partly dormant, as a rule, until warm weather returns. Within recent years this habit of the black bass has led to their destruction in some waters, as their winter habitat has been sought out by unthinking men, and the bass have been pulled from their winter quarters in a scandalous manner. We would suggest that the open season for black bass fishing begin on the 1st day of July, and close on the 15th of October.

The "land-locked salmon" of the Game Law is no other than the sea salmon with a fresh water habitat, or ouananiche as it is called in the Dominion of Canada. And yet the law presents the inconsistency of limiting the legal length at which the anadromous fish may be killed to eighteen inches, while the fish with a local home may be legally slaughtered when, in its babyhood, it reaches the length of six inches. Land-locked salmon run from the lakes into tributary streams to spawn, and the young remain in the streams for two years before going down to the waters of the lakes, and during the two years in the streams grow to exceed six inches in length, and it is almost a criminal waste of raw material to permit a six-inch baby salmon, weighing two ounces, to be killed, when if allowed a chance for its life it will grow into a magnificent fish of twenty five to thirty pounds in weight. We would suggest that the legal limit of length at which salmon and land-locked salmon may be killed should be made identical, eighteen inches.

Section 143 of the Game Law provides that "eel pots of a form and character such as may be prescribed by the rules of the Commissioners of Fisheries may be used in

any waters not inhabited by trout, lake trout, salmon trout, or land-locked salmon." Eels are notorious spawn eaters, and as such seriously interfere with the propagation of better food fishes by natural processes, and if the Commissioners had power to set eel baskets in waters containing *salmonidæ* for the purpose of taking eels that come on to the spawning beds to eat the spawn of trout, it would aid materially in minimizing the devastation from this cause.

The Commissioners feel that they must in the future discourage the planting of German carp in any of the waters of the State that may contain other fish. It is no more desirable as a food fish than the common sucker, and instead of being a strict vegetarian, as was heralded when introduced from Europe, it has been convicted of eating spawn and the fry of better fish.

There is a colony of beaver near the Adirondack hatchery, probably the only one in this State, and if this rare animal, supposed to have become extinct in New York, is to be preserved, there is urgent necessity for the enactment of a law to protect them at all seasons. During the past year a beaver of this colony was killed, and then it was found that there was no law for their protection.

By every means in our power we would encourage the formation of fish and game protective associations in every county and town in the State. Already many societies of this kind have been organized, and they are not only public educators of the objects and aims of fish and game laws, and supporters of this Commission in its work, but they do much to enforce the laws and stand as a menace to law breakers in the communities where they exist. The observance of fish and game laws is largely a matter of education; the first lessons were most difficult to learn, but great strides have been made in this direction during the past ten years, and the fish and game associations should have full credit for their share in it.

The Commissioners desire to thank the railroads of the State for their unfailing courtesy in handling the State fish car and transporting fish cans and attendants free. Nearly every railroad in the State has rendered this aid freely when called upon so to do; but we are especially indebted to the Delaware and Hudson Canal Company, the New York, Ontario and Western Railroad, the Delaware, Lackawanna and Western Railroad, the Buffalo, Rochester and Pittsburgh Railroad, and the New York Central and Hudson River Railroad, as they are more nearly connected with the hatcheries of the State.

We also wish to extend our thanks to the United States Fish Commission for continued and generous contributions of fish eggs, fry and adult fish, the contribution this year amounting to over 11,000,000 of eggs and fish of various kinds.

That the people of the State may have a better understanding of the extent of shell-fish culture practiced in the waters of New York, a census has been compiled which

shows that 6,280 men, using 18 steamers, 9 schooners, 235 sloops, and 1,435 boats and skiffs, are engaged in this industry.

These men employ \$2,147,850 of capital, and market annually 2,397,735 bushels of oysters and 380,460 bushels of clams. The market value of their product is probably very near to \$2,500,000.

Since the enactment of the law of 1887, entitled "An act to promote the cultivation of shellfish in the waters of this State," 17,707 acres have been covered by franchises and leases, and there are still at least 200,000 acres available. Shellfish culture will be treated more in detail later in the report by the Shellfish Commissioner.

At the close of the deer shooting season in 1895 this Commission made a systematic investigation to determine the number of deer killed in the counties including the Forest Preserve. It was the first attempt to make a careful and thorough canvass of deer killed in this State. For this purpose the Adirondack region was divided into 161 districts, and 249 separate reports were received. A recapitulation shows that a total of 4,900 deer were killed, 2,207 being bucks and 2,693 being does. As to the manner of killing, 1,233 were killed by night hunting, 2,694 by hounding, and 973 by still hunting. In view of this enormous slaughter, for we are convinced that the returns are accurate, as far as can be obtained, we would recommend that further and more stringent laws be enacted to preserve the deer from extinction, either by a shorter season, by regulating the manner of killing, or both.

Proposed Legislation.

In further pursuance of the law requiring this Commission to make annually such recommendations for legislative action as its Board may deem proper, we would respectfully recommend that certain changes be made in the present law relating to forest fires.

As the law now stands, the expense in fighting a forest fire, especially the pay of the firewarden and his posse, is a State charge. We recommend that the law be amended in this respect so that one-half the expense only shall be borne by the State, leaving the other half to be paid by the town in which the fire or fires occurred.

While the citizens of our entire State are interested in forest preservation and the prevention of forest fires, the residents and land owners in forest towns within the Adirondack or Catskill counties have a direct and important interest in such matters. In such towns a fire in the woods means a direct loss to a lumberman if his timber is destroyed; also, to hotel men and guides, who can no longer expect custom and

employment if the scenic attractions of their town are converted into the scorched and blackened desolation that remain after a forest fire.

The property owners and taxpayers of a town are the ones who have the greatest interest in providing against such disastrous results, and should pay more for this special local protection than the citizens at large. It is just and reasonable that the men who own these forests should pay at least half the expense of this local protection. It was absurd to enact that the farmers of Chautauqua county must pay just as much for protecting the property of Adirondack lumbermen and hotel men as the owners of such property do themselves.

While we are willing that the State should pay one-half of the expense incurred by a firewarden and the posse warned out by him, we would recommend that the entire bill be first audited and paid by the town, after which the State, through the Comptroller, may refund to the town one-half the sum thus expended, all bills for such rebate to be first forwarded to and approved by this department, or by such official as it may designate for this purpose.

It must be evident to all that the members of the town board of auditors, which exists in every town for the purpose of auditing local bills, are much better able to pass upon the items in the firewarden's account than the officials at Albany who may have no knowledge of the facts aside from the bill itself. The members of a town board are familiar with the facts relating to a fire in their town, its extent and nature. They know whether it was a serious forest fire requiring the services of all the men that were warned out, or some smoldering smudge that needed only a little watching by one or two men. They know how long it lasted, and whether the number of days charged for was a just and fair item; whether the men were fighting fire or sitting on a rail fence telling stories.

Furthermore, if the town has to pay half the bill, each item will be carefully scrutinized. But if the State is to pay it all, even if first approved by the town board, questionable items will receive little attention, the tendency being to give a neighbor the charitable benefit of each doubt. He is a good fellow; it is hard times in the town; the State is rich; let it go.

Then again there has been altogether too much carelessness in many towns with fallow fires. These fires, incidental and necessary in agricultural work, have been started hitherto without the proper precaution to prevent their spreading into the forest. A careful observation and collection of statistics relating to this matter indicate that fully nine-tenths of the burned areas in the Adirondacks and Catskills is due solely to carelessness of farmers in burning their fallows. Many a five-acre potato patch has cost 5,000 acres of forest. Now, since the law of 1885 made the expense of fighting forest fires wholly a town charge, the residents and taxpayers

have exercised a local censorship over the operations of such of their neighbors whose carelessness in this respect is apt to inflict on the town a bill for fighting fire. The average Adirondack citizen who gazes undisturbed at a forest fire on non-resident lands frowns severely on any firewarden's bill that will increase the town tax.

While it is doubtful whether the State at large should pay any part of these bills for protecting property in a town, this proposed amendment will result in one very desirable arrangement. Before the town can receive its moiety from the State, the firewarden will have to comply with the law requiring him to send in a full report of the fire, date, location, extent, damages and origin. The department has had considerable difficulty in past years in obtaining this desirable information, especially that relating to the origin of these fires. It will now devolve on the town authorities to see that the firewardens comply with this reasonable and important requirement, or they will fail to receive their rebate.

We have already alluded here to the large proportion of burned area due directly to the carelessness of farmers or others in the use of fire for clearing land. After ten years' experience in endeavors to abate this evil through rules and regulations issued by the Forestry Department, we find that it is necessary to enact some stringent law with a penalty attached, which shall have more force than the mere set of rules formulated by the Commission.

We would, therefore, recommend that the present law relating to forest fires be further amended by the insertion of a clause forbidding the lighting of fallow fires, or fires for clearing land, or the burning of brush, in certain counties or towns, between April 1st and June 10th, and between September 1st and November 10th; and that from June 10th to September 1st such fires may be started only on such day as the firewarden or district firewarden may approve; and then, only, when the firewarden is present, personally, to see that the fire does not escape. This amendment should provide further that the firewarden shall not give permission for the lighting of such fires until the applicant or person wishing to start the fires shall have employed enough assistants to watch and prevent any possible escape of the flames into any forest which may be near or within possible danger; also, that the services of the firewarden or district firewardens in such cases shall be a town and State charge the same as when employed in fighting a forest fire. The forest towns to which this amendment shall apply will be specified in the bill.

This may seem unnecessarily arbitrary and restrictive; but an extended observation in this matter induces the firm belief that such a law is absolutely necessary to immunity from forest fires.

Purchase of Lands.

We would again respectfully ask that your honorable body take some favorable action to provide for the purchase of forest lands in the Adirondack and Catskill region. We do not deem it necessary to rehearse here the many arguments in favor of forest preservation. We assume that you are already familiar with them. For years the newspapers throughout this State have set forth the various reasons without a dissenting editorial. From the press and the people comes an unanimous demand that the Legislature shall recognize the importance of this question by making yearly appropriations for forest purchases, until the entire area of the Adirondack and Catskill parks shall be included in the Forest Preserve.

Such appropriations are different from the ordinary items of the yearly budget, and are entitled to preference. They are not an expenditure, but an investment; and a safe one, that is convertible into cash at any time. While the State is expending millions each year for which it has nothing tangible to show, why not put a part of it where there will always be a first-class asset, and at the same time protect the vast interests which are dependent on forest preservation? If it was right to vote \$9,000,000 for deepening our canals, it is certainly right and absolutely imperative that the Legislature appropriate the necessary amount for protecting the water supply. A similar idea suggests itself in relation to the constant expenditure for dredging and deepening the Hudson river, and for the construction of dams to assist the decreasing energy of the water wheels throughout the State.

A large amount of good forest land is now offered to the State at a very low figure. If not purchased soon, these offers will be withdrawn. Much of this land can be bought now for \$1.50 per acre. The spruce and hemlock have been removed from these lands, but the hardwoods and young conifers remain. Their function as a protective forest is not seriously impaired.

The State is a joint owner in a large amount of land in the Forest Preserve tracts, in which it has an undivided interest with some other party. The lots in this class of land aggregate 34,120 acres. Money should be appropriated to enable the State to buy out the interest of the joint owners. Otherwise, the joint owner, who has all the rights of a partner, will go on the land and cut over the entire lot or lots, after which he can tender the State its share of the value of the timber, and the State is powerless to prevent such action.

Nor has the State any right to complain. By a provision of its new Constitution it has debarred itself from cutting timber or obtaining any revenue whatever from its

forests; but it can not consistently or legally ask that the joint owner shall tie himself up also by any such questionable management of his property.

True, the State can, in such cases, call for a partition of interest, and under a provision of the Forestry Law have its share of any lot set apart. But that would not prevent the joint owner from cutting over the area thus set apart for him, and thereby endangering the State's portion of uncut forest by his slash and fallen tree-tops, which may take fire at any time.

There is one township in which the State owns an undivided half in twenty-four lots. These lots, which contain 160 acres each, are contiguous and form a solid block. Now, these lots will be entirely cut over by the joint owner, and half the avails paid to the State; or else the Commission must call for a partition of interest. In the latter case the party would cut the timber on the half lots set apart, and the State would be left with twenty-four separate patches of eighty acres each, and each one of which would soon be surrounded on all sides by a slashing of newly felled timber. The proper thing to do is to buy the other undivided interest as a protective measure. But there must be an appropriation before this can be done. This is only one of many similar cases.

Whiteface Mountain, at Lake Placid, the most beautiful peak in the Adirondacks, whose southern slope is owned by the State jointly with other parties, will soon be cut over for timber and pulpwood, unless some action is taken for providing money to buy the joint owners out, and this department, otherwise, will be powerless to stop this piece of vandalism.

An appropriation would be specially advantageous at this time to enable the State to buy certain small parcels of land for the purpose of consolidating some of its large holdings. The management and protection of the large blocks of forest thus formed would thereby become simplified. There would no longer be any excuse for entrance on that territory, and consequently these woods could be protected from fire and timber thieves at a far less expense than at present. A glance at the map will show the importance of making such purchases in Benson township and the Oxbow tract, Hamilton County; in Townships Twenty-six and Thirty, Essex county; and in the towns of St. Armand and North Elba, near Lake Placid.

Any appropriation that may be made should contain a provision permitting the expenditure of some part of it in enlarging and consolidating the areas of State land in the Catskill Preserve. The forests of that region, part of which are situated on the Mohawk-Hudson watershed, and the large number of summer residents that frequent the delightful resorts in the Catskill counties, demand some such action. During the summer ten people go to the Catskills, where one goes to the North Woods. It is near New York and the populous districts of the Hudson Valley. For \$1.75 one can buy

a railroad ticket from New York to the Catskill Mountains, good for the return journey also. It is only three hours' ride from the great city to the heart of the mountain district.

In addition to its grand hotels the region is filled with inexpensive but desirable family resorts. It is the great sanitarium and summer resting place for the middle classes of New York city, whose interests demand recognition at your hands in connection with this matter.

It is especially desirable that purchases should be made in the towns of Denning, Hardenburgh, and Shandaken, in order to consolidate the State preserve in the vicinity of Slide Mountain, the highest summit in the Catskills. These forests can be bought now at a low price. Delay will only entail extra cost.

We urge this appropriation for the extension and consolidation of the Forest Preserve, because we believe the interests of the State demand it. We feel that we should be neglectful of our duty did we not put ourselves on record in this respect.



Financial Report

For the period beginning with the organization of the Commission,
 April 25th, 1895, and ending with the fiscal year,
 September 30th, 1895.

By an Act of the Legislature passed May 10th, 1895, Chapter 1009, Laws of 1895, the following sums, being balances on hand, were reappropriated for the use of this Commission, viz :

Unexpended balance, salaries, etc., of late Forest Commission,	\$9,974 32
Unexpended balance for expenses of late Forest Commission,	1,448 27
Unexpended balance for maintenance of Deer Park, Forest Commission,	327 51
Unexpended balance for maintenance of late Commissioners of Fisheries,	8,716 89
Unexpended balance for salaries and expenses of Fish and Game Protectors,	11,218 45
Unexpended balance for Sullivan County Fish Hatchery,	500 00
Unexpended balance for hatching fish outside of regular hatcheries,	65 38
Total unexpended balances April 25, 1895, reappropriated May 10, 1895,	\$32,250 82

After the passage of the Consolidation Act and prior to June 1, 1895, when the unexpended balances were set over for the use of this Commission, the following sums were drawn from the above amounts :

For salaries and maintenance Fish Commission, prior to May 1, 1895,	\$7,122 47
For salaries and maintenance Forest Commission prior to May 1, 1895,	2,344 93
For maintenance Deer Park,	68 95
Total,	<u>9,536 35</u>

REPORT OF THE COMMISSIONERS OF

Balance on hand date of transfer of funds by Comptroller, June 1, 1895,	\$22,714 47
Balance in Oyster Protection Fund, June 1, 1895,	1,130 97
By accounts audited and allowed by Comptroller, but charged by him to advances made to former Secretary, E. P. Doyle,	730 43
Appropriation as per Chapter 932, Laws of 1895, Shad Hatching, \$1,500 00	
“ transportation and distribution of black bass,	500 00
“ for hatching whitefish, pike, &c.,	1,500 00
“ for maintenance Beaverkill Hatchery,	3,000 00
“ “ “ Pleasant Valley Hatchery,	3,000 00
“ “ repairs to hatcheries,	<u>1,000 00</u>
	10,500 00
Appropriation as per Chapter 1009, Laws of 1895, for general maintenance fiscal year ending September 30, 1896,	<u>\$50,000 00</u>
Total appropriations and reappropriations made for general maintenance and expenses of this Commission,	<u>\$85,075 87</u>

Summary of Disbursements.

Fisheries, Game and Forests Commission from June 1, 1895,
to October 1, 1895.*

HATCHERY EXPENSES.

Caledonia Hatchery, Schedule "A,"	.	.	.	.	\$1,170	80
" " " "B,"	,	.	.	.	2,999	90
Cold Spring Hatchery, " "C,"	.	.	.	.	1,694	91
Fulton Chain " "D,"	.	.	.	.	735	36
Sacandaga " "E,"	.	.	.	.	735	40
Adirondack " "F,"	.	.	.	.	1,035	44
Beaverkill " "G,"	.	.	.	.	436	10
Pleasant Valley " "H,"	.	.	.	.	242	74
J. Annin, Jr., Superintendent Hatcheries, salary,	.	.	.	.	833	32
" " " expenses,	.	.	.	.	361	63
						\$10,245 60

SALARIES OF OFFICIALS AND OFFICE EMPLOYEES.

Schedule "I,"	.	.	.	.	\$6,808	44
Salaries and expenses of Protectors and Foresters, Schedule "J,"	.	.	.	.	8,264	36
Expenses stationery and printing,	.	.	.	" "K,"	576	67
Miscellaneous expenses,	.	.	.	" "L,"	1,782	53
Expenses of officials,	.	.	.	" "M,"	1,335	01
Hatching shad on the Hudson,	.	.	.	" "N,"	516	04
Transportation and distribution of black bass,	.	.	.	" "O,"	499	27
Oyster and Shellfish Fund,	.	.	.	" "P,"	389	58
						20,171 90
Total expenditures general fund, from organization to close of fiscal year September 30, 1895,*	.	.	.	.	\$30,417	50
Leaving balance on hand October 1, 1895,	.	.	.	.	\$54,658	37

To special appropriation April 17, 1895, Chapter 335, Laws of 1895, For
acquiring additional lands and completing Pleasant Valley Hatchery, \$4,000 00

DISBURSEMENTS.

Sept. 28. Paid for purchase price of Aldridge Mill site, including spring at Taggart, Steuben County,	.	.	.	.	3,750	00
Balance on hand October 1, 1895,	.	.	.	.	\$250	00

* The above disbursements do not include expenses incurred for the month of September, 1895, the accounts for which had not been presented up to September 30th.

REPORT OF THE COMMISSIONERS OF

LAND PURCHASE FUND.

Unexpended balance for purchase of lands as per Chapter 498, Laws of 1894,	\$11,218 73	
Moneys paid to Treasurer for lands sold and leased as per Chapter 332, Laws of 1893,	19,306 92	
Total,		\$30,525 65
From this amount the sum of \$1,773.00 was paid out by the Comptroller for lands purchased by former Commission prior to date of transfer, June 1, 1895,		1,773 00
Leaving balance June 1, 1895,		\$28,752 65
Appropriated by Chapter 561, Laws of 1895, for purchase of lands where owners have sustained damage by reason of State dams (Keck Bill),	\$50,000 00	
Received from rental of State lands from April 25 to October 1, 1895, Schedule "Q,"	1,296 18	
Interest on deposits,	564 75	51,860 93
Total,		\$80,613 58

DISBURSEMENTS FROM LAND PURCHASE FUND.

Aug. 8. Expenses of examination of land and land damaged as per Chapter 561, Laws of 1895, by Commission and Land Board,	\$2,048 91	
" 8. Expenses examination Morgan Lumber purchase,	63 55	
Sept. 4. Expenses examination Morgan Lumber purchase,	145 41	
" 4. J. W. Schuler, photo. work "Beaver River" Dam and flowed lands,	44 65	
" 4. A. Warren, examination of lands and service of notice for removal of squatters,	95 23	
Total,		2,397 75
Balance in land purchase fund October 1, 1895,		\$78,215 83

Schedule "A."

CALEDONIA STATION.

To expenses incurred at Constantia Hatchery, securing pike-perch fry and transporting and delivering same.

1895					
May.	John D. Walzer,	disbursements,	. . . . .	\$80 38	
	John A. Upton,	"	. . . . .	67 34	
	Geo. H. Hubbard,	teaming,	. . . . .	9 00	
	Philo Clark,	"	. . . . .	4 00	
	Notary,	. . . . .	. . . . .	25	\$160 97
				<hr/>	
	W. D. Marks,	disbursements,	. . . . .	\$42 53	
	Geo. Scriber,	labor, 26 nights,	. . . . .	59 25	
	Chas. Martin,	" 7 "	. . . . .	14 00	
	E. McAlister,	" 14 "	. . . . .	28 00	
	D. C. King,	" 11 "	. . . . .	22 00	
	James Andrews,	" 18 "	. . . . .	36 00	
	C. A. Winn,	hardware,	. . . . .	5 80	
	Notary,	. . . . .	. . . . .	25	207 83
				<hr/>	

To expense incurred securing maskalonge fry at Chautauqua Hatchery and distributing the same.

May.	Frank Redband,	31 days' service,	. . . . .	\$62 00	
	R. R. Brown,	25 " "	. . . . .	50 00	
	A. M. Lyman,	15 " "	. . . . .	30 00	
	W. J. White,	use of storehouse,	. . . . .	1 00	
	W. D. Mason,	" " boat 6 months,	. . . . .	5 00	
	A. G. Crandall,	1 barrel tar,	. . . . .	6 00	
	Jas. Seymour,	rope, hardware, etc.,	. . . . .	2 91	
	A. J. Pickard,	24 days' board foreman,	. . . . .	24 00	
	H. A. Pickard,	13 " " assistant,	. . . . .	13 00	
	Notary,	. . . . .	. . . . .	25	194 16
				<hr/>	
	Frank Redband,	traveling expenses,	. . . . .	\$13 36	
	A. M. Lyman,	" "	. . . . .	31 86	45 22
				<hr/>	
	M. B. Hill,	1 month's services foreman, Clayton,	. . . . .	\$75 00	
	W. A. Hill,	1 month's services labor,	. . . . .	46 50	
	D. Ryder,	2 days' labor,	. . . . .	2 00	
	J. G. Miller,	26 trip teaming, eggs and fry,	. . . . .	40 00	
	Notary,	. . . . .	. . . . .	25	103 75
				<hr/>	
				Forward,	\$771 93

				Brought forward,	\$771 93
	To expense incurred in collecting and distributing shad fry at Havre de Grace.				
1895					
May.	E. A. Cooper,	traveling expense,	. . . . .	\$51 70	
	O. V. Rogers,	“ “	. . . . .	59 40	
	F. Van Ausdale,	“ “	. . . . .	33 65	144 75

To expense incurred in collecting and distributing black bass and pike-perch fry.

1895					
May.	Charles Marcellus,	services,	. . . . .	\$36 00	
	W. D. Marks,	“	. . . . .	62 00	
	Geo. Scriber,	“	. . . . .	46 50	
	J. D. Black,	merchandise,	. . . . .	3 05	
	Mrs. C. C. King,	board for men,	. . . . .	45 00	
	Geo. Beebe,	merchandise,	. . . . .	1 43	
	L. Gardiner,	“	. . . . .	2 25	
	Edward Andrews,	nets,	. . . . .	3 00	
	Sandford Woodford,	teaming,	. . . . .	10 60	
	J. W. Cary,	ice,	. . . . .	10 55	
	W. D. Marks,	expenses,	. . . . .	12 84	233 22
	C. H. Babcock,	expense for pheasants' eggs,	. . . . .	\$20 00	
	“	“ “ expressage,	. . . . .	90	
					20 90
					<u>\$1,170 80</u>

Schedule “B.”

CALEDONIA STATION.

1895					
May.	Monroe A. Greene, Supt.,	expense account,	. . . . .	\$132 20	
	“ “ “	salary,	. . . . .	140 00	
	Frank Redband,	6 days' services,	. . . . .	15 00	
	J. Walzer,	23 “ “	. . . . .	46 00	
	Geo. H. Lawson,	31 “ “	. . . . .	54 25	
	John A. Upton,	31 “ “	. . . . .	54 25	
	Wm. Johnson,	31 “ “	. . . . .	54 25	
	Geo. Stewart,	31 “ “	. . . . .	46 50	
	A. M. Lyman,	16 “ “	. . . . .	32 00	
	Notary,	. . . . .	. . . . .	25	
	John A. Upton,	expense delivering fish,	. . . . .	18 86	
	R. Pully Banks Jr.,	teaming,	. . . . .	15 50	
					Forward, \$609 06

			Brought forward,	\$609 06
June.	Frank Redband, Foreman,	salary 1 month,	\$90 00	
	Geo. H. Lawson,	labor 1 month,	50 75	
	Wm. Johnson,	" "	49 00	
	John A. Upton,	" "	50 75	
	" "	expenses,	21 92	
	Geo. Stewart,	labor,	43 50	
	W. D. Marks,	" "	60 00	
	J. L. Ward,	florist,	39 23	
	Wm. Ball,	carpenter work,	24 37	
	Robt. McArthur,	gravel,	55 00	
	Wm. Armstrong,	teaming and labor,	145 80	
	Neal Cooper,	" "	68 25	
	Nicholas Hoos,	labor,	44 25	
	J. C. Annin,	carting fish cans,	3 50	
	Brewster Crittenden,	grass seed,	2 00	
	Hamilton & Mathews,	engine repairs,	49 30	
	Chamberlain Rubber Store,	hose,	15 50	
	American Express Co.,	express,	13 77	
	Wells, Fargo Express,	" "	14 90	
	Schuler & Son,	brass wire,	2 10	
	Ball & Donahue,	salt,	1 80	
	Neil & Skinnington,	" "	4 50	
	R. Pully Banks,	livery,	1 50	
	" "	cartage,	2 00	
	Walker & Matterson,	hardware,	15 06	
	C. Klinck,	meat,	60 50	
	R. Mowson,	team and labor,	3 50	
				932 75
July.	Frank Redband,	1 month's salary,	\$90 00	
	" "	expenses,	2 69	
	W. D. Oviatt,	1 month's labor,	48 00	
	Geo. Stewart,	" "	43 50	
	Wm. Johnson,	" "	50 75	
	John A. Upton,	" "	50 75	
	Geo. H. Lawson,	" "	50 75	
	W. D. Marks,	" "	58 00	
	Sylvester Sellick,	labor,	13 50	
	Wm. A. Hill,	" "	27 00	
	M. B. Hill,	" "	45 00	
	American Express Co.,	expressage,	7 70	
	Wells, Fargo & Co.,	" "	6 25	
	R. Pully Bank,	cartage,	5 30	
	A. H. Collins,	tags,	5 50	
	J. E. Harvey,	salt,	9 85	
	Ball & Donahue,	" "	4 25	
				Forward, \$518 70 \$1,541 81

			Brought forward, \$518 79	\$1,541 81
July.	E. Klink,	fish food,	22 00	
	W. J. Williams,	lumber,	170 31	
	McCabe Bros.,	fish food,	16 48	
	Robert McArthur,	gravel,	25 10	
	Neil Cooper,	teaming,	10 50	
	Nicholas Hoos,	labor,	18 50	
	Wm. Armstrong,	teaming,	66 50	
	W. D. Marks,	expense account,	40 90	
	“ “	“ “	4 44	
	W. E. Hall,	board of M. B. Hill,	9 25	
			<hr/>	
				902 77
Aug.	Frank Redband,	1 month's salary,	\$90 00	
	“ “	expenses,	4 65	
	George Stewart,	labor,	43 50	
	Wm. Johnston,	“	50 75	
	John A. Upton,	“	50 75	
	“ “	expenses,	88 19	
	Geo. H. Lawson,	laborer,	50 75	
	W. D. Marks,	“	58 00	
	Sylvester Sellick,	“	43 50	
	American Express Co.,	expressage,	1 00	
	Wells, Fargo Express Co.,	“	8 70	
	C. Klinck,	fish food,	21 00	
	McCabe Bros.,	“	7 05	
	W. D. McArthur,	gravel,	13 00	
	James C. Annin,	cartage,	4 30	
	Prof. Latimore,	chemist,	30 00	
	Scranton & Metmore,	books,	1 50	
	Schuler & Son,	galvanized wire,	6 57	
	J. M. Hungerford,	repair fish cans,	9 25	
			<hr/>	
			\$582 46	
	Credit checks of—			
	R. Banks,	expense distributing black bass, \$13 57		
	Geo. Luff,	“ “ “ “ 13 57		
			<hr/>	
				27 14
				<hr/>
				555 32
				<hr/>
	Total, Caledonia Hatchery,			<u>\$2,999 90</u>

Schedule "C."

COLD SPRING HARBOR HATCHERY.

1895					
May.	F. Van Ausdall,	disbursements,	.	.	\$12 60
	E. A. Cooper,	"	.	.	14 11
	Staten Island Express Co.,	expressage,	.	.	1 50
	Wm. Bingham,	hay,	.	.	2 50
	W. R. Winn,	naphtha,	.	.	4 59
	J. C. Totten,	livery,	.	.	2 00
	M. Abrams,	fish food,	.	.	59 80
	Staten Island Express Co.,	expressage,	.	.	8 70
	J. C. Totten,	cartage,	.	.	7 90
	A. L. Wright,	telegrams,	.	.	5 60
	Standard Oil Co.,	repairs to launch,	.	.	40 93
	Str. "Rochester,"	freight on naphtha,	.	.	2 40
	Bingham & Brush,	rope,	.	.	2 07
	O. V. Rogers,	services,	.	.	54 00
	E. A. Cooper,	"	.	.	42 00
	Peter Gorman,	"	.	.	62 00
	F. Van Ausdall,	"	.	.	62 00
	C. H. Walters,	traveling expenses,	.	.	42 79
	" "	services,	.	.	90 00
	G. Van Ausdall,	Notary,	.	.	25
	E. A. Cooper,	disbursements,	.	.	38 22
					\$555 96
June.	F. Van Ausdall,	travel with fish,	.	.	\$30 41
	E. A. Cooper,	" "	.	.	30 97
	" "	" "	.	.	23 61
	C. B. Scudder,	oil,	.	.	70
	Frank T. O'Neill,	sundries,	.	.	9 24
	M. Abrams,	fish food,	.	.	54 20
	Staten Island Express Co.,	expressage,	.	.	8 35
	" "	" "	.	.	25
	C. H. Walters,	sundries,	.	.	9 02
	Peter Gorman,	services,	.	.	52 50
	F. Van Ausdall,	"	.	.	52 50
	E. A. Cooper,	"	.	.	52 50
	C. H. Walters,	"	.	.	90 00
	G. Van Ausdall,	Notary,	.	.	25
					414 50
July.	J. C. Totten,	cartage,	.	.	\$2 40
	" "	"	.	.	1 25
	L. I. Express Co.,	expressage,	.	.	9 45
	C. H. Deibel,	livery,	.	.	16 32
	C. H. Walters,	miscellaneous,	.	.	5 04
					\$34 46
		Forward,			\$070 46

			Brought forward,	\$34 46	\$970 46
July.	E. A. Cooper,	services,	.	42 00	
	F. Van Ausdall,	"	.	54 25	
	C. H. Walters,	"	.	90 00	
	Notary fee,	.	.	25	
	M. Abrams,	fish food,	.	64 40	
					285 36
Aug.	Mrs. Jas. H. Lockwood,	tags,	.	\$2 25	
	Elwood Abrams,	repairing launch,	.	8 89	
	Hardy, Vorhees & Co.,	lumber,	.	61 92	
	J. C. Totten,	cartage,	.	17 97	
	M. Abrams,	fish food,	.	60 40	
	J. C. Totten,	express,	.	10 40	
	E. A. Cooper,	services,	.	54 25	
	F. Van Ausdall,	"	.	54 25	
	C. H. Walters,	miscellaneous expenses,	.	8 51	
	" "	services,	.	90 00	
	Notary fee,	.	.	25	
					369 09
	Fred Mather,	salary,	.		70 00
					<u>\$1,694 91</u>
		Total,	.		

Schedule "D."

FULTON CHAIN HATCHERY.

1895					
May.	W. H. Burke,	31 days' labor,	.	\$58 90	
	" "	expense planting fish,	.	31 55	
	J. A. Wood,	31 days' labor,	.	58 90	
	" "	expense planting fish,	.	1 06	
	F. C. Marks,	31 days' labor,	.	58 90	
	" "	expense trip, pike works,	.	6 43	
	O. H. Elms,	freight and express,	.	3 87	
	E. L. Marks,	salary for May,	.	90 00	
					\$309 61
June.	S. H. Buellan,	fish food,	.	\$3 65	
	E. F. Abbott,	telegrams,	.	2 74	
	N. Ginthar,	express,	.	7 45	
	F. C. Marks,	services,	.	57 00	
	E. L. Marks,	"	.	90 00	
	" "	traveling with fish,	.	4 87	
					165 71
July.	F. C. Marks,	26 days' labor,	.	\$49 40	
	E. L. Marks,	services,	.	75 00	
					<u>124 40</u>
					Forward, \$599 72

			Brought forward,	\$599 72
Aug.	Enterprise Mfg. Co.,	fish food chopper,	\$1 70	
	American Net & Twine Co.,	netting,	11 41	
	F. C. Marks,	23 days' labor,	43 70	
	E. L. Marks,	services,	75 00	
	" "	disbursements,	72	
	A. H. Elms,	freight,	3 11	
				135 64
		Total,		<u>\$735 36</u>

Schedule "E."

SACANDAGA HATCHERY.

1895				
May.	H. J. Resigue,	grain,	\$22 76	
	O. S. Coffine,	hardware,	6 35	
	W. H. Miller,	fish food,	3 65	
	S. A. Lyon,	hotel bill,	6 50	
	J. W. Boyce,	horse hire,	6 00	
	W. H. Demorest,	sundries,	60	
	O. S. Coffine,	hardware,	1 40	
	G. H. Fister,	labor,	54 25	
	E. F. Boehm,	salary and expenses,	103 05	
				\$204 56
June.	E. F. Boehm,	salary,	\$90 00	
				90 00
July.	J. F. Burgee,	blacksmith,	\$10 90	
	Burnham & Lowery,	grain,	8 18	
	Geo. H. Foster,	labor,	28 00	
	E. F. Boehm,	salary,	75 00	
	" "	postage,	50	
				122 58
Aug.	Wm. Patterson,	mason laborer,	\$10 00	
	Chas. Litron,	wagon,	40 00	
	Samson Harley,	hotel bill,	1 50	
	Asa Avid,	saw bill,	41 96	
	Geo. N. Brown,	cement,	8 15	
	Hosea Rugee,	lumber,	36 30	
	N. R. Page,	team work,	4 00	
	M. B. Harley,	grain,	12 34	
	Ostrander & Capine,	hardware,	12 01	
	J. E. Morris,	labor,	19 25	
	E. F. Boehm,	salary,	82 00	
	" "	labor,	50 75	
				318 20
		Total,		<u>\$735 40</u>

Schedule "F."

ADIRONDACK HATCHERY.

1895						
May.	Mile Otis,	team work,	. . . . .	\$74	58	
	Jos. Otis,	services,	. . . . .	63	50	
	A. W. Marks,	"	. . . . .	89	29	
	M. A Roberts,	"	. . . . .	98	70	
	Jno. G. Roberts,	services and expenses,	. . . . .	100	07	
	P. McKeefe & Co.,	fish food,	. . . . .	9	00	
	C. H. Kendall,	paint,	. . . . .	3	90	
						\$439 04
June.	M. A. Roberts,	labor,	. . . . .	\$20	90	
	A. W. Marks,	"	. . . . .	45	60	
	Jos. Otis,	"	. . . . .	57	00	
	Dana Davis,	fish food,	. . . . .	3	08	
	Branch & Cullaman,	glass,	. . . . .	2	55	
	Jno. J. Roberts,	services and expenses.	. . . . .	98	89	
						228 02
July.	A. W. Marks,	services,	. . . . .	\$49	40	
	Joseph Otis,	"	. . . . .	49	40	
	Jno. G. Roberts,	"	. . . . .	75	00	
	W. Murray,	hotel bill,	. . . . .	4	00	
	Walton, Stark & Co.,	screen doors,	. . . . .	3	30	
	Saranac Inn,	paint, feed, salt, etc.	. . . . .	30	90	
						212 00
Aug.	A. W. Marks,	services,	. . . . .	\$38	00	
	Jos. Otis,	"	. . . . .	41	80	
	J. A. Roberts,	salary,	. . . . .	75	00	
	" "	expenses,	. . . . .	1	58	
						156 38
		Total,	. . . . .	\$1,035	44	

Schedule "G."

BEAVERKILL HATCHERY.

1895						
May.	American Twine Co.,	dip nets,	. . . . .	\$2	76	
	" "	seine nets,	. . . . .	26	95	
	Adams Express Co.,	expressage,	. . . . .	30		
	" "	"	. . . . .	30		
	N. Y., O. & W. R'y,	freight,	. . . . .	50		
	W. R. Dodge,	cartage,	. . . . .	12	70	
	Alma Green,	"	. . . . .	9	00	
	Willis Twist,	services,	. . . . .	1	00	
	Chas. Laraway,	"	. . . . .	45	00	
	H. E. Annin,	"	. . . . .	91	50	
	" "	expenses,	. . . . .	11	57	
						Forward, \$201 58

			Brought forward,	\$201 58
June.	Johnston & Albee,	hardware,	\$1 52	
	Chas. Laraway,	services,	6 00	
	H. F. Annin,	“ and expenses,	76 10	
				83 62
July.	H. E. Annin,	services,	\$75 00	
	“ “	stamps and notary,	45	
				75 45
Aug.	H. E. Annin,	services,	\$75 00	
	“ “	stamps and notary,	45	
				75 45
	Total,			<u>\$436 10</u>

Schedule “H.”

PLEASANT VALLEY HATCHERY.

1895.				
May.	F. L. Ramsdell,	services,	\$77 50	
	“ “	expenses,	40 86	
	F. C. Hunniston,	services,	33 75	
				\$152 11
June.	F. C. Hunniston,	labor,	25 00	
				25 00
July.	F. C. Hunniston,	27 days' labor at \$1.25,	33 75	
				33 75
Aug.	F. C. Hunniston,	25½ days' labor at \$1.25,	31 88	
				31 88
	Total			<u>\$242 74</u>

Schedule “I.”

SALARIES OF OFFICIALS AND OFFICE EMPLOYEES.

Barnet H. Davis, President, salary,	\$1,748 84
Henry H. Lyman, Commissioner, salary,	349 69
Wm. R. Weed, “ “	349 69
Chas. H. Babcock, “ “	349 69
Edward Thompson, “ “	349 69
E. P. Doyle, Secretary to July 8, salary,	376 29
F. B. Mitchel, “ from July 8, “	290 30
W. L. Lawton, Draughtsman, “	232 25
Wm. F. Fox, Engineer (Supt. Forests), salary,	636 73
A. N. Cheney, State Fish Culturist, “	950 00
A. J. Mulligan, Auditor and Pay Clerk, “	326 59
John Liberty, Clerk to Chief Protector, “	378 68
J. J. Fourqurean, Stenographer, “	300 00
A. B. Strough, Special Agent, “	170 00
Total	<u>\$6,808 44</u>

Schedule "J."

SALARIES AND EXPENSES OF PROTECTORS AND FORESTERS.

	Salary.	Expenses.	Total.
J. W. Pond, Chief Protector,	\$499 98	\$280 10	\$780 08
J. E. Leavitt, Assistant Chief Protector,	351 66	113 86	465 52
M. C. Worts, " " "	335 47	125 81	461 28
Robert Brown, Protector,	124 98	107 35	232 33
Willet Kidd, " . . .	166 64	150 00	316 64
Matthew Kennedy, " . . .	166 64	148 05	314 69
C. H. Barber, " . . .	166 64	154 14	320 78
H. Hawn, " . . .	12 09	11 10	23 19
Spencer Hawn, " . . .	96 76	87 50	184 26
Harry C. Carr, " . . .	83 32	75 00	158 32
Joseph Northup, " . . .	166 64	149 90	316 54
G. M. Schwartz,	20 83	11 48	32 31
E. I. Brooks,	146 48	131 05	277 53
O. S. Potter,	114 25	82 20	196 45
J. W. Littlejohn,	30 91	27 82	58 73
E. J. Lobdell,	114 23	99 42	213 65
B. S. Morrill,	155 89	135 77	291 66
A. Winslow,	111 54	62 56	174 10
E. Hathaway,	112 89	92 72	205 61
A. B. Klock,	108 82	97 99	206 81
A. Muir,	108 83	96 95	205 78
E. S. Benjamin,	98 08	65 86	163 94
Robert Bibby,	75 53	44 14	119 67
Wm. A. Ten Eyck,	146 48	123 75	270 23
S. M. Prouty,	104 82	94 35	199 17
D. N. Pomeroy,	146 48	131 86	278 34
W. L. Reed,	131 70	111 44	243 14
L. S. Emmons,	129 01	116 74	245 75
G. B. Smith,	124 98	111 17	236 15
R. M. Rush,	124 98	89 55	214 53
Geo. Carver,	124 98	112 50	237 48
J. L. Ackley,	105 52	93 04	198 56
Ira Elmendorf,	83 32	75 00	158 32
M. E. Sawyer,	30 91	5 66	36 57
J. H. Lamphere,	83 32	75 00	158 32
John M. Newton, Special,	30 00		30 00
F. N. Cheney, "	37 93		37 93
	\$4,773 53	\$3,490 53	\$8,264 36

Total, \$8,264 36

Schedule "K."

STATIONERY AND PRINTING.

Weed, Parson Printing Co.,	\$518 95
J. B. Lyon,	30 00
Mazeltic Pen Co.,	12 00
Albany News Co.,	15 72
Total,	<u>\$576 67</u>

Schedule "L."

MISCELLANEOUS EXPENSES.

Postage,	\$164 01
Western Union Telegraph Co.,	97 89
Hudson River Telephone Co.,	102 15
American Express Co.,	14 60
National Express Co.,	5 92
A. M. Michael, rubber stamps,	11 30
J. J. Jones, rubber stamps,	20 70
Lang Stamp Works, rubber stamps and seals,	28 10
Julius Bien & Co., atlas,	30 00
Meyrowitz Bros., compass,	3 50
J. McDonough, books,	3 00
Pyrke & McClaskey, books and papers,	7 18
Henry Romicke, press clippings,	79 05
W. E. Banning, net tags,	22 50
Frazer & Kelley, freight and cartage,	11 62
F. J. Byrant, feed for deer at Park,	125 25
William Atkins, carting feed,	20 25
Cyrus Donovan, services at Deer Park,	93 52
E. J. Lobdell, " " " "	10 00
J. Francisco, surveying,	13 00
Geo. W. Lewis, services,	55 00
Wm. Wolf, labor,	307 00
A. B. Strough, Special Agent,	59 49
Metropolitan Telephone Co., New York,	25 00
A. B. Colvin, Treasurer, balance returned from J. M. Newton; check to correct error,	43 28
F. N. Clark, desk, etc., New York, Shellfish Office,	40 50
Advertising oyster leases, New York, " "	15 00
Edgar Hicks, services, New York, " "	45 00
A. P. De Miller, services, New York, " "	97 75
Ford & Bach, surveying, " "	52 25
Chas. Weyth, services, surveying, " "	178 72
Total,	<u>\$1,782 53</u>

Schedule "M."

EXPENSES OF OFFICIALS.

Barnet H. Davis, President,	\$449 54
William R. Weed, Commissioner,	272 08
William F. Fox, Engineer and Superintendent,	115 12
F. B. Mitchell, Secretary,	22 27
A. N. Cheney, State Fish Culturist,	105 48
E. P. Doyle, ex-Secretary,	370 52
Total,	<u>\$1,335 01</u>

Schedule "N."

DISBURSEMENTS ON ACCOUNT OF HATCHING SHAD ON THE HUDSON.

1895			
June.	Albert Hart,	19 days' labor,	\$38 00
	Edward Hallenbeck,	24 " "	48 00
	Mrs. E. Hallenbeck,	25 days' board,	17 88
	E. L. Marks,	15½ " "	10 96
	A. H. Hart,	18 " "	12 88
	W. D. Oviatt,	22 " "	15 72
	A. G. Hallenbeck,	3 weeks' boat hire,	3 00
	John G. Pinder,	14 nights' fishing with seine and men, at \$20 per night,	280 00
	L. S. Hart,	3 days' board,	3 00
	W. D. Oviatt,	24 days' labor, at \$2,	48 00
	" "	Railroad fare and traveling expenses,	15 27
	E. L. Marks,	Railroad fare and expenses,	23 33
	Total,		<u>\$516 04</u>

Schedule "O."

DISBURSEMENTS ON ACCOUNT OF TRANSPORTATION AND DISTRIBUTION OF
BLACK BASS.

1895			
July.	To M. B. Hill,	15 days at \$2.50	\$37 50
	W. A. Hill,	15 " \$1.50	22 50
	W. D. Oviatt,	12 " \$2.00	24 00
	" "	traveling expenses	3 37
	Mrs. H. Baker,	board	6 27
	James Andrews,	2 days' labor	3 00
	Geo. Scriba,	15 " "	22 50
	" "	rent of boat 16 days	4 00
	Mrs. C. C. King,	30 days' board at \$1.00	30 00
	W. D. Marks,	miscellaneous expenses	3 20
	Forward,		<u>\$156 34</u>

			Brought forward,	\$156 34
Aug.	M. B. Hill,	traveling expenses	\$29 44	
	Jno. A. Upton,	“ “ June and July	147 73	
	W. D. Oviatt,	traveling and miscellaneous, June and July	41 51	
	Mrs. J. W. Winn,	4 weeks' board at \$5.00	20 00	
	J. E. Miller,	carting fish, etc.	11 00	
	Jno. C. Barber,	450 black bass	31 50	
	“ “	ice	3 00	
	Geo. H. Hubbard,	teaming	16 00	
	W. E. Hall,	board of men	9 75	
	Schofield, Woodward,	teaming	1 90	
	Mrs. C. King,	board of men	3 00	
	U. S. Express Co.,	. . . . .	24 00	
	J. G. Annin,	miscellaneous expenses	4 10	
				342 93
		Total,		<u>\$499 27</u>

Schedule “P.”

DISBURSEMENTS—OYSTER AND SHELLFISH FUND.

1895.				
June 7.	Paid J. Mesereau, Oyster Protector, salary,		\$83 33	
	“ “ “ “ expenses,		26 38	
July 8.	“ “ “ “ “		23 63	
	“ “ “ “ salary,		83 33	
Aug. 8.	“ Edward Hicks, “ “		83 33	
	“ “ “ “ expenses,		32 08	
	8. Staten Island Gazette Adv.,		19 00	
	8. Chas. Weyth, services,		38 50	
		Total,		<u>\$389 58</u>

Schedule “Q.”

RECEIPTS FROM RENTALS &C., ON ACCOUNT OF LAND PURCHASE FUND.

1895.				
June 1.	P. Moynehan,	balance due,	\$ 46 18	
	E. & B. Mannierre,	rental State land,	150 00	
	“ “	“ “ “	300 00	
July 2.	W. P. Mason,	“ “ “	150 00	
	J. Lapham,	“ “ “	75 00	
	O. Lapham.	“ “ “	30 00	
10.	W. D. Mann,	“ “ “	50 00	
11.	Wm. C. Waite,	“ “ “	30 00	
		Forward, \$831 18		

			Brought forward,	\$831 18
July 15.	C. T. Kirby,	rental State land,	. . . . .	50 00
16.	Delevan Bloodgood,	" " "	. . . . .	75 00
18.	T. P. Wicks,	" " "	. . . . .	30 00
23.	John B. Henderson,	" " "	. . . . .	50 00
Aug. 8.	A. G. Gerster,	" " "	. . . . .	200 00
19.	Cecil Gabbitt,	" " "	. . . . .	50 00
20.	L. H. Filmore,	" " "	. . . . .	10 00
			Total,	<u>\$1,296 18</u>



Account of Fines and Penalties.

By the provisions of Chapter 488, Laws of 1892, as amended by Chapter 395, Laws of 1895, the proceeds of all fines and penalties recovered since May 5th, 1892, for the violation of the Game Laws have been, or should have been, paid to the Commission, to be by them applied to the payment of moieties to complainants, costs of court, and general expenses of actions and proceedings in the prosecution of cases for violation of the Game Laws. It also provides that such payments are only to be made upon the certificate of the Chief Protector, which must show the amount due and payable to the claimant from the said fund.

This account and claims arising under the same have caused this Commission much trouble. The claims were mostly small, but very numerous, scattered throughout the State, and in many cases had been due the claimants from one to three years, they having been given to understand that there were no funds available, or payment deferred from some other reason. Many who had turned in money, to a moiety of which they were specifically entitled, were especially urgent for their share of the same. But as we found no books of account, vouchers, or sufficient data to enable us to settle their claims, and no funds with which to liquidate the same, they were necessarily still further delayed.

Protectors' reports indicated very many fines imposed, but no system of accounts for the receipt or disbursement of the fund seemed to exist whereby we could determine whether the fines had been actually paid and recovered by the Commission, or whether the parties entitled to compensation therefrom had been paid.

By resolution of this Board dated June 7th, 1895, this account and the funds belonging thereto were ordered turned over to the Chairman of the Executive Committee, and June 9th, 1895, he received from the old Commission, through its late Secretary, \$626.59 and a book apparently transcribed from some other book or account going back to October 1st, 1894. The \$626.59 was the balance which we were informed was due. The discrepancies discovered and numerous old claims presented for payment compelled us to take steps to obtain possession of the books and vouchers of our predecessors which would enable us to make a fair and business-like settlement of the same, and on September 4th the following resolution was adopted:

REGULAR MEETING, September 4th, 1895.

Commissioner Lyman, Chairman of the Executive Committee, offered the following, which upon a yea and nay vote was adopted:

Whereas, This Commission is required by law to make a report to the Legislature of all official and financial operations for the fiscal year ending September 30, 1895, and

Whereas, To enable us to make such a report it is absolutely necessary that we have access to the books of accounts and vouchers for expenditure of our predecessors of the Fish Commission, and

Whereas, Many bills for large amounts against the old Commission, dated back in some cases as far as 1890, and claims for moieties of penalties and for services of attorneys, some of them three or four years old, are being presented to us for payment, adjustment and liquidation, and

Whereas, Although repeatedly called for through the Ex-Secretary, we have not had turned over to us any such books, receipts, papers or vouchers (except a book of fines and penalties going back to October 1st, 1894, and some hatchery vouchers), so that this Commission is left entirely in the dark, and with no data or records from which to settle with claimants, or even to intelligently answer communications; now, therefore, be it

Resolved, That our Secretary be directed to respectfully call the attention of the late Fish Commission to this matter, and request that at their early convenience they will turn over to us all books, receipts, duplicate bills, vouchers and papers connected with the Fish Commission and used by them or their predecessors.

Resolved, That with said communication the Secretary furnish the members of the late Commission a copy of the foregoing resolution.

In pursuance of which resolution the following communication was mailed each member of the old Commission:

"OFFICE FISHERIES, GAME AND FORESTS COMMISSION, }
"ALBANY, N. Y., Sept. 6th, 1895. }

"L. D. HUNTINGTON, et al., *late Fish Commissioners State of New York* :

"GENTLEMEN: In compliance with the directions of this Board, I have the honor to request that you will kindly inform us at your early convenience whether you have any knowledge as to the existence of any books of account of the receipts and expenditures of the Fish Commission during your membership thereof. Also, as to whether it was your custom to require duplicate vouchers of disbursements, and, if so, where the same may be found. We have been unable to find anything of the kind (except as explained by enclosed resolution), and find ourselves very much embarrassed in auditing and liquidating claims presented, and totally unable to make a detailed financial statement for the fiscal year ending September 30, 1895, especially as we find no such statement included in the report of your honorable Board for 1894, now in the hands of the printer.

“ We are particularly troubled by claimants upon the fines and penalty fund, some of them going back two or more years, and we shall esteem it a great favor if you will give us such information as you possess with reference to the matters in question.

“ In this connection we would respectfully call your attention to the fact that no formal transfer of funds or property on hand was ever made by or demanded of the outgoing Commission; but as considerable part of these funds are not taken up and accounted for in the report of your honorable Board, it is only right and proper, and justice to yourselves as well as a convenience and necessity to us, that the books and vouchers showing their disposition should be produced and left on file. We assure you, gentlemen, that it is and has been our sincere desire not to cause you any annoyance or trouble, and that we have deferred making this request for a long time, hoping we might find the records wanted or that we could in some way get along without asking your assistance, but find it cannot be done, and with fullest confidence that you will cheerfully render us such aid as you are able, in getting at the correct status of the financial affairs and obligations of the Commission at the time you were relieved, we respectfully ask you for this assistance. In short, this Commission is disinclined to assume the responsibility of attempting to account for large amounts of money received and expended, with no data from which to make a report. Neither do we wish to admit in an official report that it is impossible for us to account for the funds, an admission which would be not only discourteous to your honorable body, but at the same time a reflection upon ourselves, and we feel confident that you can and will, perhaps with very little trouble to yourselves, give us the information and assistance that will enable us to make a satisfactory and complete report and accounting.

“ Awaiting your reply, we are, gentlemen,

“ Most respectfully yours,

“ FISHERIES, GAME AND FORESTS COMMISSION,

“ BY F. B. MITCHELL,

“ *Secretary.*”

The president and other members of the old Commission kindly responded to our communication, and subsequently assisted in obtaining such books and vouchers as could be found, some of them very important, although seriously defective and incomplete. A part of the records admitted to exist were still retained, on the alleged ground that they could only legally be delivered to the Comptroller.

The position taken by the custodian of the books and papers which had been withheld from us, viz., that this Commission were not the legal representatives of the old Commission, and thereby entitled to possession of its books and papers, was

declared untenable by the Attorney-General, and the so-called Fines and Penalties book, with others mentioned above, were finally delivered. In the meantime we had started a book which took up by itself every case reported by protectors and others since May 5th, 1892, and by such methods as were practicable have obtained and made as complete a history as possible of each case from the complaint to the final disposition thereof. From the facts shown by this supplemental book and the one received, we hope soon to adjust all claims properly chargeable to this fund and collect sufficient money with which to liquidate the same.

This lengthy explanation of this account, and our action in connection with the same, is thought to be proper, as great misapprehension has prevailed throughout the State regarding the source from which the funds are derived for the enforcement of the Game Laws. Many appear to suppose that, having presented a just claim, it should be paid at once, without reference to the funds applicable thereto.

Section 242, Chapter 488, Laws of 1892, provides that the Commissioners of Fisheries shall include in their annual report a detailed statement of their receipts and disbursements of this fund, and the present law requires the same of this Board; but as such report was never made we have not the advantage of the knowledge supposed to be communicated thereby. We think, however, from investigation thus far made that the money derived from this source was in the past and will in the future be ample to meet all the legitimate expenses of prosecutions necessary under the Game Laws.

Large amounts have heretofore been disbursed from this fund for various purposes not provided for by law, and in many instances fines collected have not been returned to the Commission.

A system with proper checks, vouchers and safeguards for the collection, deposit, accounting and disbursement of this fund, which works smoothly, has been adopted, and enables us to promptly liquidate any claim thereon.

The following extract from the report and account of the Chairman of the Executive Committee of October 8th, 1895, shows the transactions of the Board, as required by law, from April 25th, 1895, to and including September 30th, 1895:

ACCOUNT FINES AND PENALTIES.

		RECEIPTS.	
June	27	People vs. W. Burger,	\$30 00
	27	“ Geo. Almeroth,	14 45
	27	“ Fayette Fleek,	7 30
	27	“ Henry Mullin,	14 13
	27	“ John Bell,	5 00
	27	“ Wm. Erbach,	10 00
			Forward, \$80 88

RECEIPTS—Continued.

			Brought forward,	\$82 88
June	27	People vs. Terry Burns,		3 00
July	2	“ Davis & Jones,		101 05
	2	“ Helmer & Crosser,		30 00
	2	“ John Harter,		50 00
	9	Check from Edward P. Doyle,		626 50
	23	“ Putnam, from E. P. Doyle,		16 00
	23	“ S. Belcher,		25 00
	16	People vs. J. D. Bates,		25 00
	19	“ Lorenzo Graves,		8 20
	19	“ Fred. Wait, et al.,		86 00
	19	“ Norman Howard,		25 00
	19	“ William Forbes,		13 00
	25	“ Taylor & Coy,		5 00
Aug.	5	“ Horace Davis,		8 35
	5	“ M. Burns,		7 20
	5	“ Gong & Bros.,		6 00
	5	“ Wilson & Bradley,		27 00
	5	“ E. Hosman,		10 00
	5	“ Chas. Parmateer,		4 07
	5	“ Dart & Bailey,		18 50
	5	“ M. Chamberlain,		15 00
	6	“ Louis Seymour,		35 00
	6	“ Palmer & Trowbridge,		9 00
	6	“ D. Darling,		2 00
	15	“ A. B. Tuthill,		7 50
	15	“ Deyo, et al.,		50 00
	15	“ Pickert & Radley,		15 00
	15	Chief Pond, witness fees returned,		47 76
	15	People vs. Joseph Ehrinfield,		50 00
	26	“ W. Barber, et al.,		24 00
	30	“ A. S. Mitchell,		10 00
	30	“ G. L. Crary,		100 00
	30	“ A. Warner, et al.,		63 00
	30	“ Chas. Bedell,		5 00
Sept.	2	“ W. Briggs,		23 00
	4	“ E. E. Clark, et al.,		49 25
	19	“ Jno. Saltman,		11 80
	19	“ George Fish,		23 70
	19	“ Wm. Duell,		23 75
	19	“ D. Alger,		25 00
	30	“ Jewell & Thompson,		21 00
	30	“ Albert Hall, et al.,		20 00
	30	“ Hunter & Phalen,		25 00
	30	“ E. W. Tingley		10 00

 \$1,841 55

REPORT OF THE COMMISSIONERS OF

DISBURSEMENTS.

July	11	E. I. Brooks,	. . .	Moiety,	. . .	\$50 52
	11	" "	. . .	" "	. . .	7 22
	11	M. Kennedy,	. . .	" "	. . .	15 00
	11	" "	. . .	" "	. . .	25 00
	11	F. W. Cheney,	. . .	" "	. . .	3 65
	11	Frank Joy,	. . .	" "	. . .	7 06
	23	Joseph Northup,	. . .	" "	. . .	6 50
	23	W. C. Kendall,	. . .	" "	. . .	3 40
	23	M. Kennedy,	. . .	" "	. . .	12 50
	23	" "	. . .	" "	. . .	43 00
	26	Simon Marshall	. . .	" "	. . .	9 00
Aug.	12	H. C. Carr,	. . .	" "	. . .	12 50
	12	" "	. . .	" "	. . .	12 50
	12	D. S. Morrill,	. . .	" "	. . .	3 00
	12	M. Kennedy,	. . .	" "	. . .	13 50
	12	Ira B. Elmendorf,	. . .	" "	. . .	4 50
	12	Geo. M. Schwartz,	. . .	" "	. . .	3 60
	12	Simon Marshall,	. . .	" "	. . .	2 50
	12	John L. Ackley,	. . .	" "	. . .	9 25
	12	Joseph Northup,	. . .	" "	. . .	5 00
	12	" "	. . .	" "	. . .	8 00
	12	E. R. Benjamin,	. . .	" "	. . .	3 75
	16	M. Kennedy,	. . .	" "	. . .	25 00
	16	E. J. Lobdell,	. . .	" "	. . .	17 50
	16	" "	. . .	" "	. . .	4 17
	16	Ira Elmendorf,	. . .	" "	. . .	7 50
	16	" "	. . .	" "	. . .	1 00
	16	J. W. Pond,	. . .	" "	. . .	50 00
Sept.	13	Ira Elmendorf,	. . .	" "	. . .	12 00
	18	E. J. Lobdell	. . .	" "	. . .	3 97
	18	" "	. . .	" "	. . .	3 97
	18	" "	. . .	" "	. . .	3 85
	18	" "	. . .	" "	. . .	12 82
	18	Charles Ward,	. . .	" "	. . .	31 50
	18	J. W. Pond, witness fees,	Bean & Bago,	. . .	. . .	75 00
	19	George Carver,	. . .	Moiety,	. . .	11 87
	19	" "	. . .	" "	. . .	11 87
	19	Frank Joy,	. . .	" "	. . .	11 50
	30	George Carver	. . .	" "	. . .	10 50
	30	J. D. Lawrence,	. . .	" "	. . .	5 00
						\$559 97
Total amount of Receipts,						1,841 55
Balance in State National Bank, Albany, N. Y.,						
October 1st, 1896,						\$1,281 58

Account of Net Licenses.

By Section 151, Chapter 974, Laws of 1895, it was made the duty of this Board to prescribe rules and regulations for granting licenses for seines, fykes and nets under certain circumstances after September 1st, 1895. In compliance with said provision of law, we adopted and published certain rules whereby among other things a fee of \$1.00 was required for each license.

The following is a correct list of the persons licensed with amount received for same during the month of September, 1895 :

RECEIPTS FROM NET LICENSES.

1895.					
Sept.	9	Ephraim Snyder,	. . . Hudson River,	\$	1 00
	9	Jacob Pindar,	. . . " "		1 00
	9	John Locknell,	. . . " "		1 00
	9	" "	. . . " "		1 00
	9	Lester Miller,	. . . " "		1 00
	9	" "	. . . " "		1 00
	9	Wm. Proper,	. . . " "		1 00
	9	Theodore Bandon,	. . . " "		1 00
	9	G. A. Shiffer,	. . . " "		1 00
	9	John Race,	. . . " "		1 00
	10	Peter Gregory,	. . . " "		1 00
	12	Oscar Shults,	. . . " "		1 00
	12	Ernest Olin,	. . . " "		1 00
	12	Augustus Clark,	. . . " "		1 00
	12	John Best,	. . . " "		1 00
	12	Coon & Salspaugh,	. . . " "		1 00
	14	Peter G. Bronk,	. . . " "		1 00
	14	Ike Bully,	. . . " "		1 00
	18	M. V. Sutherland,	. . . " "		1 00
	18	William Hill,	. . . " "		1 00
	18	Harry D. Bitley,	. . . " "		1 00
	18	Chas. Markletopsky,	. . . " "		1 00
	19	Elmer Rowe,	. . . " "		1 00
		Total,	. . . . .	\$	23 00

Deposited in State National Bank, Albany, N. Y.,

October 1st, 1895, \$23 00

As the law does not provide for the disposition of these license fees, they will be turned over to the Comptroller to be credited to the general fund of the State, with an itemized account showing the source and persons from whom received.

Oyster Franchise and Lease Account.

Chapter 584, Laws of 1887, provides for granting of franchises for oyster cultivation of certain lands under water, and directs the moneys received therefor to be paid into the State treasury; and Chapter 321, Laws of 1893, as amended by Chapter 974, Laws of 1895, provides for leasing lands for same purpose.

It was expected that the State would receive a considerable income from this source, but prices realized for the franchises and privileges were less than expected from the beginning, and have fallen off of late years. Apparently no complete and systematic accounts were kept, and no detailed reports have been made which give us the information desired upon the subject. The books and records relating to this matter received by us show considerable sums of money yet due from various parties, and that quite a large amount had been collected for these privileges for the last two or three years, which had not been paid to the State Treasurer. We cannot, at this time, give the correct figures of the aggregate amount due and uncollected on this fund; but are having the books examined and written up with a view to collecting the money due for franchises and rentals, and of making a complete and correct statement thereof.

We have received as advances for leases applied for, \$14.25. This amount will be deposited with the Treasurer, and an itemized statement, showing from whom the money was received or upon the rental of what particular leases it is to be applied, will be made and filed with the Comptroller as soon as the leases are executed.

Annual Report of the Shellfish Commissioner of the State of New York.

To the Commissioners of Fisheries, Game and Forests:

GENTLEMEN: I was appointed Commissioner of Fisheries, Game and Forests on the 25th day of April, 1895, and at the meeting of the Commissioners held on that date was designated Shellfish Commissioner. The law under which the Commissioners of Fisheries, Game and Forests were appointed provides that the Commissioners shall designate one of their number to be Shellfish Commissioner, and that such Shellfish Commissioner should have charge of that part of the work of the Commission which relates to the granting of franchises in lands under water for the purposes of shellfish cultivation and the protection of shellfish interests. To this work I was assigned, as I had considerable experience in the cultivation of shellfish and was familiar with the work. The original act, passed for the encouragement of the shellfish industry of the State in 1886, provided that one of the Commissioners of Fisheries should be a practical oysterman; but the act under which the present Commissioners were appointed contains no special requirements, and the Governor was not limited in his choice of its members. Immediately after my appointment I entered upon the duties of my office, and assumed charge of the rooms at 53 Broadway, New York, of the late Board of Commissioners of Fisheries, as all the records of that Commission which were of value or importance to the shellfish work of the State were there. The maps and engineering data and surveying instruments of that Commission were also in their New York office. This office was later designated by your body as the office of the Shellfish Commissioner. It is perhaps well to state here that while I assumed charge of this office and of the books, maps and instruments relating to the shellfish work of the old Commission, no formal transfer of such property was ever made by that Commission to me. Important matters were brought to my attention relating to my department as soon as I became Commissioner, and it was necessary for me to immediately commence my work. A dispute of great importance, as to certain planted beds of oysters at or near Matinnecock Point, Long Island Sound, was pending, and as actual hos-

ilities were threatened, it was necessary that the dispute should be settled at once. Two years ago the Commissioners of Fisheries advertised and sold a plat of land off Matinnecock Point to the Matinnecock Point Oyster Company. This plat was claimed at the time to be a bed of oysters of natural growth, but such claim, after investigation, was denied by the Commissioners. After much dispute the lot was sold, and the Company entered into possession and began the cultivation of seed. The natural-growth oystermen apparently acquiesced in this occupation and cultivation, and for some time made no attempt to interfere with the Company. During the present summer they began to claim that more ground had been cultivated than had been granted, and I immediately caused a survey to be made of the ground in question, it being claimed by the natural-growth oystermen that the occupants had planted more and cultivated more than the area granted them by the State, and caused a thorough investigation to be made. As a result I reported to your body that the grounds occupied were the grounds originally granted, and that there was no just cause for complaint. As I had notified the natural-growth oystermen that this survey would take place, my decision gave entire satisfaction, and what threatened to be a very serious difficulty was amicably settled.

Another dispute as to a piece of ground off Port Jefferson Harbor was pending at the same time. This had been applied for by planters, but was claimed to be a bed of oysters of natural growth. I took an engineer with me and visited the point in question. We made a thorough investigation, and at the end I was enabled to inform your body that the ground in question was a bed of oysters of natural growth and should be set apart and reserved to the people of the State forever. This decision also proved satisfactory, and the applicants have abandoned their pursuit of this territory. It, perhaps, would be well at this point to explain why disputes of this character are constantly arising between those who cultivate and plant oysters and those who depend upon the beds of natural growth for their living. Originally the supply of oysters for market was obtained entirely from beds of natural growth. This supply was sufficient for the needs of a scanty population living along the Atlantic coast and proved adequate for many years. With the increase of population, however, the improvement of transportation facilities, and the exportation of oysters to foreign countries, the beds of natural growth failed to produce oysters fast enough to keep pace with the increased demand. Then it was that oysters began to be cultivated, and lands under water in bays, harbors, and in shoal sounds were taken by oystermen, sometimes upon a lease from the town where they were situated, but oftener without title, and while still depending upon the natural-growth beds for seed, the cultivation of planted beds of oysters began. The constantly increasing demand, together with the appearance upon the natural beds of starfish in large quantities, and the inability of the natural-

growth oystermen to successfully cope with this enemy, made it impracticable for the planters to depend upon this source for their necessary supply of seed. These beds, being in all instances overworked and without cultivation, became in some cases greatly depleted, and in others entirely destroyed by starfish, so that it became as necessary to cultivate seed oysters for the use of planters as to cultivate the oysters for market. This fact, together with the continued decrease of oysters from the Chesapeake Bay, the great natural oyster bed of the world, was the primary cause of the agitation among oystermen for some surer method and more certain source for procuring the necessary supply of seed, which resulted in the Oyster Law of Connecticut passed in 1884. This law provided for the sale of lands under water on the Connecticut side of Long Island Sound with the view that these lands would be used for the cultivation of seed. The lands were at once taken up in large quantities, were dredged and cleaned, shells were planted and the cultivation of seed began, and then began also the fight as to what constituted a bed of oysters of natural growth. This fight was at one time in Connecticut an extremely bitter one and very hotly contested. It has now, however, been practically ended in that State, and planters and natural-growth oystermen live amiably together. In 1886 a similar law, except that in this State the oystermen were given a franchise, while in Connecticut they were given a deed, was passed, and the cultivation of seed on the New York side of Long Island Sound began, and the question of what constituted a bed of oysters of natural growth had to be determined. The Commissioners of Fisheries in Connecticut and in this State also adopted as a rule that a bed of oysters of natural growth to be designated by them as such must be a bed which produced each year and which at all times contained oysters in sufficient quantities to enable a man to make a living thereon, and not a sporadic growth of oysters which might occur on any piece of land under water suitable for the cultivation of shellfish. To draw the line properly, however, and to decide just which lands to be granted and which not, has been a difficult question to determine. The question, however, is now satisfactorily settled, and, I think, will cease to be a troublesome one.

It is, perhaps, well to explain now the method used by oystermen to cultivate these beds of seed oysters and to explain how difficult it is and what an immense amount of money and time is necessary to produce a successful result. I have taken the time to explain the whole method from the beginning, in order that the system in vogue under the old Commission, and under myself, for the granting of franchises should be thoroughly understood.

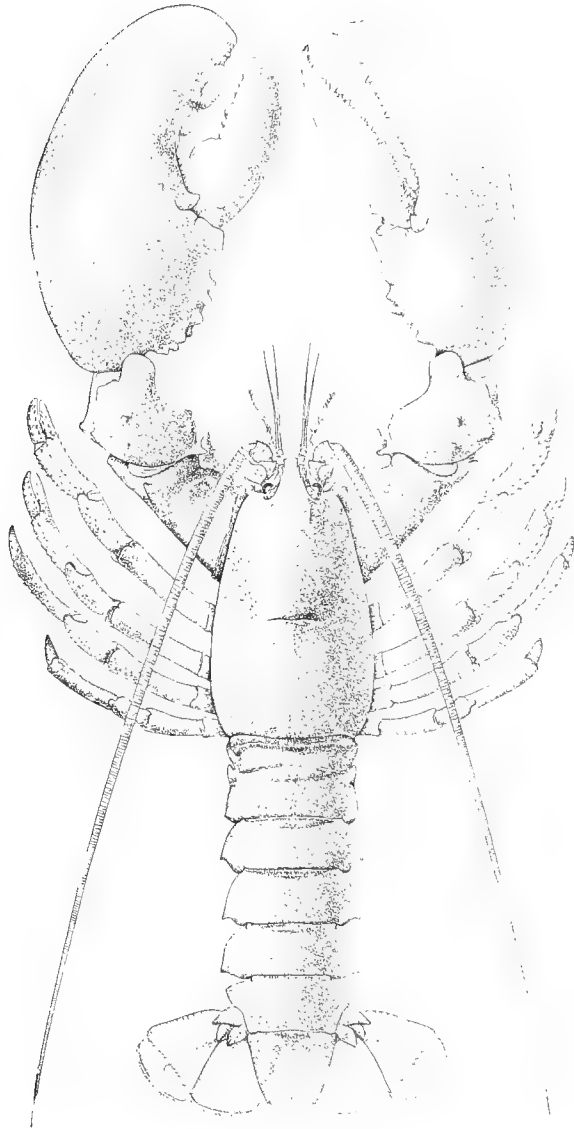
Unless the oysterman is already in occupation of the land he desires to make the application for, he usually makes a preliminary examination, in order to satisfy himself that the ground he wishes to apply for has the necessary requisites for a successful bed of oysters. The ground most desirable is hard bottom, and should be free from

rocks; and wherever it is exposed to heavy gales it should not be in less than five fathoms of water. After the ground has been selected the applicant fills out a written application to the Commissioners in which he recites that he is a resident of the State, that the land applied for has not for five years been a bed of oysters of natural growth, and that he needs this ground for the cultivation of oysters or other shellfish. This application is posted in the office of the Shellfish Commissioner, and advertised for four weeks in at least two papers published in the town or county nearest the lease applied for; and notice is also posted in the Town Clerk's office.

The engineer of the Commission in the meantime surveys the land applied for, certifies to its boundaries and extent, and under the direction of the Shellfish Commissioner makes an examination to determine as to whether the ground is or is not a bed of oysters of natural growth. If all the examinations and investigations are satisfactory, the Commissioners, at a regular meeting pursuant to the advertisement, offer the land for sale openly and to the highest bidder. It usually happens that the applicant is the successful purchaser, but he must take his chances with the rest; and there are instances when, after taking all the trouble and going to all the expense, another than the applicant secures the ground.

After the franchise has been obtained the ground is buoyed and the work of cultivation begins. If the ground is in deep water, and desirable for the cultivation of seed, the purchaser first dredges it very carefully with a steam dredge until every piece of rubbish is removed from it; then at the proper season, say from the fifteenth of July to the fifteenth of August, shells or broken stone are planted, together with a sufficient number of spawn oysters. If a sett, as it is termed, of seed oysters is obtained, all that is necessary to do then is to keep the ground free from starfish, and for this constant vigilance is required. In five years or thereabouts the oysters, after proper replanting, are ready for market.

It will be seen by this that the value of lands under water for oyster purposes depends in a very large measure upon the cultivation and not upon their intrinsic worth. The State of New York possesses oyster property unequalled, perhaps, by any Northern State, with an abundance of territory in Long Island Sound suitable for the cultivation of seed; it has large areas of shallow water in bays and harbors, where oysters of incomparable flavor can be fattened for market. Many of the oysters famous throughout this country, and even in Europe, are the direct product of the waters of the State of New York; this is especially so of the Blue Point oyster and those that are marketed from Rockaway. If one considers for a moment the rapid growth of this industry in this State since the passage of the Act of 1886, and will think for a moment of the advantages possessed by this State, they can readily understand that all that is



AMERICAN LOBSTER (*Homarus Americanus*).

needed to make the State of New York the greatest Northern oyster-producing State is liberal legislation and proper attention to oyster interests.

The most important work in my department other than the settlement of these disputes as to the natural-growth beds of oysters was the survey of Jamaica Bay. This Bay, where 500 men make a living in the oyster business, is especially suited for the growth of oysters for market. Oysters will not reproduce themselves in Jamaica Bay, and must be brought there as seed; but when transplanted, thrive wonderfully, and, being of excellent flavor, are readily marketed.

Oyster culture has been carried on for a long time in this bay; the town granted a form of lease which, while very good in its way, gave the oystermen but little protection, and the recent change of the law, and the opinion of the Attorney-General having been obtained to the effect that the Commissioners of Fisheries, Game and Forests could grant lands under water for oyster cultivation in the Kings county portion of this bay, the oystermen at once made application for State leases. I immediately caused a survey to be made, which is about completed, and which has been filed in the office of the Commissioners of Fisheries, Game and Forests. This survey, a copy of which will go to the State Engineer's Office, will be of great value to the State, not only for the purpose of granting lands under water for oyster culture, but also in granting lands under water for riparian purposes by the Commissioners of the Land Office.

About one hundred applications for leases of land under water in this bay have already been received and a large number have been advertised and sold. There are still a large number of applications pending, and the survey is still incomplete; but it can be very easily and cheaply finished, as the principal work is completed. In addition to this work, and pursuant to the same opinion of the Attorney-General, I caused a thorough survey to be made of the shores of Long Island Sound and Westchester county, and several applications have already been received from this territory.

There is a large amount of excellent oyster land still unapplied for in Long Island Sound, although the survey of the entire shore, as far as Orient to the eastward and Throgs Neck westward, has been completed; and the expense of the engineer's department of the Shellfish Commissioner's branch of your work will be very slight hereafter. I have caused a number of signals used by the old Commission, that were of a temporary character, to be replaced by more permanent ones, and, in addition, have repaired many of the old signals. As a result, the entire line of signals, both in Raritan Bay and Long Island Sound, are now in excellent condition, and can be kept so with but slight expense. In order that the people of the State may better comprehend the extent of the shellfish industry, I have caused a census to be taken which, though necessarily incomplete, is still of great value. This census shows that 6,280 men, using 18 steamers, 9 schooners, 235 sloops and 1,435 boats and skiffs, are

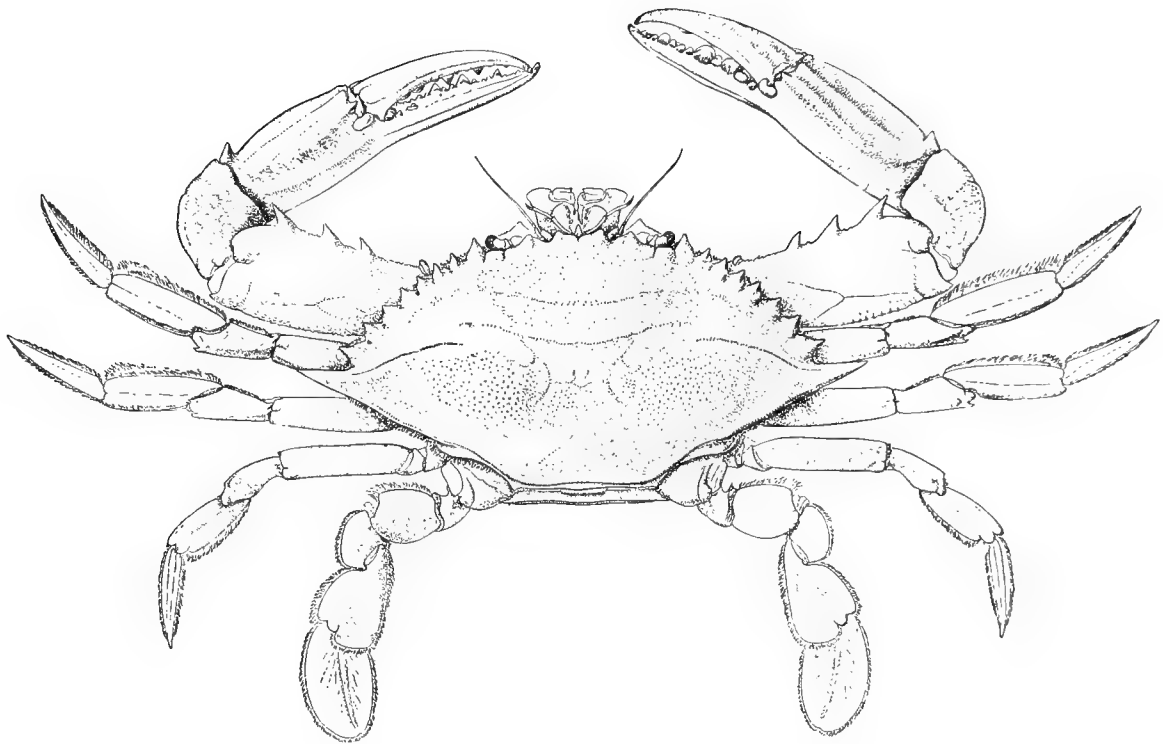
engaged in this industry. These men employ \$2,147,850 capital, and market annually 2,397,735 bushels of oysters and 380,460 bushels of clams. The market value of their product is probably very near to \$2,500,000.

I have been in office six months, and the means at hand were necessarily incomplete and unsatisfactory, so that I have not made this census as accurate or complete as it will be possible for me to do. With the means I now have at my command, and with the experience gained by the preliminary work, I am satisfied that the census of this industry would show it to be a great deal larger and more important than the estimate I have submitted appears to indicate. The exportations of oysters from the port of New York aggregate annually 125,000 barrels, at an estimated value of \$625,000. Fifty thousand bushels of seed oysters, valued at \$25,000, were shipped to California.

It would be very desirable if some method could be devised by which annual statistics of this industry could be given to the Legislature of the State in order to show its importance, and also to determine accurately the effect of existing legislation as it affects the industry favorably or unfavorably.

One of the most gratifying results of the passage of the laws of Connecticut, and in New York, has been the cheapening of oysters as a marketable commodity; they are no longer a luxury. Professor Atwater, of Wesleyan University, who has made a life study of the question of economic food supply, says the oyster, at its present price, and with its value as a food product considered, is the cheapest commodity of its kind on the market. Chemical analysis has determined that the oyster contains in large quantities the valuable protein substances that are of such value in building up the physical system. It seems, therefore, that the Legislature, recognizing the enormous possibilities of New York State for the production of oysters, should encourage this industry. There is nothing more important to be considered than the question of a food supply of the people, especially in view of the fact of the enormous increase in the population of the world. The food supply of the future is even now a question that is being widely discussed, and it seems to me that a great industry like this, which cheapens and increases the food supply of the people, should be encouraged.

In the leasing of lands under water I have considered that the intent of the Legislature in passing the laws under which I act intended rather the development of a great industry and the providing of cheap and abundant food for the people than the creation of an additional tax upon oystermen or increase of revenue to the State. No attempt has been made by the Commissioners of Fisheries, nor by myself, to increase the burdens of the oystermen by imposing unnecessarily large expense upon them to carry on the business, and the minimum price fixed by the Legislature has been, as a rule, accepted as satisfactory, apparently, to the Commissioners in the past, and certainly to myself, for the rental of these lands.



THE COMMON EDIBLE OR BLUE CRAB (*Callinectes hastatus*).

In the collection of statistics, of which I hand you herewith a copy, many interesting suggestions have been made. The most important one is that there should be a small appropriation made for purchase of a patrol boat, to be used by the oyster protectors in patrolling the territory in their charge. Some protection to the vast amount of property lying under water is secured by the oystermen themselves by providing watchmen; but this protection has been supplemented by the Legislature by providing for two oyster protectors. The work of these men, however, is considerably hampered by not having a boat. A small naphtha, or steam launch, could be cheaply purchased, and could be used very satisfactorily. I am just beginning to appreciate the importance of my branch of your work. As Shellfish Commissioner I am charged with the supervision, not only of the oyster business, but of its attendant industries, clams, mussels and scallops. The latter industry alone employs at least one hundred men in Peconic Bay. There is such a variety of conflicting interests to be considered and differences to be adjusted that my time is constantly and fully employed.

In conclusion I might add, since the law of 1887, entitled "An Act to promote the cultivation of shellfish in the waters of this State," there have been, of the whole territory, covered by franchises and leases up to date 17,707 acres, and there are still at least 200,000 acres available.

I append a summary of operations of the Menhaden Oil and Guano Association. All of which I respectfully submit.

EDWARD THOMPSON,
Shellfish Commissioner.

SECRETARY'S REPORT, U. S. MENHADEN OIL AND GUANO ASSOCIATION.

JANUARY 15, 1896.

Factories in operation,	. . . . .	42
Men employed ashore,	. . . . .	1,064
" " afloat,	. . . . .	1,212
Steamers in use,	. . . . .	48
Sailing vessels in use,	. . . . .	35
Pounds in operation,	. . . . .	24
Menhaden caught (fish),	. . . . .	462 millions
Oil made (gallon),	. . . . .	18 "
Crude fish scrap made,	. . . . .	22,000 tons.
Dry " " "	. . . . .	19,000 "
Capital invested,	. . . . .	\$1,553,000 00

Report of the Superintendent of Hatcheries.

To the Commissioners of Fisheries, Game and Forests :

GENTLEMEN : I have the pleasure of submitting to you a report of the operations at our different hatching stations throughout the State during the period from April 25th, 1895, up to October of the same year.

I am sorry to say that but three of the State Hatcheries are so located that it is possible for them to successfully raise yearlings of any of the different trout, but I do consider it possible for these three hatcheries to successfully rear at least one-half a million trout, such as lake trout, brook and brown trout, rainbow trout and land-locked salmon, to the age of eight and twelve months. This necessitates the expenditure of more money than has been expended under the old system of fry planting ; but if we tax our hatcheries to the utmost, we must still turn out quite a number of fry, for the reason that it is impossible to rear all the fry that we can hatch. For example, a hatching trough that will carry successfully 150,000 trout eggs to the hatching period, would not with safety carry 50,000 very young fry, and at twenty days old not over 25,000 ; at the time when they commence to feed, ten to fifteen thousand would be a great plenty ; at three months old five or six thousand is an outside number for the trough.

The total output of fish of all kinds for the year ending September 30th, 1895, exceeds by over fifty-five million the output of any former year in the history of the State. The great increase in numbers has been among the food fish, such as the white fish, frost fish, tomcods, smelts, ciscoes and pike-perch.

Up to the present time the State of New York had no collection of specimens of the different food fishes found in its borders, but we are now collecting specimens. Dr. Tarleton H. Bean, who for years was the ichthyologist of the United States Fish Commission, but at present Director of the New York Aquarium, has kindly consented to identify without expense to the Commission, all specimens, which we shall preserve, so that in our future work of hatching we may work intelligently. As this collection increases, I am sure that the trifling expense attached to it will be lost sight of when we look at the benefits to be derived from having such a collection.

I am also making a collection of the different fish eggs which are hatched artificially by the Commission, and I am making tables giving as near as possible the number of each kind of eggs to the lineal inch and to the quart, as I have found the tendency in the



11 Lbs.

BROWN TROUT (*Salmo fario*).

10 $\frac{1}{2}$ Lbs.

Caught in Caledonia Creek, on which the State Hatchery of same name is situated. These fish were not more than twelve years old.

past has been to overestimate both eggs and fry, in some cases to a remarkable extent. In the spring of 1894 the State of New York made its first attempt at hatching pike-perch in quantities. It established its temporary hatchery, or station, at Constantia on Oneida Lake, but owing to the low water in the stream that empties into the lake at this point, but very few fish came up to spawn, so that the Commissioners were quite discouraged over the result, but last spring preparations were made and nets provided so that, if the water was again low, the fish could be taken from the lake itself if the spawning beds could be found; but as it turned out there was no need of the use of these nets, as the stream had a continued spring freshet, and the pike-perch swarmed into it from the lake, and in a few days more eggs were taken than we had hatching apparatus to handle. About 100,000,000 eggs were taken within two weeks. Part of them were sent to the hatching station located near Clayton, and were hatched and distributed from that point. The balance were sent out from Constantia.

In taking and hatching pike-perch eggs fifty per cent. is considered good results. During the summer I have made provisions so that our facilities for handling the increased number of eggs will be sufficient for all requirements. Other substations or hatcheries can be established at different points in the State; for instance, one on the St. Lawrence and one on Lake Champlain. Eggs can also be transported from Constantia very quickly to the Beaver Kill Hatchery in Sullivan County, as both of these hatching stations are located on the New York, Ontario and Western Railway. The water at the Beaver Kill Hatchery is admirably adapted to the hatching of pike-perch, and the location for distribution for points on the line of the New York, Ontario and Western Railway and the counties in southeast New York, is all that could be desired.

Correspondence received from parties stocking waters with pike-perch during the past two seasons, very clearly shows that the experiments have proved a great success.

Our mascalonge station, or hatchery, is located on Chautauqua Lake, and there is no question about its being properly located, as I consider there is no place in the country where as many mascalonge can be taken on the spawning beds as at this lake.

The past two or three years only three pound nets have been in operation during the spawning season, but during the coming season of 1896 I intend to have at least five or six nets in operation, so that we can turn out four or five million fry of this valuable fish. The fishing the past fall on this lake has been remarkable, as the fishermen all report large numbers of yearlings and two-year-old fish, beside many monsters. Last spring it was no uncommon sight to see a fish of over forty pounds weight swimming around in the net.

Mr. Frank Redband, of Caledonia, personally superintended the hatching. He had instructions to be very careful about injuring any of the fish which he handled, and he

reported to me that only one mascalonge was killed in taking the eggs. All of the fish are liberated as soon as the eggs are taken from them.

Many of the people making applications for mascalonge fry claim that mascalonge are a native of many of their surrounding lakes, but the true mascalonge is found only in five or six waters of the State. The great northern pike by many people is supposed to be the mascalonge. Liberal plants should be made at Chautauqua Lake, so as to keep it well supplied for future propagation. Very liberal plants should also be made in the St. Lawrence River.

The process of hatching mascalonge is entirely different from that employed with any other fish eggs. They are hatched in boxes which are sunk in the lake. The boxes are provided with a double screen, top and bottom. The inner screen is very fine, so as to hold the young there. The outer screen is put on to prevent minnows or small fish from sucking the eggs or fry through the bottom. If not protected in this way, a large percentage of the fry and eggs would be destroyed before they were ready to liberate.

The importance of shad hatching cannot be overestimated; but to meet with the success desired, very radical changes in the methods of hatching must be made. The old methods of hatching in the floating boxes or hatching in the fish car were very undesirable. The objections against the floating hatching box are that most of the channels around the islands located in the river near the shad spawning ground have been filled up with dumpage from the dredges which are continually operating on the Hudson River. In operating the shad-hatching box, it is desirable to have as pure water as possible, and also a current, and this filling with the dumpage has destroyed both the current and desirable water. If the boxes are located outside of the islands, or the creeks, the wash from the large boats, which are continually passing, is very damaging to the eggs. The eels and turtles also cause considerable annoyance, as well as damage to the eggs.

The objections to be raised against the State fish car Adirondack for hatching shad are that during the shad-hatching season the car is in great demand for the distribution of pike-perch fry throughout the State.

My suggestions are that we locate at some point on the river, where we can take water from the village or town water mains, erect a small building, and equip it with the glass-hatching jars, either the Chase or the McDonald jar. It would not be necessary to purchase an extra supply of these jars, as at that season jars that have been in operation for the frost fish, white fish, tomcod, and smelt hatching are lying idle and can be transported to a shad-hatching station. No better point could be found on the Hudson River than at Catskill. Some of the best spawning grounds on the river are located within the radius of a few miles of that place.

Last summer the Trustees of the Village of Catskill expressed their willingness to grant the privilege of taking water from their water mains, or from their pump-house, which is located north of Catskill Landing, on the west side of the river. This pump-house is within one-half mile of one of the best shad-fishing grounds on the river. The proper building and appliances could be erected at a cost not exceeding five or six hundred dollars.

The United States Commission of Fisheries have always been very generous, and donated from two to ten million shad eggs, or fry, each year to the State of New York, from their hatching stations, located at the mouth of the Susquehanna River and on the Delaware River, near Philadelphia.

A few applications for bullheads come to the Commission. They are a very desirable food fish, and if very little attention was given to the collecting and planting of them during the proper season, the results would be most beneficial. At a trifling expense, one or two men can collect thousands during the summer.

Chautauqua Lake never contained bullheads until they were planted there a few years ago. Now the lake is full of the best bullheads in this or any other State.

The Ohio Fish Commissioners are always happy if the New York Commission give them each year a few hundred for their breeding ponds, as they consider them very desirable stock.

Last summer the Ohio Fish Commissioners, in return for bullheads they received in the spring, gave the Fisheries, Game and Forest Commission of New York 2,000 small-mouth black bass, free of all charges except transportation.

I wish to call your attention to the success attained by this Commission in the work of hatching tomcod and smelt at the Cold Spring Harbor Hatchery on Long Island.

The local papers and the fishermen along the Long Island shores are very enthusiastic in their reports of the increased number of tomcod caught during the past season. Thirty-two million were planted during January and February last. I feel very confident that from fifty to seventy-five million fry will be planted the coming season.

A few years ago smelt were unknown in the creek emptying into Cold Spring Harbor, and which passes within a few yards of our hatchery, but at present, owing to liberal planting of smelt fry in the past, our men are able to take large quantities of eggs at their very door. Last spring something like forty-one million fry of smelt were deposited in the different suitable places along the Long Island coast, in the bays of Staten Island, and in Westchester county. I have every reason to believe that anywhere from sixty to eighty million of smelt fry will be planted during the coming season.

The past summer the stationary engine that was in the State fish car Adirondack was removed and sent to the Cold Spring Hatchery for use in pumping salt or fresh water during the hatching season of the tomcod and smelt ; and with the addition of a number of McDonald hatching jars, I feel confident that this hatchery is prepared to meet all the demands which we may make upon it. The men employed are experts in handling the salt water fishes as well as the fresh.

At this station we also collect and hatch the lobster eggs. The experimental period of lobster hatching is past. The question is now, how many can we turn out, or hatch, and how can we increase the numbers year by year ? The past season over three million baby lobsters were liberated, which is a larger number than has been planted during the whole previous work of the hatchery.

I would call attention to the trifling expense attached to this work. The collecting, hatching and liberating of over three million lobsters, which the Commission planted last summer, cost considerable less than \$250, and the total expense for the collection, hatching and planting of the thirty-two million tomcods, forty-one million smelt and three million lobsters, actually cost less than \$700. Of course, if the men that were employed in this work had had nothing else to do, the expense would have been greater, but at the same time they were engaged collecting, hatching and rearing brook trout, brown trout, rainbow trout and salmon.

For fear that someone might attempt to make comparisons between the cost of collecting and hatching tomcod, smelt and lobster, and the collecting and hatching of whitefish, ciscoes, pike-perch, mascalonge and the different trout hatched and reared by the State, I would say that the eggs taken from the tomcod, smelt and lobster are very easily secured, and that each fish produces immense quantities. It is not uncommon to take fifty thousand eggs from a female tomcod weighing seven or eight ounces. There are 288,000 eggs in a quart. The tomcods are captured in small fyke nets that are set in the Cold Spring harbor, near the docks or piers, and only a short distance from the hatchery.

Smelt run up the brooks or creeks to spawn during the month of March. The small, cheap, inexpensive net used captures them by the hundreds. They are very prolific ; the eggs are the smallest of any hatched by the State. There are twenty eggs to a lineal inch, and a quart contains nearly one-half a million. They hatch in about thirty days in a temperature of about forty-two. If the temperature is slightly above that point, the hatching period shortens.

Lobster eggs are collected from the fishermen, who, for a small sum, or in many cases without any charge, hold all spawning lobsters alive until our men can go and secure the eggs. The men visit these fishermen once in every day or two. The eggs that they secure are simply so many eggs saved, as these lobsters would be sent to

I have thoroughly looked the ground over, and have studied the matter and come to the above conclusion. There are sites within a few miles of the present hatchery where far greater success could be obtained and with half the efforts and expense.

During the past summer a few necessary repairs were made at this hatchery to carry it through the coming hatching season.

Fulton Chain Hatchery, located at Old Forge, in Herkimer county, is in charge of Foreman E. L. Marks, who has had charge of this hatchery ever since it was established, so by this time he is thoroughly familiar with the surrounding country.

Since the completion of the railroad to Fulton Chain all of the waters in this neighborhood are opened up so that they are accessible to fishermen from all sections of the State, and only by renewed and vigorous efforts on the part of the Commission and the employes of the hatchery can this section hope to retain its reputation for its excellent fishing. This hatchery alone cannot accomplish that end on account of the limited water supply that will carry trout during the summer months. The water that feeds the hatchery, and which is taken from the pond or river which is the outlet of the Fulton Chain of lakes, warms up so during the months of May and June that fish have to be removed to a small spring brook located in the swamp, a short distance back of the hatchery. Here Foreman Marks has constructed several small ponds, and during the past summer he has enlarged and improved them so that it is possible for him to carry more fish than at any time during the past years, but during the dry time even this water supply becomes so very low and warm that two or three thousand breeding fish is the highest number that the ponds will sustain.

This fall Chairman Babcock of the Hatchery Committee ordered two thousand yearling brook trout sent to Foreman Marks for distribution in waters adjacent to the hatchery. That number was delivered from the Cold Spring Harbor Hatchery, and about five hundred nine-months-old fish that were in one of the hatchery ponds were all liberated under the supervision of Foreman Marks and several of the resident guides. Mr. Marks also had instructions to turn out a number of very large brook trout which he had in his breeding ponds. They were liberated in first, second and third lakes.

During the coming year I would consider it advisable to send at least 25,000 yearling brook trout to Fulton Chain Hatchery for liberation in the surrounding waters.

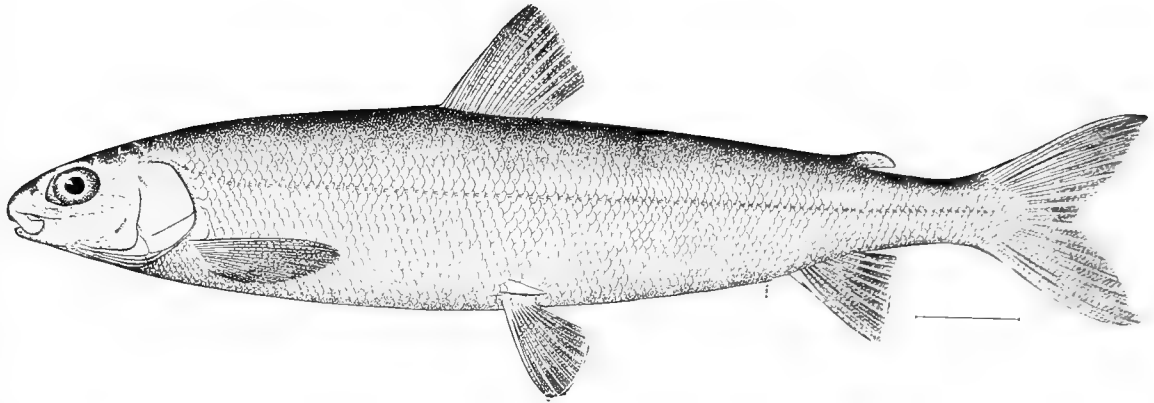
I consider fry that are hatched and planted from the Fulton Chain Hatchery of the very best quality.

The output and results at this hatchery, for the amount of money expended each year, are most satisfactory. From April 25th, the day the Fisheries, Game and Forests Commission assumed control, up to the present time, 500,000 brook trout, 275,000

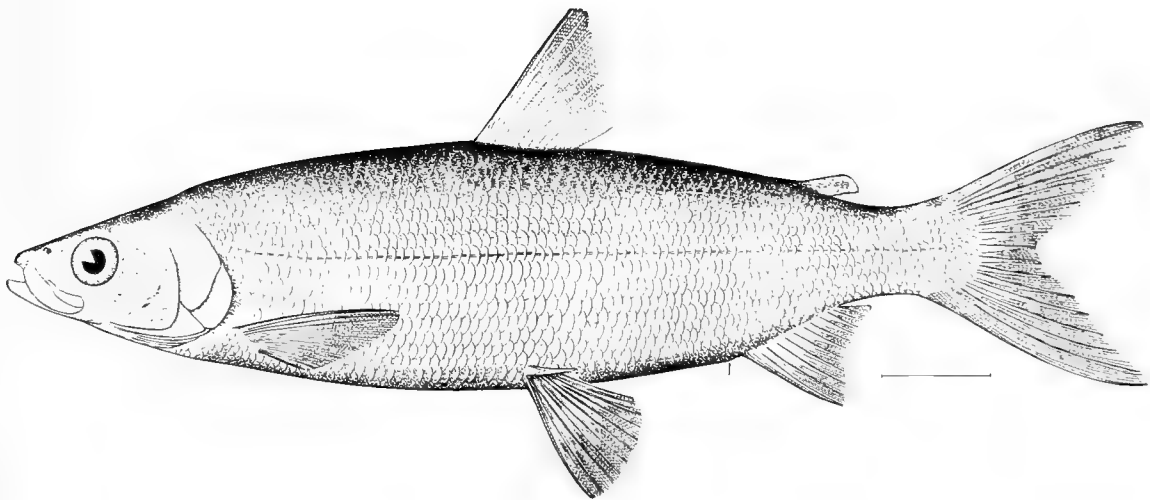
brown trout, 185,000 lake trout, 2,500 yearlings, and 100 large brook trout weighing from one to two-and-a-half pounds each, have been liberated from this hatchery.

Many complaints have reached my ear in regard to the large numbers of brook trout taken by Foreman Marks and his assistants from the waters adjacent to the hatchery, and these complaints say they are taken out for the supposed purpose of spawning, or to put in the ponds at the hatchery. Foreman Marks tells me, and I have every reason to believe him, that for the last two or three years he has not taken over from three to five hundred trout of all sizes in any one year from the near-by or any other waters for his ponds or any other purpose. During the last year I have given Mr. Marks instructions to take only just enough spawning fish to keep his numbers in his breeding ponds up to the standard. What few fish he takes from these waters are only for the public good. They are returned tenfold in fry and yearlings. The origin of many of these complaints is not worth noticing. Many arise from the fact that a short distance above the hatchery in what is called the Forge Pond, or First Lake, Foreman Marks keeps one or two trap nets set during the summer months. These nets are set for the purpose of catching such fish as are commonly called worthless, as sunfish and bullheads. These are used as fish food, ground up and fed to his breeding fish in his ponds at the hatchery. As a matter of fact no trout, during the summer months, are found in the waters where these nets are operated, and it is only during a cool snap that any trout find their way into them.

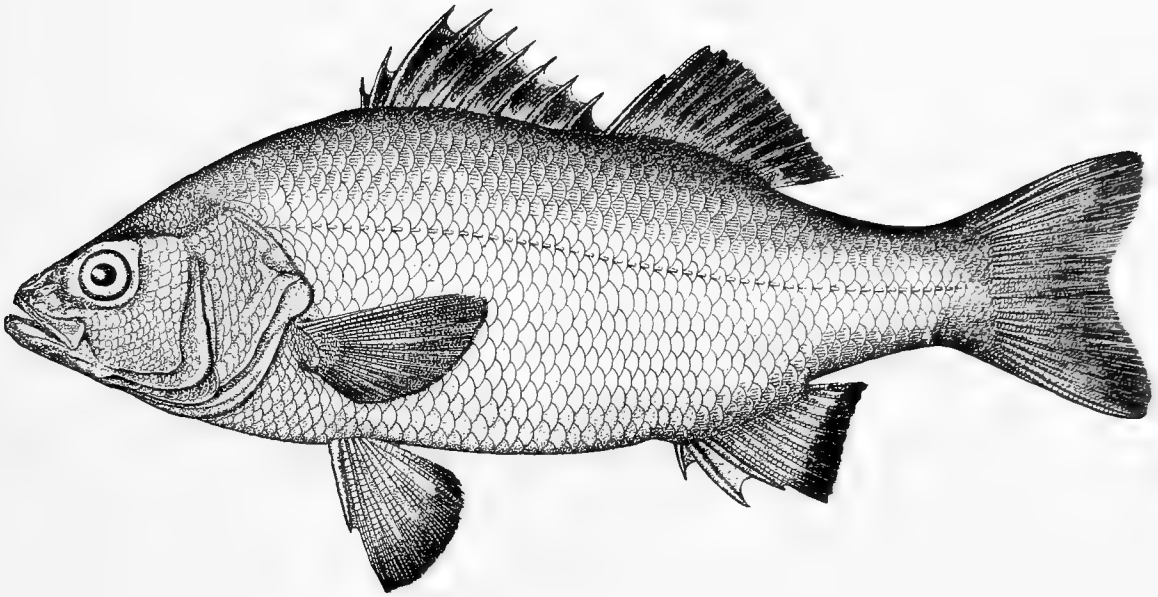
At the *Beaver Kill Hatchery*, situate at Rockland, in Sullivan county, everything has been done towards successful work that the location of the hatchery would permit. H. E. Annin has been foreman of this hatchery ever since he took charge, which was about the time it was completed. He has had great difficulties to contend with; 286,000 brook trout fry, 25,000 brown trout fry, 130,000 lake trout fry, were distributed from this hatchery during the past season. These numbers seem very small. Up to the first of April we had every reason to believe that this hatchery would turn out nearly a million of fish of all kinds, but about the first of April occurred one of the worst freshets that had visited that section in twenty-five or thirty years, and the Beaver Kill River, from which the hatchery takes its water supply, rose beyond all precedent, so that the hatchery was completely surrounded. The troughs were filled nearly full with sediment, so that it took a full week for Foreman Annin and his assistants to separate the eggs and fry from the mass of dirt. This is liable to occur at any time, and it is with great reluctance that I send or gather any eggs for hatching to this hatchery. It is simply impracticable to build any breeding ponds at this hatchery. During the spring they would be in danger of freshets, and the lay of the land is such that it would be almost impossible to guard against it. During the



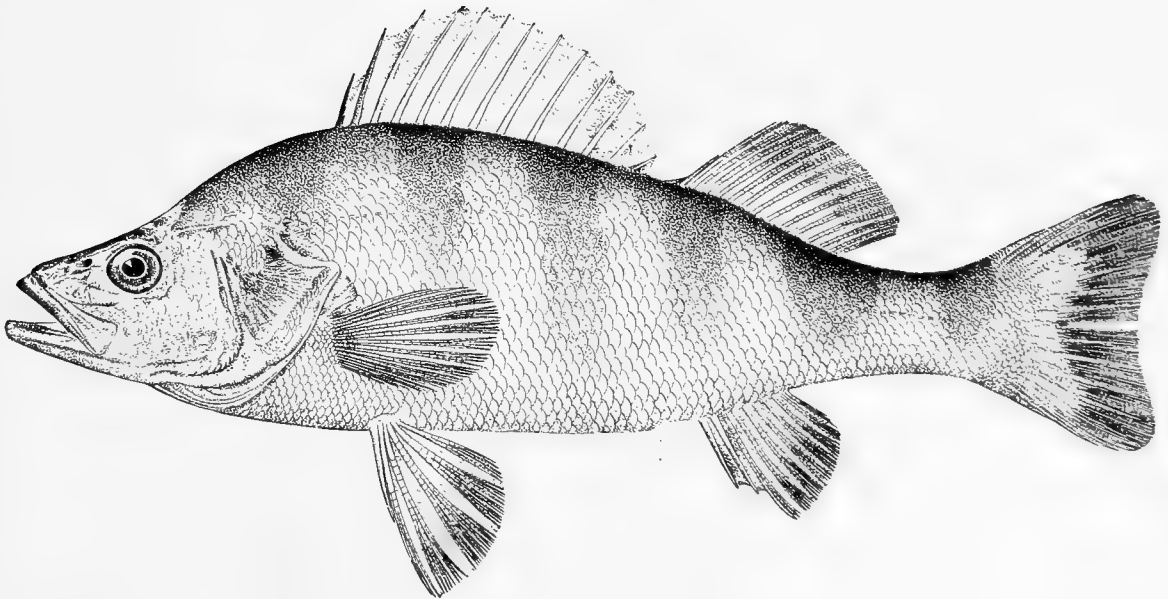
ROUND WHITEFISH OR ADIRONDACK FROST FISH (*Coregonus quadrilateralis*).



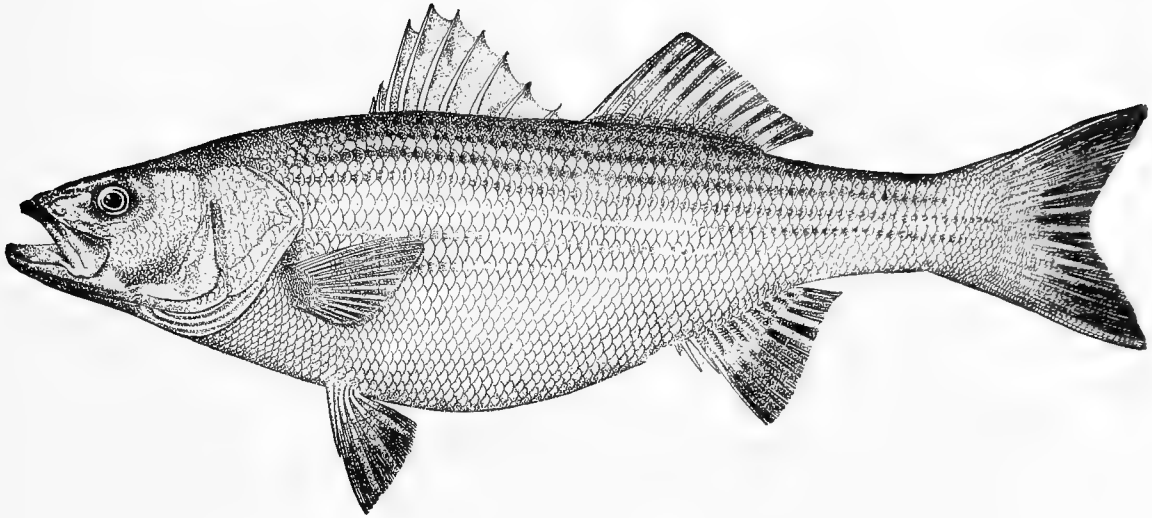
CISCO OR LAKE HERRING (*Coregonus Artedii*).



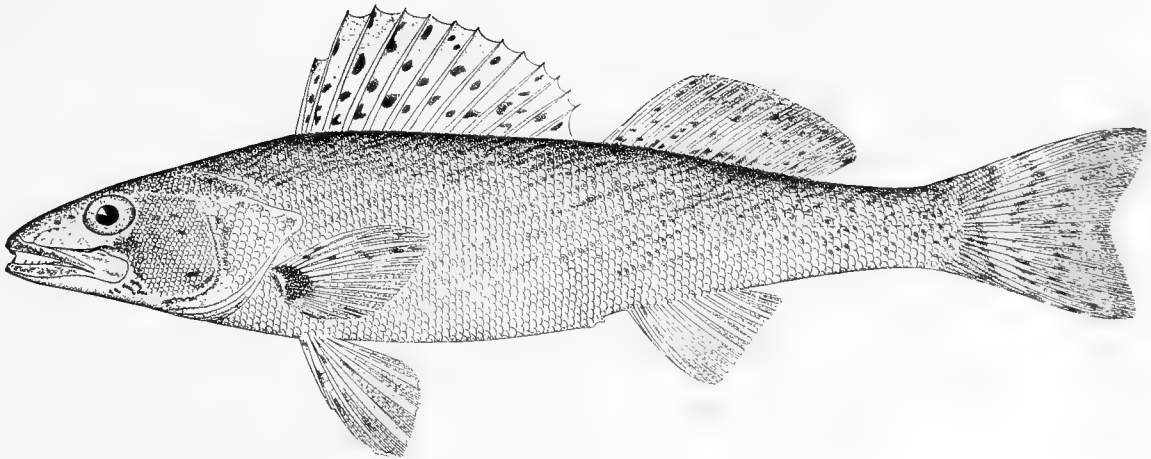
THE WHITE PERCH (*Roccus Americanus*).



THE YELLOW PERCH (*Perca Americana*).



STRIPED BASS OR ROCKFISH (*Morone saxatilis*).



THE SAUGER OR SAND PIKE (*Stizostedion canadense*).

summer the temperature remains for weeks above the limit that would sustain trout life. It is very unfortunate that this hatchery was ever located where it is. To be a success, the location must be changed. There are sites within a short distance that are far better, and where spring water in abundant supply could be obtained to run the hatchery to its full capacity, and where I think sufficient could be obtained also to carry a number of stock fish.

The people in this section have done everything in their power for this hatchery, but a large majority of them never favored the present location. The building itself is one of the finest constructed hatchery buildings belonging to the State, and, if a site could be obtained near by, the building could be moved.

There is no question but what this section of the State is in the greatest need of a hatchery and the liberal planting of trout, as there are endless numbers of splendid trout streams; in fact, nearly all of the streams are trout waters. I think that more summer visitors of the middle classes visit Sullivan county than any other county in the State. It might be supposed that this section could be stocked from some of our other hatcheries, but it is a section very hard to reach and deliver fry or yearlings alive, as the railroad connections are such that it takes very much longer to reach there from our other hatcheries than it does to go from Buffalo to New York.

During the summer but little was done at this place, except to take precautionary measures and do all we could against freshets or freezing up of the water supply.

If we have no trouble during the coming winter and spring, we will be able to plant a much larger number of trout during the season of 1896 from this hatchery.

Special mention should be made of the courtesies and kindnesses extended to the Commission, and this hatchery in particular, by the New York, Ontario and Western Railway. This road has always made it a point to grant any reasonable request we made of them, and they have always carried our fish, fish eggs, empty cans and men in charge free of all expense. When the fish car Adirondack is on the line of their road, every facility and accommodation is extended to the crew in charge.

At the *Pleasant Valley Hatchery*, situate about two and one-half miles from Bath, Steuben county, we have one of the finest plants owned by the State. F. L. Ramsdell is in charge of this important hatchery.

During the past summer additional land and water privileges adjoining the present property were purchased by the State at an outlay of \$3,750.

The work of improving the new property, as well as the old, is progressing as fast as possible. By the time the fish are hatched the coming spring we will have a number of nursery ponds completed, and ready to rear from forty to fifty thousand trout to the age of four, eight and twelve months.

The water supply that the State owns at present, and which has just been connected with the hatching house, is considered the best for hatching purposes in the State. The amount of sediment in this water is so trifling that it can be called remarkable. The grounds are situated so that an ample flow can be had between all ponds which we may build, and the proper æration of the water between them can be obtained.

The Bath and Hammondsport Railroad runs within a few rods of the door, and the franchise has been granted to an electric road from Bath to Hammondsport, which would pass within a few rods on the opposite side of the hatchery. This would give us the finest of shipping facilities, and connection at Bath with the Rochester branch of the Erie Railroad and the main line of the Delaware, Lackawanna and Western. My predictions are that within the next two years this hatchery will be classed, with its breeding ponds, one of the finest in the whole country.

The *Cold Spring Harbor Hatchery*, which is situated on Long Island, has, under the efficient management of Foreman C. H. Walters, become one of the most important hatcheries in the State. Here both salt and fresh water fish are hatched, and it is the only hatchery in the State that hatches any of the salt water varieties of fish. During the past season a much larger number than ever before were hatched; in fact, the output of fry of all kinds has been greater the past year than for the previous five years combined.

Great attention has been given to the beautifying of the grounds and the keeping of the ponds clean, and the result has been that, during the past summer, no disease traceable to foul water, or any other cause, has appeared, and to-day, after sending to the Caledonia Hatchery and into the Adirondack region about 13,000 yearling brook trout, the ponds contain more and a better lot of fish than ever before. With a small outlay of money, more ponds can be built and the output of fry from this hatchery be made to number among the millions.

A new ice-house has been ordered by the Commissioners to be built, as, with the increased number of fish, a larger supply of fish food is necessary, and, to keep this food fresh and in a desirable condition, a supply of ice is very necessary.

During the past summer something like thirty-five or forty new McDonald hatching jars were added to the equipment of the hatchery.

The engine that for the past three seasons was in the fish car Adirondack, was removed and set up in the place of the hot-water engine which was used for pumping salt and fresh water for the hatching of tomcods and smelt. The old hot-water engine was frequently giving out and causing a loss and considerable trouble. The new engine is working admirably.

In this report I have already referred to the hatching of tomcod, smelt and lobsters.

During the coming year I hope to receive permission from the Commissioners to place a hot-water heater in this hatchery. I recommend it on the line of economy and better results. A coal stove cannot be made to heat a large hatching room so that the employes can work over a hatching trough, with their hands continually in the water, without suffering. Our experiment, or trial, with the hot-water heater in the Caledonia Hatchery has demonstrated it to be the most desirable way of heating our hatcheries.

The *Caledonia Hatchery*, the oldest in the State, is under the very efficient management of Foreman Frank Redband. Mr. Redband was for years Assistant Superintendent under Monroe A. Green, and is well qualified to direct in all of the different kinds of work and fish hatching done at this hatchery. The men stationed there are at the proper season sent to the Great Lakes after lake trout and whitefish eggs; to Chautauqua Lake collecting and hatching the mascalonge eggs; to Oneida Lake and other points collecting and hatching pike-perch eggs, and also in collecting the black bass and experimenting with the artificial hatching of the same.

The grounds connected with this hatchery are very extensive, and during the summer season it employs at least two or three men at work keeping them in proper condition. During the past summer some very unsightly rocky knolls have been levelled off, and the grounds facing the public highway have been graded; walks have been laid, and a driveway into the hatchery grounds has been macadamized and put in good condition. A small piece of swamp land belonging to the State is located very near the hatchery, all the underbrush and old stumps have been removed, and wherever it was practicable, the grounds were leveled off and dressed with good, rich earth, and converted into lawns.

On the stream, just below the hatchery, a strong stone dam has been put in to replace a decayed wooden structure, so that we now have a large natural pond in the stream which can be controlled by gates and screens so that no fish can escape, and in my opinion the fish will thrive and do much better than if confined in small breeding ponds. This dam also furnished us with a head of water so that we were able to construct a new series of rearing ponds. This enlarges the capacity of the hatchery, and makes it possible for us to carry from one to two hundred thousand yearlings.

In the hatching room of the hatchery many needed improvements have been made. This room has always had a barnlike appearance, never having been ceiled, and where wainscoted on the sides had never been painted. This has all been seen to, and, with the addition of the hot-water heater, makes the hatching room one of the finest in the country. I wish again to refer to the hot-water heater, as I think it is the true way of heating the State hatcheries. During former years this hatchery has been heated with coal stoves. In the vicinity of the stove during a cold day, the heat was

unbearable, but twenty or twenty-five feet away ice was forming on the floor, and on the north and west sides of the hatching room from one-half to three inches of ice was on the floor continually during a very cold snap. As a matter of expense, I would mention the amount paid for coal during the winter of 1894 and 1895, when over \$109 worth of coal was put through the stove, and I will guarantee that with the new hot-water heater the temperature will never get below fifty in any part of the hatching room, and that the expense for coal will not exceed \$75 for the whole season.

In this report Mr. Cheney has referred to the epidemic or mortality among the fish located at this hatchery and in the adjacent stream, and has so fully covered the ground that I think it is unnecessary to again call attention to that matter. I fully concur with Mr. Cheney's idea that perhaps it was a blessing in disguise, as I was familiar with the kinds and quality of the fish contained in the breeding ponds, and I know that a large majority of them had been crossed and recrossed so that it was impossible even for an expert to determine to what variety, or species, they belonged. What fish have been brought to the hatchery since this visitation of Providence, have been pure bred fish, and I trust that the streams of the State will hereafter be stocked with fry from this hatchery that the sportsmen will know what they are when they catch them. After all of the losses among the fish are taken into account (and they have been greatly magnified by many of the newspaper correspondents), I wish to say, that fully ninety per cent. as many fry will be ready for distribution from this hatchery next spring as ever before.

I am in hopes that some legislation will be enacted during the coming winter, giving the Commissioners power to secure additional water rights, or privileges, at the head of this stream, so that in the future we can guard against the recurrence of last summer's experience.

During the past season I succeeded in securing from the California Fish Commission a consignment of what is commonly called on the Pacific coast red throat trout eggs (*Salmo mykiss*). Part of these eggs were received in good condition and were hatched, and at the present time we have in our rearing ponds about 2,500 of the fry that are about six months old. The balance of the fry I distributed in three different localities, where they are carefully guarded, so that I feel very confident that nothing can happen that will prevent our being able to secure a number for breeding fish.

The *Clayton Hatchery* is located in Jefferson county, about three miles from the village of Clayton. The State does not own this property, only the hatching apparatus used in the hatchery.

When it comes to numbers of fish turned out, then this hatchery is well towards the top. Operations are only conducted here during a portion of the year,

commencing with the laying in of the stock of whitefish and cisco eggs, some lake trout eggs, and closing with the hatching of the pike-perch and collecting of large-mouth black bass.

M. B. Hill is the owner of this property, and during the hatching season superintends the collecting and hatching of the eggs; and in securing the services of Mr. Hill I consider the State was very fortunate, as he is a veteran all-round fish culturist.

I consider this hatchery admirably located as to water supply; for the hatching of the fish handled at this place there can be no better or purer water.

The only serious objection to this hatchery is its location. All of the eggs have to be carried some eight or ten miles overland from Three Mile or Chaumont Bays, and the fry, when ready for distribution, have to be carted back again, or to the railroad station at Clayton, and this cartage is no small item.

The principal pike-perch hatching station, and which has been in operation for two seasons, is located at Constantia, Oswego county, on the shores of Oneida Lake, within three minutes' walk of the New York, Ontario and Western Railway station. This work has generally been under the charge of W. D. Marks, who, previous to his engagement by the New York Commission, had had considerable experience hatching pike-perch in the West. This hatchery is centrally located for the distribution of pike-perch throughout the State. The New York, Ontario and Western Railway Company extend every courtesy within their power to the quick and prompt transportation of the fry over their lines, or the delivery of the distributing car to other railroads where connections are made.

All of which is submitted.

Yours respectfully,

JAMES ANNIN, JR.,

Superintendent of Hatcheries.

DISTRIBUTION OF BLACK BASS, 1895.

No. of Application	Adult Black Bass	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3951	60 Small Mouth	U. S. Fish Com., for Germany	Oatka Creek	Monroe
3952	400 "	Scottsville Sportsmen	Hulburt's Pond	Chautauqua
3953	35 "	J. A. Clary	Genesee River	Monroe
3263	55 "	A. R. Selden, Sec'y	Town of Attica	Wyoming
3893	50 "	F. C. Stevens	Lake George	Warren
.....	100 "	Robert Lenox Banks	Merrick's Pond	Delaware
3865	50 "	C. E. Underlier	Saulpew	Westchester
3896	50 "	Stephen D. Horton	Shandalee Pond	Sullivan
3803	50 "	Cyrus Mott	Long Lake	"
3670	50 "	R. Decker	Pleasant Lake	"
3493	50 "	Ellsworth Leroy	Glen Lake or Long Pond	Warren
3973	600 (Fingerlings)	A. N. Cheney	Sol Pew Pond	Westchester
3954	100 Small Mouth	Thomas D. Husted	Canandaigua Lake Outlet	Ontario
3573	150 "	C. F. Mitchell	Name not given	Orange
3558	50 "	John I. Bradley	Walkill River	"
3847	50 "	J. H. Loughran	" "	"
3653	50 "	Joseph Shannon	Mendon Pond	Monroe
3974	60 "	Aaron Mather	Canandaigua Lake Outlet	Ontario
3338	100 "	L. A. Strause	Bull Head Pond	"
3671	50 "	E. L. Thompson	Trout Lake	St. Lawrence
3411	50 "	Charles H. Anthony	Black Creek	Genesee
3850	100 "	F. L. Fisher, Sec'y	Little Round Lake	Montgomery
3955	50 "	J. R. Snell	Schoharie Creek	"
3534	50 "	Robert M. Hartley	Lake Earlville	Chenango
3800	25 "	J. W. Shepardson	Erieville Reservoir	Madison
3937	25 "	Erieville Fish and Game Club	DeRuyter Reservoir	"
3186	50 "	DeRuyter Sportsmen's Club	Lake George	Warren
3160	1000 Small Mouth Black Bass Fingerlings	Robert Lenox Banks		
	3,510			

DISTRIBUTION OF BLACK BASS FINGERLINGS, 1895.

No. of Application	Black Bass Fingerlings	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3122	1,000 Large Mouth	W. H. Shear	Normans Kill	Albany
3133	450 "	E. Webster, Son & Co.	Lime Lake	Cattaraugus
3243	400 "	Clinton D. Prosper	Flint Creek	Ontario
3357	600 "	E. D. Keeney	Fish Lake	Cattaraugus
3437	500 "	A. Dakin	Crooked Lake	Onondago
3701	1,000 "	Chas. E. Osborne	Eagleville Pond	Madison
3721	1,000 "	Herman S. Mace	Lake Superior	Dutchess
3752	1,000 "	E. W. Gardiner	Mohawk River	Montgomery
3818	1,000 "	B. H. Davis	Mud Creek	Wayne
3853	2,000 "	Judge Austin A. Yates	Saratoga Lake	Saratoga
3858	2,500 "	A. H. Dean	Mahopac Lake	Putnam
3935	600 "	J. L. Gleason, Pres.	Black Creek	Genesee
	12,250			

DISTRIBUTION OF BULL HEADS, 1895.

No. of Application	Bull Heads	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3957	1,200	Ohio Fish Commission . . . . .	. . . . .	. . . . .
3958	50	Otis Garfield	Pond in town of Busti	Chautauqua
3689	100	James Rafferty	Java Lake	Wyoming
3212	100	E. Webster, Son & Co.	Lime Lake	Cattaraugus
	1,450			

DISTRIBUTION OF PERCH, ETC., 1895.

No. of Application	Perch, Sunfish and Rock Bass	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3961	100 Perch and Sunfish	Mr. Davis	Black Creek	Monroe
3962	100 " " and Rock Bass	Mr. Thompson	" Pond	Livingston
3963	200 " " " "	Honey Falls Protective Ass'n	. . . . .	"
3959	100 " " " "	Mr. Lansing . . . . .	. . . . .	Monroe
3960.	250 " " " "	Park Commission, Rochester	Genesee River	"
	750			

DISTRIBUTION OF FRY FROM COLD SPRING HARBOR STATION, 1895.

No. of Application	Brook Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3370	5,000	E. H. Gortschins	Stony Point	Rockland
3403	15,000	Jacob H. Hogsradt	Amenia	Columbia
3428	10,000	O. Finch	"	"
3609	10,000	Jesse Durland	Warwick	Orange
3659	15,000	G. D. Langdon	Copake	Columbia
3360	2,500	James Green	Lefever Falls	Ulster
3831	50,000	Fisheries, Game and Forests Com.	Rockland	Sullivan
3863	25,000	" " " "	"	"
3444	5,000	B. F. Vail	Warwick	Orange
3460	5,000	M. G. Muir	Newburgh	"
3609	15,000	Jesse Durland	Warwick	"
3704	5,000	Frank Geraghty	Newburgh	"
3706	5,000	J. E. Beard	Washingtonville	"
3822	5,000	Samuel L. Stewart	Newburgh	"
3863	40,000	Fisheries, Game and Forests Com.	Rockland	Sullivan
	132,500			

DISTRIBUTION OF FISH OR FRY FROM COLD SPRING HARBOR STATION, 1895.—(CONTINUED.)

No. of Application	Atlantic Salmon Fry	Lobsters	Smelt	Shad	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
.....	11,000,000	.....	Fisheries, Game and Forests Com.	Cold Spring Harbor . April 27	Suffolk
.....	5,192,000	.....	" " "	" " " " 29	"
.....	750,000	" " " "	Hudon River at Newburgh May 4	.....
.....	750,000	" " " "	" " Athens " 8	.....
.....	750,000	" " " "	" " Newburgh " 11	.....
.....	650,000	" " " "	" " Athens " 15	.....
.....	1,000,000	" " " "	" " West Point " 27	.....
.....	1,000,000	" " " "	" " " " June 3	.....
.....	3,087,000	Fisheries, Game and Forests Com.	" " Catskill	.....
.....	15,000	.....	.....	.....	A. N. Cheney	Upper Hudson . . . . .	.....
.....	3,002,000	.....	.....	Fisheries, Game and Forests Com.	Long Island Sound June and July	.....
.....	15,000	3,002,000	16,192,000	7,987,000			.....

DISTRIBUTION OF FRY FROM CALEDONIA STATION, 1895.

No. of Application	Brook Trout Fry	Brown Trout Fry	Fresh Water Shrimp	California Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3735	5,000	5,000	.....	.....	L. A. Bates	Clear Creek	Chautauqua
3626	10,000	.....	.....	.....	Wm. H. Gould	Morey and Badger Brooks	"
3625	15,000	.....	.....	.....	Chaut. Co. G. & F. Protec. Ass'n	Moon's and Cheney	"
3236	5,000	10,000	.....	.....	A. E. Phillips	Mill Creek, etc.	"
3696	5,000	5,000	.....	.....	W. E. Becke, Sec'y	Cherry Creek, etc.	"
3241	10,000	.....	.....	.....	William A. Putnam	Chautauqua Creek	"
3406	5,000	.....	.....	.....	Otis L. Ingalls	Little Chautauqua	"
3662	5,000	.....	.....	.....	E. J. Cole	Silver Creek	"
3840	5,000	.....	.....	.....	P. Cushing	Allen's Creek	Genesee
3656	.....	.....	.....	10,000	W. C. Williams	Str'ms in town of Farmersville	Cattaraugus
3405	10,000	5,000	.....	.....	F. F. Crooker	Clear Creek	Chautauqua
3180	.....	.....	.....	10,000	Henry VanDe Mark	Lowrey Ponds	Seneca
3145	.....	.....	.....	15,000	W. H. Phillips	Stocking Run, etc.	Steuben
3118	.....	.....	.....	15,000	Sandy Hill Fish and Game Club	Bond Creek	Washington
3854	.....	.....	.....	10,000	Rowland Wilson	Fish Creek	Oneida
3321	.....	.....	.....	10,000	H. G. Miller	Marble Town Spring Brook	Wayne
3661	.....	.....	.....	10,000	J. H. Lamphear	Cold Spring Brook	Cayuga
3350	.....	.....	.....	10,000	W. C. Pierce	Owego Creek	Tioga
3063	.....	.....	.....	10,000	Fred B. Sawyer	Owasco Inlet	Tompkins
3964	.....	.....	10,000	.....	N. Bogue	Oak Orchard Creek	Genesee
	75,000	25,000	10,000	100,000			

DISTRIBUTION OF FRY FROM CALEDONIA STATION, 1895.—(CONTINUED.)

No. of Application	Brown Trout Yearlings	Mascalonge	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3965	250	.....	John W. Wier	Allen's Creek	Genesee
3966	700	.....	Hon. T. B. Tuttle	Allen's or Otkka Creek	"
3967	1,500	.....	H. S. Holden	Skaneateles	Onondaga
3968	800	.....	H. H. Lyman and others	Three Mile Creek	Oswego
3163	.....	100,000	J. D. Peckham	Canandaigua Lake	Otsego
3457	.....	50,000	E. W. Conklin	Allegheny River	Cattaraugus
3829	.....	500,000	R. P. Grant	St. Lawrence River	Jefferson
3857	.....	50,000	J. Webb Beebe	Cassadaga Lakes	Chautauqua
3890	.....	50,000	George Burns	Johnson's Pond	"
3969	.....	1,700,000	{ N. Y. Fisheries, Game and Forests Com- { mission, Barnet H. Davis, President	Chautauqua Lake from May 6 to 20	"
3970	.....	30,000	Silas T. Crocker	Bear Lake	"
	3,250	*2,480,000			

* The mascalonge were hatched at the Chautauqua Lake Station.

DISTRIBUTION OF FRY FROM ADIRONDACK STATION, 1895.

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3313	5,000	.....	.....	J. B. Mills	Ford Brook, etc.	Warren
3391	5,000	.....	.....	Emily T. Gilliland	Salmon River	Clinton
3064	5,000	.....	.....	E. W. Keith	Ausable "	"
3117	10,000	.....	.....	A. S. Prime	Mill Brook, etc.	Essex
3191	10,000	.....	.....	A. J. Merrill	Rocky Branch Brook, etc.	"
3266	7,500	.....	.....	W. B. Young	Streams tributary to Paradox and Schroon Lakes	"
3623	10,000	.....	.....	F. C. Nichols	Little Chazy River	Clinton
3627	7,500	.....	.....	Albert Weed	Trout Brook	Essex
3641	15,000	.....	.....	Orlando Kellogg	Bouquet River	"
3647	.....	5,000	.....	J. C. Brevoort	Butts Creek	"
3658	15,000	.....	.....	W. C. Witherbee	Grove Brook, etc.	"
3699	5,000	.....	.....	C. S. McLoughlin	Shattuck "	"
3703	10,000	.....	.....	H. E. Heyworth	Little Ausable River	Clinton
3707	.....	5,000	.....	E. C. D. Wiley	Worcester Pond	Essex
3738	15,000	.....	.....	J. C. Brevoort	Cold Brook, etc.	"
3755	5,000	.....	.....	Peter Flint	Grobe "	"
3756	5,000	.....	.....	Charles N. Flint	Harvey Brook, etc.	"
3868	10,000	.....	.....	Albert Weed	Long Pond	"
3371	10,000	.....	.....	John W. Fletcher	Cold Brook	Franklin
3525	10,000	.....	.....	R. L. French	White Face	"
3553	2,500	.....	.....	Chas. C. Bryant	Lyon Brook	"
3683	5,000	.....	.....	Geo. McCarter	Lincoln Brook	"
3179	5,000	.....	.....	F. T. Smith	Streams flowing into Saranac River	"
3424	15,000	.....	.....	J. M. Wardner	Rainbow Lake, etc.	"
3663	12,500	.....	.....	Geo. W. Cushman . . . . .	. . . . .	"
	200,000	10,000	.....		

Car'd For'd

DISTRIBUTION OF FRY FROM ADIRONDACK STATION, 1895.—(CONTINUED.)

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
<i>Brook Trout</i>	200,000	10,000	.....	Geo. W. Cushman	Lake Titus	Franklin
3664	.....	15,000	.....	J. W. Pond	" Ragged	"
3679	.....	15,000	.....	Walter N. Thayer	Clinton Prison Reservoir	Clinton
3169	.....	5,000	.....	A. D. Briggs	Hennecroix Stream	Albany
3078	.....	10,000	.....	Ahira Eldridge	Owkill and branches	Washington
3126	.....	7,500	.....	L. H. Gibbs	Otter and Mickmush Brooks	Rensselaer
3164	.....	5,000	.....	Wm. J. Brady	Scotts Lake	Washington
3465	.....	7,500	.....	Andrew J. Whitbeck	New Salem Creek, etc.	Albany
3358	10,000	.....	.....	C. D. Hammond	Streams along D. & H. R. R.	"
3380	12,500	.....	.....	T. P. Bloomingdale	Fly Kill Stream	"
3874	10,000	.....	.....	M. A. Sauls	Altamont Reservoir	"
3877	.....	7,500	.....	E. Krumholtz	Tom Peck Pond	Essex
3299	10,000	.....	.....	D. W. Peacock	Meadow Brook	"
3559	10,000	.....	.....	" "	Round Pond	"
3560	5,000	.....	.....	Duncan Cameron	Big Ray Brook	"
3745	10,000	.....	.....	Daniel Kennedy	St. Germain, etc.	Franklin
3692	10,000	.....	.....	Dr. J. Rice	Clear Lake	"
3696	.....	10,000	.....	J. S. Kirby	Lower Chateaugay Lake	"
3628	.....	25,000	.....	John W. Fay	East branch of Salmon River	"
3190	10,000	.....	.....	J. V. Ballard	Indian Lake or Salmon River	"
3193	.....	10,000	.....	R. G. Low	" " " "	"
3415	.....	10,000	.....	Smith & Leonard	Kushaqua Lake	"
3422	.....	.....	40,000	" "	" " " "	"
3423	15,000	.....	.....	J. T. Welch	Indian Lake Outlet	"
3446	10,000	.....	.....	J. S. Kirby	Lower Chateaugay Lake	"
3628	20,000	.....	.....			"
<i>Car'd Trout</i>	332,500	150,000	40,000			

DISTRIBUTION OF FRY FROM ADIRONDACK STATION, 1895.—(CONTINUED.)

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
<i>Total Fow'd</i>	322,000	150,000	40,000	A. H. Renshaw	Queen Mill Pond and Kyader- osseros Creek	Warren
3392	.....	10,000	.....	E. H. Lavery	Indian Brook, etc.	Saratoga
3490	7,500	.....	.....	H. D. Stone	Luzerne Lake	Warren
3569	.....	.....	50,000	"	"	"
3570	15,000	.....	.....	John Bartholomew	Kinneyetts Brook, etc.	Saratoga
3088	7,500	.....	.....	Edwin W. Adams	Inlet to Mink Lake	Essex
3141	10,000	.....	.....	D. A. Devendorf	Hagadome Creek	Saratoga
3298	.....	7,500	.....	L. W. Emerson	Trout Pond, etc.	Essex
3387	20,000	.....	.....	Alvin Winslow	Wilcox Lake, etc.	Warren
3504	15,000	.....	.....	C. R. DeFreest	Balfour	Essex
3791	.....	.....	5,000	"	"	"
3792	10,000	5,000	.....	John A. Cole	Hewitt	Hamilton
.....	10,000	.....	.....	James R. Snell	East Stony Creek, etc.	Saratoga
3576	.....	5,000	.....	Jos. E. Benedict	Harris Creek	Fulton
3590	5,000	.....	.....	A. D. Heath	" Cold Brook, etc.	St. Lawrence
.....	10,000	.....	.....	John C. Keeler	"	"
3545	20,000	.....	.....	F. L. Bones	Cranberry Lake	"
3631	15,000	15,000	.....	C. W. Becker	Star Lake	"
3066	.....	15,000	.....	J. W. Hutton	Upper Chateaugay Lake	Clinton
3137	15,000	10,000	.....	F. H. Parker	"	"
3479	10,000	.....	.....	Frank Pectes	Chain and Clear Pond	Franklin
3564	.....	25,000	.....	F. M. Heath	Upper Chateaugay Lake	Clinton
3067	.....	.....	35,000	L. M. Wardner	Ozonia Lake	St. Lawrence
3500	5,000	.....	.....	"	St. Regis River tributaries	Franklin
3502	.....	.....	10,000	Henry Phelps	Long Pond	"
3453	5,000	.....	.....		Middle branch of St. Regis River	"
<i>Carried Forward</i>	512,500	242,500	140,000			

DISTRIBUTION OF FRY FROM ADIRONDACK STATION, 1895.—(CONTINUED.)

FISHERIES, GAME AND FORESTS.

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
<i>Bret Ford</i>	512,000	242,500	140,000			
3473	.....	10,000	.....	Henry Phelps	Middle branch of St. Regis River May 17	Franklin
3489	10,000	.....	.....	Henry Davis	Spring Pond " 17	St. Lawrence
3563	10,000	.....	.....	W. J. Alfred	Madawaska and Quebec Ponds and streams " 17	Franklin
3642	10,000	.....	.....	Geo. A. Dukelow	Horse Shoe Pond " 17	St. Lawrence
3649	15,000	.....	.....	F. A. Manning	Pleasant Lake and Long Pond " 17	"
3681	.....	20,000	.....	F. M. Heath	Ozonia Lake " 17	"
3540	.....	15,000	.....	D. W. Riddle	Hoel, Long, Turtle & Middle Ponds " 18	Franklin
3119	15,000	.....	.....	Sandy Hill Fish and Game Club	Cold Brook, Miller Brook, etc. " 20	Washington
3171	7,500	.....	.....	H. P. Cronkhite	Chapman Pond and Doherty Brook " 20	Saratoga
3220	7,500	.....	.....	Gansevoort Fish & Game Prot. Ass'n	Cole, Deliker and Mott Brooks " 20	"
3533	8,000	.....	.....	H. A. Howard	Big or Burges Brook " 20	Warren
3535	10,000	.....	.....	A. N. Cheney	Half-way Brook " 20	"
3543	5,000	.....	.....	H. A. Howard	Jenkins' Brook " 20	"
3276	10,000	.....	.....	G. R. Dyke	Three mile still water. Western branch St. Regis River " 23	St. Lawrence
3314	.....	.....	10,000	J. B. Mills	Schroon Lake " 23	Warren
3507	.....	.....	25,000	Fred. H. Duell	Brant " 23	"
3508	10,000	.....	.....	A. P. McIntyre	W. branch St. Regis River " 23	St. Lawrence
3603	7,500	.....	.....	George White and Warren Mann	Townsend Brook " 23	"
3614	7,500	.....	.....	G. W. Dustin	Little Salmon River and tributaries " 23	Franklin
3913	10,000	.....	.....	Silas L. George	Jacobs Creek " 23	Jefferson
.....	15,000	.....	.....	. . . . .	Summer Brook and tributaries " 25	Franklin
.....	15,000	.....	.....	. . . . .	St. Regis Pond and tributaries " 28	"
.....	25,000	.....	.....	. . . . .	Cascade Lakes or Edmund Ponds " 28	Essex
.....	20,000	.....	.....	. . . . .	Little Clear Pond or Lake Brandon and tributaries " 29	Franklin
	730,500	287,500	175,000			

DISTRIBUTION OF FISH OR FRY FROM ADIRONDACK STATION, 1895.—(CONTINUED.)

No. of Application	Salubing	Land-Locked Salmon	Frost Fish	Name of Applicant	Name of Waters Stocked—When Planted	Name of County	
.....	6,000	.....	.....	. . . . .	Little Clear or Brandon Lakes	May 6	Franklin
3814	.....	30,000	.....	Fisheries, Game and Forests Com.	Lake Clear	" 10	"
3894	.....	.....	40,000	Henry C. Ford	Silver Lake	" 1	Pike Co., Pa.
	6,000	30,000	40,000				

DISTRIBUTION OF FRY FROM BEAVERKILL STATION, 1895.

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3758	40,000	.....	.....	W. E. Sprague	Beaver Kill & Willowemoc trib., May 3, 4, 6, 9	Sullivan
3832	.....	.....	50,000	J. C. Anderson	Browns Pond and Pleasant Lake May 6	"
3834	.....	.....	20,000	"	White Lake	"
3833	.....	.....	20,000	"	Guilford Lake	"
3774	10,000	.....	.....	J. D. Davidson	Beaver Kill stream	"
3519	10,000	.....	.....	"	" and Shin Creek	"
3487	10,000	.....	.....	Jay Davidson	Beaver Kill River and tributaries	"
3835	.....	.....	20,000	J. C. Anderson	Long Pond	"
3795	7,500	.....	.....	A. A. Van Valkenburg	Walcott or Green Valley	Green
3225	2,500	.....	.....	E. Misner	Wild Meadow Brooks	Sullivan
3224	.....	.....	20,000	"	Loch Sheldrake Lake	"
3805	5,000	.....	.....	R. H. Canfield	Sandburgh Creek	"
3786	15,000	.....	.....	W. L. Davis	Vernoykill and Lackawack	Ulster
3779	2,500	.....	.....	Joel Kimball	Little B'ver Kill & Codd'gt'n Brooks, etc. " 10	Sullivan
3514	2,500	.....	.....	Abiel B. Parks	White Sulphur Spring stream, etc. " 10	"
3486	2,500	.....	.....	Duncan Campbell	Campbell Brook	Delaware
3381	5,000	.....	.....	John S. Leils	Sawkill and other trib. of Lackawack " 10	Ulster
3373	.....	2,500	.....	Mercein Skinner	Bashas Kill	Sullivan
3372	2,500	.....	.....	"	Surine, Brinson & Van Duzer streams, etc. " 10	"
3349	10,000	.....	.....	H. N. Morse	Rondout Creek	Ulster
3235	2,500	.....	.....	Joel Kimball	Little B'ver Kill & Codd'gt'n Brooks, etc. " 10	Sullivan
3825	2,500	.....	.....	A. G. St. John	Campbell Brook	Delaware
3751	2,500	.....	.....	R. G. Roose	Head waters of the Willowemoc River " 11	Sullivan
3521	5,000	.....	.....	E. R. Sprague	Beaver Kill and Shin Creek	"
3682	10,000	.....	.....	Austin Bussey	Shin Creek	"
3783	2,500	.....	.....	E. D. Mayhew	Carrs Brook	Delaware
Car'd For'd	150,000	2,500	130,000			

DISTRIBUTION OF FRY FROM BEAVERKILL STATION, 1895.—(CONTINUED.)

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
<i>Bro't For'd</i>	150,000	2,500	130,000			
3777	2,500	.....	.....	W. H. Wright	Rogers Hollow, Peckham Brook, etc. May 14	Delaware
3773	2,500	.....	.....	Geo. P. Beers	West Brook	"
3720	2,500	.....	.....	Fred Grobels	Callicoon Creek	Sullivan
3434	.....	10,000	.....	John Davenport, Jr.	Charlotte Creek, Crawford Brook, etc. " 14	Delaware
3342	5,000	.....	.....	E. E. Ford	Otego, Charlotte and Elk Creeks, etc. " 14	"
3297	2,500	.....	.....	G. W. Hawkins	Beaver Kill and brooks flowing therein " 14	Sullivan
3069	.....	5,000	.....	Chas. Homer	Callicoon Creek and tributaries " 14	"
3787	5,000	.....	.....	J. F. Vandercook	Platner and Steels Brooks, etc. " 15	Delaware
3785	3,000	.....	.....	J. A. Crawford	Streams and brooks in town of Hamden " 15	"
3781	2,500	.....	.....	W. Beak	Trout Brook	"
3771	2,500	.....	.....	Seth C. Walley	" " " " " " " 15	"
3575	5,000	.....	.....	John W. Bliss	Little Delaware	"
3421	2,500	.....	.....	B. H. Howe	Third Brook	"
3397	2,500	.....	.....	Joe Davidson	Seven different streams	"
3340	500	.....	.....	Levi M. Smith	Smith's Pond and Brook	"
3174	2,500	.....	.....	B. G. North	Beers Brook	"
3766	5,000	.....	.....	Chas. T. Contant	Pokanoy Brook	Ulster
3761	2,500	.....	.....	Ira M. Black	Kiner Brook	"
3713	2,500	.....	.....	Angelo Hasbrouck	Vineyard Ave. stream	"
3527	3,000	.....	.....	David Todd	Dry Brook and tributaries	"
3488	2,500	.....	.....	J. W. Chisholm	Platekill stream	Delaware
3451	.....	5,000	.....	E. Kelley	Bushkill stream	"
3450	5,000	.....	.....	Thomas P. Hill	E. branch of Delaware River	"
3430	2,500	.....	.....	H. O. Van Benschoten	Lower P'tekill & Weaver Hollow streams " 17	"
3347	5,000	.....	.....	C. O. Perry	Emery Brook	"
<i>Car'd For'd</i>	219,000	22,500	130,000			

DISTRIBUTION OF FRY FROM BEAVERKILL STATION, 1895.—(CONTINUED.)

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
<i>Brot Ford</i>	219,000	22,500	130,000			
3207	2,500	.....	.....	Louis Fleischman	Bushkill	Delaware
3824	7,000	.....	.....	R. N. Canfield	Sandburgh	Ulster
3776	2,500	.....	.....	W. H. Johnson	Willowemoc stream	Sullivan
3775	5,000	.....	.....	N. T. Hodge	Catterie and Overton Brooks, etc.	"
3772	2,500	.....	.....	James A. Fullon	Bashaw, Hosier & Wilsie Brooks, etc.	"
3684	2,500	.....	.....	Russell Decker	Fur Swamp stream	"
3668	2,500	.....	.....	J. L. M. Decker	Willowemoc	"
3876	2,500	.....	.....	Theodore Tice	Fall Brook	"
3778	2,500	.....	.....	James M. Keershad	Main Mongaup and its small trib.	"
3770	2,500	.....	.....	J. E. Carney	Neversink River	"
3635	2,500	.....	.....	W. W. Bowditch	Middle Mongaup and Spring Brook	"
3567	2,500	.....	.....	F. W. Crandall	Meadow Brook	"
3496	2,500	.....	.....	Ellsworth Leroy	Stratton and Whitaker Brooks, etc.	"
3431	2,500	.....	.....	C. S. Thornton	Neversink River	"
3311	2,500	.....	.....	Howard Tillotson	West and East branch Mongaup	"
3197	2,500	.....	.....	T. O. Porter	Chestnut	"
3788	2,500	.....	.....	M. Schaeffer	Dohrman's Brook	"
3750	2,500	.....	.....	Lawrence Bowman	Mongaup and Clements streams, etc.	"
3600	2,500	.....	.....	Henry M. Weyranch	Branch of Mongaup	"
3472	2,500	.....	.....	F. M. Dodge	Mongaup and Neversink	"
3471	2,500	.....	.....	M. S. Messiter	" tributaries	"
3448	2,500	.....	.....	Edward Homer	Callicoon stream	"
3288	2,500	.....	.....	F. M. Sprague	Mongaup stream and tributaries	"
3209	2,500	.....	.....	Henry W. Dean	Ladenburgh and Stewart Brooks, etc.	"
3218	.....	2,500	.....	C. W. Baker	Idlewild Pond and Stony Brook, etc.	"
	286,000	25,000	130,000			Ulster

DISTRIBUTION OF FRY FROM FULTON CHAIN STATION, 1895.

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3173	.....	15,000	.....	Frank L. Mason	Chenango River	Madison
3194	15,000	.....	.....	J. H. Wilcox	Long Lake, etc.	Oneida
3408	10,000	.....	.....	W. H. Rhodes	Ash Brook	Herkimer
3475	10,000	5,000	.....	D. B. Stillman	Beaver Creek	Madison
3497	5,000	.....	.....	John Baird	White Creek	Herkimer
3550	10,000	.....	.....	Ben F. Sperry	Little Spring Hole	"
3607	5,000	.....	.....	J. A. Coonradt	Cold Brook	"
3719	20,000	.....	.....	Riley Parsons	Big and Little Stafford Creeks	"
3808	.....	15,000	.....	Clark Ellsworth	Small Stream	Otsego
3551	.....	.....	15,000	D. F. Sperry	First & Second Lakes, Fulton Chain	Herkimer
3418	10,000	.....	.....	John Sprague	First Lake Inlets	"
3736	.....	.....	40,000	Milo E. Ball	Queer Lake and Morse Lake	"
3904	15,000	20,000	.....	Julia L. de Camp	Lake and Streams on her land	"
3409	55,000	.....	.....	Newport Gun Club	No stream given	"
3666	.....	.....	25,000	J. H. Higby	Big Moose Lake	"
3096	15,000	.....	.....	M. C. O'Brien	Fish Creek, etc.	Lewis
3211	.....	10,000	.....	Quentin McAdam	Trout Brooks	Oneida
3234	5,000	.....	.....	W. W. Roberts	Sugar River, etc.	Lewis
3289	15,000	.....	.....	M. O'Brien	Fish Creek, etc.	"
3303	15,000	.....	.....	M. S. Ives	Turin and Lee Gulfs, etc.	"
3352	10,000	10,000	.....	Charles E. Taylor	White River	"
3584	10,000	.....	.....	W. C. Auger	Strms. emptying in hd. of Fourth Lake	Hamilton
3723	5,000	.....	.....	Joseph W. Potter	Head of Fourth Lake	Herkimer
3249	.....	25,000	.....	A. R. Eastman	Woodhull Lake Reservoir	"
3250	.....	.....	65,000	"	Woodhull Lake	"
	230,000	100,000	145,000			

Car'd Forward

DISTRIBUTION OF FRY FROM FULTON CHAIN STATION, 1895.—(CONTINUED.)

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
<i>Brook Trout</i>	230,000	100,000	145,000			
3839	.....	40,000	.....	F. W. Sessions	South Lake	Oneida
3875	15,000	.....	.....	F. G. Burdeck	Big Otter Lake	Lewis
3461	.....	.....	40,000	Wm. Dart	Second Lake, North Branch	Herkimer
3322	5,000	10,000	.....	John F. Quirk	Deer River, etc.	Lewis
3353	5,000	5,000	.....	W. N. Abbey	Crystalline Creek	"
3445	10,000	10,000	.....	A. J. Beach	Burnt Creek and Beech's Pond	"
3552	25,000	.....	.....	E. M. Marilly	Long, Round and Rock Ponds, etc.	"
.....	20,000	.....	.....	Fisheries, Game and Forests Com.	Seventh Lake and tributaries	Hamilton
3257	10,000	10,000	.....	LeRoy Crawford	Independence River	Herkimer and Lewis
3571	5,000	.....	.....	J. A. Neibergall	House Creek	Lewis
3686	.....	15,000	.....	George Boyd	Deer River	"
3687	15,000	.....	.....	"	Salmon River	"
3688	.....	20,000	.....	"	" . . . . .	"
.....	10,000	.....	.....	Fisheries, Game and Forests Com.	Fifth and Sixth Lakes	Hamilton
3463	.....	5,000	.....	Richard Lawes	Dean's Creek	Oneida
3512	10,000	10,000	.....	Hamilton Fish & Game Pro. As'n	West Branch of Chenango River	Madison
3608	10,000	5,000	.....	Erieville Fish and Game Club	Name not given	"
3724	10,000	10,000	.....	Frank S. Fowler	Barker Brook and Tiny Brook	Oneida
.....	20,000	.....	.....	Fisheries, Game and Forests Com.	Middle Brch. Moose River & tribut's	Herkimer
.....	15,000	.....	.....	"	Third Lake Creek, Cold Spring Brook	"
3187	10,000	5,000	.....	W. Barlow Dunlap	Hart Creek, etc.	Montgomery
3793	.....	5,000	.....	J. F. Fitzgerald	Spring Water Pond	Oneida
3794	.....	5,000	.....	J. J. Fitzgerald	Artificial Pond	"
.....	10,000	.....	.....	L. J. Myers	Cowassolon Creek	Madison
.....	10,000	Fisheries, Game and Forests Com.	Eighth Lake, etc.	Hamilton
<i>Car'd. Fry'd</i>	445,000	255,000	185,000			

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DISTRIBUTION OF FRY FROM FULTON CHAIN STATION, 1895.—(CONTINUED.)

No. of Application	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
<i>Not Fow'd</i>	445,000	255,000	185,000			
3129	.....	10,000	.....	F. B. Randall	Bailey Pond	Oneida
3184	10,000	10,000	.....	DeRuyter Sportsman's Club	Tionghinoga & several small streams " 13	Madison
3290	10,000	.....	.....	D. W. Jones	Lee's, Francis, Blowers', Hyatt's and Smith's Brooks, etc.	"
....	20,000	.....	.....	Planted by E. L. Marks and Mr. Wood	North Branch of Moose River	Herkimer
....	15,000	.....	.....	George May	West Ponds	"
	500,000	275,000	185,000			

2,000,000 Frost Fish Eggs shipped to Sacandaga Hatchery in November.

DISTRIBUTION OF FRY FROM SACANDAGA STATION, 1895.

No of Appli- cation	Brook Trout Fry	Brown Trout Fry	Lake Trout Fry	Frost Fish	Name of Applicant	Name of Waters Stocked—When Planted	Name of County
3099	10,000	.....	.....	.....	C. S. Nesbit	Steel Creek May 3	Montgomery
3188	10,000	.....	.....	.....	W. Fenton Myers	Union Mills Creek, etc. "	Fulton
3262	7,500	.....	.....	.....	C. D. Barthdown	Kenneyto Creek, Frenchman's Creek, etc. "	Montgomery
3739	10,000	.....	.....	.....	Peter Thompson	Willis Lake Outlet and trib'trs "	Hamilton
3598	.....	.....	.....	200,000	Henry Rudes	Piseco Lake "	"
.....	.....	.....	.....	750,000	N. Y. Fishery Com'n	Sacandaga Lake "	"
.....	.....	.....	.....	875,000	"	Pleasant Lake "	"
3582	.....	.....	.....	10,000	C. T. Moore	Thirteenth Lake "	Warren
3581	.....	.....	15,000	.....	"	" . . . . . "	"
3447	35,000	25,000	.....	.....	J. D. Morley	Sacandaga Lake May 8 and 14	Hamilton
3459	.....	.....	50,000	.....	F. W. Abrams	Piseco Lake " 9 and 12	"
3789	30,000	.....	.....	.....	G. H. Mead	Tea Lake and Mill Stream May 9	"
3740	.....	.....	70,000	.....	David Sturges	Lake Pleasant "	"
3359	.....	10,000	.....	.....	Albert Wheeler	East Brch. of West Canad. Creek "	"
3360	30,000	.....	.....	.....	W. W. Burnham	River and tributaries "	"
3546	10,000	.....	.....	.....	W. T. Dunmore	Pine Lake and Little Pine Lake "	"
3132	10,000	15,000	.....	.....	James McCormack	Lewey Lake "	"
3599	.....	20,000	.....	.....	Michael Floyd	Dog's Creek "	"
3080	10,000	10,000	.....	.....	J. DeV. Moore	Sheriff, Cook's & Christian Lakes "	"
3820	10,000	.....	.....	.....	Charles E. Childs	Brown Brook, etc. "	Fulton
3522	.....	20,000	.....	.....	J. C. Sturges	Whitney Lake May 16 and 18	Hamilton
3807	.....	15,000	.....	.....	M. S. Northrop	Caraga, Bellows Lake, etc. May 16	Fulton
3580	5,000	.....	.....	.....	C. T. Moore	Thirteenth Lake "	Hamilton
3230	.....	40,000	.....	.....	Abraham R. Lawrence	Three Cedar Lakes "	"
.....	.....	.....	20,000	.....	F., G. & Forests Comis'n	Sacandaga Lake "	"
	177,500	155,000	155,000	1,835,000			

Illegal Devices Seized and Destroyed During the Months of
April, May, June, July, August and September, 1895.

HARRISON HAWN.

1895	Fyke Nets	Trap Nets	Pound Nets	Gill Nets	Squat Nets	Seines	Set Lines	Spears	Eel Racks	VALUE
April	11	..	..	..	..	..	..	..	\$145.00
May	8	..	..	..	..	..	..	..	160.00
Total		19								\$305.00

JOSEPH NORTHUP.

April . . .	5	..	..	5	..	..	..	2	..	\$160.00
May . . .	1	1	..	3	..	..	3	..	..	119.00
June . . .	..	..	..	3	..	..	7	..	..	77.00
July . . .	..	..	..	3	..	..	4	..	..	62.00
August . . .	..	..	..	1	..	..	10	..	..	52.00
September .	2	..	..	1	..	..	2	..	..	62.00
Total	8	1		16			26	2		\$532.00

HENRY C. CARR.

April . . .	73	..	..	..	..	..	..	..	..	\$1,520.00
May . . .	30	..	..	..	..	1	..	..	..	620.00
June . . .	17	..	..	1	..	..	..	..	..	350.00
Total	120			1		1				\$2,490.00

GEORGE M. SCHWARTZ.

April . . .	16	..	..	17	..	..	..	..	..	\$472.00
May . . .	22	..	..	4	..	..	5	..	..	367.00
Total	38			21			5			\$839.00

CHARLES H. BARBER.

April . . .	2	..	..	..	..	..	..	..	..	\$12.00
June . . .	4	..	..	..	..	..	4	..	..	72.00
Total	6						4			\$84.00

CHARLES RIPSON.

1895	Fyke Nets	Trap Nets	Pound Nets	Gill Nets	Squat Nets	Seines	Set Lines	Spears	Eel Racks	VALUE
April . . .	1	5	..	1	\$90.00

CAMERON COTTON.

April . . .	1	4	..	8	8	\$140.00
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JOHN W. LISK.

August . . .	1	1	..	1	\$63.00
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SIMON MARSHAL.

April . . .	9	2	\$120.00
May . . .	2	1	1	..	1	68.00
June . . .	3	1	1	69.00
August . . .	2	30.00
Total	16			4	2		1			\$287.00

WALLACE L. REED.

May . . .	..	..	..	..	..	..	3	..	..	\$10.00
June . . .	..	..	..	..	..	..	13	1	1	45.00
August	1	..	1	22.00
September	1	..	3	16.00
Total				2		4	16	1	1	\$93.00

DENNIS P. WOOD.

April	2	..	2	\$30.00
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CHARLES A. GILBERT.

April . . .	3	4	\$43.00
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REPORT OF THE COMMISSIONERS OF

NOEL W. CONGER.

1895	Fyke Nets	Trap Nets	Pound Nets	Gill Nets	Squat Nets	Seines	Set Lines	Spears	Eel Racks	VALUE
April	2	1	1	\$30.00
September	3	3	42.00
Total				5	1	1	3			\$72.00

ALVIN F. WAITE.

April	4	2	\$148.00
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FRANK W. CHENEY.

April	1	\$20.00
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ORLA S. POTTER.

May . . .	1	\$20.00
July	2	70.00
August	1	25.00
Total	1	3								\$115.00

DANIEL N. POMEROY.

May . . .	1	..	..	..	3	8	1	..	..	\$300.00
June . . .	1	..	..	..	1	13	..	..	..	140.00
July . . .	..	..	..	1	..	3	1	..	..	155.00
August . .	1	..	..	1	5	..	..	..	..	71.00
September .	1	..	..	..	2	..	..	..	..	25.00
Total	4			2	11	24	2			\$691.00

SPENCER HAWN.

May . . .	1	..	..	..	..	..	..	..	..	\$40.00
June . . .	..	2	..	..	2	2	..	..	..	69.00
July . . .	3	8	..	..	1	..	..	..	..	198.00
August . .	..	..	..	..	5	..	..	..	..	45.00
September .	..	..	..	..	6	..	..	..	..	103.00
Total	4	10			14	2				\$455.00

E. J. LOBDELL.

1895	Fyke Nets	Trap Nets	Pound Nets	Gill Nets	Squat Nets	Seines	Set Lines	Spears	Eel Racks	VALUE
May . . .	..	..	..	..	1	..	1	..	..	\$7.00
September .	1	..	..	1	2	..	..	..	..	55.00
Total	1			1	3		1			\$62.00

M. C. WORTS.

July . . .	..	..	..	..	..	..	1	..	..	\$3.00
September .	..	..	..	1	..	..	..	..	..	5.00
Total				1			1			\$8.00

EDWARD I. BROOKS.

May . . .	4	..	..	3	..	..	8	..	..	\$92.25
June . . .	1	..	..	4	10	..	2	..	..	172.25
July . . .	2	..	..	2	..	..	14	..	..	244.50
August . .	1	..	..	..	..	..	..	..	..	10.00
September .	1	..	..	1	..	..	2	..	..	55.00
Total	9			10	10		26			\$574.00

BENTLY S. MORRILL.

May . . .	2	..	1	3	..	1	1	\$77.00
June	2	1	50.00
July	2	3	19.00
Total	2			7		1	5			\$146.00

S. HESBACH.

June	1	\$150.00
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GEORGE CARVER.

June . . .	15	8	\$190.00
July . . .	5	1	..	11	58.00
August	1	2	28.00
September .	4	4	205.00
Total	24			13	1		13			\$481.00

JAMES H. LAMPHERE.

1895	Fyke Nets	Trap Nets	Pound Nets	Gill Nets	Squat Nets	Seines	Set Lines	Spears	Eel Racks	VALUE
July . . .	2	..	..	..	..	..	..	..	..	\$10.00
August . .	2	13.00
September .	1	15	9.00
Total	5						15			\$32.00

ALLEN C. SMITH.

September .	4	1	2	\$18.00
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JOHN L. ACKLEY.

June	7	..	1	4	\$52.00
July	8	3	39.00
August	10	2	41.00
Total				25		1	9			\$132.00

WILLIAM A. TEN EYCK.

June	2	\$9.00
July	1	3.00
Total							3			\$12.00

AUSTIN B. KLOCK.

July	3	\$135.00
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GEORGE B. SMITH.

July	5	\$5.00
August	5	5.00
Total							10			\$10.00

MOSES E. SAWYER.

September	3	..	\$6.00
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Food for Fishes.



THE science of propagating fish by artificial processes has made wonderful strides since the year 1741, when Stephen Ludwig Jacobi, “the Father of Fish Culture,” hatched trout in little wooden troughs on his ancestral estate of Hohenhausen, in the Province of Varenholz, Germany. With the discovery, in 1856, of the dry method of impregnating fish egg, made by V. P. Vrasski, in Russia, it was possible to impregnate and hatch 100 per cent. of the eggs of fishes of the salmon family, and that is as far as the science of fish culture can go in this direction. How great an improvement this result was over that obtained by natural processes was largely, if not wholly, a matter of speculation until it was found, only a few years ago, that of a lot of salmon eggs deposited by the fish in a Canadian salmon stream only two per cent. by actual count were impregnated. The salmon had deposited their eggs, the stream had fallen until the spawning beds were exposed, or nearly so, and the Fisheries Department of the Dominion began the work of rescuing the eggs from destruction. A strict count was kept of all the eggs secured, with the result stated. It was a wonderful accomplishment to exceed nature by ninety-eight per cent. in the matter of impregnating and hatching fish eggs, so wonderful that the science of fish culture placed a crown of laurel upon its head and waited for a season to hear the plaudits of the world. This was human nature and excusable, and the accomplishment was so great and of such vital importance to the whole world in solving the economic food problem, that fish culture would have remained crowned with bays for all time if no further steps had been taken in the science.

Perhaps the next great step was the rearing of the helpless fry to fingerlings or yearlings, in the hatching stations, before turning the fish into wild waters. The importance of this step is perhaps not fully understood yet, but coupled with the first great step it places artificial fish culture where it can almost bid defiance to natural conditions operating against young fish life, and the second step is as valuable to the world as the first.

But there is a third step yet to be taken, and it must be taken or fish culture will lose some of the benefits already derived, and how few there are, comparatively, who realize the necessity for taking this third step, which is to provide food for the young fish turned into the water in millions, where nature has provided food only for thousands.

Twelve years ago I prepared a paper upon "Food Fish and Fish Food," which was read before the American Fisheries Society, in which I called attention to the necessity for providing food for the young fish turned out from the State and National Fish Hatcheries. Commenting upon the paper before the meeting in the discussion which followed, the late Col. Marshall McDonald, then United States Fish Commissioner, said: "The paper of Mr. Cheney presents interesting facts. In our plantings of white fish and shad we have left out the food question entirely. I remember that years ago Mr. Seth Green made the statement that shad could be produced in such numbers as to flood the James River when they returned from the sea full grown. Perhaps this could have been done if the fish went to sea for their food as soon as they began to feed, but they remain in the river six or more months and must have food. To this food there is a natural limit. Take the Hudson for instance. At Troy and below there is only a certain amount of food and only a certain number of fish can live and grow. All above this number will be insufficiently fed. The only manner in which the extra quantity of shad can find food is to open the gates and let the fish go higher."

This mode of "opening the gates" by planting the young shad in the upper river and by building fishways, to let the adult shad up to spawning grounds above Troy, is referred to in another paper in this report. In 1883, Col. McDonald had not, evidently, considered the plan of cultivating food for fish at the same time that the fish are cultivated. In the discussion from which I have quoted Col. McDonald's remarks, the late George Shepherd Page, president of the American Fisheries Society, said: "This paper by Mr. Cheney is a most interesting and timely one, and it is one that will bear continued agitation. Too many people make ponds and put fish in them to either starve or drag out a miserable existence. The cases cited by Mr. Cheney are to the point and show conclusively that attention should be paid to fish food as well as to food fish."

What attention has been paid to this matter, admittedly of vital importance, during the twelve years that have passed since Col. McDonald, never afraid to admit

of errors and ever ready to correct them, confessed that the fish food question had been entirely left out of the plan for restocking our waters? In this country little or no attention has been given to it, outside of a few fish culturers' establishments, and the people are still asking for fish to be planted in public waters in numbers that give one the impression that it is believed that the fish will live on water or air. This Commission has received applications for fish, which, if granted, would have been the means of turning a lot of fish out to starve, as the number of fish sought was much greater than the waters mentioned in the application would support if the fish had to depend upon the natural food supply.

When this Commission was organized, one of the first things decided upon by the Commissioners was to scrutinize all fish applications and furnish fish for such waters only as were suitable for the fish asked for, and in such quantities as was reasonable to suppose the natural food supply would support, and further to add to the natural food supply of all planted waters as rapidly as the means at their command would permit.

This policy of furnishing food for fishes in public waters is one in which the Commission is greatly interested, and already substantial progress has been made in this direction, and it will be prosecuted vigorously in the future; but the people who apply for State fish can render valuable assistance to the Commission if they will investigate for themselves what the waters they desire to stock may contain in the way of fish food. In the application blanks for fish of all kinds is printed this question: "What is the principal local food of the fish?" If an answer is given to this question at all, it is generally "minnows," as if all fish feed upon minnows at all times. Another question in the application blanks is "What is the temperature of the water in July at the surface and at a depth of twenty feet?"

The applicants rarely take the trouble to ascertain the temperature of the water they wish to stock, and yet it is of vital importance to know the temperature if certain species of fish are to be planted with a reasonable expectation of their surviving.

There are scores of lakes and ponds in this State in which black bass have been planted, and where they do not thrive because they have exhausted the natural food and other food has not been supplied for them. The black bass is not a fish for small waters, and nature understood this when the fish were originally established only in large waters where an abundance of food could be found. Not a single one of the interior lakes, ponds or rivers of New York contained black bass until they were brought to the Hudson by the building of the Erie canal, and then distributed broadcast by man and fish cans. When transplanted to small ponds the bass do well for a few years until they have eaten all the surplus food, and thereafter they are dwarfed and are forced to eat their own young or starve. There is no fish to my knowledge that will so thoroughly

dispose of the food supply of a pond as the black bass. One of the best foods for black bass, and one easily supplied and a rapid breeder, is the crayfish, or crawfish. Lake George, thirty-six miles long, has always had black bass so long as man can remember, and they probably came in from the great lakes through the St. Lawrence River and Lake Champlain. The largest bass ever taken from this lake weighed six and one-half pounds until crayfish were planted in the lake by the State as bass food; and when the crayfish were well established the maximum weight of the bass went up to seven and one-half pounds. The crayfish are now very abundant in the lake and it is the one form of food the bass seem unable to exterminate.

It is claimed by scientists that we have some thirty-eight species of crayfish in this country, one genera with six species being found only on the Pacific Slope. No crayfish have been found in the New England States except in Western Vermont and Massachusetts, and in Central Maine. There are three species common in this State and their breeding and shedding habits are similar to those of the lobster. In fact, the crayfish is frequently called the fresh water lobster. The three species have been called "plant loving, stone haunting, and mud frequenting species." It is the "river, or stone haunting" species, *Cambarus affinis*, that we are chiefly interested in and the one illustrated in this paper. The crayfish are scavengers, but they are omniverous animals and young fish, cyprinoids, that fall into their claws are doomed. Crayfish are found under stones in brooks and along the shores of a pond or lake, and there is generally a small pile of fresh sand near the edge of the stone which shelters them. In the spring months the female is found carrying her eggs attached to the swimmerets under her tail.

In Bohemia the crayfish is cultivated artificially, but the object of this paper is not to deal so much with the cultivation of fish food artificially, as it is with the transplanting of fish food naturally cultivated from waters that are fertile to waters that are barren, where it can reproduce itself. This is something that every one interested in fish planting or in angling can take part in. To transplant crayfish they should be placed in vessels containing water, sand, gravel and small stones. If crowded in a can or if no material is provided in which to burrow and hide, they will maim and kill one another.

Many lakes have been planted with so-called land-locked salmon, which is the ouananiche of Canada, and have never been heard of after; but where they have been planted with the smelt or the round whitefish, which is the "frost fish" of the Adirondacks, they have remained. If the food of the ouananiche will thrive in any water, the ouananiche will thrive; and the proper way to test the matter of planting ouananiche is to plant the food.

The lake trout, called improperly in the statutes salmon trout, is a fish of deep, cold water, and it also lives largely on one or another of the whitefishes, because they inhabit the same deep, cold water; but the lake trout have been planted in Adirondack lakes, where they drag out a miserable existence for lack, solely, of proper food.

Doubtless, many streams that were once trout brooks could be restocked if proper food was supplied, and failures to restock them may be traceable directly to the lack of food if the subject is investigated. Changed conditions may have operated against the food supply rather than against the fish. Fishes are probably creatures of habit as well as man, and if they are supplied only with food which is found at the bottom they will look to the bottom for it, and not look to the surface, where the angler casts his flies; so the food question is one that relates more than anything else to the condition of the fish, as their habits may be changed by a change of food that causes them to look up for it rather than down.

Caledonia Creek, as it is generally known, on which is situated the hatching station of same name, the first built by the State, has long been famous for the excellence of its trout, and not alone for the excellence of its trout, but for the large number of trout sustained in perfect condition. Prof. J. A. Lintner, the State Entomologist, who has examined the insects and other animal forms of Caledonia Creek, says it is believed that the trout abound therein in numbers more remarkable than in any other natural locality in the United States; and he says of the food: "I found the mosses and plants swarming with insect forms, crustacea, etc., to such an extent as I had never seen before, and which I could not believe to be a fair representation of the fauna of Caledonia Creek." He was informed that no living forms had been placed in the can containing the mosses for examination, except those contained in the plants when gathered. Commissioner Babcock has pulled a single tuft of moss from the creek, and estimated that there were fifty fresh water shrimps on it. Fig. 1 is a thin tuft of the moss (natural size) from Caledonia Creek, attached to a pebble and having small water insects,



Fig. 1. Moss From Caledonia Creek.

mollusks, etc., among its branches. The most abundant form found was the small crustacea, *Gammarus fasciatus*, Say, but more generally *Gammarus pulex*, already referred to as the fresh water shrimp, Fig. 2.

This is one of the very best foods, and it is easily transplanted, breeds rapidly, and, with other crustacea, give the rich red color to the flesh of the fish. Indian Lake, in the Adirondacks, was famous for its trout with deep red flesh and creamy curds be-

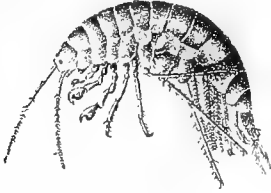


Fig. 2. Fresh Water Shrimp.

tween the flesh flakes. Some vandal put pike, the so-called pickerel of this State, in the lake, and they destroyed the trout; but for years after their introduction the pike had flesh of a beautiful pink tinge. I am fully aware that it has been questioned whether the pigment in the shell of the crustacea is accountable for the red flesh of the fish that feed upon them; but Prof. Agassiz has said "the most beautiful trout are found in waters which abound in crustacea, direct experiments having shown that the intensity of the red colors of their flesh depends upon the quantity of *Gammaridæ* which they have devoured."

Lanman has stated: "One principal cause for the great variety in color of the brook trout is the difference of food; such as live upon fresh water shrimps and other crustacea are the brightest; those which feed upon May-flies and other aquatic insects are the next; and those which feed upon worms are the dullest of all. Trout which feed much on larvæ (*Phryganidæ*) and their cases are not only red in flesh but they become golden in hue and the red spots increase in number." The larvæ referred to are those of the Caddis fly and will be mentioned later. While food may have something to do with the external coloring of trout, they have power to change their general color to accord with the color of their surroundings, and this doubtless is a provision of nature to enable them to escape from their enemies.

The shrimp is exceedingly prolific, breeding several times a year, and although it is small (the line under the figure indicating the length of a full grown specimen), once it is established in a stream it breeds more rapidly than the fish, no matter how plentiful, can eat them.

Investigation has proven that small crustaceans, either fresh or salt water forms, are the principal food of the shad, herring, whitefish, salmon, trout and smelt. The so-called Otsego bass, a white fish, has a superior flavor, which is attributed to shrimp food. The State has planted thousands of shrimps in waters where they were previously unknown, and with each planting has been sent a quantity of moss from Caledonia Creek, already figured in this paper, which contained other animal forms.

Another favorite fish food are the various species of May-flies, one of which is figured. At the time this drawing was made for this paper the flies were not to

be obtained, nor could a figure be found showing the fly in another, and perhaps more familiar, position, with wings cocked up and the long slender abdomen, ringed as may be seen in the figure, turning upwards and ending in two or three delicate stylets. Some species have two and some three stylets. The net-veined wings may also be seen in the figure.

The May-fly, day-fly, sand-fly, shad-fly, are some of the names given to the ephemera which are known to fishermen as the drakes—green, gray, yellow, brown, black, amber, iron-blue, etc. The largest and, perhaps, the best known of the May-flies is the Green drake, and the March brown is also a favorite with the angler.

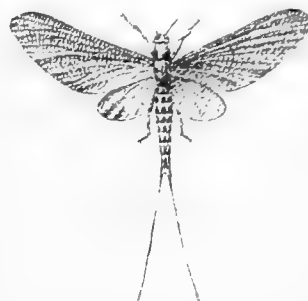


Fig. 3. May-fly.

Professor L. C. Miall, F. R. S., in a recent work upon the Natural History of Aquatic Insects, published by Macmillan & Co., has grouped certain aquatic insects with the names employed by anglers to describe flies in the group.

1. Diptera (Two-winged flies). Golden Dun Midge.
2. Trichoptera (Caddis-flies). (This group is approximately the same as Phryganidæ, mentioned by Lanman and Prof. Lintner.) Blue Dun, Little Red Spinner, Sand-fly, Grannom, Turkey Brown, Dark Spinner, Silver Horns, Cinnamon-fly.
3. Sialidæ (Alder flies). Alder or Orl-fly.
4. Perlidæ (Stone-flies). Red-fly (Old Joan), Stone-fly, Willow-fly (Shamrock-fly).
5. Ephemeridæ (May-flies). March Brown (Dun or Brown Drake), Great Red Spinner, Yellow Dun, Iron Blue Dun, Jenny Spinner, Little Yellow May Dun, Sky Blue, Green Drake (May-fly), Gray Drake, Orange Dun, Black Drake, Dark Mackerel, Pale Evening Dun, Whirling Blue Dun, July Dun, August Dun.

The method adopted by Michael Theakston, an English fisherman, of classifying the insects chiefly copied by the artificial fly dresser, has always seemed to me more popular for fishermen to follow. He divides the insects that are most imitated in feathers, silk and tinsel into seven classes: Browns, Drakes, Duns, Spinners, House-flies, Beetles and Ants. Perlidæ are the Browns, Needle Brown, Orange Brown, Stone-fly, etc.

Ephemeridæ are the Drakes—May-fly or Green Drakes and all the other drakes.

Trichoptera are the Duns, the various Caddis-flies, which, by the way, should not be confounded with the May-flies, as they are quite different, although the Century Dictionary says the May-fly is the Caddis.

Diptera are the Spinners, Black Hackle, Early Spinners, Jenny Spinners, etc.

House-flies, Beetles and Ants tell their own story, and include the flies known as Blue Bottle, Cow Dung, Gnats, Red Ant, Black Ant, etc.

When the May-fly is in season the trout and other fish simply gorge on them, and they occur all over the Northern United States and the Dominion of Canada. They are called the Day-fly because their winged life is supposed to be limited to a single day, but this is not so. When I conceived the idea, as I did a few years ago, of transplanting the Green Drake to waters where they were unknown to serve as fish food, I caught a large number of the flies as they came from the water and confined them in biscuit tins perforated to admit air, and in the wire portion of a bait bucket. They lived for nearly two days under my observation, when I was suddenly called away, and I know not how much longer they did live. There may be some species that do not live longer than one day, but it is of record that the species shown in Fig. 3 have been known to live a week. I might say, if any one cares to know it, that the figured specimen is *Hexagenia bilineata* of Say, and is from an example taken by Prof. Lintner near Schenectady in the month of June.

The flight of the May-fly at its height has been compared to a snowstorm, and I have seen them covering the entire front of a large summer hotel, windows, doors and every inch of woodwork, as though the house had been plastered with May-flies for a purpose. This was because at the height of their flight the wind had blown them against the house. I have also seen the empty larvæ cases of the May-fly thrown up on the shore of a lake by the waves in a regular windrow. So it is not a difficult matter to obtain the flies for transplanting. That they have been transplanted successfully I discovered soon after I experimented with the flies to find how long they would live. An English officer, Major G. W. Turle, transplanted the flies and the larvæ and established them in new waters. Swammerdam's "Life of an Ephemera" is only partly correct in describing the propagation of the May-fly, and yet it is quoted as authentic:

"When the female has emerged from the water and cast off her skin she passes the contents of the double ovary into the water, but first she moves to and fro on the surface of the water as if in sport, and flits about with a rapid, exploring motion. Immediately after the eggs are passed into the water they are fertilized by the male" (this is incorrect, as the eggs are fertilized before they are deposited in the water), "which has previously emerged and cast off a delicate membranous skin. The eggs sink slowly and are scattered over the mud at the bottom of the stream." It is unnecessary to quote further from Swammerdam, for his description of the life of the larvæ of the May-fly is too technical for a paper of this character, and in some particulars further investigation has shown that he was wrong, although in the main correct. It requires two years for the larvæ of the May-fly to pass from the egg to the winged stage of its existence, and at all stages it furnishes first-class food for fishes. When the flight of the flies takes place the larvæ rises to the surface of the water, bursts its case, unfolds

its wings and flies to the bushes, trees, buildings or other object on the shore, and alights with the body hanging downward. The males and females rise together, live their short lives together, and die together. Soon after the flies rise from the water they shed their skin. I do not refer to the larvæ case, which is left on the water, but to the membranous skin of the fly itself. This is as I described the process a few years ago in *Forest and Stream* :

“A few nights ago I was writing late, and in at the open window of my library came a drake (May-fly), and settled on the sheet upon which I was writing. A few moments after in came a spinner, with its long, slender legs, cylindrical, jointed body and narrow wings, and after a tilt with the light dropped into my ink. If this was not an invitation to get out fly-rod and fly-book and go a-fishing, what was it ?

“The next morning I found on a wire window screen seven drakes, six of one species and one of another. After breakfast I lighted a pipe and sat down inside the screen to watch the May-flies outside. Six of the drakes had two stylets or ‘whisks’ each; the other had three, and was a bit larger in body and wings. My daughter was with me, and, her eyes being sharper than mine, she was the first to discover that the skin on the back of one of the smaller drakes, near the head, had split. Then there was an undulating motion of head and body, and first one and then another leg of the insect was lifted as a man might do in pulling his legs out of the mud. The legs grew longer and longer, and a reading glass showed me that they were being withdrawn from an outer skin, as, to continue the simile, the man stuck in the mud would pull his legs from his long boots. The outer skin seemed to adhere to the screen as if fastened with a sticky substance. In a few moments the legs were clear of the outer skin, and the drake rested. Then the undulations of the body began again. Before they had been distinctly up and down. Now they were forward and back, or serpentine, as though the body contracted and elongated. This movement was intensified to the eye by the ringed body of the drake. The head was bending slowly backward towards the extremity of the body, when suddenly the wings were drawn clear of the outer skin. Another rest for a moment, and the brave little drake crawled forward a trifle, leaving the filmy skin, even to the covering of the stylets, fast to the screen. The drake, which had been dusty and gray, although just out of its larvæ case, was now bright and shining. Its veined wings were transparent and glossy, its ringed body was polished, and altogether it was a neater and more trim little drake than before throwing off or crawling from its outer skin.”

To transplant the May-fly, cardboard boxes should be provided, and inside the boxes perches for the flies must be fixed. This can be done with a sail needle and worsted, sewing through the cardboard from side to side, making the perches about two inches apart. As the flies are captured and placed in the boxes they will promptly

climb up on to the worsted perches until they are filled. Transport the boxes to the water it is desired to stock, and shake the flies out on the bushes bordering the stream. The flight of the May-fly covers a period of two weeks or such a matter on a stream or lake, and on some waters they are much later than on others (I have seen them

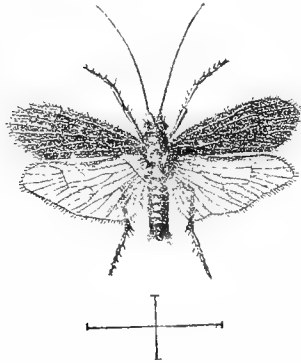


Fig. 4. Caddis-Fly.

rise on the Saguenay as late as September), and Major Turle says that if flies from an early rising stream are transplanted to a late rising stream, the period of flight may be extended.

The fly which is sometimes confounded with the May-fly or drake is the Caddis-fly, Fig. 4.

This example is enlarged as will be seen from the lines under the figure. Like the May-fly this figure shows the Caddis with wings extended. At rest the wings of the Caddis-fly are folded close to the body. The larvæ form of the Caddis-fly is called Caddis worm, in which stage it is eagerly sought as food by fishes. Prof. Barfuth, of the University of Bonn, examined the stomachs of six trout; in one he found the cases of four Caddis worms; in the second, one hundred and thirty-six cases; in the third, five hundred and eighty-five cases; in the fourth, one hundred and sixteen cases; in the fifth, one hundred and eighty-six cases, and in the sixth, one hundred and fifteen cases.

Réaumur says the Caddis worms are "found in small streams and brooks, in ponds and lakes; in a word, in any piece of water which has plants living in or around it. They are usually vegetable feeders, but not exclusively so. The body of their larvæ is lodged in a silken tube, to the outside of which are fastened fragments of different substances selected for the purpose of strengthening and defending it. The sheaths may be quite irregular, rough and prickly, or smooth and symmetrical. When the old sheath becomes too narrow or too short the larvæ makes a fresh one." (They frequently repair or extend the old case instead of making a new one.) "Sometimes the new sheath differs more from the cast-off one than our dress of to-day differs from that of our grandfathers. * * * They employ very different materials, and the kind of material largely affects the dress which they put on. They make use of whole or nearly whole leaves, or little sticks and straws. Others use seeds, roots, grains of sand and gravel, or the shells of water-snails and bivalves; in short, all the materials which can be found in water are employed by particular Caddis worms. In some sheaths one only of these materials is employed, and these are the most neatly constructed. In other sheaths a number of different materials are made use of, so that the larvæ is dressed, so to speak, in rags and tatters, and its covering is altogether shapeless."

Figures 5, 6, 7, and 8 are examples of Caddis worm cases or sheaths, and all came from Caledonia Creek. Fig. 5 is composed of small stones, and is of natural size. Fig. 6 is twice natural size and is composed of gravel and a few larger stones. Fig. 7 is composed of bark, and Fig. 8 of charcoal and shells.



Fig. 5.



Fig. 6.



Fig. 7.

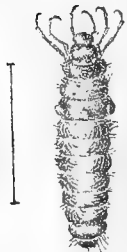


Fig. 8.

These examples were selected because they were found in a stream on which one of the State hatcheries is situated, and they represent cases constructed by four different species of Caddis worms.

McLachlan's Trichoptera of the European Fauna shows cases that are quite unlike the figures here given, but all would be quickly recognized as Caddis worm cases from the illustrations in this paper.

Fig. 9 is an enlarged Caddis worm taken from the case of bark, Fig. 7.

Fig. 9.
Caddis Worm.

The line at the side of the worm indicates its actual length. Some Caddis worms creep along the bottom of a stream, but others load their cases so heavily with gravel that they never move. At best the larvæ is a poor swimmer, and to move at all they usually creep, hence the name "creeper" applied to the Caddis worm, and also to the May-fly larvæ by the anglers in England where both are used for bait in fishing. The Caddis worm has at its hinder end two hooks projecting outward by which it holds itself in its case should an attempt be made to remove it. Réaumur says the cases of gravel and sand are the most difficult to construct, and yet a Caddis worm will make one in five or six hours. In a trout pond on the top of a mountain in Vermont I saw the bottom literally paved with Caddis worm cases and the trout were the finest flavored I ever ate. Originally this pond contained nothing for the trout to eat but small crustacea and insects in various stages of existence, but minnows were planted by men who were fishing through the ice in winter with live bait, and thereafter the flesh of the trout became light colored in some examples. Wilmurt Lake, in this State, has no other food than crustacea and insects, and the trout from the lake have been pronounced the finest known for the table.

When the larvæ of the Caddis passes to the pupa stage it reconstructs its case and it is generally shorter than before. The pupa emerges from its case, climbs up the

water weeds or stones until it gains the air, and throws off the pupal skin. When liberated it swims about easily, but with its back downward, and the fly escapes from the floating pupa. The fly has four wings, and wings and body have a hairy appearance as though fringed with short hairs as shown in Fig. 4.

The eggs of Caddis-flies are laid in water, or on water plants, or on trees overhanging a stream, or sometimes far from the water. They are often of green color, and are laid many together in a mucilage which swells out as soon as it comes in contact with water, forming a cylindrical egg rope, or in some cases a flat disc. To transfer the Caddis-fly for the purpose of furnishing fish food the larvæ cases, or worms, can be gathered in the spring, or even the pupa cases, and placed in a bucket of water and carried to the stream or pond it is desired to stock. They need not necessarily be gathered in the spring unless it is hoped to have a rise of the flies the same year. The cases are so abundant that when found it is an easy matter to collect them by the thousands if desired for transplanting. I imagine the eggs can be transplanted as successfully as the worms. The fish eat cases and all when they feed on the worms in the cases, as they have no means of extracting them.

All the fish food thus far referred to constitutes more particularly the food of fishes after they have grown beyond the fry stage, although at some period of their existence all of the food may serve to feed very young fish. There are smaller crustacea than the crayfish or shrimp which swarm in the waters of ponds, lakes and streams, and which serve to feed young fish when they begin to take food through the mouth after the umbilical sac is absorbed.

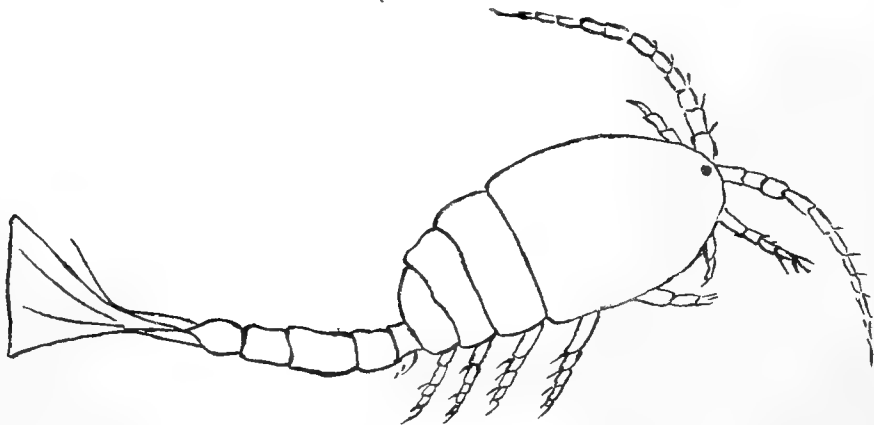


Fig. 10. Cyclops

Fig. 10 is one of these crustacea, the Cyclops, and I regret that it is a very crude figure of a male. The female has two attachments near the tail on either side which are the egg sacs, and are easily distinguishable on close inspection.

The entomostraca are minute crustaceans, but the Cyclops has been greatly enlarged, that it may be more easily identified. A single entomostraca, either of this specie or the one next described, is so small that it requires good eyes to distinguish it in the water, but a mass of some species of entomostraca in the water in the spring and summer has an appearance not unlike blood. Small as these crustaceans are, a species of copepoda, to which order the Cyclops belongs, forms much of the food of whales. Fig. 11 is another crustacean, *Daphnia pulex*.

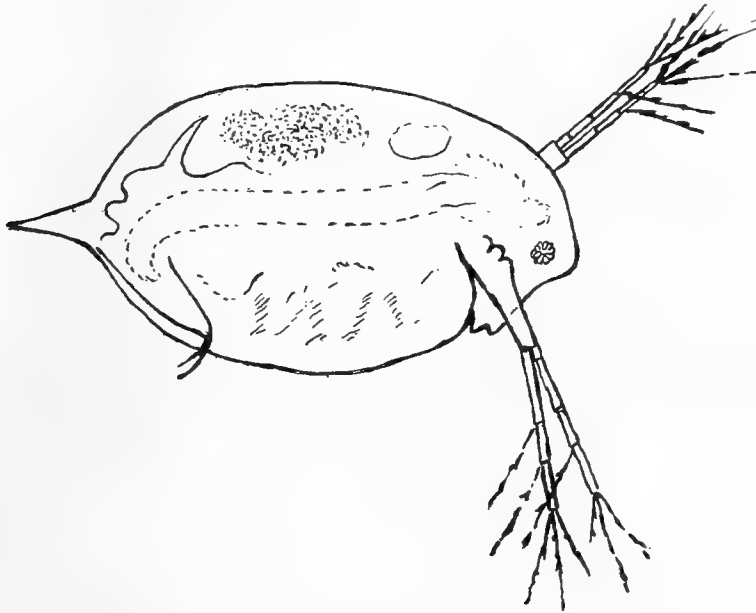


Fig. 11. *Daphnia pulex*.

This minute crustacean is commonly known as the water-flea, and like the "four-horned" Cyclops, is greatly enlarged in the drawing. If all is true that has been said of the *Daphnia*, they are the most prolific animals on earth. During a correspondence with an Austrian fish culturist in regard to fish food he sent me a clipping from an Austrian newspaper which, being translated, read that "A pair of *Daphnia* increases (reproduces) within twenty-four hours to 1,000,000,000 of descendants." This seems to be too remarkable a feat in reproduction for one poor little female *Daphnia* to be charged with. I submitted the correspondence to Mr. Charles G. Atkins, Superintendent of the Maine Hatching Stations of the United States Fish Commission, who, more than any man that I know in this country, has investigated and practiced the artificial propagation of natural fish food. Mr. Atkins, after reading the statement of wonderful reproduction of *Daphnia*, said: "The man who wrote that has committed an enormous blunder. The increase of *Daphnia* is at no such rate. In an article that I read, some time since, in *Revue des Sciences Naturelles*

Appliquées, a writer who appeared to me to be exaggerating in other matters that I knew something about, gave this estimate: 'that the descendants of a single female *Daphnia* would in sixty days amount to 1,291,370,075 individuals.' That is astounding enough and I am not yet ready to accept it, but Mr. ——— makes a female *Daphnia* do about four-fifths as much in twenty-four hours.

"We have studied *Daphnia* some at this station, kept them in aquaria and under such restraint as enabled us to follow their reproduction. The eggs are large, the brood cavity could not hold a hundred of them at once, I should say that less than fifty would be the average. In the summer they hatch in the brood cavity and come out alive and kicking. It takes three or four days for eggs to mature and come forth, and about a week for the young to come to maturity so as to reproduce. Of course, I recognize the possibility of European *Daphnia* being more prolific than ours.

"At Wood's Holl there was an abundance of two species of *Daphnia*, one of them, I think, *Daphnia pulex*, the other a very large one, say one-fifth or one-quarter of an inch long, the largest I ever saw."

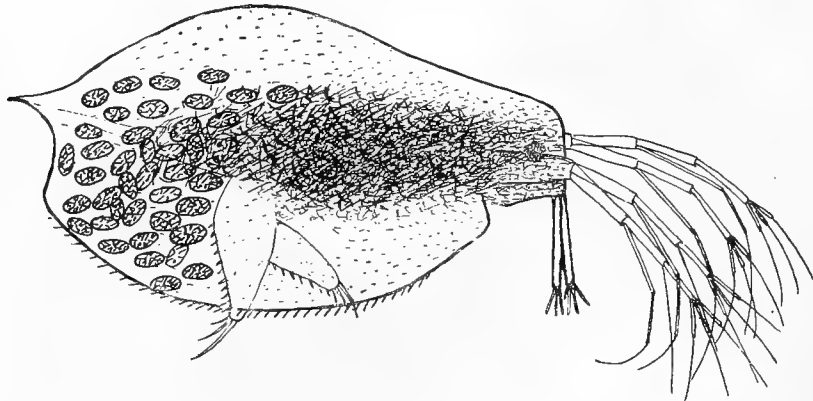


Fig. 12. *Daphnia* bearing eggs.

Mr. Atkins sent me specimens of two species of *Daphnia*, and one individual bearing eggs was enlarged in a drawing for this paper, in the office of the State Entomologist, and is shown in Fig. 12. About forty eggs can be counted in this single specimen, which it will be noticed is of a different species from that shown in Fig. 11.

While preparing this paper I was suddenly confronted by a dilemma which was for the moment most embarrassing. The drawings and plates of the figure had been made of the *Daphnia*, and my notes commending the crustacean as fish food were practically ready for the printer when incidentally Dr. Tarleton H. Bean, Director of the New York Aquarium, informed me that in translating from the French a

lecture by Dr. Jousset de Bellesme, Director of Fish Culture of Paris, he found that the lecturer placed little value upon *Daphnia* as fish food. I was furnished with a copy of the translation and found that it said:

“I have demonstrated in experiments made at the Trocadéro Aquarium that feeding by means of *Daphnia* is simply a dangerous illusion. These little animals possess very small value as food, and fish which are subjected to this régime do not grow. But it is important to the fish culturist that his products grow as quickly as possible, and to accomplish this we must not forsake food materials of rich quality like meat, blood, etc.”

There were three things any one of which might be done under the circumstances; abandon the idea of referring to the *Daphnia* as desirable food material for fish; ignore the conclusions of Dr. Jousset de Bellesme, or, show that he was in error and his conclusions were not final.

Upon reading the entire lecture I found that in his experiments his efforts were directed entirely to rearing fish for market to a certain size in the shortest possible time consistent with prime condition of the fish, and really his condemnation of *Daphnia* as fish food was not as sweeping as his words would make it appear.

It will be fair to say that Dr. Jousset de Bellesme means that under his system of pond culture, which he explains at length, *Daphnia* do not possess qualities as fish food to produce the maximum growth of certain species of fishes, within a given time, to obtain the best results from a monetary point of view, when the fish so fed are treated as a marketable commodity. Of this view of the matter we have nothing to say, for it is entirely outside of the purposes of this paper to treat of feeding fish for market, but for fear that the unqualified assertion which I have quoted from the translation may become current it may be wise to see how other fish breeders regard the little crustaceans as food for fishes that are not being fattened for market.

Mr. J. J. Armistead, proprietor of the Solway Fishery, Dumfries, Scotland, is one of the most advanced fish culturists in Europe, and his opinion of all that relates to fish breeding and fish food is most valuable as he speaks from long experience. He says, speaking of the necessity of multiplying the creatures on which the fish feed, if the fish themselves are to be multiplied by artificial means: “One of the best animals to cultivate is the water-flea (*Daphnia*). There are some ten varieties varying in size from three-sixteenths to one-sixteenth of an inch in diameter. The commonest species is *Daphnia Pulex*, which varies in color and size considerably according to the nature of its surroundings, and also to the time of year. It thrives best in moderately still water, and under favorable conditions its rate of increase is considerable, the females usually producing three broods per month.”

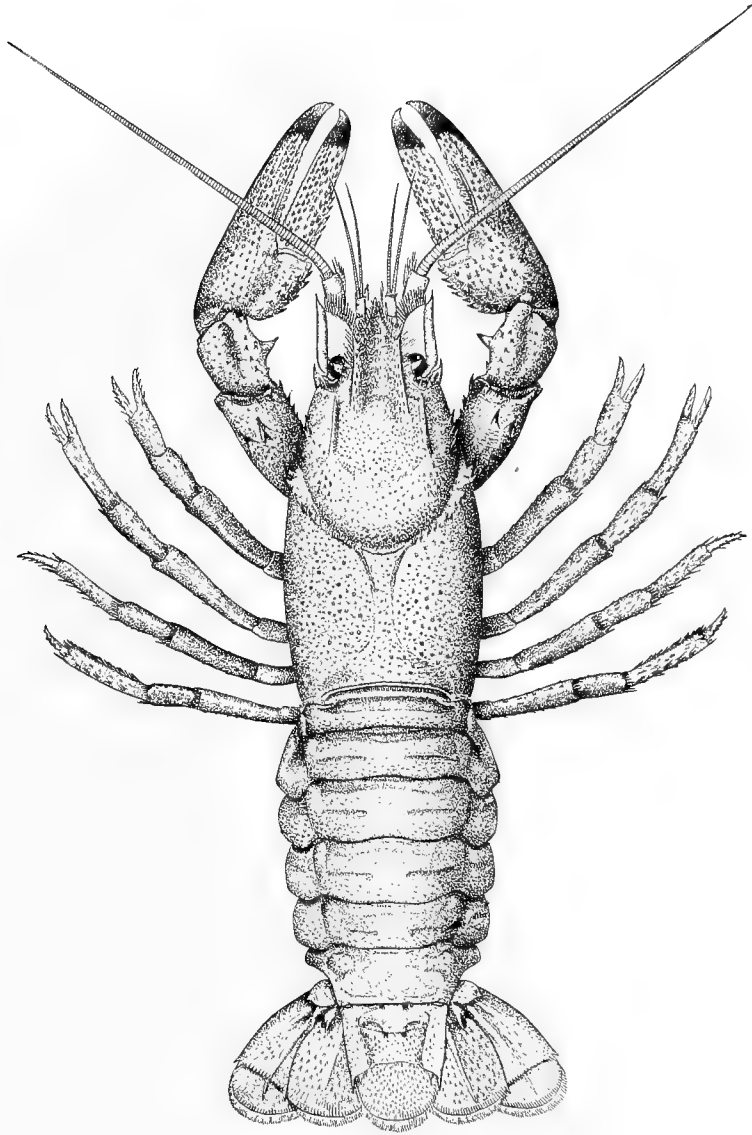
Mr. Armistead has this also to say about Cyclops previously figured in this paper. "The great importance of these creatures will be understood, when we consider that it has been estimated that a single female may be the origin of over four hundred millions of its species in one year; nay, according to a calculation by Jurine, a single Cyclops is capable of producing over four billions in the course of a single year. The calculation is based on the assumption that all live and go on producing, but in reality, such an occurrence never takes place, as there are so many predacious animals which prey upon these crustaceans, that few of them practically survive. These figures, however, have their lesson. They teach us of the enormous possibilities that exist with regard to the increase of these minute creatures, where by so-called artificial means they can be protected from their enemies and allowed to multiply enormously. The food of Cyclops is produced by decaying vegetable matter, and minute spores."

While looking over the authorities to find what, if anything, had been said on the subject of minute crustaceans for fish food, quite by chance I found a review of a new book in the *Fishing Gazette*, London. The title is "Animals at Work and Play," and the author is C. J. Cornish. One chapter is devoted to "The Invisible Food of Fishes," and in it the author says:

"The microscopic creatures which are in parts of the Atlantic massed so thickly in the water as to discolor the surface and give abundant food for the whale, are present not so thickly, but in numbers comparable to motes in the air, in all parts of the sea. * * The upper waters of the sea are in fact a nutritive soup teeming with food exactly suited to their (the fishes) need. These microscopic creatures are the basis of all the larger life of the ocean, and in a great degree of the growth and increase of fresh water fishes. Some of these tiny creatures are water-fleas, others, like carpaced shrimps, are of prodigious fecundity. In rivers they are almost the sole food of all young fish, and probably the main resource of the older fish when other supplies fail. In the first days of spring the creatures in every stage, eggs, larvæ, and perfect, though microscopic *entomostraca*, swarm in the water, on the mud and on the foliage of the water plants. At such times trout feed mainly on them. They are eating the weed bare of the clinging film of microscopic larvæ of water-fleas, Cyclops and other fresh water *entomostraca*. * * * Experiments made on trout showed that when fed upon worms only they grew slowly, others fed upon minnows did better, but a single fish fed upon insects weighed twice as much at the end of the experiment as a pair of those reared upon minnows and worms respectively."

This review brought up the question of salmon fasting in fresh water, and Mr. Cornish replied in a letter from which I make the following extract:

"I am not quite sure whether there is not a period when salmon do fast, the result of some sexual conditions. But this *entomostraca* probably forms a large part of the



THE CRAY-FISH (*Cambarus affinis*).

food of salmon, as of all other fishes, both in salt and fresh water. But what I write to say is this: Last May I was in the splendid aquarium of the Amsterdam Zoological Gardens. There I found that all the fish were fed on *entomostraca*, and that herrings, soles, cod, paradise fish from China, and odd fish of all sorts from the Tropics and last, but not less, the sea anemones, all ate them greedily. The particular *entomostraca* used when I was there were water-fleas, caught in muslin nets in some nice dirty ponds frequented by the water fowl. In the net they looked like red sawdust, and not less so when thrown into the water."

Professor Verrill, in his report upon the invertebrate animals of Vineyard Sound, says: "These small crustacea are of great importance in connection with our fisheries, for we have found that they, together with the shrimp, constitute *a very large part* of the food of our more valuable edible fishes, both of fresh and salt waters. Even the smallest of these are by no means despised or overlooked, even by the large and powerful fishes, that could easily capture larger game. Even the voracious bluefish will feed upon these small crustaceans where they can be easily obtained, even when menhaden and other fishes are plenty in the same locality. They are also the favorite food of trout, lake whitefish, shad, etc."

It is not necessary to pursue this subject further, for it will probably be admitted that the crustacea figured in this paper are admirable for fish food under all conditions which obtain in the wild waters of this State, and it is abundantly proven that large fish as well as the young feed on minute creatures.

Fishing with a companion for lake trout in the spring when the fish were near the surface of the water, we encountered a flight of small black flies. They were in clouds, and it was difficult to keep them from our eyes and nostrils. The lake was perfectly still, and after a time the flies settled on the water and I called the attention of my companion to the trout feeding on the flies, and how quietly they moved along and sucked the insects in without making more than a very slight disturbance on the surface of the water. He could not believe that big lake trout would turn their attention from the abundance of whitefish breaking in schools all over the lake to feed on the insignificant flies, but every trout that was caught had its throat stuffed with the flies.

The principal object of this paper is to call attention to the necessity of providing food for our food fishes; to illustrate some of the fish foods; explain how they may be transplanted with little or no expense and how it may be determined whether the water desired to be stocked contains suitable food for the fish to be planted.

Fig. 13 is a test net made of cheese cloth with a wide-mouthed bottle of clear glass tied in at the bottom. To Mr. Charles G. Atkins I am indebted for the original form of this test net. With this simple net, which anyone can make for himself, it is

an easy matter to discover what any waters may contain in the way of fish food within certain limits. Draw the net through the water amongst the weeds and water vegetation, and the solid matter will remain in the bottle while the water escapes, except such as remains within the bottle. Fresh water shrimps will be readily seen, if they are

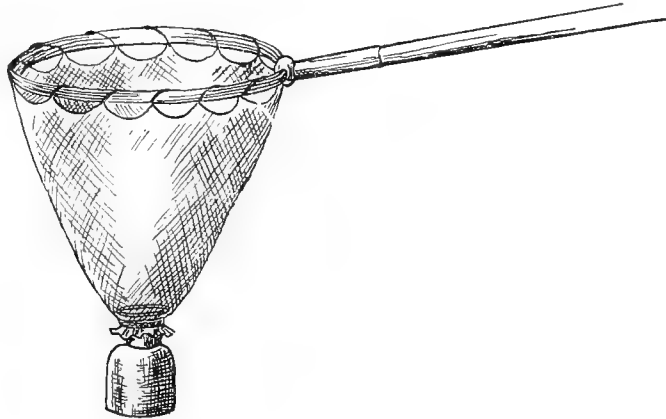


Fig. 13. Test Net.

captured, but it will require closer observation to discover *Daphnia* and *Cyclops* in the bottle, and it should be tried in a strong light for this purpose. The net will serve a two-fold purpose to test what may be in the water in the nature of fish food, and to capture live food, *Daphnia*, *Cyclops*, and other insect larvæ for transplanting into waters that have been tested and found barren.

It is reasonably safe to transplant any larvæ that may be brought up in the net, although there are insects more or less injurious to very young fish during some stage of their existence, though not particularly so to the so-called game fishes. For instance, the larvæ of the dragon-fly, the "devil's-darning-needle," which is found for the most part in standing water, is known to capture living animals, insects, water snails (which by the way are excellent food for fish), tadpoles and even fishes.

Tennyson must have watched the transformation of the larvæ of the darning-needle:

"To-day I saw the dragon-fly
 Come from the wells where he did lie,
 An inner impulse rent the veil
 Of his old husk; from head to tail
 Came out clear plates of sapphire mail.
 He dried his wings; like gauze they grew,
 Thro' crofts and pastures wet with dew
 A living flash of light he flew."

The larvæ of the dragon-fly, under the name of the "What is it," was said to have been "discovered" as a black bass bait in the Mohawk River, and its fame as such has traveled far into the State, and it is an excellent bait and will take black bass when other baits fail. Anglers have sent from various parts of the State to the Mohawk for the bait, when probably they have it in their home waters, and it requires only the manipulation of a landing net with strong frame and small mesh in the water weeds to obtain it.

There is such a demand for this bait that men may be seen almost daily from the car windows on the Delaware and Hudson Canal Company's railroad, netting the flags in the pond holes near West Troy.

Perhaps the most rapacious of water insects is the water beetle, *Dytiscus*. The larvæ have mandibles which close upon their victims with certain destruction, and little fishes are their victims on occasions; but larger fishes eat the beetle; though they are not to be cultivated, for in larval and in perfect form they will work destruction among a lot of fry. The larvæ has six legs near the head, and its segmented body tapers towards the tail. In the different species, the larvæ may be from one to one and a half inches long.

If the test net is used to determine the desirable fish food that may be in any water and the amount of it, it will be of considerable assistance to the Commission in filling applications for fish for public waters understandingly; and if its use is further continued as a means of transplanting fish food from waters where it abounds to waters where it is scarce, it will add greatly to the success of fish planting. The cultivation and transplanting of fish food should receive some attention from every one interested in fishes, whether as food or for sport.

A. N. CHENEY,
State Fish Culturist.

Commercial Fisheries of the Interior Waters of the State.

THE interior rivers and small lakes of the different States have never been thoroughly investigated to ascertain the capital invested, fishermen employed, and the value of the product. In the exhaustive canvass made about fifteen years ago of the fisheries of the United States, the value of the product of the interior fisheries of the different States was chiefly an estimate, and it was given at \$1,500,000; but subsequently it was believed that the figures should be \$5,000,000 annually. It is almost impossible to obtain figures which will cover the actual amount received for all fish sold in any particular State, for while the returns from professional fishermen may be obtained with reasonable accuracy, the returns from desultory fishing in minor waters must remain incomplete. Nearly every trout stream and black bass pond, however remote, furnishes more or less fish which are sold to summer hotels and boarding houses for sums which never will find their way into statistical returns when an attempt is made to find the total value of the fisheries of the State.

There are some lakes in which valuable food fish are going to waste because no effort is made to catch them. This refers to whitefish in interior waters which have been planted, and where the fish now thrive abundantly, and may be taken under the law if State regulations are complied with.

In one of the large interior lakes perch fishing in winter has been prosecuted for years, so many that no one can remember to the contrary; and the sweet little pan fish furnished not only food but a fair revenue to those who sought them. The law which forbids fishing through the ice in any waters inhabited by trout closed the winter perch fishing. The trout in this particular lake are lake trout, and perch fishing through the ice could in no way injure the trout if the fishermen desired to obey the law which protects trout of all species through the winter months; but under the pretense of fishing for yellow perch through the ice certain fishermen have persistently fished for and caught trout until there is something of a sentiment in favor of the present law as being the only means of protecting the trout. Lake trout and yellow perch do not inhabit the same water, and there is no reason why yellow perch should not be taken up to a certain time in the spring if the fishermen would observe the trout law.

The first effort to obtain statistical information in regard to the fisheries of the interior waters of this State was made in 1895 by the United States Fish Commission, when Mr. John N. Cobb, field agent of the Commission, was sent from Washington to inaugurate the work. A summarized account of the extent of the economical features of certain named waters of the State is herewith given by courtesy of the United States Fish Commission.

TABLE I

SUMMARY OF PERSONS EMPLOYED, CAPITAL INVESTED, AND PRODUCTS TAKEN IN THE COMMERCIAL FISHERIES OF CERTAIN INTERIOR WATERS OF NEW YORK.

WATERS	FISHERMEN		CAPITAL INVESTED		PRODUCTS			
					1894		1895	
	1894	1895	1894	1895	POUNDS	VALUE	POUNDS	VALUE
LAKES:								
George	25	22	\$7,567	\$7,221	25,916	\$3,524	18,502	\$2,510
Champlain	117	130	1,023	1,023	115,030	9,810	123,101	10,371
Black.	25	25	538	538	15,700	611	17,100	659
Saranac Chain . . . . .	..	40	....	20	.....	.....	4,000	600
Lake of the Woods	3	..	120	.....	6,375	435	.....	.....
Mill Site.	18	14	490	605	22,000	625	26,120	706
Oneida	40	110	20	3,710	50,000	3,750	211,863	8,989
Onondaga	21	15	489	345	19,942	2,040	1,000	130
Skaneateles	13	13	213	213	4,275	765	2,500	459
Cayuga	21	21	480	480	25,793	2,347	18,975	1,903
Seneca.	19	19	392	417	25,320	3,152	44,631	3,865
Canandaigua	10	10	380	320	20,640	2,437	10,810	1,255
Chautauqua	49	44	2,547	2,518	166,070	19,164	202,225	22,193
Otsego.	24	38	519	827	16,149	1,373	28,058	2,385
RIVERS:								
Oneida	8	8	900	900	13,529	1,623	12,941	1,553
Seneca.	29	32	425	607	64,380	3,416	31,680	2,418
Black Creek. . . . .	..	2	.....	1	.....	.....	1,224	90
Total	422	543	\$16,103	\$19,745	591,119	\$55,072	754,730	\$60,086

TABLE II.

STATEMENT BY SPECIES OF THE QUANTITY AND VALUE OF THE YIELD OF THE COMMERCIAL FISHERIES OF CERTAIN INTERIOR WATERS OF NEW YORK.

SPECIES	1894		1895	
	POUNDS	VALUE	POUNDS	VALUE
Black Bass	55,806	\$6,230	45,999	\$5,078
Bullheads	136,827	6,229	195,345	8,492
Eels	17,309	1,990	17,511	1,994
Herring	24,350	860	28,920	986
Lake Trout	31,441	5,498	27,016	4,627
Ling	20,000	200	24,000	240
Mascalonge	89,000	13,350	106,130	15,920
Pike or Pickerel	23,997	2,107	23,034	2,166
Smelt	33,170	3,957	39,076	4,506
Suckers	1,500	33	73,010	1,179
Sunfish			35,655	1,225
Wall-Eyed Pike	20,165	1,907	18,700	1,730
Whitefish	50,466	4,648	29,058	2,515
Yellow Perch	25,688	2,937	21,502	2,856
Frogs	61,400	5,126	69,774	6,572
Total	591,119	\$55,072	754,730	\$60,086

The great increase to be observed in "Table I" of the number of pounds of fish taken from Oneida Lake in 1895 over 1894 is to be accounted for in the fact that certain net fishing was permitted in 1895 that was not allowed in 1894. While the total number of pounds of fish taken in 1895 is greater than in 1894, the number of pounds of certain specified kinds of fish is less.

In the case of the black bass it must continue to be less from year to year if the present law, which permits fishing during the breeding season of this fish, is not amended to make June a close month.

It will be noted that the greatest increase is among the common, or so-called food fishes, while the decrease is confined almost wholly to the so-called game fish.

Mascalonge, Pike, Pickerel and Pike-Perch.

THIS country has long been notable for the confusion which exists in the common names of its fishes, and it is doubtful if any amount of instruction on the subject will correct the evil of calling a fish by a name which does not belong to it, and never should have been applied to it. The Latin name of the large-mouthed black bass means that it is "trout-like" (literally, salmon-like), and has a small fin, although it is not like a trout and it has not a small fin; but when the fish was first classified by a French naturalist, Lacépède, the specimen was sent from one of the Southern States, where the fish is known as a trout, and as the particular specimen happened to have a broken fin, the genus was baptized *Micropterus*, little fin, and the name must stick to the fish as long as it swims, because with scientists the law of priority in the classification and naming of fishes is as unchangeable as the laws of the Medes and the Persians.

Admitting the justice of the custom of scientists regarding the scientific names of our fishes, is there any good reason why inappropriate and incorrect common names should be applied to our fishes and persisted in when the appropriate and correct names are pointed out? It is not alone incorrect names applied to fishes which cause confusion, but a variety of names are applied to the same fish in different localities. For instance, the pike-perch is called also wall-eyed pike, glass eye, horn fish, dory, jack, jack salmon, green pike, blue pike, yellow pike, white pike, okow, and, of all things, salmon! It is known also, locally, as Champlain pike, Susquehanna pike, etc. The cousin of the pike-perch, properly the sauger, or sand-pike, is called gray pike, ground pike, pickering and pickerel.

The rock bass is called goggle-eye, red-eye, and lake bass. The blue-nosed sun-fish is called copper-nosed bream, and dollarel. The crappie is called new light, Campbellite, bachelor, bride's perch, strawberry perch, chinquapin perch, and sac-a-lai. The calico bass is called grass bass, barfish, bitterhead, tin-mouth, sand perch and sac-a-lai; but it is not necessary to extend this list, except that I was recently asked to identify a fish called "silver bass, exactly like the black bass except in color," and found after considerable search that it was a name applied in Ohio to the mooneye or toothed herring.

In this State the statutes even err in the common names of some of our fishes. Pickerel are mentioned in the Game Law when the fish meant is really the pike, and

the pike is mentioned when the law really refers to the pike-perch. A gentleman asked some questions about the pike and I replied to him and told him that apparently he was asking about the pike-perch, but he insisted that it was the pike. However, when I asked if the fish had one or two dorsal fins he replied that it had two, which

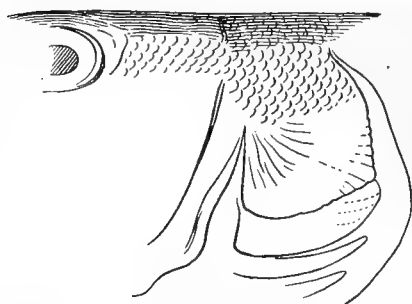


Fig. 1.
Part of Cheek and Gill Covers of a Mascalonge.

is characteristic of the pike-perch, and not of the true pike. For the purpose of identification three figures have been prepared showing the characteristics that are constant in the mascalonge (which is sometimes called a big pickerel and great pike), the pike and the pickerel.

Without regard to color or other markings, each of the fishes named may be identified from the peculiarity of scale formation shown in the accompanying cuts.

The mascalonge, the pike and the pickerel have each the same number of fins, placed in the same position on each fish, as will be seen in the colored drawings in this volume. The mascalonge has scales only on the upper part of cheek and gill covers as shown in Fig. 1. The fish may be the mascalonge from the St. Lawrence River, with round brown spots on a light ground, or the mascalonge from Chautauqua Lake with blotches or splashes of brown, or it may be without spots of any kind, and it may be called Chautauqua pike, or Kentucky River or Muskingum River pike, and yet it will be a mascalonge and have scales on cheek and opercula as shown in Fig. 1.

The colored drawing is made from a Chautauqua Lake mascalonge, for that is where the State hatches mascalonge, and this is the first time that a specimen has been figured correctly. It was reported to me that some of the Chautauqua Lake mascalonge were spotted like the St. Lawrence River fish, and I asked Superintendent Annin to investigate the matter, and I quote from his letter reporting to me: "I am inclined to think, and believe I am correct, that all the mascalonge of Chautauqua Lake are marked in the same manner. I secured three specimens which our men thought were the spotted variety, as they call it, and sent two of them to Dr. Bean, and he says they are the same as he had last fall and the same as you have for the report. You know that oftentimes you will find a fish coming out of the same lake, only from a different bottom, which will be marked or colored differently, one from another. This, I think, is the explanation of the reported difference in coloration of the Chautauqua Lake mascalonge. The only round brown spots on the Chautauqua Lake fish are those found near the tail and along the belly line." This to me is conclusive, although I was informed in great detail that the fish of different ages or of different sexes have



Denton

THREE PIKE. (LUCIUS LUCIUS L.)

been taken with different markings, some with round brown spots and some with blotches almost like vertical bands, as shown in the colored plate.

The State hatches upwards of 3,000,000 of mascalonge annually, and there are demands for them for waters in which it would be unwise to plant them, and all such applications are denied. Mascalonge are hatched in boxes sunk in the lake and provided with double bottoms and tops, so that the eggs may not be eaten through the wire meshes by other fish. About 97 per cent. of impregnated eggs are hatched, and with the water at 55 degrees Fahr. they hatch in about fifteen days, and it requires about the same length of time to absorb the umbilical sac of the fry. The fry when first hatched are extremely helpless, and are a prey apparently to every living thing in the water. The ovaries of a 39½ pound mascalonge weighed five pounds, and one female of 35 pounds yielded 265,000 eggs, although all of her eggs were not obtained. In spawning these large fish it is a rare thing, comparatively, to injure one of them.

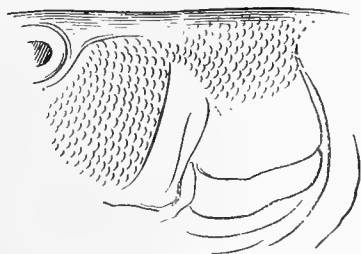


Fig. 2.
Part of Cheek and Gill Covers of a Pike.

The pike grows to a weight of fifty pounds and more, as one was recorded from Ireland the present year of fifty-four pounds in weight. Our pike and the European pike are the same. The cheek and gill covers of the pike shown in Fig. 2, will explain how the scales are placed; they cover the cheek and part of the gill cover. The pike is the fish sometimes called the Great Northern Pike, although a claim was made a few years ago for this title for the unspotted mascalonge.

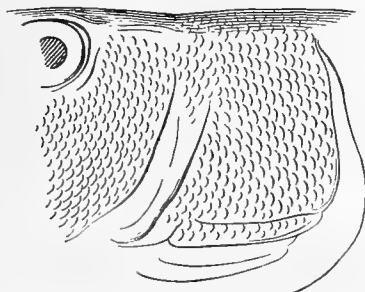


Fig. 3.
Part of Cheek and Gill Covers of a Pickerel.

The pickerel, proper, is a small fish as compared with the pike, as it averages in weight from one and a half to two and a half pounds, and one of five pounds is a very large fish. Fig. 3. will show how the scales are placed on cheek and gill covers, extending over both. An examination of the colored plates of the mascalonge, pike and pickerel will show the scales exactly as here given in the three figures. There are two colored plates of the pickerel, one of a fish from a pond in Massachusetts and one from a fish taken in the upper Hudson River where they were introduced within the past ten years.

The fish are of the same species and exactly alike structurally, but it will be noticed that they are marked differently, and it was for this purpose that they were colored for this report. Both fish are reticulated in accordance with their specific name, but one fish is spotted with spots that are nearly round, while the other has oblong spots and the dark lines are more regular in the pond fish than in the river fish, which will be observed by lifting the plates level with the eye and looking along the fish from tail to head.

There is no good reason for confounding the pike-perch with the pike, as one look at the colored plate will show the former fish with two dorsal fins, while the pike has but one. The pike-perch are hatched artificially by the State in large numbers, and it is an excellent food fish as well as a game fish to be taken with hook and line. The pike and pickerel are not hatched artificially in this country, but the pike is cultivated in Germany by artificial methods and is more highly regarded in Europe than in America.

The reason for this is that we have such a great number of so-called game fishes that are considered superior to the pike, that it has been relegated to an inferior position, and still the pike has its loyal adherents who regard it highly as a rod fish and as a table fish. Should any one be in doubt about the species of any of the fish named and desire to fit the fish with its proper name, the plates here given will prove a sure guide.

A. N. CHENEY,

State Fish Culturist.

Shad of the Hudson River.

THE shad fishery of the Hudson River is one of the most important of the commercial fisheries of the State, ranking second in the value of its product among fishes specified in the statistical report of the Fisheries of the United States. It is really of the first rank in value among specified fishes taken in the fresh waters of the State, as the fish occupying first place in value of its product is the bluefish—a sea fish.

Upon the organization of the Fisheries, Game and Forests Commission it was found that there were no reliable statistics in detail of the shad fishery and a census was taken by a special agent covering the entire river from Castleton to Sandy Hook. Of the value of fishery statistics Dr. Hugh M. Smith says: "The importance of statistics in general needs no demonstration, and the value of statistical information regarding the fishery industry is certainly as great as that of any other branch of human enterprise. I may go even further and say that, on account of the uncertainties attending the prosecution of the fisheries and of the peculiar and unique conditions which prevail, there are few, if any, industries the exhibition of whose extent, from time to time, by accurate statistics is more desirable.

"Fishery statistics seem to be particularly valuable and necessary in the United States, where the regulation of the fisheries is vested in so many legislative bodies; where the conditions vary so much in different States, oceans and lakes; where the variations in the abundance of certain products from time to time have been so noticeable; where the artificial culture of fish is so generally carried on and is conducted on such a large scale; and where the fisheries occupy such a prominent place among the national industries, on account of the large number of persons who find employment therein and the enormous additions to our food supply resulting therefrom."

The result of the census of shad taken in the Hudson River in 1895, and the nets employed, shows all previous estimates to have been incomplete, and that the industry is of greater value even than was supposed, and is here given in detail.



Census of Shad Taken and Shad Nets Used in the Hudson River During the Season of 1895.

LOCATION OF FISHERY.	NUMBER OF NETS.	NUMBER OF SHAD.
Alpine, N. J.,	703	94,100
Barrytown,	21	21,136
Bayonne, N. J.,	35	11,500
Bayridge, N. J.,	149	35,900
Belford, N. J.,	103	40,900
Castleton,	1	500
Catskill,	6	5,000
Cold Spring,	2	2,482
Cornwall,	6	8,600
Coxsackie,	6	2,250
Croton,	180	10,250
Crugers,	4	5,855
East Kingston,	4	4,500
Englewood, N. J.,	35	6,000
Fishkill,	7	6,500
Fort Hamilton,	7	9,000
Fort Lee, N. J.,	337	114,300
Fort Montgomery,	1	1,650
Garrisons,	7	7,000
Germantown,	20	46,900
Glasco,	6	6,000
Gloucester, N. J.,	65	11,000
Grand View,	65	1,557
Gravesend Beach,	48	30,812
Greenville, N. J.,	64	21,000
Hampton,	1	1,500
Haverstraw,	7	6,000
Highlands,	11	22,130
Highland Falls,	2	700
Hudson,	9	9,500
Hyde Park,	9	30,000
Jones Point,	11	9,429
Keenesburgh, N. J.,	83	34,986
Kingston and Narrows,	17	50,000
Linlithgo,	8	10,500
Lou Point,	2	3,200
Malden,	11	23,200
Marlborough,	2	1,800
Milton,	4	6,300
Forward,	2,059	713,937

LOCATION OF FISHERY.	NUMBER OF NETS.	NUMBER OF SHAD.
Carried forward,	2,059	713,937
Montrose,	1	1,500
Narrows and Garrisons,	1	3,500
Narrows and Highland,	9	16,000
New Baltimore,	3	2,000
Newburgh,	8	12,150
New Hamburg,	8	7,250
New York City,	6	6,900
Nyack,	313	3,853
Osburnville, N. J.,	75	40,000
Oscawana,	5	75
Palisades,	76	20,180
Peekskill,	12	11,325
Piermont,	55	1,500
Port Ewen,	9	26,000
Port Monmouth, N. J.,	17	8,143
Poughkeepsie,	9	16,111
Rhinecliff,	12	14,300
Rockland Lake,	27	15,000
Rondout,	10	11,500
Rosebank,	270	6,500
Schodack Landing,	1	3,000
Sing Sing,	306	16,400
Smiths Landing,	2	1,000
Stapleton,	19	15,250
Staatsburgh,	7	16,977
Stockport,	9	15,525
Stony Point,	37	16,600
Storm King,	1	1,150
Stuyvesant,	3	5,350
Tarrytown,	20	1,000
Tivoli,	17	25,805
Tompkins Cove,	11	15,742
Ulster Landing,	10	17,000
Ulster Park,	1	2,000
Verplanck,	29	42,107
Verplanck Point,	5	5,253
West Camp,	4	8,200
West Park,	3	8,325
West Point,	1	1,202
Total,	3,471	1,155,610

Of the 3,471 nets operated, New Jersey is credited with 1,666, operated at eleven stations, and taking 417,829 shad; New York is credited with 1,805 nets, operated at sixty-seven stations, and taking 737,781 shad. The greatest number of nets operated from a single station is 703 at Alpine, New Jersey, and taking 94,100 shad; Fort Lee, New Jersey, operated 337 nets, taking 114,300 shad. The greatest number of nets operated from New York stations was 306 at Sing Sing, taking 16,400 shad, and 313 at Nyack, taking 3,853 shad. The nets grow less in number towards the source of the river until Castleton is reached, nine miles below Albany, where one net is credited with 500 shad.

The shad work of this Commission is carried on at Catskill, where six nets were operated, taking 5,000 shad. To compute the weight and value of the shad taken during the season I asked ex-Commissioner Blackford to give me statistics from Fulton Market. He wrote me as follows: "Regarding the Hudson River shad I would say that 100 bucks will weigh 308 pounds, and 100 roe shad will weigh 412 pounds, which will make the average a little over $3\frac{1}{2}$ pounds. The proportion of bucks to roe shad this season has been 60 per cent. roe shad to 40 per cent. buck shad. The average price for the entire season has been twenty cents for roe shad and ten cents for bucks. The lowest price they have sold for on any one day was ten cents for roe and five cents for buck shad. For quality and size the Hudson River shad have been good, rather better than for the last two or three years."

With these figures as a basis I find that the catch of shad in the Hudson for 1895 weighed 4,044,635 pounds, and that 693,366 roe shad brought at wholesale \$138,673.20, and 462,244 buck shad brought \$46,224.40, or a total for the entire catch of \$184,897.60.

It is extremely doubtful, under the present law, and present manner of fishing the river, if the Hudson can be considered a self-sustaining shad river. The demand upon it grows with increase of population and improved facilities for shipping shad to a distance. It is not alone among the people living along the river that the shad find a market, but hundreds of miles of railways act as distributing agents and take shad where formerly they were unknown.

Since 1882 the United States Fish Commission has made large contributions of shad fry and eggs to the Hudson, and these contributions have been important factors in keeping the supply up to the present figures; in fact the fry supplied from the Delaware and Susquehanna Rivers have done more, probably, than to assist in keeping up the supply, for there is little doubt that the fresh blood has invigorated and improved the stock. The contributions from the United States Fish Commission have been as follows:

Year	Shad Eggs.	Shad Fry.
1882,	963,000
1883,	1,700,000
1884,	1,477,000
1885,	1,250,000
1886,	2,412,000
1887,	2,779,000
1888,	4,200,000
1889,	5,893,000
1890,	6,366,000
1891,	9,348,000
1892,	5,199,000
1893,	1,573,000
1894,	2,000,000	5,414,000
1895,	4,900,000
Total,	2,000,000	53,474,000

The shad work of the State has been carried on at Catskill, except one year, when the State Fish Car Adirondack was used and it was found to be unprofitable to depend upon a shad station on wheels with no fixed arrangements with the shad fishermen for a supply of eggs. The work has been conducted in the now old-fashioned shad boxes, a method which will be abandoned in the future.

During the years 1883 to 1895, both inclusive, the State hatched and planted in the Hudson, shad fry as follows :

Year.	Shad Fry
1883,	1,925,000
1884,	1,467,000
1885,	1,728,000
1886,	2,279,000
1887,	3,822,000
1888,	3,924,500
1889,	6,000,000
1890,	2,025,000
1891,	2,224,000
1892,	2,436,000
1893,	2,215,000
1894,	190,000
1895,	3,087,000
	<hr/> 33,322,500

The State hatched no shad in 1882, but from 1883 to 1895, both inclusive, it planted 33,322,500 shad in the Hudson, and during the same years the United States

Fish Commission contributed of eggs and fry 54,511,000, or 21,188,500 more than the State was able to obtain from the river itself, and it needs no violent stretch of the imagination to picture what the condition of the Hudson as a shad river would now be had it not been for the contributions of eggs and fry from other rivers.

What is the remedy? There is but one, and that is to let sufficient shad up the river to their breeding grounds to keep up the stock by natural and artificial methods.

The nets are so thick in the lower river that it is a wonder any breeding shad reach the upper spawning grounds. I saw one net stretched entirely across the river a little way below Garrisons, and while it could be maintained in position it was an effectual bar to the shad running up stream.

The Commissioners do not make the laws which govern the times and methods of fishing in the State, nor have they any power in the matter except to suggest amendments which experience teaches them are necessary, just and proper to maintain the food supply of fish and game; and then their province is to enforce the laws as best they can with the means at their disposal. The shad law is not as they would have it. It provides that there shall be an open season between March 14th and June 15th for netting shad, but said nets shall not be drawn nor fish taken therefrom between sunset on Saturday night and sunrise on Monday morning, unless by reason of the inclemency of the weather said nets cannot be drawn prior to sunset on Saturday night, in which case it shall be lawful to take fish as soon as the weather will permit.

With this law in force the Commission has been unable to secure a sufficient number of ripe fish at Catskill to furnish eggs to keep up the stock without aid from other sources; and it is positive in its conviction that all nets should be lifted and the fish allowed to ascend unmolested two consecutive days and three nights in each week if the Hudson is to maintain its standing as a shad river. A shad netter of forty-five years' experience, one who nets in the Highlands and in the upper river as well, told me that he had come to believe that the nets should not be hauled more than four days in the week. Spawning shad are taken at night, and for this reason it is recommended that the nets should not be fished for three nights. Nets hauled on the same ground will rarely get ripe shad during the day, while at night nearly every haul will get spawning fish when they get anything. I say when they get anything, for I have seen a hundred-fathom net hauled on good ground in the height of the so-called shad season with only a few beggarly herring and not a shad in it.

At the Catskill fishing ground of Capt. John Pinder, where the State gets its spawning fish, a haul of the net that produces fifty shad is considered very good; but these same grounds have yielded 406 shad at a single haul. Albert Hart, one

and August. It is a difficult matter to obtain information about fish at a season of the year when it is illegal to capture them, but the shad fishermen contend that for their own eating they prefer a shad taken from the river in July; that it was the custom, before the law forbade it, to set nets for shad on the night of the 3d of July for a Fourth of July feast and they intimate that in some instances this is secretly done to this day and that hard roe shad are common enough through July and August. Capt. Pinder has caught shad from the river in good condition as late as November, but in all probability they were fish that had recuperated from the exhaustion of spawning and were on their way to sea.

All the Hudson River fishermen are of one mind as to shad becoming sweeter and fatter the longer they remain in fresh water, but this is not true of shad in other rivers as I learned from a visit to the upper waters of the west branch of the Delaware, where the shad have a peculiar flavor when they get to a point seventy-five miles above Lackawaxen.

Shad formerly ran up the Hudson River to Baker's Falls at Sandy Hill, some fifty miles above Troy, and it was customary for the farmers to come from miles away and camp at the falls during the shad run and catch and salt shad for home consumption. The building of the dam at Troy in 1825 checked the upward migration of the shad in the river, and except a carload of shad fry planted by the United States Fish Commission in the river at Glens Falls in 1884, the Hudson has had no shad above Troy since the dam was built. It is, however, more than possible to restock the river with shad so that they will again ascend to Baker's Falls. To accomplish this result the nets must be taken up in the lower river to allow spawning fish to come up, and fishways must be built to enable the fish to pass the fixed obstructions in the form of dams. Shad are timid fish, and although they run at night they hesitate about entering anything which looks like a trap. They will not enter a dark fishway, but they will, and they have entered fishways that permit the light to enter from the top and sides. The Delaware River is a notable example of the efficiency of a properly constructed fishway. In former years shad ran up the west branch of the Delaware to Collet's dam, a few miles above Deposit. The building of a dam at Lackawaxen, seventy-five miles below, cut them off in their spring run, and no shad were seen or caught above the dam until fishways were built in it. As soon as the fishways were completed the shad again ran up to Collet's dam, and have done so every year since. It is true that I found at Deposit that the shad were not regarded as the best of food, because their flesh had a peculiar flavor; but the fact that shad had access to the head waters of the stream for spawning purposes has much to do with the abundance of the fish in the lower river, for the fry are born

in pure water, above sewage and poisons from mills and factories, and there are fewer of their enemies to prey upon them than in the crowded waters below.

Fishways in the Hudson above Troy would not extend the shad fishery to any extent above its present limits, but they would be the means of letting the shad up to better spawning grounds than are offered below, and shad eggs deposited naturally in the upper waters would have a greater chance of becoming fry than they have at present. Furthermore, the young shad would find more extended pasturage in the upper waters, for, as has been stated elsewhere, the water supplies but a limited amount of food and with an increased output of fry the food area must be increased.

The planting in the Hudson of a carload of shad fry more than fifty miles above Troy, by the United States Fish Commission, was for the purpose of giving the young fish a better chance to grow with less danger from predacious fish than could be expected further down stream. Some of these fish when they started for the sea the autumn following were four and a half inches long. This plan was followed in 1891, when a second carload of shad eggs was sent to Glens Falls and there hatched and planted in the river, and I am informed by the United States Fish Commissioner that this will probably be the policy in regard to future plants of shad fry in the Hudson contributed by the Commission from other rivers.

There is another thing in favor of planting shad fry far up stream. When the fish have been to sea and return to the river to spawn they will endeavor to reach the headwaters for this purpose, and may succeed if not stopped by the nets below.

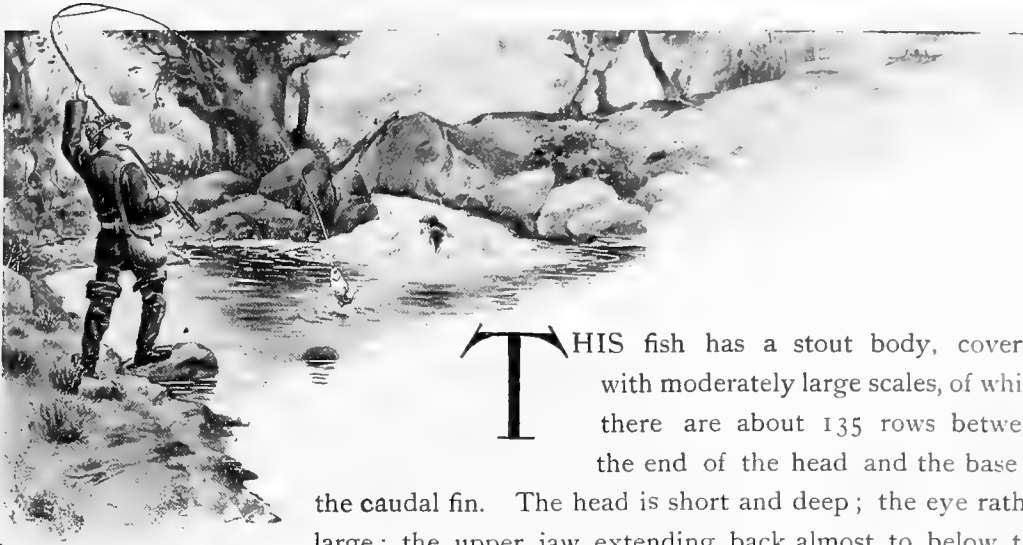
A. N. CHENEY,

State Fish Culturist.

The Rainbow Trout.

BY DR. TARLETON H. BEAN,

DIRECTOR OF THE NEW YORK AQUARIUM.



THIS fish has a stout body, covered with moderately large scales, of which there are about 135 rows between the end of the head and the base of the caudal fin. The head is short and deep; the eye rather large; the upper jaw extending back almost to below the hind margin of the eye. The snout is short; the adipose fin

short, its width and length equal.

There are eleven rays supporting the branchiostegal membrane; eleven developed rays in the dorsal fin besides four rudiments; ten anal rays and three rudiments.

COLORS.—The upper parts are greenish blue, often purplish. The sides are more or less silvery and profusely spotted with small black spots, which are most numerous on the upper half of the body. In the breeding season the broad crimson lateral band becomes brighter and the sides of both sexes are iridescent purplish. The jaws of the male are not much distorted in the breeding season, but they are very much larger than in the female.

RELATIONS.—The rainbow belongs to the group containing the brown trout of Europe, the red throat of the Rocky Mountain region and Alaska, and the steelhead, or Gairdner's trout, of the Pacific slope. It has been considered identical with the steelhead by some authors, but wrongly so; there is a marked difference in the young, which has been observed particularly in Alaska, where the young of the two species are found together, and the adults are easily distinguished. At the California State Hatchery at Sisson, eggs of the two were hatched and the differences between the young were plainly noted. When Dr. Jordan first saw the steelhead from Kamloops

Lake in British Columbia he recognized its distinctness from other species, and described it as new under the name *Oncorhynchus kamloops*, afterward changed to *Salmo kamloops*. He now considers the No Shee, Kern River, Shasta, Mason's and golden trouts as varieties of the rainbow.

COMMON NAMES.—In New York it is frequently mentioned in the Reports of the Fish Commission as the California mountain trout. In California it is the brook trout or speckled trout, but will now be distinguished in some way from the brook trout introduced from the East. The name rainbow trout springs naturally from the specific appellation *irideus*, and is the one generally adopted in the United States and on the Continent of Europe, where the species is now acclimatized; this has been translated into *regen-bogen forelle* by the Germans and *truite arc-en-ciel* by the French.

DISTRIBUTION.—The species ranges from California, near the Mexican boundary, to southern Alaska. A small example was taken at Sitka in 1880 by Captain (now Rear-Admiral) Lester A. Beardslee, U. S. N. It is found chiefly in mountain streams west of the Sierra Nevadas, rarely descending into the lower stretches of the river, but occasionally does so and passes out to sea.

In Pennsylvania it was extensively introduced, but with such imperfect results at first that the attempt to acclimate it in the State was given up for some years. The species, however, has reproduced naturally in Cumberland County and in Mill Creek, in Pike County, as well as in some other streams, so the work of stocking waters with rainbows was resumed.

The artificial distribution of the species has been wide and it has succeeded beyond all expectation in numerous localities. Favorite States for the rainbow are Wisconsin, Michigan, Missouri, Colorado and North Carolina. In Missouri its growth is remarkable, at the Neosho station of the United States Fish Commission averaging about one inch per month up to the age of one year.

SIZE.—The average length of individuals of this trout is less than one foot, but specimens measuring two feet and weighing eight pounds have been recorded. The Neosho station had rainbows nearly one foot long at the age of one year. The largest recorded example was reared by Mr. C. G. Atkins at Craig Brook, Me. At five years of age it weighed fifteen pounds.

In Japan, where the species was introduced from California in 1877, rainbows were sexually mature when three years old and averaged nineteen inches in length. In France the limit of length of three year old fish was two feet according to Dr. Bellesme.

HABITS AND REPRODUCTION.—In its native waters the rainbow feeds on worms, insect larvæ and salmon eggs. In streams in which it lives associated with the quinnat salmon it is the most destructive enemy of the eggs of that fish. Spawning occurs in winter and early spring, varying with temperature and locality. The bulk of the eggs

for artificial hatching is usually taken in January, February and March and the average yield from a female is about 900. At Hüningen, in Alsace, the spawning season extends from March to May and of late years it has begun as early as February. In Thuringen it has run from April to July. In France spawning occurs in April.

In his report of the work of the Caledonia hatchery in 1894, Monroe A. Green states that there are 34,000 rainbow trout eggs in a gallon, while the brown trout number 38,000, the brook trout 56,000 and the lake trout 22,100. The rainbow seems to migrate and will not remain in streams where planted if it can readily find an outlet.

According to Livingston Stone, males are mature at two years old and females at three years. The rate of growth under favorable conditions and the effects of a change of environment are well shown in the following account of his experience with the rainbow at Neosho, Missouri, by Mr. William F. Page: "At the close of the first year's work I was ordered to reserve 1,000 yearlings to constitute a future brood stock. On December 15th, 1891, when these fish were barely two years old, they commenced to produce eggs. We spawned 207 females giving an average of 542 eggs per fish. Only 33 per cent. were impregnated. The following season, as three year olds, the same fish gave 936 eggs per female—718 females, 84½ per cent. impregnation.

"I found, under peculiar conditions or circumstances, a rainbow trout which I *know* is barely two years old. It was 16½ inches long, 4 inches deep, 2 lbs. weight, and in excellent condition; the ovaries weighed 16 ounces and counted out 1,920 eggs."

QUALITIES.—The rainbow is a good table fish, although held in variable estimation in different localities. In most places it is considered fully equal to the common brook trout of the East. On the McCloud river, Cal., from whence the original stock of eggs for Eastern distribution was obtained, it is regarded as superior to the quinnat salmon.

Monroe A. Green considers it a good fish if eaten soon after being taken from the water.

In the Eleventh Report of the Michigan Fish Commission, 1895, page 7, occurs the following statement: "As a game fish the rainbow trout has no superior among the salmonidæ found in our waters, and in edible qualities it is equal to any of its congeners."

In Europe it has been found suitable for pond culture because it grows rapidly and is less affected by warm water than the native European trout.

In 1879 the Trocadéro Aquarium, of Paris, received from the United States Fish Commission, at the request of the National Society of Acclimatization, eggs of three species of salmonidæ which were successfully cultivated in America. Dr. Jousset de Bellesme devoted himself to the rearing of the fish and their introduction into the waters of France.

The species were *Oncorhynchus chouicha*, *Salmo irideus* and *Salvelinus fontinalis*.

Dr. Bellesme wrote as follows concerning the rainbow: "Its flesh is sometimes pale with a tinge of yellow, sometimes salmon color, according to environment, less delicate than that of the quinnat salmon; somewhat hard.

"It grows more rapidly than the species native in France. It is practicable to bring it in ten months to the weight of 200 grams. It endures a high temperature, being able to live in roily water of 77 degrees, while the brown trout succumbs at 64 2-5 degrees in France.

"It is certain that the rainbow trout under the same conditions as the quinnat salmon, is far from having the same delicacy. Its flesh is somewhat hard and dry, resembling that of the whitefish, while the quinnat has the fine, tender and creamy flesh of the Scotch trout or the very young Atlantic salmon."

In Bohemia and Bavaria the fish culturists have succeeded better with rainbow trout than with the quinnat salmon, and they have bestowed upon it unmerited praise in Dr. Bellesme's opinion. He thinks the mortality among females of quinnat salmon during the spawning operations accounts for the preference of the Germans for the rainbow.

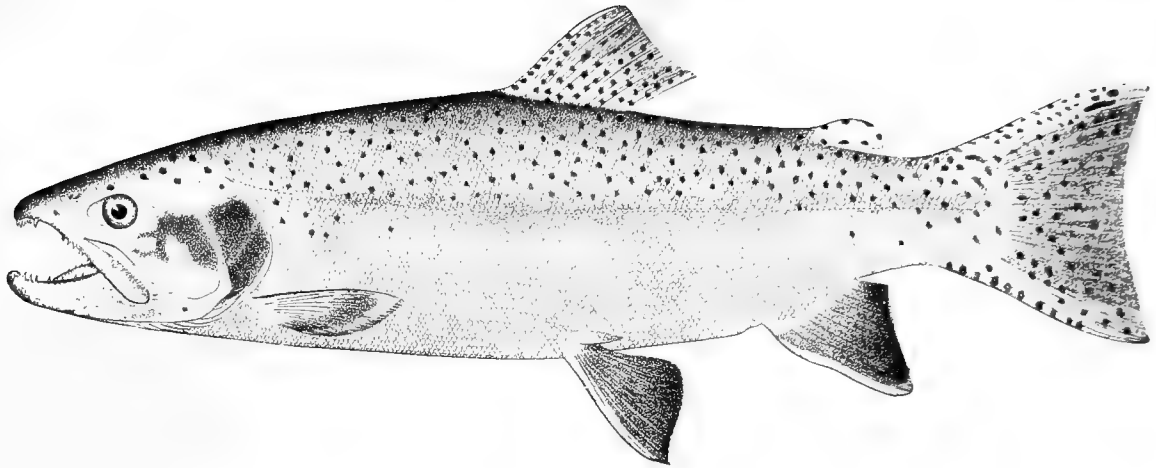
In the rainbow this mortality does not occur, either because the scales are more firmly fixed, or because the fish struggles less. In this species the females can be utilized as breeders many successive years.

Karl Wozelka-Iglau, translated from *Deutsche Landwirthschaftliche Presse*, in Bulletin United States Fish Commission for 1895, says concerning fish culture in Bohemia: "Among the different varieties of trout preference must be given to the California rainbow trout (*Salmo irideus*) above our brook trout (*Salmo fario*), because it grows much quicker, makes an excellent article of food and is not very choice in the matter of its food."

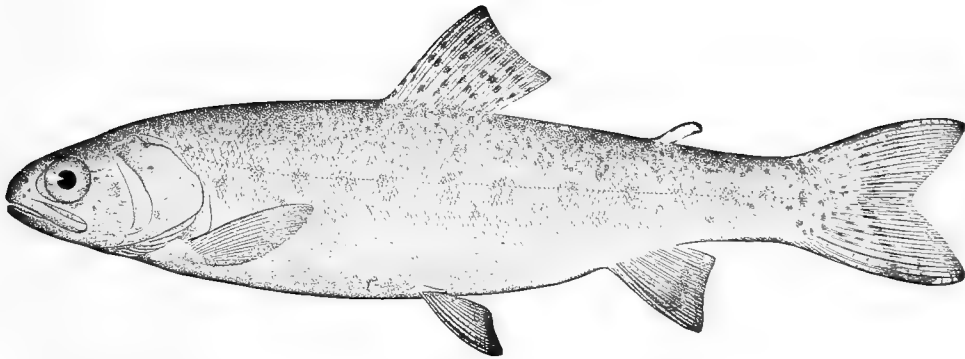
RESULTS OF INTRODUCTION.—The first attempt at artificial fertilization of the eggs was made by Livingston Stone on the McCloud River, Cal., in 1876 or 1877.

The following account of operations with the rainbow in Michigan is from the Eleventh Report of the Michigan Fish Commission, 1895, pages 7 and 30:

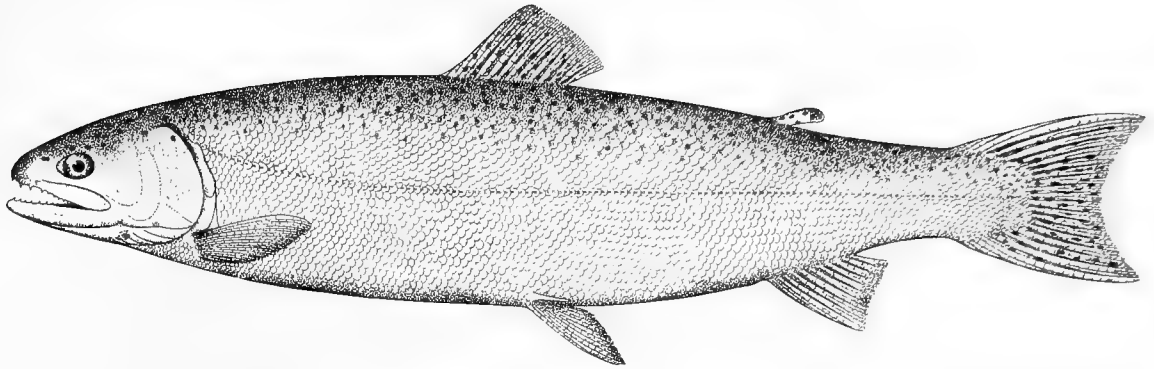
"In 1890 the hatching of the rainbow trout was discontinued owing to the unsatisfactory results of the plants that had been made in previous years, and to the fact that a much lower percentage of eggs were hatched from rainbow trout under similar conditions than from the brook trout; nor did the adult rainbow trout carry as well in ponds under domestication. At the time the breeding of this fish was discontinued, the most of the parent fish held in the ponds had become affected with some disease which had apparently become epidemic, and this also had its influence in causing us to abandon their further culture.



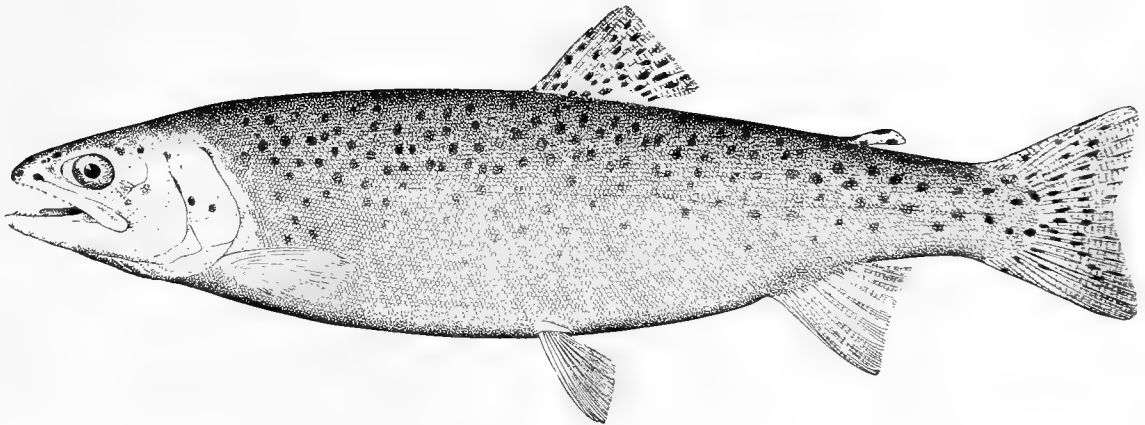
RAINBOW TROUT (*Salmo irideus*). ADULT.
Reared at Verona, Mo.



RAINBOW TROUT (*Salmo irideus*) YOUNG.



STEEL-HEAD TROUT (*Salmo Gairdneri*). ADULT.



RED-THROAT TROUT (*Salmo mykiss*). ALASKAN FORM.

“Since that time, however, several of the rivers into which they had been introduced have furnished excellent rainbow trout fishing, and are apparently favorable streams in which to liberate these fish. Considerable numbers of these fish are now taken in those streams every summer; many individuals are taken of large size, and this fish has become deservedly popular with sportsmen. When these facts became manifest, we decided to again enter upon their propagation. It is our present intention to carry a sufficient stock of these fish to maintain good fishing in streams for which they are suited.

“There are but few streams in the State where the liberating of the young of this fish has been successful, and those are the larger streams lying in the grayling belt in which the log running has practically come to an end.”

Referring to the rainbow trout the following account is given in the Pennsylvania Fish Commission report, 1895, pages 253-254 and 357-358:

“When this far-western game fish was first experimented with in the East the mountain streams were tried, but for some reason they did not generally seem to thrive. In Van Camp's stream in Pike county; Hollister's creek in Wayne; Newville in Cumberland, and a few others elsewhere, there was greater or less success, but on the whole the experiment was disheartening, and except on local applications the work of stream stocking with rainbow trout has been practically abandoned. The reason for this failure has not been satisfactorily explained. Placed in waters apparently suitable, they often entirely disappeared almost immediately to turn up in another creek some distance away, the waters of which seemed not nearly as favorable for their habits of growth. A notable example of this was near Erie a few years ago. Here a certain stream near the city of Erie was plentifully planted with rainbow trout and for a time they seemed perfectly satisfied with their new home, but suddenly not one was to be found in the waters in which they had been deposited. A couple of years later fishes of this species were caught in great numbers in a stream two or three miles distant, where no fish of their kind had been placed. Both brooks emptied into Lake Erie, and it is supposed that not being satisfied with their first home they abandoned it for the lake and made their way into the waters where they were subsequently found. In this connection it is noteworthy that some of this fish must have remained in the lake, for recently they have been caught there in some numbers and they seem to be increasing.

“When the experiment of stream planting with rainbow trout proved generally a failure, lake planting with this fish was attempted. In this, as remarked above, some success has been met with, probably because in bodies of this character they cannot indulge in their seemingly migratory inclinations. Many mountain lakes of the State,

therefore, yield fair rainbow trout fishing, though not, and probably never will, equal the yield that other kinds do.

“Newville spring, above referred to, is the natural home of the brook trout, but it has been plentifully stocked with California or rainbow trout, and it is one of the very few streams in Pennsylvania in which that species of fish has been known to propagate naturally. Newville spring has considerable depth and width.”

Eggs were shipped from California to Japan and were received by Sekizawa Akeio on June 9, 1877. In 1880, when nearly three years old and sexually mature, the trout averaged nineteen inches in length.

Doctor Léon Lefort, Vice-President of the Society of Acclimatization, of Paris, reared rainbow trout in a pond of a hectare and a half in Sologne. The young trout, furnished by the Trocadéro Aquarium, were about eight centimetres (three and one-fifth inches) long when they were placed in a pond of moderately high temperature. There was no mortality, and after two years they reached an average length of two feet.

In the aquarium at The Hague, Holland, in 1894, rainbow trout and American brook trout were among the live fish on exhibition. The aquarium at the Antwerp Exposition in the same year contained numerous specimens of the rainbow. In the Trocadéro Aquarium, Paris, where the eggs of the rainbow were first hatched in Europe, both the quinnat salmon and the rainbow were represented by many fine examples, and the rate of growth appeared to be more rapid than in their native waters.

In Mexico the rainbow has been successfully introduced and is now acclimatized.

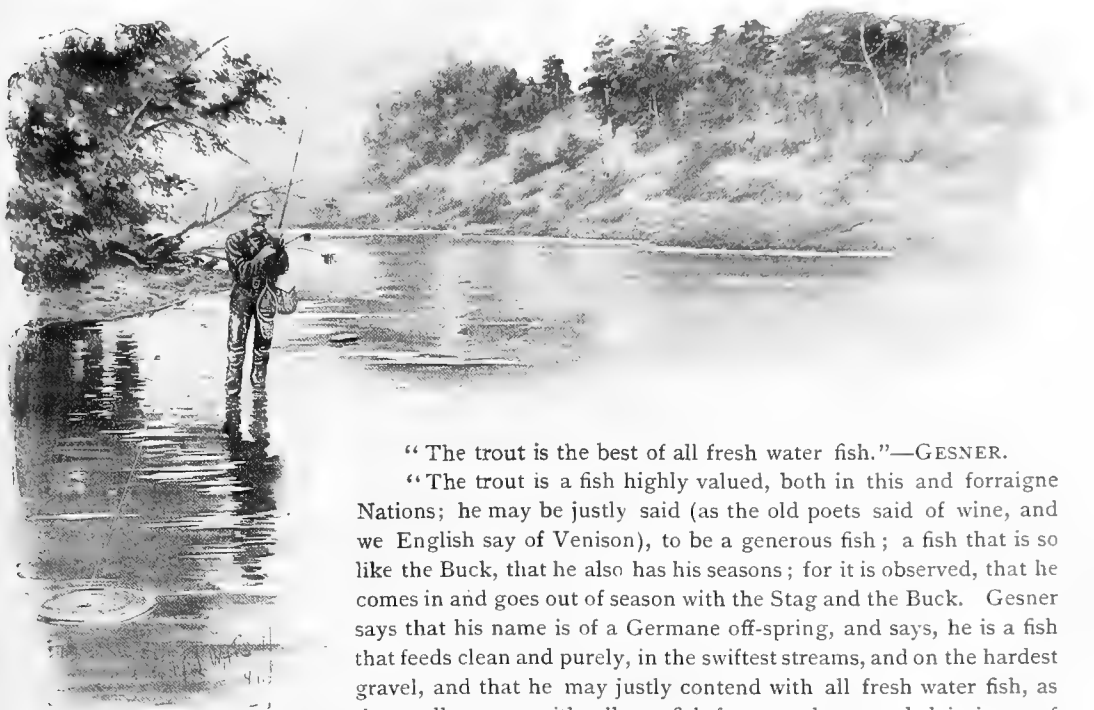
BATTERY PARK AQUARIUM,

New York, April 24th, 1896.

The Brown Trout—(*Salmo Fario*).

By R. B. MARSTON,

Editor of *Fishing Gazette* and Hon. Treasurer Fly Fishers' Club, London.



“The trout is the best of all fresh water fish.”—GESNER.

“The trout is a fish highly valued, both in this and forraigne Nations; he may be justly said (as the old poets said of wine, and we English say of Venison), to be a generous fish; a fish that is so like the Buck, that he also has his seasons; for it is observed, that he comes in and goes out of season with the Stag and the Buck. Gesner says that his name is of a Germane off-spring, and says, he is a fish that feeds clean and purely, in the swiftest streams, and on the hardest gravel, and that he may justly contend with all fresh water fish, as the mullet may with all sea fish for precedency and daintiness of taste, and that being in right season, the most dainty palates have allowed it to him.”—IZAACK WALTON.

SOME years ago I sent some thousands of the eggs of our brown trout to the United States and thanks to the great interest taken in them by my friend, Mr. A. Nelson Cheney, a good quantity hatched out successfully. Brown trout eggs were also sent by the late Herr von Behr, and the late Herr von dem Borne from Germany to the United States, and there is no doubt that the fish is established in some parts of the States.

In his report to the United States Commission of Fish and Fisheries, dated May 15th, 1886, a superintendent of the New York Fish Commission thus refers to the brown trout, *Salmo fario* (called also *Trutta fario* in Germany): “This fish is strong, quickgrowing and game, and I have on several occasions declared it to be the finest trout that I have ever seen. In Europe they endure waters considerably warmer than our Atlantic brook trout (*S. fontinalis*) can stand.”

Knowing that the character given to our brown trout by this gentleman was perfectly true I confess that I have now and then wondered that so little is said in the American sportsmen's papers about the fish after ten years' trial. The last report I heard was not quite so favorable as it might have been and I sincerely hope that our trout is not going to prove such a disappointment in America as the American brook trout has proved in England—at any rate from the point of view of the angler. Millions of fry and yearlings of *S. fontinalis* have been put into English rivers and I know of no single instance where the attempt to stock a river or stream with them has been successful. After a time, not much more than a year as a rule, they disappear. I have seen a long stretch of a trout stream alive with thousands of healthy two year and three year old *fontinalis* one season, and the next there was not one to be seen, and yet they do well in both this country and in Germany when kept in trout breeding ponds, and so our fish breeders keep on breeding them and selling them. I suspect the real secret of their non-success in our rivers is that they find the water in the summer months is too warm for them. *S. fontinalis* is a char; we have no native char in our rivers though we have in many of our lakes, and this fact seems clearly to point to the natural unsuitability of our rivers for char of any kind. For this reason I have not much faith in the rainbow trout for English rivers, although so much has been said in praise of them that our fish breeders are unable to supply the demand. I should like to know how the rainbow trout has succeeded in the streams in the State of New York. I see from the Superintendent's report, already quoted, that 14,500 fry of rainbow trout were placed in streams within the State of New York as long ago as 1885. I notice that Mr. Frank N. Clark in his report of operations at the Northville and Alpena (Mich.) stations for the season of 1885-6, recommends the discontinuance of the propagation of rainbow trout at the Northville station on account of the meagre and unsatisfactory results obtained. "It would seem," he says, "that the species will not acclimatize to the waters of this station notwithstanding the special effort that has been made for a number of years to bring about this result." Of the brown trout he spoke much more hopefully, "the stock fish of this species in the Northville ponds show a better and more uniform growth than our brook trout and promise exceedingly well."

To attempt to stock American streams which are already well stocked with native brook trout seems to be unnecessary if not unwise. But the advance of civilization and the alterations in the natural condition of the country consequent on it, appear to be as inimical to the native trout as to the native Indian. If this is so, then it seems unwise to attempt to restock such streams with *S. fontinalis*. The natural conditions under which he once flourished in them are no longer the same.

Ouananiche.

By E. T. D. CHAMBERS, QUEBEC, CANADA.

A. NELSON CHENEY, ESQ., *State Fish Culturist of New York.*

My Dear Mr. Cheney: Recalling our joint observations at the Grand Discharge of Lake St. John while angling together in August, 1894, for ouananiche, I am reminded of a promise then made you to let you know the result of what further investigations I might be able to make into the habits of the fish and its geographical distribution. Having been asked to publish the result of my observations, I may say that arrangements have been made with Messrs. Harper & Bros. for the issue, some time next April, of "The Book of the Ouananiche and Its Canadian Environment," pending which, however, I deem it a pleasure to communicate personally to you, for whatever use you may consider desirable to make of them, such facts as may prove of interest respecting the fish, either to yourself or friends.

In regard to the specific identity of the ouananiche, I hold firmly to the conclusion at which you yourself arrived after the examination of specimens at Lake St. John, that it presents no varietal differences from the so-called landlocked salmon of Maine which have been planted in some of your New York waters. Without any very intimate acquaintance with these latter fish, I am bound to accept the result of their examination by the leading American experts who declare them to be specimens of the true *salmo salar*. It is a fact that Dr. Goode urges that differences in their life histories seem to justify the claim of the landlocked salmon to be regarded as a distinct variety of *salmo salar*, and that Dr. Jordan advances a similar claim on behalf of the ouananiche, but I cannot better reply to these contentions than in the words of Professor S. Garman, of the Museum of Comparative Zoology, who thus writes me: "Our friends find some difficulty in accepting the conclusion that there never was a variety *Sebago*. None the less it is the fact. As the variety was characterized it included all the young of *salmo salar*, and excluded only such adults as had visited the sea. Similar distinctions would make a different variety of the men in a crew out on a voyage, returning with modified complexions; or a new species of those going out smooth-faced and returning with whiskers." The best authorities agree as to the absolute identity of the sea salmon with the so-called land-locks of Maine, for science cannot recognize different life histories as evidence of distinct varieties. The ouananiche is similarly a *salmo salar* beyond any shadow of a doubt, and so, unless things

which are equal to the same thing are no longer equal to one another, there is no varietal difference whatever between the so-called variety *Sebago* and the ouananiche of Canadian waters. Agassiz, too, in 1875, examined the ouananiche with Boardman and Putnam, and declared it to be identical with the so-called land-locked salmon of Maine.

In the "Book of the Ouananiche" I have referred to the various points of dissimilarity in appearance, manners or size that are cited and relied upon by those who deny the absolute identity of the salmon of the sea, its congener of the Maine lakes, and the Canadian ouananiche. In some of the American lakes I understand that it has been taken almost equalling in size the adult *salmo salar* of many a well known salmon stream. In Canadian waters, though there are stories of heavier fish, I have never



known of a larger ouananiche than eight pounds, and those of this size are somewhat rare. If they occupied less rapid water, or periodically left their fresh water habitat to fatten upon the ocean feeding beds of their anadromous kith and kin, much of the difference in size between these latter and the fresh water fish would doubtless disappear in a few generations. I am thus led to wonder what results might follow the efforts of fish culturists to improve the size of the Canadian fish and the game qualities of the American land-locks, by either crossing the two, or by breeding either or both with salmon from the sea. Where access to the sea is open, as in all Canadian ouananiche waters, there might of course be danger that the habit of anadromy would be transmitted to the product of a union between *salmo salar* and ouananiche. In the case of the latter fish, a cross with the Maine fresh water salmon

would perhaps better serve to test the possibility of adding weight to its near Canadian relative, while the extremely low temperature and turbulent nature of the water this latter inhabits would prevent the issues of such union from losing the gameness that arises from its habit of surface feeding the whole season through. On the other hand I have some doubt as to whether the Canadian ouananiche itself, transplanted into New York waters, might not be influenced by different climatic conditions and the higher temperature of the waters in a new habitat, to become largely a bottom feeder like its American congener, excepting in the spring of the year.

In regard to external appearance, Mr. Walter Brackett, of Boston, has contributed to the forthcoming work on the subject a description of the slight differences, as they appear to the well-trained eye of an experienced fish artist, between a grilse and a ouananiche. These are evidently but local adaptations, as the anatomy of the two fish is identical. The title "land-locked," applied to the Canadian ouananiche, is a misnomer. I am sorry to find it in so respectable an authority as Webster's Dictionary, which is equally erroneous in discarding the original form of the fish's name, reduced to writing 250 years ago from its Indian pronunciation, and substituting therefore "winninish," which is not even a good phonetic English spelling of the spoken Indian word. The absurd attempts of vandal linguists to get away from the original form of the name has resulted in the use of some twenty to thirty varying orthographies, which I collected some time ago in a paper on the philology of the ouananiche read before the Royal Society of Canada, and reproduced in great part in "The Book of the Ouananiche."

That the fish is not land-locked is quite evident to all acquainted with its habitat. In the Lake St. John waters, in particular, it has unobstructed access to the sea. The familiar story of the Lake St. John ouananiche, imprisoned above an impassable barrier in the bed of the Saguenay is simply a common error. Some writers have jumped at the conclusion that "at some past period of their piscatorial destiny, a colony of salmon from the sea, well satisfied with the depth of the waters and the abundance of food in the Saguenay, concluded to secede from their oceanic domain, and remaining in their congenial environment founded a kingdom of their own." But even this pretty theory has to be abandoned when investigating the case of ouananiche in the inland waters of Labrador, sometimes found above falls of a hundred or more feet in height.

Up to within the last year or two it has been quite a common practice to speak of the ouananiche as peculiar to Lake St. John and its tributary waters. Recent explorations, such as that of A. P. Low, of the Dominion Geological Survey of 1894-95, through the interior of Labrador, have brought to light the fact that the fish is found in most of the large streams draining the interior of the great Labrador peninsula and

having a northerly, easterly or southerly direction, or any at all approaching either of such directions. In the course of a chapter contributed by him to "The Book of the Ouananiche," Mr. Low says: "I found the ouananiche in the Roksoak River for a distance of over 200 miles below Lake Caniapsow. Between the place where last seen and the sea are four chutes, one of which at least could not be passed by salmon from below, as it has a sheer fall of sixty feet. My guide of the summer of 1894 informed me that ouananiche were found in the lakes and river stretches of the upper part of the George River, which also empties into Ungava Bay. On the eastern watershed we frequently caught land-locked salmon on both branches of the Hamilton River above the Grand Falls, where the sheer fall is 300 feet.

"Ouananiche were also taken in the great Lake Michikamow. I do not know what the theories are regarding the occurrence of these fish in inland waters, but of one thing I am certain and that is they have never ascended from the sea to their present haunt since the close of the glacial period, and I hardly think the conditions were favorable then. My idea is that the salmon was originally a fresh water fish and acquired the sea going habit."

I have much that might be of interest to you and your friends on this subject, but from the mass of manuscript which I am now engaged in revising it is difficult to decide as to what selections might prove acceptable.

STATE OF NEW YORK.

FISHERIES, GAME AND FORESTS COMMISSION,

ALBANY, N. Y.

CIRCULAR NO. 1.

Instructions for Transporting and Planting Young Fish.

Brook, brown, rainbow and Loch Leven trout should be planted in small spring rivulets tributary to the larger stream intended to be stocked. From the rivulets they will work down as they grow, into the main stream.

Lake trout should be planted among boulders or rocks on a shoal in mid-lake, very near to deep water, into which the young trout soon find their way. In the absence of such shoals with rocks to afford hiding places for the young trout, they may be planted on natural spawning beds, when they are known.

In transporting young trout if they come to the surface of the water in the cans, it is a sign of exhaustion, and the water should be frequently aerated by dipping it from the can in a dipper and let it fall into it again from a considerable height. It is safer to aerate the water placed in the cans at the hatchery than to add fresh water during the journey, the qualities of which are unknown. Should the water in the cans become warm, the temperature should be reduced by the addition of ice broken into small pieces.

If the water in the cans containing young trout should be warmer or colder than the water in the lake or stream at the time of planting the fish, the temperature should be equalized by mingling the two waters in the can before the fish are turned out, as marked changes in the temperature may kill the young trout.

Fish cans ordinarily hold about 5,000 trout fry, and not more than three cans of fry should be planted in one year in a stream from six to eight miles long, and the fry should be well distributed throughout the length of the stream (by planting in rivulets as previously stated), as by bunching the plant there is danger of exhausting the food suitable for the young fish.

Fry or yearling fish should be planted as soon as received and never under any circumstances kept over night without constant watching and aerating the water. Trout are sent out by the State in the Spring or Fall, as transportation during the hot months is attended with great risk.

Applicants for fish should so far as possible ascertain the kinds and quality of fish food in the streams they desire to plant.

A. N. CHENEY,

State Fish Culturist.

STATE OF NEW YORK.

FISHERIES, GAME AND FORESTS COMMISSION,

ALBANY, N. Y.

CIRCULAR NO. 2.

Information for all who Apply for State Fish.

All persons who desire to obtain fish or fish fry from the Fisheries, Game and Forests Commission, for planting in public waters of the State, for under no circumstances are fish furnished by the State to be planted in private waters, should apply to the Secretary of the Commission at the office in Albany, for blanks to be filled out for this purpose, at the same time stating the kind or kinds of fish desired. Three different blanks are furnished. Blanks for trout fry, blanks for fish fry (including all fish furnished by the Commission other than trout and black bass), and blanks for black bass. A separate blank must be filled for each kind of fish applied for. All applications for trout fry (including brook, brown, rainbow and lake trout), whitefish, ciscoes, Adirondack frost fish and smelts, must be filed in the office at Albany on or before February 1st, each year.

Applications for tomcods must be filed on or before January 1st.

Pike-perch and mascalonge applications may be filed as late as April 1st, and applications for black bass as late as May 1st.

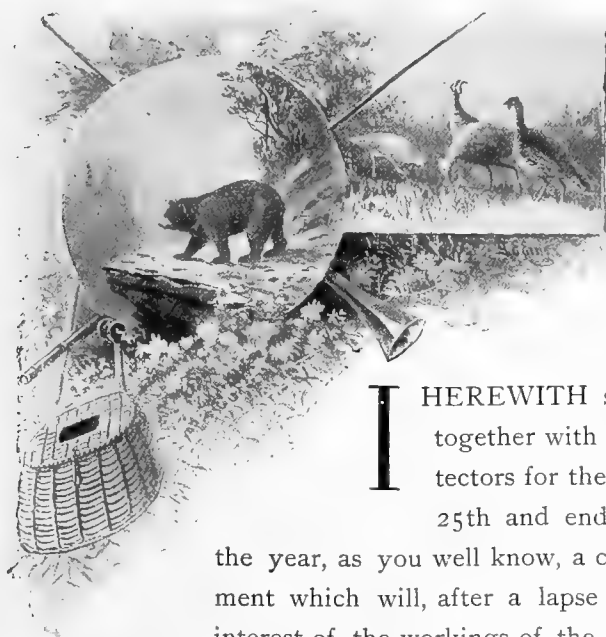
Most of the species of the salmon family reared by the State spawn in the fall and are hatched the following spring, and are ready for delivery from March to May, depending upon the season, and the situation of the hatchery. The spring spawning fishes, like the mascalonge, pike-perch and black bass, may be delivered in May and June. Applicants for fish are notified in advance of the shipments of fish assigned to them. Applications for fish received after the dates fixed by the Commission for that purpose, must be rejected for that year, as assignments once made are final. The clerical work of filing applications and assigning millions of fish is so great that it cannot be reviewed for reassignment before distribution begins.

By law, no fish, fish fry or spawn, other than trout, salmon and frost fish, can be planted in the waters of the Adirondack region, and the penalty for violating the law is \$500. The law further provides that no trout of any kind or land-locked salmon shall be taken from any waters of the State for stocking a private pond or stream.

A. N. CHENEY,
State Fish Culturist.

Report of Chief Game Protector and Forester.

To the Commissioners of Fisheries, Game and Forests:



I HEREWITH submit to you my annual report together with an account of the work of the protectors for the portion of the year beginning April 25th and ending September 30, 1895. During the year, as you well know, a change has occurred in our Department which will, after a lapse of time be, in my opinion, to the interest of the workings of the force and enable us to accomplish much better results than under the old régime, in view of the fact of the increase in the force of protectors, the consolidation of the Fish and Forest Commission and placing the work of the two Departments under one head, thereby giving an increased force of protectors through the Forest Preserve, enabling us to do much more effective work, as one can, while looking after the interests of the fish and game, detect and prevent trespasses on State land, and I can say for a certainty that the work of different branches are now being cared for in such a manner that the public interest will be much better served than in former years.

There is, however, a chance for improvement in the way of legislation which will put the matter of prosecutions for trespass on State lands directly under the charge of your Commission, and I have no doubt but the coming Legislature will see the wisdom of such a change and come to your rescue.

There is a growing sentiment by the masses in favor of enforcing the fish and game laws, as they fully realize that without a law for the protection, preservation and propagation that the fish and game of this State would soon become exterminated. As to the preservation of the forests, there is scarcely anyone but that realizes the vital importance of protecting the forests as a cover for our game, and a protection to the great watershed to the vast number of rivers heading therein which supply the mill interests and the navigable waters of the State.

The change occasioned by the new force of protectors was not as detrimental to the public interests as many might suppose or as some tried to make it appear; but it is a fact, nevertheless, that the work of a game protector to a certain extent is a trade and requires some little practice. I can say from my knowledge in the past that the break in the work was scarcely perceptible and that the new force with very few exceptions are men of ability and integrity and have set about to make a success of their new calling. There does not seem to be any perceptible decrease in the fish and game supply of the entire State, and under the present condition of things and the interest taken by your Honorable Board, the public need not have any fear of the fish, game and forest for all time to come.

All of which is respectfully submitted.

J. WARREN POND,
Chief Protector.

Schedule of Prosecutions for Violations of Fish and Game Laws, from April to October, 1895.

Title of Case	County	Protector	Recovery
People vs. G. W. Burgett . . .	Cayuga	Henry C. Carr . . .	\$100.00
“ David Van Sickle . . .	Seneca	“ . . .	20.00
“ Milton Phillips . . .	Tioga	“ . . .	10.00
“ Philip Alpeter . . .	Onondaga	“ . . .	25.00
“ John Snyder . . .			
“ G. Hulslander . . .	Tioga	“ . . .	25.00
“ Jason Orcott . . .	“	“ . . .	25.00
“ Frank Garlic . . .	Wayne	“ . . .	12.50
“ J. E. Merrill . . .	“	“ . . .	12.50
“ Sidney Belcher . . .	Tioga	“ . . .	25.00
“ John Doty . . .	Tompkins	“ . . .	50.00
“ Art. Hamer . . .	Cayuga	“ . . .	10.00
“ Wirt Prosser . . .	“	“ . . .	10.00
“ Charles Mapes . . .	“	“ . . .	10.00
“ J. D. Bates . . .	Tioga	“ . . .	25.00
“ A. S. Mitchell . . .	Cayuga	“ . . .	10.00
		Total	\$370.00
People vs. Fayette Flick . . .	Chautauqua	Frank W. Cheney . . .	\$10.00
People vs. John Clark . . .	Dutchess	Matthew Kennedy . . .	\$75.00
“ Shadnet Vail . . .	“	“ . . .	90.00
“ Stephen Juckett . . .			
“ Wm. Jukett . . .			
“ Charles Robinson . . .	“	“ . . .	25.00
“ Frank Spaulding . . .	Columbia	“ . . .	20.00
“ Charles Fonda . . .			
“ Philip Burgher . . .	Dutchess	“ . . .	60.00
“ Geo. Clarkson . . .	“	“ . . .	150.00
“ John Arnold . . .			
“ Patrick Breman . . .			
“ John Hartley . . .	“	“ . . .	90.00
“ Matthew Platner . . .			
“ Norman Howard . . .	Greene	“ . . .	27.50
“ Herman Thurston . . .	Dutchess	“ . . .	100.00
“ Andrew Fraley . . .			
“ Fred Wait . . .			
“ Geo. Keuehn . . .			

Title of Case	County	Protector	Recovery
People vs. Horace Bradley . . .	Dutchess	Matthew Kennedy . . .	\$50.00
“ Henry C. Wilson . . .			
“ Charles H. Deyo . . .	Albany	“ . . .	52.00
“ Benj. I. Farquar . . .			
“ Wm. Brophy . . .			
“ Harry Wright . . .			
“ Fred Shaver . . .	Columbia	“ . . .	10.00
“ William Hill . . .			
Total			\$1,019.00
People vs. Wm. Wilburn . . .	Richmond	John W. Lisk . . .	\$5.00
“ Wm. W. Capre . . .	“	“ . . .	50.00
“ Geo. Skinner . . .	“	“ . . .	40.00
“ Peter Smith . . .	“	“ . . .	23.00
“ Charles Bedell . . .	“	“ . . .	15.00
“ C. Dissoway . . .	“	“ . . .	5.00
“ Geo. Laforge . . .	“	“ . . .	5.00
“ Geo. Smith . . .	“	“ . . .	5.00
“ Joshua Toten . . .	“	“ . . .	Sentence susp.
“ William Sprague . . .	“	“ . . .	“ “
“ Croal Price . . .	“	“ . . .	“ “
Total			\$148.00
People vs. Wm. Erbach . . .	Monroe	Simon Marshall . . .	\$30.00
“ Terry Burns . . .	“	“ . . .	15.00
“ John Bell . . .	“	“ . . .	10.00
“ Vincent Fowler . . .	“	“ . . .	10.00
“ Byron Coy . . .	“	“ . . .	10.00
“ Andrew Ward . . .	“	“ . . .	15.00
“ James McKay . . .	“	“ . . .	10.00
Total			\$100.00
People vs. Geo. Sternburgh . . .	St. Lawrence	Joseph Northup . . .	\$101.50
“ Rozell Phillips . . .	Jefferson	“ . . .	25.00
“ Henry Marks . . .	“	“ . . .	25.00
“ Jas. Strong . . .	“	“ . . .	25.00
“ Oliver Strong . . .	“	“ . . .	25.00
“ Ed. Hasner . . .	“	“ . . .	12.00
“ Parley Putnam . . .	“	“ . . .	20.00
“ Wm. Forbes . . .	“	“ . . .	15.00
“ Wm. Sheley . . .	“	“ . . .	10.00
Total			\$258.50

Title of Case	County	Protector	Recovery
People vs. Earl Dewey	Ontario	Wallace L. Reed	\$20.00
“ Jerome Hoffman	“	“	“
“ Clarence Bently	“	“	10.00
“ Denman Coats	“	“	10.00
“ Earl Perry	“	“	Sentence susp.
“ Harvey Van Cott	“	“	10.00
“ John McQuillen	“	“	10.00
		Total	\$60.00
People vs. Edward Plank	Oswego	M. C. Worts	\$10.00
“ Fred Latimore	“	“	10.00
		Total	\$20.00
People vs. Chas. H. Ressegnier	Fulton	E. J. Lobdell	\$10.00
“ Chas. B. Benjamin	“	“	10.00
“ Daniel Flannery	“	“	25 days in jail
“ Wm. Gleason	“	“	Sentence susp.
“ Ezekial Parks	“	“	30.00
“ Ezekial Parks	“	“	10.00
“ Horace Davis	“	“	10.00
“ Louis Seymour	“	“	35.00
“ John Leaf	Hamilton	“	100.00
		Total	\$205.00
People vs. John Alleroth	Monroe	E. I. Brooks	\$80.00
“ Fred Graves			
“ Albert Rhoding			
“ Geo. Alleroth			
“ Joseph Raizen			
“ Ed. Saintly			
“ John Fox			
“ Chas. Keschel			
“ William Knope			
“ Jacob Schribel			
“ Albert Store			
“ J. Bradford Jones			
“ John J. Davis			
“ Herman Krofchik			
“ Chas. Silky			
“ John Klein			
“ Otto Stimby			
“ John Wareder			
“ Lewis Weisenberg			
“ Louis Lockhart			
“ John LaBarge			
		Total	\$285.00

Title of Case	County	Protector	Recovery	
People vs. Abram Wanzer . . .	Kings	Sebastian Hesbach . . .	\$5.00	
“ Orin Bogert . . .	“	“ . . .	5.00	
“ Herbert Ford . . .	“	“ . . .	5.00	
“ Luke Ryder . . .	“	“ . . .	5.00	
		Total	\$20.00	
People vs. Herbert Hull . . .	Herkimer	A. B. Kloch . . .	\$25.00	
“ Albert Hull . . .				
People vs. Wm. Drash . . .	Steuben	John L. Ackley . . .	\$20.00	
“ Chauncey Bailey . . .				
People vs. Charles Palmeter . . .	Cayuga	Jas. H. Lamphere . . .	\$10.00	
People vs. Martin Chamberlain . . .	Schoharie	Ira Elmendorf . . .	\$15.00	
“ Scott Becker . . .				
“ Sherman Thompson . . .				
“ Ezra Palen . . .				5.00
“ Rusel Trowbridge . . .				5.00
“ Norman Quick . . .				5.00
“ Walter Barker . . .				5.00
“ Geo. Winchell . . .				5.00
“ Jacob Barley . . .				5.00
“ Asulph Barber . . .				5.00
“ Daniel Darling . . .	3.25			
		Total	\$53.25	
People vs. John Brothers . . .	Clinton	B. S. Morrill . . .	\$5.00	
“ Joseph Gonges . . .	“	“ . . .	5.00	
		Total	\$10.00	
People vs. John Saltsman . . .	Montgomery	John E. Leavitt . . .	\$15.00	
People vs. Geo. Fisk, Jr. . . .	Seneca	George Carver . . .	\$25.00	
“ William Dual . . .	“	“ . . .	25.00	
“ Frank Jewell . . .	Wayne	“ . . .	25.00	
“ Albert Thompson . . .	“	“ . . .	25.00	
“ Alvin Suger . . .	“	“ . . .	25.00	
“ George Velie . . .	“	“ . . .	60.00	
“ Samuel Burnes . . .	“	“ . . .	15.00	
“ Benj. Gimps . . .	“	“ . . .	18.00	
		Total	\$218.00	
People vs. Stephen Monroe . . .	Chenango	L. S. Emmons . . .	\$25.00	

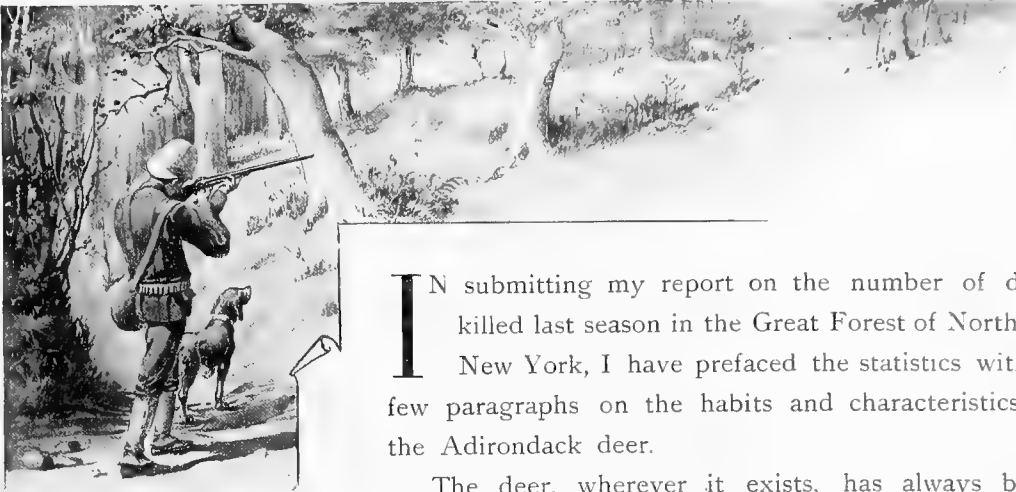
Title of Case	County	Protector	Recovery
People vs. Joseph Elmenfried . . .	Erie	D. U. Pomeroy . . .	\$50.00
“ Dan Miller . . .	“	“ . . .	50.00
“ Mr. Merrick . . .	“	“ . . .	11.50
“ John Miller . . .	“	“ . . .	10.00
“ Chris. Kohler . . .	“	“ . . .	10.00
“ Wm. Cleveland . . .	“	“ . . .	10.00
“ Banks Gailow . . .	“	“ . . .	10.00
		Total	\$151.50
People vs. Frank I. Tingley . . .	Delaware	Jas. D. Lawrence . . .	\$12.50
People vs. Frank Penny . . .	} Saratoga	Wm. A. TenEyck . . .	\$30.00
“ Charles Sprengel . . .			
People vs. Lorenzo Graves . . .	Allegany	W. C. Kendall . . .	\$15.00
People vs. Frank Pickert . . .	Herkimer	C. P. Williams . . .	\$15.00
“ Henry Radley . . .	“	“ . . .	15.00
		Total	\$30.00
People vs. A. B. Tuthill . . .	Suffolk	E. R. Benjamin . . .	\$10.00



Deer Hound with a Record.

Report of Superintendent of Forests on the Adirondack Deer.

To the Commissioners of Fisheries, Game and Forests:



IN submitting my report on the number of deer killed last season in the Great Forest of Northern New York, I have prefaced the statistics with a few paragraphs on the habits and characteristics of the Adirondack deer.

The deer, wherever it exists, has always been regarded with interest and admiration on account of its fleetness, grace and beauty, in which it far surpasses all other quadrupeds. It also furnishes a staple article of food, while the pursuit of this game yields to the hunter and sportsman the keenest delight.

The species which inhabits our northern forest is known variously as the Virginia Deer, Red Deer, Common Deer, and White-tailed Deer. It is classified by the naturalists as belonging to the order of the *Ungulata*, the family of the *Cervidæ*, and the species *Cariacus Virginianus*, or *Cervus Virginianus*. The name given to the species would indicate that it was first observed by the naturalists in Virginia.

Its habitat extends from the Canadian forests southward to the Gulf of Mexico, and from the Atlantic coast westward to the Missouri River. In the Southern States, especially in the Carolinas where this kind of game is still found, the species is inferior in size, being fully one-third smaller than the northern deer. The Adirondack deer, while not exhibiting, perhaps, the very largest and finest type, will compare favorably with those of Maine and Michigan where the species is seen at its best. In the Adirondack region it attains a maximum weight of about 350 lbs. The largest recorded size, a buck killed in Warren county, showed a height of 4 feet 3 inches over the withers, with a length from nose to tip of tail of 9 feet 7 inches.

The deer is a ruminant, and as it both parts the hoof and chews the cud, no one aside from a vegetarian could take exception to its meat as an article of food. The savory, digestible qualities of venison, when properly killed and skillfully cooked, are so well known that further mention in this respect is unnecessary. Like all ruminants it has four stomachs, the two first forming receptacles for the bruised and partially moistened vegetable food, from which the animal has the power to raise portions of the undigested mass to its mouth, to be more fully masticated whenever it is at rest. The animal has no front teeth in its upper jaw, and crops the grass or browses in the same manner as a cow when feeding.

The male is distinguishable by its greater size and by the antlers which in various forms grace its head at most seasons of the year. These horns are solid, thus creating a natural distinction from the hollow-horned ruminants such as antelope and oxen. The antlers, which are large and branching, are shed and renewed each year, those of the Adirondack deer falling off in January.

When the horns have dropped, or been knocked off by the action of the buck in rubbing them against trees as if desirous of getting rid of them, the bony process of the skull in which each antler rests is left naked and bloody for a time. These cavities are soon covered with a vascular growth that is protected by a rough, dark colored skin. This growth is succeeded within twenty or thirty days by a convex swelling, soft and tender, through which the blood circulates somewhat freely, and which will bleed if cut or injured. From these knob-like elevations the new horns originate, lengthen rapidly, and branching into several prongs soon become hard and smooth.

The full size of the antler is attained in July. Up to this time the horns are covered with a soft, hairy skin or covering, and the horns are then said to be "in the velvet." This peels off in ragged strips, the animal evincing an itching propensity to rub its antlers against trees and limbs, by which action it denudes its horns of this covering. While in the velvet the horns are soft and warm to the touch, indicating still a circulation of the blood. If the horns are prematurely divested of the velvet, as sometimes done by hunters, the antlers present a raw, bloody appearance. While in the velvet the points and prongs have a blunt, stumpy appearance, the ends being thick and rounded and not completely ossified; but having shed this coating the horns not only grow smooth and hard, but the prongs and terminal branch become sharply pointed.

The antlers vary greatly in size, in the number of prongs, and number of points. A full-grown buck has generally four prongs on each antler, and quite often five or more. If five, it is then known as a ten-prong buck, and its antlers are said to have ten points, the terminal prong, or end of the beam, counting as one point. Sometimes an antler with, say five prongs, may show a larger number of points, owing to short, undeveloped prongs, or to bifurcations at the termini of the prongs.

All full antlered bucks have what are called brow antlers. These are short, upright prongs which rise from the lower part of the beam near its junction with the head. The lower part of the horn, near the skull, for a distance of four or five inches, has a corrugated or wrinkled surface, which furnishes the "buck-horn" material used for handles of hunting knives or large clasp-knives.

The elevation of the frontal bone in which the base of the antler rests is called the pedicel; and the short cylindrical part of the antler which fits into the pedicel is called the burr. This burr is round, white, of the color and apparent texture of lump salt, but perfectly hard. It is about three-eighths of an inch in length and of about the same diameter as the antler. The circular rim or shoulder just above the burr fits closely to the skull, this rim being formed by a slight flaring at the base of the horn.

The number of prongs on a buck is supposed by many to indicate his age. This is true to some extent. A five-pronged, or ten-pointed, buck may be assumed to be six years old. But most bucks fail to add any prongs after their fifth year, beyond which their age is indicated by the size of the beam and spread of the horns rather than by the number of points. In the Catskill Deer Park, where the State maintains a large herd of deer for breeding purposes, there is a large buck, nine years old, which has not had over four prongs on each antler since his fifth year. A photograph of this buck, taken from life, appears in the report of the State Forest Commission, for 1893.



PALMATED HORNS.

The females of the Adirondack or Virginian deer have no horns, their absence forming one of the distinguishing features of the species. Still, does have been found with small antlers—rarely, it is true, but often enough to furnish several well authenticated instances of this abnormal feature. A doe's head with a single spike-horn may be seen at "Lon" Wood's hotel, Fourth Lake, Fulton Chain, N. Y. The head was "mounted" and is hanging on the wall in the hotel office. In 1892, Mr. Edwin C. Angle, of Schenectady, N. Y., shot a doe that had two short antlers, with

one small prong on each. He killed this doe near the West Canada Lakes, in Hamilton county, N. Y. That there should be such cases need not occasion any great surprise or wonderment. The females of the antelope, reindeer and caribou have horns, while in many other species, bovines for instance, both sexes have horns. That the does of the cervidæ should have horns is probably due to atavism.

In the Adirondacks, some of the males have, in place of branching antlers, a pair of short, straight horns, projecting forward. These horns, which are comparatively slender and sharp-pointed, are called spikes, and the animal is known as a "spike-horn buck." At one time the naturalists were inclined to classify these as a distinct variety or species. It was argued that the spike-horn bucks had an advantage over those with spreading antlers, in the greater facility with which they could dash at full speed through dense forests, tangled underbrush, or fallen tree tops, thereby eluding pursuit more easily; also that the spike-horn was a more effective weapon of defense in fighting with other bucks. From all of which, together with the large number of spike-horns recently observed, it was argued that the latter were increasing; that they were evolved at the cost of the others; and, that in time the antlered variety would thus become extinct.* The theory was a plausible one, especially with the believers in evolution and natural selection; but a closer examination of some spike-horns, extended through several seasons, elicited the fact that their peculiar horn was due to lack of years or some arrested development, and that in time their spikes were exchanged for branching antlers.

The antlers have an important influence on the reproduction of the species, because at the time when the males seek the company of the other sex—the "rutting" season as it is termed—the bucks very often fight with each other for the possession of the does. In these combats, which are of a fierce, desperate character, the bucks use their antlers as weapons, the victory generally going to the younger ones which have just attained their full growth, and whose horns are sharper than those of the older ones.

Instances have occurred where two furious bucks have interlocked their horns so firmly that they could not disengage them, and the animals thus fastened together died of starvation. In such cases the horns are fastened together in such a manner that it is impossible to separate them or spring them apart by mere manual strength. In Audubon's "Quadrupeds of North America" the statement is made that on one occasion three pairs of horns were found thus interlocked and, as in similar cases, the skulls and skeletons of the combatants were found attached.

The color of the deer changes at certain seasons. In summer it is of a light reddish hue, with the exception of the under portion of the body, neck, and tail,

* Mammals of the Adirondack Region: by Clinton Hart Merriam, M.D.

While the Adirondack deer subsists largely on arboreous food, its aliment may be said to be the same as that of all gramnivorous animals, with such variation or restriction as is enforced by its forest habitat. Although it will eat readily the same food as that of our horses, cows, and sheep, it is forced by its life in the woods to subsist on forms of vegetation which our domestic animals would not touch except when suffering from starvation.

In spring the deer feed or "browse" on the young, tender shoots, on the new leaves, and on herbs of various kinds. In summer they may be seen along the shores of lakes, ponds, or streams, where they feed on aquatic plants. At this season they are especially fond of the tender, succulent weed, growing in shallow water,—a species of *carex* or *sparganium*,—known as deer grass. In feeding on this plant the animal will thrust its head entirely under water in order to crop the stems as near the root as possible. In the summer, also, deer will crop the grass which grows in the old, abandoned log-roads in the woods; and along the outskirts of the wilderness they are seen at times grazing in company with cows on pasture land. They eat also the leaves of sapling trees, young maples especially, and while watching them it is interesting to see how high they will reach for the leaves, and how skillful they are in pulling down branches which they will hold and feed from at the same time.

As the fall months come on they retire from the water courses and lakes, and seek higher ground, where they subsist on briers, ferns, raspberry and elder bushes. If it is a beechnut year they may be found on the hardwood ridges where the beeches grow, feeding on the nuts that are thickly scattered on the ground. A beechnut year makes fat bucks. During the winter the deer are obliged to subsist on buds, mosses, bark, lichens, fungi, and certain species of evergreens, the cedar and hemlock boughs that hang low enough furnishing a large part of their food. The ground hemlock (*Taxus Canadensis*) supplies a good share of their winter sustenance, this low evergreen shrub being cropped closely wherever it is found.

If the winter is long and severe, and the snow deep, they will eat the woody portion of some twigs, cropping the terminal branches of maple saplings until nothing is left; but mere sticks, sometimes an inch in thickness, were bitten off by the famished creatures. They will also paw the snow away with their hoofs in search of beechnuts which may be hidden beneath the surface. As there are no oak or chestnut trees in the Adirondack forests, they are deprived of the favorite acorn and nutritious nut which these species furnish, and which in other regions are readily eaten by the common white-tailed deer.

In winter the Adirondack deer frequent the vicinity of lumber camps and places where log-choppers are felling trees, feeding at night on the tree tops which are found there lying on the ground. They visit the frozen lakes and ponds where, by walking

on the ice, they can browse on the white cedar and other conifers that in many places grow in dense, unbroken masses along the shore, close to and overhanging the water's edge. They crop this foliage clean as high as they can reach. On some Adirondack lakes there is a well-defined horizontal line on the tree-growth along the shore, above which the foliage is thick and green, while below it there is not a vestige of leaf or twig on the bare, dead branches and naked tree trunks. This line of demarkation is so true and level that it is generally mistaken for a high-water mark or line of erosion caused by moving ice; but it was made by deer in winter when feeding along the shore and walking on the level ice. Little Moose, Bug, and Queer Lakes, in Herkimer county, especially the latter, are well worth visiting by any who might be interested in studying this peculiar evidence of their work.

The best and most abundant feed is found in forests that have been lumbered, that is, forests from which the larger spruce and pine trees have been removed years ago. These lumbering operations not only left the land well shaded by the remaining hardwoods and small evergreens, but promoted a certain growth of underbrush, which is generally lacking in our primeval forests. This underbrush, together with the grasses and shrubs that spring up along the old abandoned log-roads, furnish an abundance of nutritious food. Lands, also, that have been burned over seem to be a favorite feeding place after a lapse of a few years, the fire having stimulated a new growth of grasses, shrubs, bushes, and briers, that make attractive pasture. The reappearance of the deer on these burned and lumbered tracts, and their rapidly increasing numbers in these localities has been a matter of wonderment and frequent remark by the residents during the past few years.

While in their native haunts the deer are obliged to content themselves with such food as the forest affords; but in the Catskill region, where they have become emboldened by the protection afforded by the law, they frequently venture into the farming districts where they vary their diet by incursions into the grain fields and garden patches of the farmers. Letters have been received by this Department from irate citizens in Greene and Delaware counties protesting against the action of the State in turning deer loose in that region to the detriment of their crops; and one man forwarded a bill for \$44.00 for cabbages and other garden truck eaten by the "King's deer."

The herd in the State Breeding Park at Slide Mountain, Ulster county, soon browsed the woods in that large enclosure so completely that food had to be purchased for them. They were then fed on oats, hay, potatoes, Indian meal, and ground feed. Although they were given all they would eat they did not attain their normal size and weight. A few which escaped were seen occasionally in the neighborhood, when the better condition and the greater size of these which ran at large was plainly apparent.

There was also a noticeable lack of vigor, a degeneration in the new stock, and decrease in reproduction, that we attributed to the lack of natural arboreous food.

Like many other animals the deer are very fond of salt; and in regions where there are saline springs, or earthy substances impregnated with salt, they will frequent such places at night to lick the stones, earth, or roots of trees. Hence the phrase, "salt licks," or "deer licks." There are no natural salt licks in the Adirondacks; but crafty and unprincipled hunters often make artificial ones there, in order to carry on this unlawful method of hunting.

Our northern deer frequent the lakes and streams, spending much of their time in lingering along their shores. They evince a desire for such places, not so much for



SWIMMING BUCK.

quenching thirst—for the woods are full of springs—as for the evident pleasure they take in wading or swimming. A well-watered country seems necessary for their best development, and the superiority in size of our Adirondack deer over its species elsewhere in the United States may be attributed in part to the extraordinary advantages which they enjoy in this respect. In addition to the nutritious food afforded by aquatic vegetation, these water areas enable the animal to gratify its natural instincts for swimming and wading.

In the summer months, when annoyed and goaded by the deer flies, black flies, mosquitoes, midges and other merciless insects that bite and sting despite the thick coating of its hair, the deer plunges into the cool and quiet lake, and submerging his

body entirely takes evident delight in swimming slowly about, safe for the time from the myriads of his tiny persecutors. The does are frequently seen nursing their young while standing in the shallow water along some river or pond; and one of the prettiest sights in the woods is a doe at some secluded lake giving her twin fawns their first lesson in swimming.

Deer may be seen in summer at all hours of the day, oftenest at morning and evening, feeding or wading in the shallow water along the shores of lakes or streams. Mr. William M. Durant, the owner of Summer Park, in Hamilton county, writes me that on his preserve he has seen as many as thirty at one time along the shores of one small lake. But, owing to its nocturnal habits, the animal frequents the water in far greater numbers at night, for then it goes there in search of drink and food. This is particularly true of the nursing does which visit the waterside at night in great numbers, far outnumbering the bucks in such places; and it is this which makes night-hunting peculiarly destructive, for most every doe thus killed leaves two unweaned fawns in the woods to starve.

Deer cannot exist without water or melted snow. When the winter sets in early, the freezing of the lakes and water courses compels them to travel about in search of springs, or thin spots in the ice over spring-holes, where they can paw a hole through the frozen surface with their sharp hoofs. In traveling on ice they seem to be able to detect, by sound or otherwise, the thin places which will enable them by pawing a hole to reach water. In 1893, while examining lands in Township 18, north of Rainbow Lake, in company with a forester, I walked up the inlet of that lake over ice twenty inches thick, following on our way the track of a buck whose erratic path indicated that he was in search of thin ice and water. Keeping on his track a mile or so we came to a spot where the animal's quest was rewarded by a place in which he had cut a hole through the ice and drank. That the buck had found thin ice was further attested a moment later by the sudden disappearance of the forester—"Tom" Powers—who went through out of sight. The mercury that morning was 11 degrees below zero, and scrambling out of his icy bath the forester started on a run for Wardner's to change his clothes before they froze stiff and fast on his limbs.

Although the Virginian or Common American Deer is described by the naturalists as a gregarious animal, the Adirondack deer seldom congregate in herds or even small groups except while yarding in the winter. At such times the males yard together as a rule, and the females congregate by themselves also. Except in the rutting season the sexes are seldom seen together in company. These deer-yards are made in time of snow, and are located in places where there is a good supply of food near by. Paths are beaten through the snow by the animals in all directions, along which they travel,

and browse or feed. In the central yard the soiled and trampled snow, hoof tracks, and excrement, make the spot look like the barnyard of a farm.

The "rutting" season, or time when the males seek the company of the other sex, occurs in November. As this period approaches, the neck of the buck enlarges noticeably, and increases until it is one-third greater than its normal size. This is the period during which the bucks evince such a pugnacious, warlike disposition, fighting with each other for the possession of the does or mastery of the herd. During this time they are active, and are traveling through the forest continually in search of females. But when this season is past and their horns have fallen off, they herd with their male companions in peace and quiet.

The period of gestation with the does, as stated by the naturalists, is seven months, although observations made in the State Breeding Park and in private deer parks furnish instances where the period was less by two or three weeks. The fawns are born in May or June, mostly in the latter month. The young does, or yearlings, bring forth their offspring somewhat later, and generally produce only one fawn the first year, after which they have two at a birth; and, occasionally, a doe has three fawns. But the latter number is unusual with the Adirondack deer, although not an uncommon occurrence with the Carolina deer. In a private deer park at Loon Lake, Franklin county, N. Y., owned by Mr. Ferd. W. Chase, where the deer are under close observation, it was noticed that a fawn born in May gave birth to a single fawn the next May. Bachman* states that he was present in Carolina when a large doe killed by J. W. Audubon was opened and found to contain four large, well-formed fawns. When confined, or restricted to deer parks, no matter how large the enclosure, the does are not as prolific as when at large, and single fawns are the rule rather than twins.

In the forest the doe conceals her young with instinctive method, teaching them to lie quiet beneath some tree-top, within some thicket of young evergreens, or behind some fallen tree trunk. The little fellows will not start or show any alarm if one walks near so long as they are unobserved, which is very apt to be the case so well are they concealed. But the nervous, apprehensive movement of the doe, which always hastens to the spot, is unmistakable, and announces that she has a fawn or fawns concealed near by. The doe, when not alarmed, grazes or feeds in the vicinity, visiting her fawns at intervals during the day to nurse them. As they get older and stronger they follow the doe through the woods, at first with a funny little tottering gait—but later with a most beautiful, graceful motion,—and then begin to nip the tender blades or leaves, soon learning to provide for themselves.

* *Quadrupeds of North America*: by John James Audubon, F. R. S., and Rev. John Bachman, D.D., LL.D.

The deer is often described as a nocturnal animal, and, to a great extent the Adirondack deer feed and travel at night; but they are seen quite often on their feeding grounds in daytime, especially at morning and evening. Their nocturnal movements may be due to the persistency with which they are hunted, and because at night they never come in contact with their greatest enemy and destroyer, man. During the day the animal generally rests in its bed, selecting some place that affords both concealment and shelter. It seems insensible to rain or cold. In summer it will make its bed often in the tall, damp grasses of some bog, and in winter chew its cud complacently while lying on its chilly couch of snow. Still, it seems to select in winter, when not yarded in a herd, some dry, sheltered spot, with a sunny exposure and sheltered from the wind. In winter, also, the deer leave the mountain slopes where they roamed during the fall, and return to the lowlands and the swamps, where they have a better opportunity for food and water.

The species, wherever it exists, evinces a disposition to remain in its own particular locality; and, although it may be driven away by hounds or hunters and nearly exterminated, it will return in time to its original feeding grounds if permitted, and restock its old habitat. This is plainly noticeable in Vermont where these animals had become nearly extinct; but a law prohibiting hunting there having been enacted, they reappeared in their old haunts and have become so numerous that the farmers are complaining loudly of their depredations.

There are three methods of hunting practiced in the Adirondack woods: night-hunting, hounding, and still-hunting. Under the present game law each hunter is restricted to two deer killed; and the hunting season in the Adirondack counties is limited to two and one-half months, from August 16th to October 31st, both inclusive.

Night-hunting, jacking, or floating, as it is variously called, while permissible during the entire open season, is practicable only during the warm nights in the earlier part of the hunting period. So this method is in use during the first month only, the night-hunters commencing their deadly work promptly on the first evening allowed by the game law. The deer killed thus are the ones which are wont to feed at night along the shores of lakes, ponds and streams. The hunter uses a boat for this purpose, and employs a guide who, not only is familiar with the feeding grounds and habits of the animal, but is skillful in paddling the boat or canoe with the noiseless motion which is an absolute requisite to success. The guide with his paddle sits in the stern; the hunter sits in the bow facing forward same as the guide. A cloudy, moonless night is necessary; the darker the better. In the bow, and in front of the hunter, is placed an upright pole on top of which is fastened

a lantern and reflector, somewhat higher than the head of the hunter when seated. The reflector is arranged so as to throw the rays of light forward. In the earlier days of Adirondack hunting this lantern was constructed by placing a semi-circular disk on top of the standard, with a curved sheet of birch bark nailed to the back edge of the disk. For a light, candles or bunches of pitch pine slivers were used, the birch bark acting as a reflector. This device constitutes the "jack," or "jack-light." When the jack is lighted the hunter, sitting behind it, is concealed in the darkness which becomes more intense by reason of the light and shadow of the broad reflector.

In late years the hunters have largely discarded the lantern-jack for a bullseye lantern, which is worn upon the head. When the latter device is used a leathern cap is worn, sometimes in the shape of a helmet, but more often a turban-shaped cap without a frontpiece. This patent jack is nothing more than a dark-lantern with a strong lens, which is kept covered with a leather cap-piece when the light is not needed. One advantage of this "headlight" jack is, that by tilting the hat over the left eye the light will shine on the rear sight of a rifle as well as on the forward sight. Some use a small lantern mounted on the stock of the rifle, and raised just high enough to permit the hunter to sight under it. Some hunters use a shot-gun for night-hunting instead of a rifle, putting in a heavy charge of buck-shot. With the old-fashioned jack the hunter could only see the forward sight on his gun as it projected from under the light, and so was obliged to use a shot-gun whose scattering charge was more apt to bring down the deer than the single bullet from a rifle. But with the patent jack worn on the head, throwing its light on both forward and back sight, the expert shots are using rifles largely for this kind of hunting.

Starting late in the evening of a moonless night, after the last gleam of twilight has disappeared, the sportsman and his guide, seated in their boat, drift or paddle to the hunting ground in search of the deer which on every still, warm night in August may be found feeding on the aquatic vegetation which grows in the shallow waters along the lakes and rivers. If on a river the guide lets his boat drift silently down the stream; if on a lake or pond, he paddles noiselessly along the shores. The darkness and oppressive stillness, combined with the weird, noiseless movement of the boat, furnish an experience that is always fascinating to the hunter, even though it makes his heart beat so loudly that he fancies he can hear each throb. Soon a noise is heard which indicates the proximity of the game. It may be a slight splash in the water, or the breaking of a branch on the shore. The boat is silently turned in the direction of the sound, and steered by the guide so that the jack sends its search-light up and down the shore. If the

hunter carries the jack on his head he now uncovers the lens carefully and by moving his head slightly from side to side, throws its rays from point to point. If not deceived by the sound which attracted their attention he soon sees two shining spots in the darkness, the eyes of a deer. Sometimes, under very favorable conditions, the outline of the body can be dimly seen, a gray phantomlike form. The deer is not alarmed, but stands still gazing curiously at the light which it misinterprets as some natural phenomena. It cannot see the men in the shadow behind the light.

If the hunter sees only the eyes of the deer, as is generally the case, he aims a few inches below them and fires. The explosion wakes every echo from forest and mountain with a reverberating roar that is intensified by the previous stillness. It is heard by the night-hunters on neighboring lakes and streams who, noting the direction of the distant shot, whisper to each other the name of the locality and inwardly wonder whether it was a successful shot. It was probably not; the percentage of successful shots in jacking is not large. Unless the animal falls, shot through some vital spot, it wheels instantly, and, plunging into the tangled forest behind it, is lost. Even though fatally wounded it may travel through the woods a long distance before it lies down to die. The next morning the guide visits the spot, and if he finds the leaves "painted" with blood he follows the track of the wounded animal for some distance, and then gives up the chase. But if the hunter's shot is followed by the heavy splash in the darkness, which announces that the deer has fallen, the guide paddles instantly to the spot and the proud hunter secures his game.

There are several objections to this method of hunting, and most sportsmen would willingly see it discontinued by law. For every deer killed by jacking a much greater number are wounded and lost, the unfortunate creatures dying a painful, lingering death in some distant swamp or hiding place. Many experienced, observant guides estimate that four deer are thus killed and lost for every one that is killed and secured. Another serious objection to jacking is that fully four-fifths of the deer thus killed, whether secured or not, are does, which were forced to visit the shores at night for food and drink in order to furnish sustenance for their young. They are nursing does, and each one killed at this season leaves one or two fawns in the woods to starve or eke out an enfeebled existence. Then, again, the does at this time of the year, in August, are thin and poor. The venison is inferior and scarcely eatable. To hunt them at this time is a mere, wanton cruelty, prompted by that barbaric instinct to kill which still lingers in the human race. Furthermore, if only bucks were shot by this method it would still be objectionable, because at this season the bucks are not at their best for food; and, what is worse, owing to the warm weather, the venison cannot be kept, but spoils before it can be used.

No deer should be killed before the 20th of September. By that time the fawns, even though not fully weaned, can take care of themselves; and the old ones, although not in as good condition as they would be later, would furnish venison which in that cooler month would keep until it could be eaten. The deer are fattest and in best condition in October and November. In Maine the law does not permit the killing of deer until October, and in Michigan until November.

The most of the deer hunting in the Adirondacks is done by hounding, the time for which under our present law is limited to thirty-one* days, from September 10th to October 10th, both inclusive. During this period the deer have left the water courses and the lowlands, and are roaming along the hillsides or on higher ground. Some, however, remain on the flat lands along the river valleys, but not in large numbers.

The sportsman who would hunt with hounds generally joins some party bent on the same pursuit, and the necessary arrangements are made the night before while in camp or at some sportsman's resort, club house, or backwoods hotel. These arrangements include the selection of a definite number of guides who shall act as "starters" of the hounds, and an assignment of each rifleman to some designated watch-point or run-way. Those who are to watch at some point on a lake, or "flow," often engage an extra guide each to accompany them, who assists in keeping a sharp lookout for any deer that may be driven into the lake and who will pull the boat in pursuit of the fast swimming deer, so that the sportsman can shoot without having his aim rendered uncertain by any fatigue in rowing.

Early in the morning the guides who act as starters take their hounds, and with two or three dogs each, sometimes four, chained to their belts, climb the hillsides or travel through the woods in search of "deer signs," by which phrase the hunters designate the fresh tracks on which they start their hounds. The starter does not travel far before the restless action or barking of the hounds, which are tugging at his belt, indicates that they scent the game; or the keen eye of the guide may first discover the footprint. But an honest, experienced guide will not start a hound until he finds a fresh track, and one that promises success. Often he will pass by fresh ones, hoping to find some large hoof print that will ensure a big buck for the hunter watching on the lake below. When a satisfactory track is found a hound is let loose on its scent. The hound, which runs by scent and not by sight, "gives tongue" immediately, and disappears in the forest which now echoes with his deep-toned cry. One by one the dogs are loosened, and the woods resound with their musical baying.

* This law was changed in 1896 to fifteen days, from October 1st to 15th.

When the deer hears the hounds and finds that one of them is on his track, the animal bounds away with an easy gait. A deer can easily outrun a hound. The hound is a slow-running, stupid animal, following with his nose near the ground, and occasionally losing the scent through some artifice of the deer. The latter circles and doubles on his own track, and after running awhile will lie down and rest. But the Adirondack hound is tireless and persistent. The deer cannot rest long before the continuous barking of the hound again reaches his ear, and the "race" is resumed. If it is a young, active doe, the chase will be a long one; through the speed and cunning of the doe the hound may be baffled, and having lost the trail the tired and foot-sore dog returns to the starting place in search of his master. But if it is a heavy buck, or if the deer has a swift, keen-scented hound after it, the game will run to some stream or lake where, by swimming or wading along the shore, "coasting" as it is called, it can throw the dog off the scent. Some hounds, however, on following a trail to water will swim also, and after crossing the stream or pond will, by working awhile, pick up the lost trail. The method of hunting called hounding is based on this well-known trait of the deer, this instinct which prompts it to seek the water when hard pressed by dogs.

The scent left by a deer on its track is caused for the most part, if not entirely, by the presence of an interdigital gland in each foot, which emits a pungent, disagreeable odor. It may seem strange that nature should endow an animal with a function that would lead to its destruction; but it must be remembered that the scent left by these same glands enables the animals to find each other when the sexes intermingle, and thus becomes an important agent in the reproduction and survival of the species. Nature does not provide against artificial conditions, and the use of hounds is an artifice of the hunter as well as his breech-loading rifle.

As before stated, a hound cannot catch a deer; that is, the kind of hound used in the Adirondacks. Some of the opposition to the law permitting the use of hounds is based on an idea that the dogs overtake the deer, spring upon the game, fasten their teeth in its neck or body, pull it down to the ground, and there mangle and tear the defenseless creature. This is all nonsense. The hound cannot catch the deer. Sometimes a stag is brought to bay by several hounds; or, perhaps, allows them to approach, preferring to fight with them. In such instances the dogs content themselves with barking at the deer, and taking care to keep out of reach of his antlers and sharp hoofs. A few years ago there was a tame deer, a pet deer, in Olmsteadville, Essex county, which could whip any dog in the village, and it ran at large through the town with perfect safety. Once, while catching a live doe in a lake and holding it by a "noose-pole," I was surprised to see a hound, which suddenly made

its appearance, attack the deer in the water and attempt to fasten its teeth in her neck, but a rap on the head with an oar sent the cowardly brute swimming back to shore.

In the early morning while the "starters" with their hounds are climbing the hillsides in search of deer signs on which to start their dogs, the "watchers," rifle in hand, are on their way to their respective watch-points. These places may be on the bank of some narrow stream; on the broad water of some river where a dam has made a "flow"; or, on some projecting point of land that furnishes a broad outlook over a lake or pond. If the hunter is to watch some narrow creek or river he selects a spot where the deer are known to travel, a "runway" as it is termed. Hunting at such



ON LEWEY LAKE.

PHOTO. R. L. BANKS, JR.

a spot is known as "runway" shooting, and is considered more sportsmanlike than watching on a lake; for the swift running deer in crossing the narrow, shallow stream affords an opportunity for only one or two shots. The hunter who is stationed on a forest runway must be a quick, sure shot or he will lose his game.

But the sportsman who is watching on a lake or pond has a better opportunity. When the distant barking of the hound is heard the hunter scans carefully the shores of the lake, for he knows that the deer precedes the hound a long way. If the surface of the lake is not ruffled too much by wind, a swimming deer can be seen a mile away on account of the peculiar "wake" which, like an inverted V, stretches far and wide behind it.

If the deer takes to water near the watch-point, the hunter waits for the animal to swim well out in the lake before making any movement which, by alarming it, might cause it to turn and swim back to shore. When it is far enough out in the lake he springs quickly into his boat and pulls toward it, steering his course so that he can head it off in whatever direction it may take. A deer is a strong, fast swimmer, and the oarsman must pull hard and quick to overtake one that has a good lead on the start. When the deer finds that it is pursued it makes frantic plunges while swimming in order to increase its speed, this plunging motion throwing the back and shoulders well out of water. The hunter rowing to one side drops his oars and, firing at close range, has no difficulty in killing the animal.

But often when a man has pulled the oars in a long, hard race after a fast swimming deer, his arms are tired, and he is too exhausted with his exertions to take accurate aim. Then several cartridges may be wasted before the fatal shot is fired; and, even then, the deer sometimes escapes unharmed. Some sportsmen employ guides to row the boat for them, in which case they have nothing to do but sit quietly in the stern of the boat and shoot the swimming deer at whatever range they may choose.

Of late years many ladies visit the Adirondacks during the hounding season, and some of them with the assistance of a guide and boat shoot deer that are driven into the lake. In one season I saw five deer killed at different times by five ladies in different localities; and last fall I saw a twelve-year old boy, assisted by his guide, shoot a swimming deer in Meacham Lake. And yet, hounding is not as sure a thing as many suppose. Not all the deer that are started run to water; and, of those that do, a good share cross the water at some point unnoticed or unwatched; or, if seen, at some place beyond rifle range. A surprisingly large proportion, also, escape through poor marksmanship.

When the deer is killed it is towed ashore, if shot in the water, and dressed immediately. The hound which has arrived by this time sniffs at the carcass in a careless but satisfied manner, evincing no further interest in the game, but watching anxiously for some piece of the inwards that may be thrown to him, generally the liver, which the dog eagerly devours. The liver of a deer is not cooked and eaten in camp, because it is apt to contain large numbers of loathsome parasitic creatures which the guides call bloodsuckers. These "bloodsuckers" are seldom found in a deer's liver after the first of October.

The Adirondack hound is not a distinct breed, but is a variety of the foxhound, which it resembles closely in appearance. The former runs by scent, with its nose near the ground, and gives tongue continuously while on the track. Occasionally a hound will run without uttering a sound, and it has been noticed that these "dummies"

drive a deer to water quicker than their noisy brethren. The Adirondack deer hound has long, drooping ears, slender nose, and smooth tail. Its hair is generally short and smooth. It weighs about 35 lbs. as a general thing. It is of all colors, black and tan predominating. There are also many white and liver; also gray and black. Straight colors, white hounds and black hounds, are occasionally seen, but not often. When crossed with beagles or collies good results are most always obtained. When bred with a beagle a hound is obtained that will follow a deer for days, a trait which has the disadvantage that these dogs are too often lost. When bred with the collie increased intelligence is secured, a desirable point, for the average deerhound is a stupid, uninteresting brute that would not be tolerated by a sportsman were it not for the wonderful instinct and musical voice which renders it such an important adjunct in hunting.

The third and remaining method in killing deer is by stalking or still-hunting, which is permitted by law during the open season, from August 16th to November 1st. This is deemed the most sportsmanlike and creditable method of deer hunting, because the animal has a better chance for its life, and because the hunter, alone and unaided, pits his skill and intelligence against the instinct and wary nature of the game.

Still-hunting is followed mostly in October, for then the deer are larger and fatter than in the earlier part of the open season. This kind of hunting cannot be followed later than October, after which the killing of deer is prohibited by law. A slight fall of snow in which the deer tracks are plainly seen—the “tracking snow” of the hunter—furnishes the best time and opportunity for still-hunting. But the open season no longer includes November, and the still-hunter seldom gets a tracking snow in October. The hunter uses a rifle in this sport, an accurate shot being necessary. He seldom has the entire body of the animal in sight for a mark, the game being concealed by the thick evergreen brush which, at the same time, helps to screen the hunter. He generally has only a small part of the deer's body in sight, perhaps a leg, or the neck, or tail. He may draw bead on the small spot in view, or, by making some calculation, aim to one side of the exposed spot.

Still-hunting requires strength to withstand the fatigue caused by the long tramp over the rocky hillsides, hardwood ridges, and through swamps filled with almost impenetrable thickets of cedar and balsam. When the skillful hunter strikes a track he seldom follows it direct, but going to one side travels in a circle, endeavoring thus to locate the animal in its resting place. The utmost care, skill, judgment and keen eyesight are necessary. A broken twig or careless footstep may alarm the deer. A knowledge of woodcraft is also necessary in this wandering through a pathless forest, or the hunter may lose his way and have to pass the night in the woods. A keen eyesight must be exercised or the sportsman may not see his deer until too late.

Experienced still-hunters assert that a deer will watch the man from its place of concealment, evincing no alarm or desire to run so long as he does not approach along the track. For this reason the hunter when nearing his game will leave the track and travel in a circle until the hiding place of the game is located.

There is also a kind of still-hunting which is practiced in the early part of the season by sportsmen who lie in wait for day-light shots in the morning and evening. For this purpose the hunter may sit in a boat, or may secrete himself on shore near some water where the deer are wont to go at these hours. But this is not considered as still-hunting in the ordinary meaning of the term. Some persons also use the term erroneously when alluding to the jacking or floating done at night.

There is still another method of hunting called "crusting," which was practiced several years ago during the winter season at times when the weather caused a strong crust to form over a deep snow. The hunter, wearing snow shoes, could travel rapidly over the crust, while the deer would break through at every bound, and thus, unable to travel, it fell a sure victim to the rifle of his pursuer. But under the recent laws which do not permit deer shooting in the winter months this questionable kind of hunting is no longer followed except as it is done surreptitiously and illegally.

Hunting for market has ceased in Northern New York, owing to the present law which forbids any person killing more than two deer during the open season, only one of which can be transported out of the woods. The law provides further, that this one deer when shipped must be accompanied by the owner; also, that venison killed in this State shall not be offered for sale during the close season. The wisdom of this law has been demonstrated in the cessation of pot hunting and in the remarkable increase in the number of deer.

The guides and residents, however, sell some venison each fall to the hotels and neighbors. They receive from fifteen to twenty-five dollars for a deer according to its size. A buck's head with large, well formed antlers brings from five to ten dollars. After a head is bought it will cost fifteen dollars more for the taxidermist's bill for mounting it. The raw hides bring about two dollars each for large, prime skins. When dressed and tanned they are made into gloves. Occasionally a deer's skin is made into a rug, but it is not well adapted to this purpose.

The opposition to deer hunting is due to mistaken sentiment, combined often with ignorance of the facts. People who are vegetarians might consistently argue against hunting. But there is something ridiculous in the action of some well-meaning people who will declaim loudly and bitterly against the "wicked slaughter" of deer, and then coolly stroll into the dining room and order lamb chops. With these people it is all right for the butcher to draw a knife across the throat of Mary's little lamb, but all wrong for the hunter to put a bullet into a wild, untamed buck.



TYPES OF ADIRONDACK DEER HOUNDS.

Now the Adirondack buck is far from being the gentle, interesting creature that the sympathetic public has in mind. There is a buck in the State Deer Park that tried to kill its keeper, a man who had cared for it, petted it, and fed it since it was a fawn. The treacherous beast charged on the keeper, threw him down, and spiked him three times, driving one of his horns six inches into the man's body. The unfortunate keeper who was laid up in bed for months from his wounds, would have been gored to death had not a neighbor who was passing by heard his cries for help and, picking up a club, drove the buck off. Three does were lost in this herd, dying from the maltreatment of bucks. A few seasons ago in a private deer-park at Saranac Lake, owned by Mr. Nathan Straus, of New York, a buck pushed a doe over and disembowelled the defenseless animal with his horns. Similar instances of bucks killing does are reported from other localities. While expressions of sympathy for the fate of the tearful-eyed doe may be proper, any humane sentiment regarding a buck is entirely misconceived. He is a vicious, treacherous brute that may be shot without compunction whenever the law permits.

In collecting the statistics submitted herewith, the various correspondents, representing every minor locality in the Adirondacks, were requested to report also on the number of deer found dead in their respective districts during the previous winter. The large number thus reported, none of which had been killed or wounded, is a matter requiring serious consideration. Mr. Wellington Kenwill, an intelligent and reliable guide who keeps a hunter's hotel at the Indian Clearing on the headwaters of the South Branch of Moose River, reports ninety-three dead deer* found in that particular locality. It is within a few years only that these stories of dead deer have been heard. During the last two years an increased number have been reported, and now information from the south part of St. Lawrence county indicates that a large number died in that section during the winter of 1894-95. Various reasons and theories have been advanced in explanation of this serious mortality among our largest and best game.

There seems to be a general belief among the guides and hunters that the animals die of starvation; that, owing to the severe prolonged winter, the animals were unable to find a proper supply of food, or were powerless to travel through the deep snow in search of browse; that in the vicinity where these carcasses were found all the foliage of the evergreens and buds of the hardwoods within reach had been entirely devoured; and that the deer, under the protection of the Game Law, had increased so rapidly within a few years that there was no longer a sufficient supply of food for them all during the winter season. In opposition to this explanation it is argued by others that

* See Mr. Kenwill's statement, page 229.

the Adirondack winter is no longer or more severe, and the snow no deeper, than in Maine, Michigan, and Canada where no dead deer are found at this season; that the winters in the Adirondacks are no worse than years ago when the deer wintered without any noticeable loss of this character; and that at the same time and under the same climatic conditions not one dead deer was observed in Essex county and other large areas of Adirondack territory. Deer have been closely observed in the vicinity of lumber camps, feeding on fallen tree tops, which were thin, weak, and sickly in appearance, evidently suffering from some distemper; and it was noticed that these animals died afterward although an abundance of hay and other food was purposely placed within their reach.

It has also been suggested that this great mortality among the deer in winter may be due to an epidemic, some kind of contagious distemper or epizootic. The deer are a species of ruminants so closely allied to certain of our domestic animals that there is nothing improbable in the idea that they may be affected with some cattle disease similar to that which often kills our cows and sheep. In reply it has been urged that the deer die only in winter, whereas, if they perished from some form of cattle disease the epidemic would manifest itself at other seasons as well as in winter; at least, its appearance would not be confined exclusively to that one season.

Another theory, suggested probably by the restricted territory within which the deaths occurred, is that the deer have found there some noxious, deleterious weed, or vegetable growth of a poisonous nature which they eat and which enfeebles them so that they die from its effects. The local character of the epidemic is advanced as warranting this idea. The indications of poison were so strong that it was broadly hinted in those localities that some guides, enraged at their exclusion from certain large preserves, had sought revenge by making salt-licks on which Paris green had been sprinkled. There is no ground for the latter assumption, and it is an unwarranted imputation on the good reputation of the guides. If the death of these deer was caused by poison, it resulted from natural causes.

Still another theory has been advanced by intelligent, observant residents in the forest—old experienced hunters—who assert that the deer which are found dead are animals that were hounded too hard; that these deer became overheated in some long race with the hounds, and then plunged into the cold waters of the lake to escape the dogs; and that they thereby contracted lung disease or some other serious ailment that either enfeebled them so that they were unable to withstand the winter, or else induced some form of acute disease that was the direct cause of their death. But this plausible and reasonable explanation is weakened by the fact that hounding is followed everywhere in the Adirondacks, except in St. Lawrence county, while the mortality is confined to a comparatively small territory.

Without intending to argue both sides of this question or to propose any solution myself, I have submitted the facts together with the various conflicting opinions, because it is a matter which demands the attention of everyone interested in our Adirondack game.

Number of Deer Killed.

In obtaining and compiling the statistics showing the number of deer killed in the Northern Forest of New York during the season of 1895, the utmost care was exercised to prevent the same deer being included in different reports. To obviate any such duplication the entire Adirondack wilderness was carefully divided into districts for this purpose, each one having its distinct, clearly defined, and well-known boundaries. As each correspondent made his return on a printed form furnished him, which at the start defined his district exactly, beyond any chance of mistake, there could be no possible reason for including deer that were killed in some other or adjoining district; and as these blanks were mailed in each case to some man who either resided in the district assigned to him or was there during the hunting season, there was no necessity for his making up a report from bare rumor or hearsay.

The correspondent selected for each district was personally known to be fully competent to make an estimate that would be substantially correct. One-third of the Adirondack forest is owned and controlled by hunting clubs or held as private preserves, the owners of which, through their game-keepers, have means of knowing how many deer were killed on their property; or, at least, that there were as many killed as reported. At most of the clubhouses there is a book of record in which is entered each deer killed, the date, location, weight and sex of the animal, and the name of the person who killed it. It is evident, therefore, that the returns for the townships in the private preserves were correct, or, at least, were not overstated. In many districts reports were obtained from two or more correspondents from the same district in order to guard against any possible exaggeration. Where there was any discrepancy the lowest figures were used, not that there was reason for doubting the higher estimate, but to avoid any possible over-statement, or a charge that the statistics were those of an alarmist. While these figures may not include all the deer that were killed there in 1895, they indicate beyond question that this number, at least, were killed.

If anyone thinks that the aggregate is too great let him specify the particular district from which, in his opinion, too large a number is reported, after which he is respectfully referred to the correspondent whose name is given in connection with each item, and who can undoubtedly furnish the facts and records to substantiate his figures.

Having divided the entire territory into the necessary districts and selected a competent citizen in each, a preliminary directory containing a description of each district and the name of the resident correspondent allotted to it, was carefully prepared. The following circular and blank report was then mailed to each correspondent, together with a stamped and addressed envelope in which to return the reply. Out of 248 designated correspondents, all except one sent in the desired information. The text of the circular was as follows :

STATE OF NEW YORK.

COMMISSIONERS OF FISHERIES, GAME AND FORESTS.

Albany, N. Y., , 189....

Mr

.....

DEAR SIR :

This Department would like to ascertain as nearly as possible the total number of deer that are killed annually in the Adirondack forests. Definite and reliable information on this important point must be of great value to every hunter, sportsman or citizen interested in our forests and the preservation of game.

With the intention of securing such information a copy of the enclosed statement in blank has been mailed to some reliable, prominent man in each locality or township. It is hoped that the intelligent estimates from these correspondents will enable us to lay before the public the desired facts, together with other information that may be of assistance in future legislation.

We would respectfully ask that you aid in this matter by filling out the enclosed report for your own particular locality. A recapitulation of all the reports showing the total number of deer killed in the Adirondack forests during the season of 1895, will appear in our annual report for this year, a copy of which will be sent to you. We trust that your interests as a sportsman and citizen will ensure a favorable and early reply.

The printed form which each correspondent was asked to fill out and return, and which was used by each one in making his report, was as follows :

..... 1895.

Special report of on number of deer killed during the season of 1895, for the territory including.

.....

1. Estimated number of deer killed in this territory

2. Number killed by floating or night-hunting

3. Number killed by hounding

4. Number killed by still-hunting or otherwise

5. Estimated proportion of bucks and does

6. Are the deer in this locality increasing?

7. Were there more or less deer killed this year than last in this territory?

8. How did the deer killed this season average in size as compared with previous years?

9. Were any dead deer found in this locality last winter, and about how many?

10. How many deer in this particular territory are estimated as having been killed out of season, in 1895?

N. B.—After filling out the above report, please enclose it in the stamped and directed envelope which is furnished herewith for that purpose, and return it within ten days.

The various reports having been received and collated by counties, they were tabulated with the following results:

Number of Deer Killed in 1895.

CLINTON COUNTY.

Territory	Night Hunting	Hound-ing	Still Hunting	Total	Bucks	Does	Reported by
Upper Chateaugay Lake	2	16	—	18	12	6	W. P. Merrill
Chazy Lake . . .	—	7	—	7	4	3	Walter N. Thayer
Town of Altona . .	—	3	—	3	2	1	Fred E. Purdy
Town of Ausable .	—	3	2	5	2	3	S. E. Wolcott
Town of Black Brook	—	20	—	20	8	12	Hon. Geo. Chahoon
Town of Ellenburgh.	2	5	—	7	3	4	Jno. Haughran
Town of Peru . . .	—	2	6	8	5	3	Frank L. Hunter
Town of Saranac . .	—	20	—	20	9	11	Edmund J. Pickett
Total, Clinton Co.	4	76	8	88*	45	43	

* Not including a live deer that was caught in Chazy Lake.

FULTON COUNTY.

Territory	Night Hunting	Hound-ing	Still Hunting	Total	Bucks	Does	Reported by
Town of Caroga . .	—	20	3	23	12	11	Joseph Sherman
Town of Stratford .	3	8	—	11	8	3	Frank Pierce
Bleecker and Mayfield	9	12	4	25	8	17	E. J. Lobdell
Total, Fulton Co. .	12	40	7	59	28	31	

ESSEX COUNTY.

Territory	Night Hunting	Hound- ing	Still Hunting	Total	Bucks	Does	Reported by
Twp. 11,* Lake Placid	4	24	11	39	21	18	Hon. Geo. A. Stevens
Twp. 12, North Elba	—	22	6	28	19	9	Chas. H. Wood
Twp. 25, Minerva .	—	9	—	9	5	4	Thomas Powers
Twps. 27 and 28 † .	10	16	5	31	16	15	D. Moynehan
Twp. 26, Aiden Lair	—	17	—	17	8	9	M. F. Cronin
Twp. 30 Boreas River	7	19	—	26	11	15	David Hunter
Twp. 44, Boreas Ponds	—	37	2	39	14	25	George R. Finch
Twp. 49, Elk Lake .	1	17	1	19	10	9	H. P. Jones
Twp. 18, Chain Lakes	11	44	3	58	28	30	Arvin Hutchins
Adirondack Preserve	1	32	5	38	24	14	Myron L. Buttles
Twp. 16, Indian River ‡	2	26	—	28	16	12	Robert Bibby
Ad'k Preserve Ass'n .	—	11	—	11	7	4	Robert Bibby, Supt.
Santanoni Park . .	—	12	5	17	10	7	Robert C. Pruynt
Putnam Preserve . .	—	10	—	10	6	4	Julius Burres
Lewis & Elizabethtown	—	21	2	23	18	5	Chas. H. Palmer
Schroon River Valley ||	—	5	2	7	3	4	.....
Town of Keene . .	—	13	2	15	3	12	W. S. Brown
Town of Schroon .	—	24	—	24	13	11	Orin Harris
Town of Wilmington	—	4	—	4	1	3	Sanford Avery
Town of Chesterfield	—	10	—	10	7	3	Carlos Rowe
Town of Jay . . .	—	3	—	3	3	—	Spencer G. Prine
Town of Moriah . .	—	10	—	10	4	6	W. C. Witherbee
Town of Ticonderoga	—	3	—	3	1	2	D. S. Sharp
Town of Westport .	—	9	—	9	4	5	Warren Pooler
Town of Willsborough	—	8	—	8	3	5	Edward Higby
Total, Essex County	36	406	44	486	255	231	

* The township number indicates that the entire township is included in the report. An Adirondack township contains from 25,000 to 30,000 acres. It is different from and smaller than a town.

† Not including Santanoni Park.

‡ Not including Adirondack Preserve Association.

|| That part only in town of North Hudson.

FRANKLIN COUNTY.

Territory	Night Hunting	Hound-ing	Still Hunting	Total	Bucks	Does	Reported by
Meacham Lake . . .	6	26	1	33	24	9	A. R. Fuller
Rainbow Lake . . .	1	23	—	24	4	20	Jas. W. Wardner
Chateaugay Lake* . .	—	15	—	15	10	5	Smith Kirby
Middle Saranac Lake	15	18	13	46	18	28	Warren J. Slater
Lake Titus	—	15	—	15	9	6	Hal. D. Stevens
Indian Pond	—	28	—	28	7	21	R. G. Low
Twp. 8, † Bellmont . .	4	24	1	29	9	20	Abraham Lester
Twps. 9 and 10, O.M.T.	4	45	1	50	28	22	Jas. W. Littlejohn
Twps. 9 ‡ and 12, } Macomb's }	4	20	5	29	14	15	W. J. Ayres
Twp. 8 § and E. ½ of 11	2	17	1	20	9	11	J. C. Shaw
Twp. 15, S. W. ¼ } McCollum's }	5	22	1	28	12	16	C. A. MacArthur
Twps. 10 and 13, } Macomb's }	11	56	9	76	32	44	W. J. Alfred
Twp. 14 and W. ½ of 11	9	37	8	54	25	29	W. J. Alfred
Twps. 17 and 19,	20	14	12	46	22	24	Chas. O. Dwight
Twp. 20 and S. ½ of 21	2	37	1	40	26	14	D. W. Riddle
Twp. 18, S. ½ ¶ and † N. ½ of 21 }	5	20	—	25	20	5	Phelps Smith
Twp. 24, Lower Saranac	14	11	1	26	7	19	Jno. H. Miller
Twp. 23 **	8	28	6	42	19	23	Eugene S. Bruce
Twps. 26 and 27 . . .	9	34	3	46	24	22	Eugene S. Bruce
Twp. 22	18	31	4	53	21	32	Martin Moody
Twp. 25 and E. ½ of 3 ††	28	47	13	88	46	42	Ernest Johnson
Total, Franklin Co.	165	568	80	813	386	427	

* The Lower Lake.

† Not including Indian Pond.

‡ Not including Lake Titus.

§ Twp. 8 of Macomb's Purchase.

¶ Includes St. Regis Lakes, Osgood Pond, Big Clear, etc.

** Not including any of Middle Saranac Lake.

†† Includes all of Big Tupper Lake, Simons', Jenkins' and Long Ponds.

HAMILTON COUNTY.

Territory	Night Hunting	Hound- ing	Still Hunting	Total	Buck	Does	Reported by
Bog Lake Preserve .	5	—	2	7	4	3	Chas. A. Tatum
Wilmurt Lake Club .	3	6	—	9	6	3	C. H. Smyth, Sec'y
"G" Lake Preserve .	1	5	—	6	3	3	E. Z. Wright
Jerseyfield Preserve .	1	4	2	7	4	3	C. P. Williams
Lawrence Patent .	3	11	—	14	10	4	Frank Pierce
Arthurboro Patent .	2	35	10	47	24	23	G. H. Rison
Benson Township .	10	8	7	25	6	19	E. J. Lobdell
Oxbow Tract * . .	21	52	11	84	38	46	Geo. H. Meade
Town of Hope . .	—	11	—	11	6	5	William Harris
Fulton Chain † . .	4	15	1	20	5	15	A. M. Church
Limekiln Lake . .	2	4	—	6	3	3	E. H. Myers
Nehasane Tracts . .	—	—	52	52	34	18	Wm. Seward Webb
Twp. 2, and N. ½ of Twp. 1 ‡	8	35	4	47	25	22	Edwin Courtney
Twp. 3, Cedar Lakes, etc.	17	68	11	96	53	43	Edwin Courtney
Twps. 7 and 33, Cedar River	28	32	—	60	24	36	Carlos Hutchins
Twp. 8, Lewey Lake, etc.	3	20	1	24	13	11	Jas. McCormic
Twp. 9, Elm Lake, etc.	16	49	17	82	28	54	Ed. F. Boehm
Twps. 10 and 29, T. and C. P.	2	86	4	92	31	61	M. B. Hosley
Twp. 15 and S. E. ¼ of 32	2	31	—	33	17	16	Hosea G. Locke
Twp. 17, Cedar River	8	45	2	55	24	31	Oliver St. Marie
Twps. 19, 21, 22 & 50 ||	25	40	10	75	49	26	David G. Helms
Twp. 31, Cunjamuck	15	30	7	52	23	29	Reuben Ross
Twps. 34 and 6 § .	3	42	—	45	27	18	Henry Bradley
Twp. 32, Indian Lake **	25	36	28	89	42	47	D. E. Farrington
Twps. 35, 36 and 23 ††	25	48	23	96	54	42	Ernest H. Johnson
Twp. 39, Brandreth Lake	6	7	12	25	9	16	Franklin Brandreth
Twp. 40, Raquette Lake	38	45	6	89	30	59	Chas. H. Bennett
Twp. 4, M. R. T. and 4, T. and C. P.	28	32	—	60	15	45	Wellington Kenwill
Total, Hamilton Co.	301	797	210	1308	607	701	

* Includes Piseco, Oxbow, Spy, Sheriff, and several small lakes; also a portion of Sacandaga River.

† Fifth, Sixth and Seventh Lakes only.

‡ Includes Lake Pleasant, Sacandaga, Fawn and Hamilton Lakes.

|| Over 90,000 acres; includes Long Lake and surrounding region.

§ Blue Mountain, Eagle, and Utowanna Lakes, Sargent Ponds, and Sumner Park.

** Includes also Jessup River, Johnny Mack's Pond, etc.

†† Over 85,000 acres; includes Little Tupper, Round and Forked Lakes; Sutton Pond, Slim Pond Chain, etc.

HERKIMER COUNTY.

Territory	Night Hunting	Hound- ing	Still Hunting	Total	Bucks	Does	Reported by
Beaver River Club .	11	14	10	35	7	28	M. H. Bullock, Supt.
Adirondack League Club	—	18	7	25	22	3	W. H. Boardman, Sec'y
Maple Lake Club . .	—	8	—	8	5	3	Jno. Cummings, Sec'y
DeCamp Preserve, Twp. 1	24	33	9	66	25	41	W. S. DeCamp
DeCamp Preserve, Twp. 7 *	31	22	6	59	21	38	E. E. Marks
Fulton Chain, S. $\frac{1}{2}$, Twp. 8 †	30	55	13	98	35	63	Alonzo Wood
Twp. 6, Brown's Tract	29	30	15	74	18	56	Henry F. Down
Twp. 5, E. 1-3 “	11	24	5	40	19	21	Fitz Greene Halleck
Twp. 8, N. $\frac{1}{2}$, Big Moose ‡ etc.,	36	44	14	94	59	35	Henry H. Covey
Nobleboro and Rem- senburgh §	25	47	2	74	34	40	Edw. H. Talbot
Town of Salisbury .	3	8	4	15	7	8	Geo. A. Marsh
Town of Ohio . . .	3	6	3	12	6	6	E. E. Kelly
Town of Herkimer .	—	—	1	1	—	1	A. T. Smith
Total, Herkimer Co.	203	309	89	601	258	343	

* Not including First and Second Lakes, Fulton Chain.

† Includes First, Second, Third and Fourth Lakes, Fulton Chain; Moss, Safford and Cascade Lakes; and First Lake, Moose River Chain.

‡ Includes Big Moose, Twitchell and Second Lake of Moose River Chain; also that part of Twp. 41 in Herkimer county.

§ Includes, also, Vrooman's Patent and N. E. $\frac{1}{4}$ of Twp. 8, Moose River Tract.

LEWIS COUNTY.

Territory	Night Hunting	Hound- ing	Still Hunting	Total	Bucks	Does	Reported by
Twp. 3, Brown's Tract	18	65	11	94	40	54	Chas. Fenton
Twp. 4, " "	15	*	30	45	22	23	Chas. Fenton
Town of Watson . .	10	27	9	46	22	24	George Norton
Town of Croghan . .	7	19	9	35	17	18	Wm. Hathaway
Town of Diana . .	—	60	15	75	25	50	Warren Humes
Town of Greig . . .	7	25	8	40	15	25	James Lamont
Town of Lyonsdale .	5	20	5	30	14	16	Scudder Todd
Town of New Bremen	6	15	7	28	12	16	Wm. Hathaway
Lake Bonaparte . .	1	15	4	20	9	11	William Humes
Total, Lewis Co. .	69	246	98	413	176	237	

* Hounding not permitted on this preserve.

ONEIDA COUNTY.

Territory	Night Hunting	Hound- ing.	Still Hunting	Total	Bucks	Does	Reported by
Town of Forestport .	15	20	5	40	12	28	Philip Studor

ST. LAWRENCE COUNTY.

(Hounding in this County is forbidden by law.)

Territory	Night Hunting	Hound- ing	Still Hunting	Total	Bucks	Does	Reported by
Grasse River Club . .	22	—	3	25	7	18	C. E. Brown
Granshue Club . . .	7	—	2	9	4	5	Geo. C. Lewis, Sec'y
Kildare Club	2	—	6	8	2	6	Henry Day
Inlet Club	3	—	10	13	7	6	Allen Olmsted
Raquette Club . . .	5	—	4	9	4	5	H. L. Ives
Vilas Preserve * . . .	28	10	5	43	14	29	E. A. Carpenter, Mgr.
Lone Star Preserve . .	—	—	3	3	1	2	Charles Heaton
Connell Preserve † . .	28	—	32	60	25	35	Cornelius Carter, Supt.
Smith's Preserve . . .	2	—	11	13	9	4	Henry L. Smith
Cutting's Preserve . .	5	—	2	7	4	3	F. A. Cutting
Keyes Park †	20	—	15	35	11	24	Jas. L. Humes, Supt.
Childwold Park . . .	6	—	14	20	9	11	Wm. F. Ingold, Mgr.
Ozonia Park	3	1	10	14	6	8	Fred. M. Heath
Twp. 3, W. ½, ‡ . . .	30	—	15	45	20	25	Geo. A. Dukelow
Twp. 5, "Jamestown"	20	—	28	48	22	26	J. J. Sevey
Twp. 6, "Piercefield"	20	—	47	67	18	49	Emery P. Gale
Twp. 2, "Oakham" §	27	—	13	40	16	24	Geo. W. Sisson
Twp. 8, "Hollywood"	18	—	7	25	5	20	Henry Day
Twp. 10, "Clifton" . .	15	—	5	20	5	15	James L. Humes
Twp. 10, "Matildaville"	3	—	5	8	4	4	William Smith
Twp. 12 & S. ½ of 9	5	—	20	25	6	19	Arch. Muir
Twps. 13, 14 and W. ½ of 15	18	—	27	45	26	19	Byron McCollum
Sherwood and Hare- wood ||	55	—	37	92	38	54	W. R. Bishop
Town of Clare	33	3	38	74	31	43	John Bird
Town of Edwards . . .	—	—	3	3	1	2	Hon. Ira C. Miles
Town of Parishville . .	15	—	10	25	4	21	Royal Newton
Total, St. Lawrence Co.	390	14	372	776	299	477	

* Hounding was done on the part in Franklin county.

† In Township 15, "Emilyville."

‡ Includes Horseshoe and Long Ponds, Pleasant Lake, and a part of Bog River.

§ Includes Bog River Chain, Silver Lake Chain, Hitchin's, Curtis' and Scott's Ponds, etc.

|| Cranberry Lake, part of Grasse River, Mud Lake, etc.

SARATOGA COUNTY.

Territory	Night Hunting	Hound- ing	Still Hunting	Total	Bucks	Does	Reported by
Town of Corinth .	—	3	1	4	2	2	W. A. TenEyck
Town of Edinburgh	—	—	2	2	1	1	Eli Edwards
Town of Day . .	—	4	6	10	4	6	Chas. L. Marcellus
Total, Saratoga Co.	—	7	9	16	7	9	

WARREN COUNTY.

Territory	Night Hunting	Hound- ing	Still Hunting	Total	Bucks	Does	Reported by
Twp. 13,* T. and C. P.	14	72	8	94	32	62	H. A. Maxam
Twp. 14, " "	23	15	2	40	17	23	W. H. Roblee
Twp. 11, " "	—	23	3	26	12	14	Alvin Winslow
Town of Bolton . .	—	13	5	18	11	7	Fred. W. Allen
Town of Caldwell .	—	3	—	3	1	2	Wm. H. Burnett
Town of Chester .	—	1	1	2	1	1	Andrew Thurston
Town of Hague . .	—	8	2	10	4	6	Geo. H. Hooper
Town of Horicon .	—	5	1	6	3	3	Scott Barton
Town of Stony Creek	—	29	1	30	15	15	Alvin Winslow
Town of Thurman .	1	11	12	24	16	8	Alvin Winslow
Town of Warrensburg	—	—	1	1	—	1	A. H. Thomas
Total, Warren Co. .	38	180	36	254	112	142	

* Includes Thirteenth Pond, and part of the Sacandaga River, also, Botheration, Puffer, Our, Second, and other ponds.

WASHINGTON COUNTY.

Territory	Night Hunting	Hounding	Still Hunting	Total	Bucks	Does	Reported by
Town of Putnam .	—	6	2	8	4	4	S. M. Prouty
Town of Dresden .	—	15	10	25	12	13	Geo. L. Clemons
Town of Fort Ann .	—	10	3	13	6	7	S. M. Prouty
Total, Washington Co.	—	31	15	46	22	24	

RECAPITULATION.

Counties	Night Hunting	Hounding	Still Hunting	Total	Bucks	Does
Clinton	4	76	8	88	45	43
Essex	36	406	44	486	255	231
Franklin	165	568	80	813	386	427
Fulton	12	40	7	59	28	31
Hamilton	301	797	210	1,308	607	701
Herkimer	203	309	89	601	258	343
Lewis	69	246	98	413	176	237
Oneida	15	20	5	40	12	28
St. Lawrence	390	14	372	776	299	477
Saratoga	—	7	9	16	7	9
Washington	—	31	15	46	22	24
Warren	38	180	36	254	112	142
Totals,	1,233	2,694	973	4,900	2,207	2,693

Reports from the various correspondents indicate that in the following named localities the

Deer are Increasing.

In Clinton County—In the towns of Saranac, Peru, Ausable, Schuyler Falls, and around Chazy Lake.

In Essex County—In Townships 16 and 25 of the Totten and Crossfield Purchase, and Township 12, Old Military Tract; in the towns of Keene, Schroon, Newcomb, Crown Point, Lewis, Elizabethtown, Chesterfield, and North Elba; and in the vicinity of Lakes Colden, Sanford, Elk, Catlin, Newcomb, and Placid, Preston and Boreas Ponds, Chain Lakes, Boreas River, and Aiden Lair.

In Franklin County—In Townships 15, 16, 17, 19, 23, 26, and 27, of Macomb's Purchase; around the St. Regis, Meacham, and Saranac Lakes; in the vicinity of Follensby, Ampersand, Quebec, Rice, Blue, and Willis Ponds; and near Brandon, the Osgood River, and the Middle Branch of St. Regis River.

In Fulton County—In the town of Stratford.

In Hamilton County—In Townships 17, 23, 35, 36, 6, and 34, of the Totten and Crossfield Purchase; in the vicinity of Raquette, Blue Mountain, Eagle, Eighth, Shallow, Brandreth, Long, Grampus, Forked, Little Tupper, Indian, and Lewey Lakes; the Slim Pond Chain; Sutton, Anthony, Sargent, and Siamese Ponds; the Cedar Lakes and Lake Pleasant; and along the Marion, Cedar, Jessup, and Miami Rivers, and Cunjamuck Creek.

In Herkimer County—In Townships 1, 5, and 7 of the John Brown Tract; and in the vicinity of the upper waters of the Beaver River, Jock's Lake, and Little Moose Lake.

In Lewis County—In the immediate vicinity of Harrisville and Lake Bonaparte.

In St. Lawrence County—In the townships of Oakham, Harewood, Chaumont, Bloomfield, Kildare, Hollywood, Jamestown, and Riversdale; on the Vilas Preserve, and in the vicinity of Bog River, Grasse River, and Jordan Lake.

In Saratoga County—In the towns of Day and Edinburgh.

In Warren County—In Township 14, and in the towns of Bolton, Horicon, and Luzerne.

In the following named localities the reports indicate that the

Deer are Decreasing.

In Essex County—In the town of Ticonderoga.

In Franklin County—In Townships 10, 11, 13, 14, 22, and 25 of Macomb's Purchase; in the vicinity of Big Tupper, Rainbow, Loon, and Ragged Lakes; the Chateaugay Lakes and Lake Titus; De Bar; Simon, Jenkins, Plumadore, and Ingraham Ponds; Franklin Falls, Everton, and Duane; and along Trout River, and the east branch of the St. Regis River.

In Fulton County—In the towns of Bleecker and Caroga.

In Hamilton County—In the towns of Hope and Wells, Township 9 of the Totten and Crossfield Purchase, and Townships 9 and 10 of the Moose River Tract; in Benson Township and Arthurboro Patent; around Limekiln Lake and the Sixth and Seventh Lakes of the Fulton Chain; and in the vicinity of Piseco, Oxbow, Morehouse, Wilmurt and Jerseyfield Lakes, and Sacandaga River.

In Herkimer County—In Townships 6 and 8, John Brown's Tract, and the town of Russia; in the Remsenburg and Vrooman's Patent; in the vicinity of the Fulton Chain and Big Moose Lakes.

In Lewis County—In the towns of Croghan, Greig, Watson, and Lyonsdale, and Townships 2 and 4 of the John Brown Tract; and the vicinity of Beaver Lake, Otter Lake, and the west branch of the Oswegatchie River.

In Oneida County—In the towns of Forestport, White Lake, and Woodhull Creek.

In St. Lawrence County—In the townships of Clare, Clifton and Emilyville.

In Warren County—In the towns of Hague and Thurman.

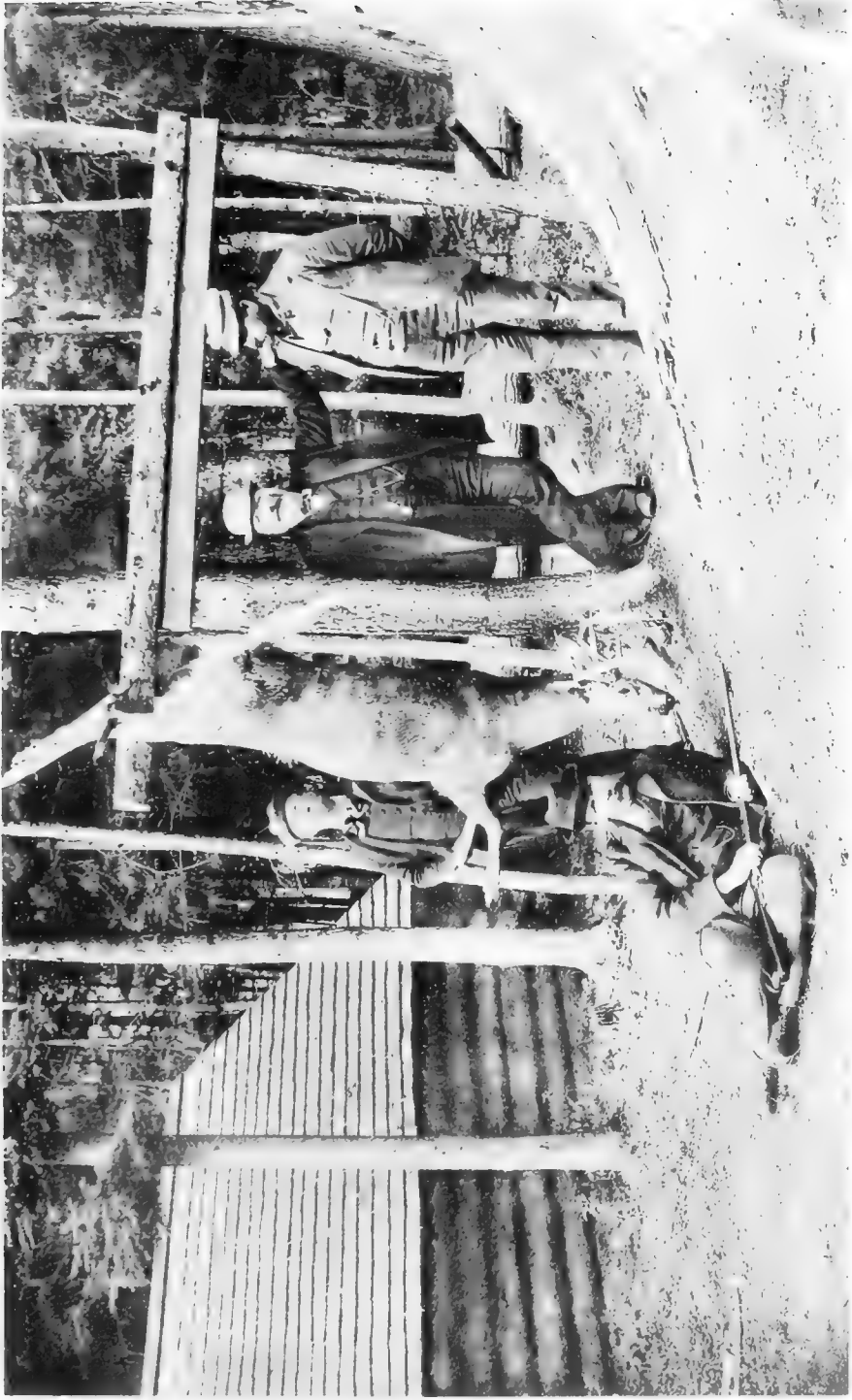
Many of the correspondents stated that the deer in their districts were neither increasing nor decreasing.

Dead Deer.

Deer were reported as having died during the previous winter, and been found in the following localities:

In Franklin County—In Townships 17 and 19 of Macomb's Purchase, and in the vicinity of Big Tupper Lake, Quebec Pond, Willis Pond, and the Cold River.

In Hamilton County—In Townships 37, 38, 42, and 43 of the Totten and Crossfield Purchase; in Benson Township, and in the vicinity of Raquette, Brandreth, Forked, and Little Tupper Lakes; and especially along the South Branch of the Moose River near the Indian Clearing.



A GROUP OF DISTINGUISHED SPORTSMEN.

In Herkimer County—In Townships 6, 7, and 8 of John Brown's Tract; in the vicinity of the Fulton Chain and Big Moose Lakes; and on the lands of the Adirondack League Club in the Moose River Tract.

In Lewis County—In the towns of Croghan, Diana, and Greig; and around Otter Lake and along the West Branch of the Oswegatchie.

In St. Lawrence County—In the townships of Clare, Clifton, Emilyville, Chaumont, Bloomfield, Hollywood, Kildare, Matildaville, Parishville, and Wick; and along the Oswegatchie and Raquette Rivers.

It would be interesting to know how many live deer there are in the great forests of Northern New York. The question is frequently asked, and the probable number has been a source of much discussion and difference of opinion. There is no possible way of arriving definitely at the number, and it is doubtful if any computation could be made that would at all approximate accuracy. Estimates have been made by many who are familiar with the region and who are experienced in deer hunting. These estimates vary all the way from five thousand to sixty thousand, which is not surprising as none of them were based on the area of the region, without a knowledge of which no intelligent calculation can be made.

It is not proposed to submit any estimate here on the total number of live deer in the Adirondack forests, as any such conjecture is outside the province of this report. But some figures and suggestions are respectfully offered which may be of assistance to anyone who wants to arrive at some idea as to the number.

A good way to approach the problem would be to agree on the average number of deer on some definite area, a hundred acres or so, and then divide the entire area of the forests by this smaller one. The quarter section—160-acre lot—would make a good unit for computation. It was used most in the allotment of Northern New York, and as it is just one-half mile square its area is familiar to all and readily comprehended.

Now, there are 3,588,803 acres of contiguous forest or wild land in the entire Adirondack region, or the equivalent of 22,430 lots (160 acres), each one-half mile square. For illustration, let it be supposed that there is one deer, on an average, for each half mile square; not one on every such area, but one on the average. There are many such areas on which there is not a single deer, while on others there are several. But, if on an average there is one for each half-mile lot, then there would be 22,430 live deer in the Adirondacks; and, if they will average two to the half-mile square, there must be 44,860, and so on.

With this system anyone can make a reasonable estimate if he has enough familiarity with the frequency of deer tracks, the ease or difficulty of "starting" deer in

various localities, the number and size of the deer-yards, and other necessary knowledge, to enable him to first form some clear, definite idea as to the average number of deer per square mile or half-mile. Each man is free to make his own calculation, but if the calculation is made intelligently it must be based on these factors.

Through the courtesy of the American and National Express Companies the number of deer shipped from each station was obtained, and the figures are submitted herewith. I wish here to acknowledge the kindly and valuable assistance received from Superintendent John L. Van Valkenburg, of the American, and Superintendent T. M. Smith, of the National Express Companies. These gentlemen rendered every assistance in their power to make the statistics relating to the number of deer shipped as accurate as possible, and secured detailed statements from each agent on their lines within the territory from which any shipment might possibly be made.

Carcasses of Deer Shipped from the Adirondack Region During the Season of 1895.

STATION.	RAILROAD.	NUMBER
Benson Mines	Carthage & Adirondack	28
Harrisville	“ “	18
Jayville	“ “	2
Natural Bridge	“ “	1
North Croghan	“ “	1
Oswegatchie	“ “	16
Gloversville	Fonda, Johnstown & Gloversville	4
Northville	“ “ “	87
Edwards	Gouverneur & Edwards	3
Dolgeville	Little Falls & Dolgeville	1
Beaver River	Adirondack Division, N. Y. C.	30
Big Moose	“ “ “	21
Childwold	“ “ “	44
Clearwater	“ “ “	3
Forestport	“ “ “	10
Fulton Chain,	“ “ “	95
Horseshoe Pond	“ “ “	20
Lake Clear Junction	“ “ “	2
Lake Kushaqua	“ “ “	1
Little Rapids	“ “ “	4
Loon Lake	“ “ “	3

STATION.	RAILROAD.			NUMBER.
				Brought forward, 394
McKeever	Adirondack Division, N. Y. C.			7
Minnehaha	"	"	"	5
Nehasane	"	"	"	1
Newport	"	"	"	1
Otter Lake	"	"	"	6
Owl's Head	"	"	"	2
Paul Smith's	"	"	"	21
Poland	"	"	"	11
Rainbow Lake	"	"	"	1
Saranac Inn	"	"	"	21
Saranac Lake	"	"	"	2
Section No. 19	"	"	"	2
Tupper Lake Junction	"	"	"	53
Walker's Camp	"	"	"	3
White Lake Corners	"	"	"	8
Wood's Lake,	"	"	"	3
Bay Pond	Northern Adirondack			3
Black Rapids Junction	"	"	"	6
Brandon	"	"	"	10
Childwold	"	"	"	6
Madawaska	"	"	"	7
St. Regis Falls	"	"	"	2
Santa Clara	"	"	"	6
Spring Cove	"	"	"	11
Tupper Lake	"	"	"	9
Willis Pond	"	"	"	8
Canton	Rome, Watertown & Ogdensburg			6
De Kalb Junction	"	"	"	3
Potsdam	"	"	"	6
Watertown	"	"	"	1
Alder Creek	Utica and Black River			1
Boonville	"	"	"	1
Carthage	"	"	"	4
Castorland	"	"	"	10
Glendale	"	"	"	11
Lowville	"	"	"	4
Lyon's Falls	"	"	"	4

 Forward, 660

STATION,	RAILROAD,	NUMBER.
		Brought forward, 660
Port Leyden	Utica and Black River	2
Prospect	“ “	15
Remsen	“ “	9
Malone	Ogdensburg & Lake Champlain	3
North Creek	Adirondack Division, D. & H.	151
Riverside	“ “ “	7
Stony Creek	“ “ “	12
Thurman	“ “ “	1
Caldwell	Delaware & Hudson	1
Keeseville	“ “	1
Port Henry	“ “	12
Total		874

As only 874 deer were shipped out of the region, the estimate of 4,900 killed may seem too high. But the reason for this disparity in figures is evident to all who are familiar with the facts. A very large proportion of the deer killed are slaughtered by the residents and consumed by them for food, venison being a staple article of diet during the ten weeks of the hunting season. The hotels and boarding-houses in the Adirondacks also buy a large number of deer, while in each camp the hunters subsist chiefly on venison. A large number of carcasses spoil during August and September, and are thrown away. Then, again, a large share of the deer are killed by persons who reside on or near the outskirts of the forest, and who carry out their venison in wagons. The farming regions along the borders of the wilderness are largely supplied in this way.

A party from Glens Falls killed thirty-seven deer at the Boreas Ponds, in Township Forty-four, Essex county, but none of these carcasses were shipped by rail. All of them, except those eaten in camp, were taken out of the woods in wagons during the latter part of the hunting season. On each of the many roads radiating from the forest, in every county, wagons going out with venison may be seen daily. These deer of course do not appear in the shipments by rail.

Of the thirty-three deer killed at Meacham Lake only three were taken to the railroad, and in many other localities the number shipped by rail bore an equally small proportion to the number killed, the greater part being consumed in the locality, or carried out by wagons, or wasted, or spoiled by warm weather.

The statistics obtained from the express companies furnish definite and valuable information as to the size of the Adirondack deer; for the dressed weight of each animal was given in the shipping bills, duplicates of which were also kindly submitted.

Having the dressed weight, the live weight may be estimated with approximate accuracy by adding one-fourth to the dressed weight. This rule was established after long continued tests, repeated yearly in different localities. A party of hunters from Albany who have hunted at Lewey Lake, Hamilton county, each season for many years, instituted a series of tests to determine this point. A large steel-yard was purchased in Albany for this purpose, and taken to the lake. When a deer was killed the body was taken to the boat-house, where the steel-yard was kept, and weighed before dressing it. The carcass was then dressed, after which it was weighed again and the weight was duly recorded. It was found that, on the average, the body of the deer lost just one-fifth in dressing; that is, in taking out the entrails, heart, liver and lungs, the head, hide, legs and feet being left on the body. Similar experiments with like results were made by the Adirondack Preserve Association and in other localities. Hence the rule: Add one-fourth to the dressed weight and the result will be the live weight; or, deduct one-fifth from the live weight and the result will show what the deer will weigh when dressed.

A variation of a few pounds will occasionally occur in individual cases, when, for instance, a deer is very fat or very lean; but the rule will hold good on the average, and in all cases will approximate accuracy close enough for practical purposes.

Of the 675 deer shipped by the American Express Company, eleven weighed over 200 lbs. The two largest ones which were shipped from Spring Cove, Franklin county, weighed 228 and 221 lbs., dressed. According to the rule just quoted the live weight of these animals was 285 and 271 lbs., respectively; perhaps more, for the carcasses "dry out" considerably between the time they are dressed and the time they are delivered at the station for shipment, in which case these deer may have weighed nearly 300 pounds, live weight.

From the returns furnished by the National Express Company, it appears that Mr. S. Van Deusen, of West Stony Creek, killed a deer that weighed 236 lbs., dressed; and that Mr. W. P. Moore, of Glens Falls, N. Y., killed one that weighed 235 lbs., dressed; and that Mr. Abel Crook, of New York city, killed a buck at Aiden Lair, Essex county, that weighed 242 lbs., dressed. The live weight of these deer, as estimated under the rule, was, respectively, 295, 293 and 302 lbs. They were probably somewhat heavier than these figures indicate, for the carcasses must have dried out some before they were weighed by the express agent at the railway station.

These figures do not necessarily indicate the maximum weights of the deer killed in 1895, for some large bucks were shot which were not taken out of the woods, the hunter shipping the head only ; or perhaps a small saddle of venison, the rest of the animal being eaten in camp.

But the average dressed weight of 562 deer shipped by the American Express Company, as determined by the weights given on the duplicate shipping bills, was only 109 1-5 lbs., which would indicate that these 562 deer weighed on an average only 136¼ lbs., live weight. This is not a very good showing for our Adirondack deer as to size ; and, owing to certain causes, is not a fair one. The figures include too many small deer and nursing does that, owing to our stupid deer law, are killed in August and September when they were thin and poor and largely under weight.

No other State, or Canadian Province, permits the killing of deer in these months. It was reserved for New York to frame a law based on personal interests instead of the dictates of humanity and the ethics of sport.

Under a proper game law the Adirondack deer would attain a size unsurpassed by its species anywhere on the continent. That they do attain a great size, despite this lack of protection, is evident to all who have made observations in the matter. Bucks weighing over 300 pounds are killed each season, and occasionally some extraordinary specimens are shot.

In 1877, at Meacham Lake, Franklin county, a very large buck was shot by Mr. John T. Denny, of No. 17 West 52d Street, New York. This animal weighed 286 lbs. dressed, or 357 lbs. live weight, as estimated.

Mr. Albert H. Thomas, of Warrensburg, N. Y., late county treasurer of Warren county, states that he killed a buck several years ago, in Township Sixteen, Essex county, which was the largest one he ever saw ; that after taking it home its dressed weight was 299½ lbs. as it lay on the scales in his store at Warrensburg ; and that it lay there on the scales all day, during which there was a steady stream of visitors to see the "big buck," many of whom distinctly remember the incident.

In the Glens Falls *Morning Star*, of October 12, 1890, Mr. James M. Patterson, of West Stony Creek, N. Y., writes as follows :

"I have seen accounts published in your paper this year of large deer; but I think that yesterday Henry Ordway killed the king of all bucks. The following weight and measurements are correct, as I made them myself, and other parties here can vouch for them :

"Weight before being dressed, 388 lbs. ; height over withers, 4 feet 3 inches. There are nine prongs on one antler and ten on the other. Length of antlers, 32 inches ; distance between antlers, 26½ inches ; length from tip of nose to tip of tail, 9 feet 7 inches. The Lake House, of which Oscar W. Ordway, father of Henry

Ordway, is proprietor, is within two miles of Mud Lake, where deer are thicker than in any other spot in the Adirondacks. Thirteen deer have been killed the past week, and all within two miles of the house."

Mr. A. N. Cheney adds: "I have talked with Mr. Patterson, who is a brother of ex-District-Attorney Patterson, of Warren county, since his letter was printed, and he added, to the figures given, that the deer measured 37 inches around the neck, back of the head, and that the longest spike on one beam was 13 inches. The buck had been seen on several occasions during two or more years before it was killed, and several sportsmen had made special efforts to kill it. It appeared to have no fear of dogs that were put on its track, and on one occasion attacked and drove off two hounds that were on its trail."

Andrew Rogers, of Malone, N. Y., killed in 1889, a buck that weighed 306 lbs., four hours after it was shot. This buck was killed on Deer River, in the town of Duane, Franklin county. It was of the kind known as a "short-legged" buck. It was weighed at Schroeder's hop kiln on common platform scales.

Mrs. R. W. Smith, 102 West 116th Street, New York, in September, 1889, killed a buck at Meacham Lake, Franklin county, that weighed 310¼ lbs. live weight. The guide's name was Joseph Lavature.

Charles Rexford, of Malone, N. Y., recently killed a buck at Indian Lake, Franklin county, that weighed 244 lbs. dressed.

Mr. Warren S. Potter, of Glens Falls, N. Y., shot a buck recently near Thirteenth Pond, Warren county, that weighed 318 lbs. dressed. The weight of this remarkably large deer was well attested by several reliable and experienced hunters who saw the deer weighed.

Mr. Weston Finch, of Glens Falls, N. Y., shot a buck near the Boreas Pond, Essex county, that weighed 252 lbs. dressed.

In discussing the size of deer in the Northwest, Judge Caton* says :

"The largest common deer of which I have any authentic account was killed in Michigan, and weighed before he was dressed, 246 pounds. But such specimens are rarely met with. It is much more common to meet adults that will not exceed 80 pounds in weight, and the average weight may be set down at not more than 100 pounds. The *guesses* of hunters often give much larger weights.

"In the fall of 1876, I shot a buck in northeastern Wisconsin, which was judged by several experienced hunters to weigh nearly 250 pounds. Four of our Indians came from camp, but would not undertake to carry him in (not more than a third of a mile),

*The Antelope and Deer of America, by John Dean Caton, LL.D., New York, Forest and Stream Publishing Company, Second Edition, 1881.

although we were very anxious to have it done. They dressed him on the spot and made four loads of him. The chief Indian remarked that one might hunt a lifetime and not see such a deer as that."

The foregoing extract indicates that the deer in Michigan and Wisconsin are not as large as the Adirondack deer.

The Catskill Deer Park.

I take the opportunity to include in this report some brief mention of the Catskill Deer Park, at Slide Mountain in Ulster county, and matters relating to it. In July last (1895), in company with Mr. Davis, the President of the Commission, I went to the deer park and instructed the keeper to let the deer loose. As near as we could count, forty-five deer were turned loose into the forest. One old buck, a vicious beast that tried to kill its keeper, was retained and left in the little enclosure where he has been penned by himself for a long time. This buck was not liberated because he was liable to attack any man, woman or child that he might meet on the road. As he was old and had outlasted his usefulness, the keeper was instructed to shoot him, and save further expense in keeping and feeding.



Abnormal Development of Prongs.*

These deer were liberated because the herd was not increasing as was expected. It was evident that they would breed more freely if allowed to roam at large; and as the primary object in maintaining the herd was the restocking of the Catskill forest with deer, it was thought that the end would be sooner and better attained by turning them loose. The park, which is less than half a mile square, did not furnish enough food for so many, every bit of arboreal food within reach having been browsed until not a leaf or twig remained, and the herd could be maintained only by purchasing grain and hay for them. The deer when liberated soon disappeared in the forest, where, according to all accounts, they have become strong and vigorous. Some strayed beyond the limits of the Catskill regions and made their appearance in adjoining counties. Three were killed in Chenango, and one in Albany county, there being no law protecting deer in those counties.

The original intention in establishing this deer park was to restock the Catskill forests with deer by maintaining a herd in the park and turning out annually the increase. The experiment was not satisfactory owing to the comparatively small size of the enclosure, and the consequent expense of purchasing food for the animals. The park, however, can be utilized by using it as a place of temporary detention for

* There were forty-two prongs or "points" on these antlers, twenty-two on one horn and twenty on the other. This deer was killed near Paul Smith's, Franklin County, N. Y.

deer which are caught in the Adirondacks, in the fall, and shipped there to winter in the enclosure. Deer caught and shipped there in the fall should be wintered and fed in the park, and then turned loose in the spring as soon as the buds and first leaves appear. To turn them loose in the fall in a strange place with winter coming on would not give them a fair chance. But when turned loose there in the spring, they have the entire summer and next fall in which to roam the forest and acquaint themselves with desirable localities in which to yard or protect themselves during the ensuing winter.

In order to give the Catskill experiment a fair test more deer should be procured each fall and taken there. Deer can be caught in the Adirondacks, put in crates, and shipped there without any trouble or loss. This has been done already. We have passed that stage of the experiment successfully. Deer can be caught alive in the Adirondacks at a cost of about \$20 per head. The expense for guides, dogs, boats, and board of the foresters, will make the cost about that sum. It might, perhaps, be done for less. It need not cost more, for the guides will furnish as many as are needed for \$20 each, properly crated and delivered at the railroad.

Only a few years ago the deer had become extinct in Vermont. A herd was obtained and turned loose there, and now the deer are so plentiful in Vermont that the farmers are complaining that the animals are encroaching on their crops.

The Catskill forests can be restocked with deer at a comparatively small expense. Within seven years those woods can be filled so thickly with this noble game that everyone will applaud the wisdom of the experiment. But to do this there should be at least 150 more deer brought down from the Adirondacks and turned loose there, and the Legislature should provide, through an item in the Supply Bill, for the cost of this work. It is absurd to go on year after year voting such large sums of money for the propagation of fish and neglecting to provide for the maintenance of this noble game and valuable factor in our food supply.

The Adirondack and Catskill forests do not include all the deer of the State of New York. It will undoubtedly interest many to learn that on Long Island, in Suffolk county, within sixty miles of our great metropolis, there is a large area of woodlands in which wild deer are abundant. In proportion to the territory, they are as plentiful as in the Adirondacks, and they will also compare favorably as to size, appearance and quality of venison. They have increased in numbers during late years, owing to the protection afforded by our game laws. The open season on Long Island differs from that of the rest of the State, a special law having been enacted for this particular region. Part of this territory is owned or controlled by clubs and individuals, but enough of it is open to the public to permit the killing of over two hundred deer each season.

Appended to this report I have the honor to submit a digest of the opinions of many prominent citizens, sportsmen, guides, hunters, and residents of the Adirondacks in relation to that part of the Game Law which provides for the protection of deer. On the blank forms sent out to the correspondents who furnished the statistics for the number of deer killed, a request was inserted in each that the correspondent should give his opinion as to what change would be desirable in the law, together with such information regarding the Adirondack deer as he might be able to impart.

WILLIAM F. FOX,

Superintendent of Forests.

Digest of Reports and Opinions Relating to the Adirondack Deer and to the Laws for their Protection.

Dr. Samuel B. Ward, Albany, N. Y., President Upper Saranac Association.—There has been no change, of any importance, in the deer law during the past eight years; and I think there is no doubt in the minds of unprejudiced persons, who are in a position to know of their personal knowledge the facts in the case, that during that time the number of deer in the Adirondacks has increased. It would not, therefore, seem necessary to make the law any more stringent. On the other hand, I do not believe that it would be safe or wise to advocate any relaxation in the stringency of the law.

My experience with the game laws—and I have had quite a little—is very strongly on the side of letting well enough alone. In other words, I would advise making no effort to get any change.

Dr. William Seward Webb, New York City, (Proprietor Nehasane Park, Herkimer and Hamilton Counties, N. Y.)—If hounding were prohibited entirely it would do more to save the deer than almost any other arrangement. Very few deer, comparatively, are killed still-hunting, particularly after the middle of September. It is only when the deer are changing their coats and are coming to water, in the latter part of August and first part of September, that many are killed in that way.

I have talked with quite a number of prominent sportsmen here in New York, and they all think that the close season should be extended, if possible, to the 15th of Sep-



ANTLERS IN THE VELVET.
Courtesy of Dr. Samuel B. Ward.

tember. I agree with this, but doubt if such a measure would be sufficiently popular with the general public to secure its adoption, and that we would have a great deal of difficulty not only in passing it, but in enforcing it afterwards. I would, therefore, favor a modification of this proposition—say until the 7th of September. By that time the deer would certainly have changed their coats, and their horns would be out of the velvet.

The hotel people in the Adirondacks, a number of years ago, were opposed to any extension of the close season, for the reason that they feared it would hurt their business; but I think they are now convinced that there will be enough pleasure-seekers going to the mountains during the warm months, for health and change of air, to keep the hotels full, whether there is any deer-hunting or not; and that after this class of people go, the hotels will then fill up with people coming there for sport. For this reason I think the hotel interests would now favor an extension of the open season to November 15th, and would not oppose an extension of the closed season to September 1st or 7th.

The law prohibiting the shipping of deer by express has done more, in my opinion, to save the deer than almost anything else, as it has largely stopped the shipping of deer to market. I think we should try to enforce this law a little more stringently, as I understand that last year a number of deer were shipped by express when the owner was supposed to be on the same train, but as a matter of fact was not. I would favor a law absolutely prohibiting express companies from transporting deer at all; if a man wants to take a deer out let him take it as a part of his baggage, in the baggage-car.

I do not think that a close season for two or three years would be advisable, although it might be well, in lieu of that, to pass a law that no deer should be shipped or taken out of the Adirondacks for two years. This would protect the deer, and I am inclined to think it would be a very good provision. I know that, for my part, although I own a large amount of land there, I would be perfectly willing to agree that no deer should be taken or shipped out of my park for two years.

Mr. Ernest H. Johnson, Tupper Lake, Franklin County, N. Y., (Guide.)—Stop the hunting and fishing (out of season) for market, and pass an act making it unlawful to buy or offer for sale any venison in the Adirondacks. It is not the deer and fish caught by sportsmen and tourists that are exterminating them; but those that are taken out of season by pot-hunters and sold to the hotels.

I think one-half of the deer throughout the northern forest of Hamilton county died last winter, owing to the deep snow and severe weather. I found a great many that died in April after the snow was nearly all gone. I would urge that the sale of venison within the boundaries of the State Park be prohibited.

Mr. Robert C. Pruyn, Albany, N. Y., (President Commercial Bank, and Proprietor Santaroni Park in Essex County.)—I am inclined to believe that the greatest destruction of deer comes from the continuous killing, in and out of season, by the permanent residents.

I think that the prohibition of killing does would do us good, and that floating at night should be prohibited. Perhaps the best law would be to prohibit killing deer in the water, in which case hounding would be unobjectionable. This law, also, would be the easiest to enforce.

In our neighborhood I believe that the deer are steadily increasing in number. A difficulty is here presented that the laws necessary for open lands are not necessary for private preserves.

Mr. Ferd. W. Chase, Loon Lake, Franklin County, N. Y., (Proprietor Loon Lake House.)—The sentiment in this vicinity toward the preservation of wild deer is that there must be protection for them at once, or we will soon have none to protect. I know that the majority of our people in Franklin, the town in which I reside, voice me in saying, "Enact a law that will do away with hounding, jacking and still-hunting for a term of years." This may, to you, seem strong. But since the two railroads have been built in and through the heart of the woods it has been very easy for sportsmen to reach the game, while pot-hunters from the outside towns, also from across Lake Champlain, in Vermont, have overrun us. These people are half-guides, and own dogs. They come here at the last moment to prey on the game that we aim to protect.

In many places hotel guests are already gone, houses closed, legitimate guides at home, none receiving employment from these people. The average guide now admits that a deer's track to him, when the pleasure season is on, is worth more than a carcass. I have lived here eighteen years; have seen the people who are my neighbors and acquaintances become educated up to the fact that wild deer are valuable as an attraction to this, the Adirondacks. They are a feature. In proof of this we have a small herd of nine in a small park of five acres. Parties come ten to twenty miles from other hotels to see the deer. Now if the law is not soon changed all the deer to be seen will be those so held.

All the game protectors can do aids but little; they have too much territory to look after; no one finds fault with them; they are doing all they can.

Capt. Chauncy P. Williams, Albany, N. Y., (Proprietor of Jerseyfield Preserve, Hamilton County.)—Make hounding *at any time* illegal; it is the only way to preserve the deer in the Adirondacks. The entire prevention of deer hunting for two years at least, would have an advantageous effect.

Unless some change is made in the law, the deer in the Adirondacks will soon go the way of the Indian and buffalo.

Mr. Alonzo Wood, Old Forge, Herkimer Co., N. Y., (Fulton Chain Guide.)—The best change that could be made in the law would be to prohibit the killing of any deer until September 1st. Allow one month's hounding as at present. Stop all floating with jack, and make the season fifteen days later.

Mr. George Norton, Chase's Lake, Lewis Co., N. Y., (Guide and Hotel-keeper at Stony Pond.)—Deer should be better protected during the months of January, February and March. All through the Adirondack forests but very few deer will die from starvation or hard winters, if allowed to remain in their yards unmolested by "crusters." Nature has provided sufficient food and a heavy coat adapted to their wants. The old reports of deer dying from cold and hunger is all bosh. Put men into the forest that will look after them during the months mentioned, and look after the lumber camps and "crusters," and the deer will increase in numbers. It is not what are killed during the open season, but in the winter season. Teach men to obey the law as it now exists, and it will be good enough for all the sports.

In my section there are scores of streams and ponds that are well inhabited by deer. Along the Independence River deer hounding is carried on quite extensively, and this is one reason for the large number being killed there during the hounding season.

But we take into consideration that all along these streams there are thousands of acres of forest land where hounding is not carried on to any extent, and where the deer breed and rear their young unmolested by any one. My idea is that if deer are all killed off in certain districts during the open season, they will close in from more remote places, providing it is natural deer ground.

I do not believe in stopping either hounding or floating altogether, simply for this reason: the true and legitimate sporting man that takes his vacation annually from the cities and towns will have no chance to kill a deer himself, while the lumberman and pot hunter will always get his share of all kinds of game, regardless of law or anyone. Then why should we fix the law so that the better class of men cannot kill one. Then, again, the continual fighting over the game law causes wealthy people to buy up whole townships and put them into private parks, thereby shutting up our forest completely from the public. The lumberman or pot hunter thinks that every change made in the law is done by the wealthy people; and naturally they resist the change and keep up a continual slaughter at all seasons of the year.

Dr. E. A. Carpenter, Cambridge, Mass., (Manager of the Vilas Game and Fish Preserve, St. Lawrence and Franklin Counties, N. Y.)—In discussing the question of

the best methods of hunting, preserving the deer, and the laws that should be made to govern the same, each one seems to argue from his standpoint alone ; and, therefore, the confusion of opinions from men whose experience should give their views great weight.

The hotel men and professional guides advocate hounding ; for the average city hunter insists on dogs as furnishing the most comfortable and exciting hunting. The local hunter prefers to "float," or hunt with the "jacks," as this can be done alone or with a single companion, and does not require an expert shot. The rifle expert, thoroughbred hunter, and one to whom time is no object, advocates the "still hunt."

Each strives to have the laws made to favor his views and preferences, giving no thought of the needs and rights of the others. They make exaggerated statements of the evils of all other methods but their own, and claim that the other vicious ways are surely exterminating the deer.

The laws should consider the rights of *all* these classes. The man with a ten-day vacation, and the one who can spend three months ; the man who lives in New York City, and the frontiersman ; the man who can only hope to kill his deer with a shotgun at fifty yards, and the one who can clip the head of a partridge at one hundred yards with a rifle.

The "great slaughter" of deer that each class insists that the others are guilty of is a *humbug*, and can be seen only by looking from their hill of self-interest. Many deer are killed by hounding and two-thirds of the deer killed are shot during that season ; but hounding is generally done with parties of two to five guns, and the number of deer slain *per gun* will not exceed that by the other methods.

It is easier to kill a deer "jacking," but it must be a moonless night. If on a lake, the wind must not be too high ; the direction of the wind will cut down the field one-half frequently ; the wind and rain will prevent hearing the deer on shore and in the water ; unfavorable weather will prevent the deer from coming to water ; obstructions in the water, sand bars, lily pads, etc., interfere with the stillness of the progress of the boat ; and finally your paddler must be strong and expert. Nothing requires so many favorable conditions to make the hunt a success, as "jacking." Seldom will more than five days in thirty be found favorable.

If each of the three methods mentioned were analyzed we would find that each had its advantages and drawbacks: each method suits, and is necessary to, a large class of persons who have an equal right to enjoy hunting.

Coming to the study of the question without any previous experience or prejudice, and having but one object, the preservation and increase of deer on our preserve, I have carefully watched and studied the effect of the several methods, discussed the matter with hunters and guides, and decided several years ago that, as the preserve had

now become accessible through the opening up of the country, five years of hounding would destroy the abundance of game and reduce it to the condition of the outlying country. The deer would be made wild and be driven to more remote and sheltering districts. This has been the effect on the neighboring townships that six years ago were as well stocked as our own; but to-day are covered with hounds in the season, and will now bear no comparison with our own.

I do not think that in hounding there are more deer killed *per gun*; but the deer are driven away from the richest and most accessible feeding grounds into conditions unfavorable for their feeding, and therefore for their increase and even for their preservation.

To speak of either method as cowardly assassination, butchery, unsportsmanlike, etc., is absurd. In each case you "lay in wait," "sneak up to," "take unawares," and wound and kill, if you can. All hunting is cruel; and if any is more so than another, certainly the long and terrible chase by the hounds is so.

The lumber camps on Township 12, Riversdale, have every season made use of venison for table meat. For the past two years the principals, S. L. Clark & Co., of Parishville, N. Y., have tried to stop it. They have agreed to discharge any man with a gun or dog. Yet they do hunt.

Mr. James McCormic, Lewey Lake, Hamilton County, N. Y., (Hotel Proprietor and Guide.)—The deer are increasing in this particular locality. The reason that less deer were killed by hounding last fall, I attribute to the fact that the deer did not take to water as usual during the fore part of the time allowed for hunting. So far as I am informed this holds true in other localities in this part of the Adirondacks. I am of the opinion that no change in the game laws would be of any benefit to the deer in this section. The law as it now stands appears to give general satisfaction, and is quite well observed. I might personally wish some changes; but these, perhaps, would not meet the minds of all. So, I say, let well enough alone.

Mr. James M. Wardner, Rainbow Lake, Franklin County, N. Y., (Old Resident, Hotel Proprietor, and formerly a Guide, Hunter and Trapper.)—I am in favor of a law prohibiting hounding altogether.

Mr. Charles Fenton, Number Four, Lewis County, N. Y., (Pioneer Settler, and Hotel Proprietor.)—For the past two years previous to this a great slaughter of deer was committed on Township No. 4. In the fall of 1893 fully three hundred deer were taken out from this immediate vicinity, within a radius of four miles from my house. In the fall of 1894 about two hundred were killed, which was about all there was.

Failing to obtain a law from the last Legislature for the better protection of deer, and threatened with their extermination in this section, I was forced to secure the

control of all of Township No. 4, and 5,000 acres on Township No. 3, Brown's Tract. I completed the posting of my trespass notices just before the open season for hounding, and by employing three competent detectives, or game keepers, I was able to prevent any deer being killed by hounding. By so doing I think that I saved full two hundred deer which would have been killed had hunting with dogs been permitted; but it cost me two dollars per head to do it. I am satisfied, however, with the result.

Hunting deer with dogs may do for those that have preserves which they control. Neither would it be so objectionable if sportsmen would only be satisfied with killing the legal number. But hundreds from all around the borders of the wilderness take advantage of this easy and sure method of hunting, who care nothing about protection, but go in to hunt for what profit there is in it. I have known one person that took out thirty deer during one hounding season. Two years ago eighteen deer were killed in one day by driving them to the water in the two lakes near my house. So long as hounding deer is permitted by law, hundreds of deer dogs will be kept all around the borders of the wilderness. These dogs get into the woods on the crust and kill deer.

Mr. Myron Bruce, Blue Ridge, Essex County, N. Y., (Postmaster).—I think it would be better if deer were not hounded until October 1st, and not longer than November 1st.

Hon. George A. Stevens, Lake Placid, Essex County, N. Y., (Hotel Proprietor and Expert Hunter).—The best way of preserving the deer of the Adirondacks will be by *prohibiting* "jacking," and making the hounding season as short as possible.

Ten days of hounding is as long as the dogs ought to be allowed to run.

Of all the States of the Union, New York, with its magnificent forest, is the farthest from protecting its game. I am speaking of deer, for all the other game is well enough protected. Soon, in the localities where deer can now be found, they will be hard to find; for, at the hounding season, every brook and pond where deer run to escape the hounds, is manned with hunters whose only object is "to kill a deer." Buckshot, slugs and all kinds of missiles are fired at the innocent, harmless creatures, often wounding them only, and allowing them to escape into the forest, where they suffer and die from their wounds.

The "Hotel-keepers' Association" and "Adirondack Guides' Association" have committees to look after the game laws; and any law inimical to their interest will be fought to a finish. The above-named associations are after the hunter-guests. It is money for them. Unless more restriction is placed—unless the hounding season is shortened and jacking prohibited—we will soon be without any game in the Adirondacks. In this territory there are very few now. A few years ago there was a plenty, but the hounds have driven them out.

Mr. H. H. Cockey, Big Moose, Herkimer County, N. Y., (Guide and Hotel Keeper at Big Moose Lake.)—My report on the number of deer killed in 1895 is furnished from memory and may not be absolutely correct. However, the number given as killed is less, not more, than were actually killed.

I think if our deer are to be kept up to their present standard and numbers, both dogging and floating must be prohibited.

I happen to have on hand a memorandum of the season's killing for 1893, on Big Moose alone, showing number of shots made, number of deer wounded, and number of deer killed, with the name of each man doing the shooting. I will omit the names, but give their initials.

Initials.	No of Shots.	No. of Wounded.	No. Killed.
W	2	2	0
A	4	2	1
G	2	1	1
D	4	2	1
B	2	1	1
B	4	2	1
S	5	2	1
T	8	5	3
W	8	3	2
B	7	3	0
R	4	3	0
S	3	1	2
E	14	4	1
T	19	7	2
B	4	3	1
M	9	6	2
B	6	2	4
N	5	2	2
H	11	6	3
C	1	1	0
D	17	11	2
W	3	2	0
B	12	5	2
M	5	2	1
T	3	2	1
O	4	2	1
G	4	3	1
S	7	2	1
K	6	2	2
H	7	4	3
B	7	5	2
G	4	3	1
E	11	5	2
M	7	3	2
Total	219	109	49

Those marked wounded all left blood, but couldn't be found, as they were shot while floating.

Mr. Christopher J. Goodsell, Old Forge, Herkimer County, N. Y., (Fulton Chain Guide.)—Make the game laws for the poor as well as the rich. I hope that we may be allowed to hound deer for at least one month, so as to give every man the same chance as the still-hunter. The season ought to open September 1st and close November 1st. Protect does for three years, and make it one hundred dollars fine for any doe killed. This would protect the old guides, who drive does out of the water; also all good and true sportsmen, who will not kill a doe. But with the present law it is but little use for a guide to try to save the deer for some pot-hunter to slaughter, or amateur guides, with which the Adirondacks are flooded. They don't care what they do, and the guides of the Adirondacks are imposed on by that class. If the game is destroyed by them, the old guides have to take the blame; so all of the old guides hope that there will be a law to protect the game, and if we protect the does it will keep the deer.

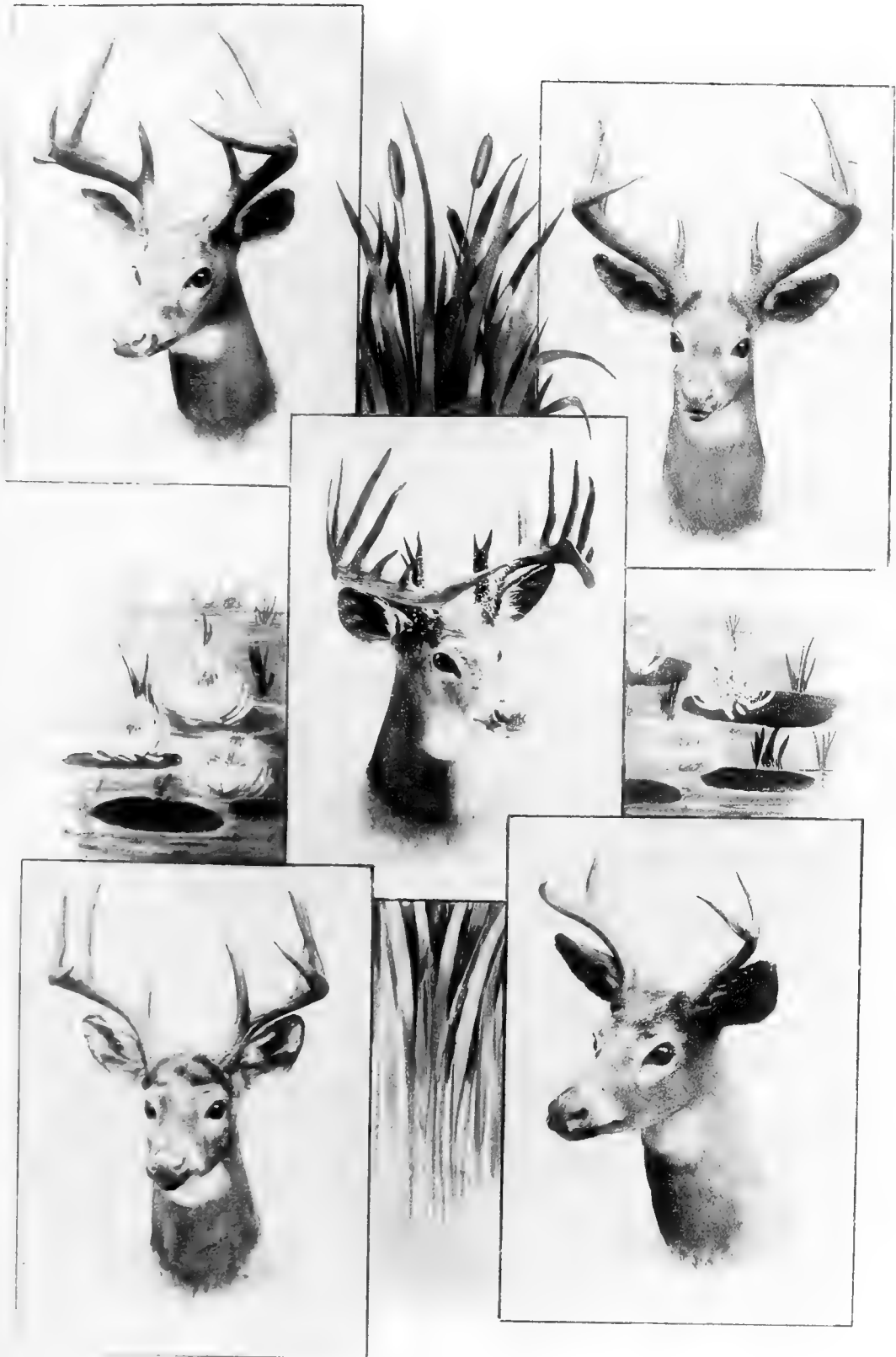
Abolish floating entirely, for there is no sportsman who loves to hunt that wants to float and kill an old doe or a fawn.

Mr. Franklin Brandreth, Sing Sing, N. Y., (Proprietor of the Brandreth Preserve, Hamilton County.)—The deer law as it now stands is a good one, and could not be much improved. It is not the deer killed in season that causes a scarcity. In my opinion, crust-hunting and hard winters hurt them more than anything else. Lumber camps undoubtedly destroy numbers every winter.

If the law could be enforced, and the deer only killed in season, I am confident they would hold their own. Give an Adirondack deer a show and he will take care of himself.

Mr. Scudder Todd, Lyons Falls, Lewis County, N. Y., (Woodsman and Forest Land Surveyor.)—The hunting season for killing deer should be limited to at least one-half the time now allowed by law; or, prohibit the killing of deer for at least five years. If the killing of deer goes on as it has this last year there will not be any deer left after the next five years.

Mr. Walter C. Witherbee, Port Henry, Essex County, N. Y.—There is very little hunting done in the town of Moriah proper; the deer are mostly driven there during the hounding season, and being unmolested stay a day or more before starting back. All around this town there are many deer. Never has there been such a relentless slaughter and large number of hunters as this past fall. During the hounding season, I think it a very conservative estimate to say that there have been from here to the Boreas River, and within one mile of the main highway, an average of at least sixty people hunting daily. To my personal knowledge there have been 119 deer killed within the hunting season, in the Schroon River and Boreas River region alone, the majority of these deer



TYPICAL DEVELOPMENT OF ANTLERS.

From the collection of Major R. L. Banks, Jr.

being does. How many have been killed in those regions that I do not know of personally, I don't know; should say it would easily bring the number up to over two hundred.

The season is too early for hounding or killing, and the hunting season is too long.

No does should be killed at any time. The deer, except from clubs protecting does and the better protection given by protectors, would soon give out, and, if hunted as they have been this past fall will, any way, very soon. If I had the say, no deer would be killed before October 1st; and then not hounded over ten days, nor killed after November 1st.

Mr. W. H. Boardman, 32 Park Place, New York, (Secretary Adirondack League Club.)—The Adirondack League Club has never allowed floating. We believe it should be prohibited by the State law.

I would suggest for consideration either one or both of the following amendments:

Amend Article III., Section 46, so as to read as follows :

Sec. 46. *Transportation.* Deer or venison killed in this State shall not be transported to any point within the State from or through any of the counties thereof, or possessed for that purpose. The possession of deer or venison by common carriers is a violation of this section. This section does not apply to the head and feet or skin of deer severed from the body.

Add a new section in Article III. as follows:

Sec. —. *Water Killing.* It shall be unlawful to kill or attempt to kill any deer swimming in the water of any lake or pond; or while hunting any deer, to use a boat in pursuing or heading it off while so swimming; or to use any jack-light or other artificial light in hunting or killing or attempting to kill any deer.

A large number of deer died in this locality last winter of disease. Fourteen were reported as dead or dying. None of those found by our game keepers had been wounded. The two found dying (one buck and one doe) had bad smelling breath and a wheezing sound in breathing. The game keeper thought the disease was similar to "black tongue" among sheep.

Mr. Monroe H. Bullock, Number Four, Lewis County, N. Y., (Manager of the Beaver River Club and formerly a Guide.)—The game law is all right as it is now. It gives all sportsmen a chance to have their own way of hunting. There are plenty of deer here, and always will be if we live up to the present game law. If people in other parts of the wilderness do the same there will be plenty of game everywhere.

Mr. Henry F. Down, Beaver, Herkimer Co., N. Y., (Railroad and Express Agent at Beaver River Station.)—It is the general opinion and desire of all the old hunters and guides that the deer should have better protection. They are unanimously in favor of abolishing hounding and jacking.

Mr. W. S. Brown, Keene Heights, Essex County, N. Y., (Superintendent of Adirondack Mountain Reserve Association.)—The most favored regions for deer in the town, and at the same time the best place for hunting them, are owned by the Adirondack Mountain Reserve. This Company protects the game and allows no hunting on some twenty-seven thousand acres of forest and mountainous lands, including two lakes and five miles of the Ausable River, and the deer are increasing in numbers thereon from year to year. This protection tends to increase the number of deer throughout the town, but they are more plentiful in and about the boundary of said reserve than elsewhere in the town. There is no better proof of this than that the hunters in this section, whenever out with dogs or on still-hunts, seek to start their game inside the protected locality lines. They hunt right up to the lines and frequently get over them.

Opinions on desirable changes in the present game law :

1. Prohibit the hunting of deer with dogs at any time throughout the State. If such a provision cannot be passed, then—

2. Make it necessary that every dog used in hunting deer be licensed with heavy penalty for violation, and leave time for hounding as it now is, September 10th to October 10th.

Make penalty for killing deer out of season one hundred and fifty dollars for each offence.

Prohibit the killing of deer in the night time.

Prohibit the killing of deer in the water.

Prohibit the killing of deer on Sunday.

Prohibit all hunting, trapping and fishing on Sunday.

As to the report of deer killed here, in the regions contiguous to the Adirondack Mountain Reserve, a great many were killed during the last hunting season. All hunters reported deer plenty. In the towns of Keene and North Hudson, at least one hundred were killed in the lawful time. The most of these were does. They averaged smaller in size than in previous years. At least eight out of ten were does. Some were killed by night-hunting, but most of them by hounding. More deer were killed this year than last year. Dogs have run out of season after deer, in these towns in 1895, both in the summer and fall.

Mr. A. H. Thomas, Warrensburgh, Warren Co., N. Y., (Secretary Moose Pond Club.)—In my opinion the law at present is good enough. We must have a law popular with the guides and inhabitants in the localities inhabited by game, in order to have their co-operation and assistance in enforcing the law. Otherwise, you would have to employ a dozen protectors for each town. A protector can catch a person unacquainted with the forest, but should the guides and woodsmen combine against the law, your deer are gone and no one detected. I have had twenty years' experience

in hunting deer, with dogs and still-hunting, and know of no place where the deer are not increasing rapidly. I do not believe in floating for deer, but think it will be impossible to pass a law prohibiting it. Enforce the present law, and deer will increase, even though floating is allowed.

Mr. Eugene Hathaway, Harrisville, Lewis Co., N. Y., (State Game Protector.)—It seems to be the general opinion about here that if hounding could be stopped the deer would increase. I would advise that hounding be stopped, say, for five years. We could tell by that time if any benefit was derived from it.

Mr. M. F. Cronin, Aiden Lair, Essex Co., N. Y., (Hotel Proprietor.)—The present law in regard to deer hunting is about right. If hounding is abolished the sportsman will be deprived of deer hunting almost entirely.

There is no doubt that the inhabitants of this country are doing what they can to protect the game, and by so doing they are deriving great benefits from the numerous sportsmen who visit this country. The deer have increased fully one-third within the past four years. It is a positive fact that out of every *five* deer started by *dogs* there is but *one* killed on an average.

If there are to be any changes made, I would advise an additional ten days to the hounding, and abolish night-hunting entirely.

Mr. Eugene S. Bruce, Axton, Franklin Co., N. Y., (Lumberman and Superintendent Ampersand Preserve.)—Townships Twenty-six and Twenty-seven are in the Ampersand Preserve of which I have charge, and we do not allow any does killed; in night-hunting, however, the hunter is more apt to get a doe than a buck. The sentiment in this locality, among the better class of sportsmen, is to prohibit hounding entirely.

But if hounding is to be allowed, the time should be changed to the month of October, as the present season commences too early. In August and September the does and young fawns are around the water, while the bucks as a rule are back on the mountains and do not usually come down until the month of October.

Personally I am in favor of prohibiting hounding entirely, and think an act to that effect would do more to preserve the deer in the Adirondacks than any other change in the law that could be made.

Mr. Frank Washburn, Lewcy Lake, Hamilton Co., N. Y., (Guide.)—The deer in this part of the Adirondacks are increasing largely. Through the section that I guide in there are more than double the number of deer that were there five years ago. At that time, in the same locality, a man would travel all day to start one or two dogs, where now it is no trouble to start as many as he can lead before noon. I think that this is proof enough that deer are increasing. Another proof is, if they were not more plentiful the hunters could not kill so many more than they used to.

The only change needed in the law would be to commence the open season the first of September and let it run until the first of November; and allow people to run hounds, or kill any way they can, during the time. I don't think hounding does any more harm than any other way of killing. If hounding were stopped it would be a great injury to this country, as well as the people who come here sporting; for there is no other way at that time of the year that many deer can be killed. There is no still-hunting during the open season, and even an expert hunter can kill but very few deer on bare ground. People who come here from the cities would get no deer if they could not hound them.

Mr. Charles H. Bennett, Raquette Lake, N. Y., (Hotel Proprietor, and formerly a Guide.)—Open and close the season, allowing everybody to kill a deer, in whatever manner he chooses. But I would not open the season until September 15th. This would do away with night-hunting. Deer are not fit to use before September 15th. The idea of dictating how a person shall kill a deer, once the season is open, seems to me, and always has, absurd. Open the season when the animals are fat, and let each man kill a deer in whatever manner he chooses, provided he does not use traps or salt-licks

Mr. Philip Studer, White Lake Corners, Oneida County, N. Y., (Postmaster.)—Jacking and hounding should by all means be prohibited.

Mr. Martin B. Hosley, Wells, Hamilton County, N. Y., (Lumberman.)—Unless the hounding is stopped, within five years there will not be a deer in this part of the Adirondacks. Fifty years ago there were lots of moose in this section, but in late years there has not been one here. The reason is they were killed when the snow was so deep that they could not get away; and they had just as good a chance of getting away in the deep snow as the deer have in the hounding season. I have known that for ten miles on the river* there was a man on every runway, and in many places two and three on a runway. The only chance the deer have of escaping is by the men not being able to shoot them. I know of twenty-seven (27) dogs being put after deer in one locality, where the deer would come in the river, within five miles. What chance has the deer got?

I am not a hunter, but would like to see the deer protected so that there will be a few left. It is safe to say that half of the deer killed this season spoiled before they were used up, as they were killed in such warm weather and after they had been run. In warm weather they will not last more than a day or so.

I think the law ought to be changed and the hounding stopped. During the month of November permit still-hunting. There ought to be no floating allowed; for the deer that are killed mostly by floating are does, and a good many of them have fawns, which die after the old deer are killed.

* Sacandaga River, Hamilton County.

A deer with one or two fawns is not good for anything to eat. Give the hunters the month of November. Then the bucks are running, and the deer that will be killed will be mostly bucks, which will give the animals a better chance to increase.

The present law is not right; for the law makes an open season from August the 15th to November 1st, with from September 10th to October 10th to hound in. Now this means that most of the hunters hound from August 15th, as you cannot do anything with a man for having venison in his possession; and the only way you can convict any one is for running dogs. But you cannot find a man to swear positively as to whose dog it was. It is just the same after the hounding stops. They hunt with dogs until they have no right to have deer in their possession any longer. You cannot convict any one, for the sentiment of the people is with the violators of the law.

Mr. George R. Finch, Glens Falls, N. Y., (Lumberman and Adirondack Land Owner.)—Stop the night-hunting. Don't open the season earlier than September 15th. Open later and keep it open later. Favor hounding. Keep the transportation law as it is. It is the best deer law we have had.

Mr. E. Z. Wright, Utica, N. Y., (Proprietor "G" Lake Preserve, Hamilton County.)—Not more than one-half the number of deer were seen about the lake—"G" Lake—this year that were seen last year. The deer have steadily decreased for the past five years. Four of the deer on this list were killed by owners of the preserve and guests. Two were killed by poachers.

In our opinion, the hounding of deer is most destructive, and must result in their total extinction within a few years. There are so many hunters that every lake is watched, and the runways leading to the lakes, so that the deer have little chance to escape.

It is the general belief that large numbers of deer are killed by lumbermen, and taken to the lumber camps in Herkimer and Hamilton counties during the winter season. I have no personal knowledge of this, but the belief is so general among all classes living near the borders of the wilderness that I mention it here.

Mr. Wm. F. Ingold, Massawepie, St. Lawrence County, N. Y., (Manager Childwold Park.)—The deer are decreasing in the Adirondacks. The season opens too early. Should not open until September first of each year.

I have talked with a number of guides on this subject, and they are of this opinion, when speaking disinterestedly, that there should be a better plan devised for apprehending and prosecuting persons killing deer out of season.

Mr. Johnson J. Sevey, Sevey Post Office, St. Lawrence County, N. Y., (Guide.)—Have lived in the Adirondacks for the last thirty years, and would say, as far as my experience goes, that hounding and floating, or night-hunting, should be abolished.

Many deer are wounded in night-hunting that are never captured. They are wounded badly, and in nine cases out of ten they die and are never found. In still-hunting, or stalking, the deer has an equal chance with the sport, and in most every case the hunter can tell whether the deer is a buck or a doe.

I am confident that if hounding and jack or night-hunting were prohibited, deer in the Adirondacks would increase. I am confident that there were more deer killed out of season this year by jack-hunting than in still-hunting, in this locality.

Hounding should be prohibited. Jack-hunting should be prohibited. Give the deer an equal chance, and I will guarantee they will increase.

Mr. W. P. Merrill, Merrill, Clinton County, N. Y. (Hotel Proprietor at Chateaugay Lake.)—Deer will not increase much in this locality under the present law. Hounding should be entirely prohibited, and about four months of still hunting allowed—say, in August, September, October and November. Deer would soon be very plentiful if the hounds were kept from them.

I wish to say a few words in regard to the trout law. Wade-fishing in streams, or fishing from the banks of streams that are not navigable for small boats should be prohibited. The wade-fisherman is striking the death blow to our trout fishing, and it certainly is a great shame. The birthplace and home of the speckled trout, until they are four or five inches long, is in the swift water; and as they grow larger they move into deeper water. Therefore, if they were unmolested in the swift waters of the brooks and rivers they would, after growing to the proper size, move into deeper waters navigable for small boats, where the sportsmen would have good fly fishing with a constant supply of uneducated trout from the swift waters. A law of this kind rigidly enforced would soon do away with the necessity of stocking lakes and streams with brook trout from hatcheries. This is my opinion after twenty-five years of life among the deer and trout.

Mr. L. M. Lester, Owl's Head, Franklin County, N. Y. (Postmaster.)—It would be a good idea to do away with hunting for five years if you want any deer in this locality.

Mr. Clarence A. McArthur, Paul Smith's Post Office, Franklin County, N. Y. (Lumberman and Hotelkeeper.)—I think there are two deer here now where there was one ten years ago. The feed for them in this locality is unsurpassed. It is the most natural park for deer in the Adirondacks. There are thousands of acres of land that have been burned over, and are now growing up to pine, white birch and poplar, with grass and ferns, also. If the present laws are observed, deer will increase as long as nature exists. The most of the does killed here seemed, for some cause unknown, to be barren. Some seem to think it was from lack of bucks. Deer ought not to be hunted before September 1st, on account of fawns. Many object to hounding, because they

think it brutal to kill deer in the water, after being driven in by dogs. As a remedy I would suggest twenty days more hounding, and prohibit the killing of deer in the water. Allow them to be killed on runways, or when they go out of the water, like the Michigan law. Sportsmen would like it full as well, and would not kill half the deer. I know by experience that hounding does not destroy or drive away as many deer as people suppose. In this vicinity, and from my house, from one to three men were starting from two to four dogs on each one of the thirty days of the open season, and had no trouble at all in starting. I was out four or five days after the close of hounding, and raised five deer in less than half a mile of the house, on ground we had apparently been over every day.

Mr. E. L. Marks, Old Forge, Herkimer County, N. Y. (Superintendent Fulton Chain Hatchery).—The deer are growing less, and if some measure is not taken to protect them they will soon be a thing of the past. I think hounding should be abolished. A deer driven by dogs has little chance to escape. Every runway and watch point is covered and some of them by from one to four persons or hunters. After the deer season closes there are always more or less dogs running loose. Where there has been one dog chained up there have been six running at large. On every one of our rivers at this time of year it is not safe to travel on the ice, and a deer driven to any river after December 1st is quite sure to lose its life. We find more or less dead deer floating every spring in the river, and the cause therefor is that dogs are allowed to run at large and drive the deer to the river where they break through the ice and there they stay.

Our special game protector located at the Eighth Lake killed five dogs a few days since running deer. I claim this is the best piece of work that has been done here by any protector in a long time.

Mr. D. W. Riddle, Saranac Inn, Franklin County, N. Y. (Manager Upper Saranac Association).—In my opinion the present law is good enough, but it is not well enough enforced in this vicinity against the few persons who undertake to violate it. The residents of this vicinity, as a rule, are in favor of and do respect the game laws.

Mr. Henry L. Smith, Albany, N. Y. (Proprietor of a Forest Preserve in St. Lawrence County).—I would favor a law prohibiting the hounding or killing of any deer by aid of the dog; also, the killing of any deer on the water at night by aid of a "jack" or artificial light; also, an appropriation by the State of a sum of money sufficient to employ good, honorable men, and pay them to guard and protect the deer. I have had more than thirty-five years' experience in this great and grand wilderness in the Adirondacks, and urge that it be preserved and the deer protected.

Mr. Darwin J. Day, Brandon, Franklin County, N. Y. (Superintendent of the Santa Clara Preserve.)—I think we have got full as many deer in our locality this fall as we ever had. I know one thing, we have got plenty at present; and I don't think that hounding will ever kill off our deer, provided we get only thirty days of hounding. But I think that the night-hunting would be better for the sportsmen, if they only could have the month of August to kill deer in, and then put a stop to the night-hunting or killing any until hounding begun. Give them the month of October for hounding. The way it is now they let lots of deer spoil in hounding in September, because it is not cold enough to keep the meat. Venison got with dogs in latter part of September will not keep as well because the deer cannot stand it to run very long. The meat spoils before they can use it up.

Mr. P. H. Curran, Jerden Falls, Lewis County, N. Y. (Postmaster.)—I think the number of deer in the Adirondacks is far less than four or five years ago, and if hounding is allowed it will not be long before there will be none. It is wrong to extend or allow ten to fifteen days after the hounding season is past for parties to get out their venison. I am satisfied that there are many deer killed during that time, and in many instances hounding is continued and deer slaughtered. Then I think there is quite a percentage of the deer run by dogs that die from exhaustion, though they may not have been caught by the dogs. Have heard of several cases where they have been found dead, and the only plausible theory was that they had been run to death.

Mr. A. R. Fuller, Meacham Lake, Franklin County, N. Y. (Hotel Proprietor and Town Supervisor.)—In my opinion we should kill no does, and not begin to hunt in any way before September 1st. Stop floating or night-hunting. I have taken advantage of the private park act, and posted my lands as the law directs. If some general law is not passed I shall try to enforce the above suggestions on my own lands. For years our guests have generally respected my wishes, as expressed above. Last season fully 40 does could have been killed; but were let go. I think Colonel Fox the Superintendent of Forests can give you some information in regard to hunting at Meacham.

Mr. Arvin Hutchins, Indian Lake, Hamilton County, N. Y. (Guide and Proprietor of a Hunting Lodge on the "Chain Lakes.")—I am forty-five years of age, and have lived in this town forty-four years. I can safely say that the deer are more plenty than they were thirty years ago, and are increasing fast.

If there was a law to make it a fine to offer fish or venison for sale, I think that would be all the additional law that would be necessary. There are some men that will kill as long as they can sell at any price.

Mr. Edward H. Talbot, Hinckley, Herkimer County, N. Y. (Foreman Trenton Falls Lumber Co.)—I have heard of many deer being found dead in the woods, the result of

floating, nights. I know from personal knowledge that the deer in the locality of the West Canada Creek are fast decreasing, no matter what any hunters or sportsmen may say.

Mr. Frank A. Cutting, Boston, Mass. (Proprietor of the Cutting Preserve, St. Lawrence County, N. Y.)—It would be desirable to have a law passed prohibiting hounding altogether. I am well acquainted with several gentlemen that go to Maine every year; and since the law was passed there prohibiting hounding, the number of deer has steadily increased every year, notwithstanding the large quantities that are killed every year by sportsmen. It is no unusual thing to see them in droves, and the specimens that come from Maine are nearly all large deer. Very few young deer are killed there.

The season for hunting in Maine is from October 1st to January 1st; and all hunters are able to save every pound of venison that they are able to get, and none is wasted; whereas, the season commences August 15th in New York State, and if a sportsman kills a deer back in the woods during the first part of his stay in camp, he is able to utilize only the choice portions of his deer, for it is so warm that it will not keep to take home with him. Very few are able to take anything home with them, and on account of the venison spoiling so quickly a good deal is wasted. As soon as the weather gets cool and the leaves have become wet with light snows or rains, the season is over; when the time for still-hunting commences the close season sets in, and the hunters must return home. It seems to me that it would be wise, if possible, to have the open season commence September 1st and close December 1st.

I have during the past four or five years come in contact with men employed in lumber camps; also with cooks employed in lumber camps, and I am satisfied that in nearly all camps in the Adirondacks large quantities of deer are killed by the lumbermen, and consumed by their employees. When lumbermen commence chopping in the fall, the deer flock into their roads and enter the timber that the men have felled to get at the tree tops for food. There is also more or less scattered hay and oats, which make fine feed for them, and it is an easy matter for lumbermen to kill as many deer as they like. In fact, in some camps a hunter is kept (who pretends, of course, to be a wood chopper), and his main business is to keep the camp supplied with venison. He kills his deer, takes off the hide and buries it in the snow until he has an opportunity to utilize it; and buries the deer, also, in the snow. He can then go to it from time to time and take back to camp a quarter of venison; and when this is stewed the other laborers in camp do not know that they are getting venison as a steady diet. Would it not be advisable for the State to appoint a larger number of game wardens and supply them with snow shoes, so that they could go from one camp to another wherever they thought illegal killing of deer was going on, and catch these hunters breaking the law?

On all the game preserves there is no doubt but that the deer are getting a fair chance and are being well protected. The cutting of the old growth of forest is allowing the young growth to start up, which makes feed for deer, and with proper protection there can be in five years an unlimited quantity of deer in the Adirondacks for sportsmen. The total Adirondack area is able to sustain a sufficient number of deer to supply all the hunters and sportsmen that will go there.

Moose and caribou are increasing very fast in the State of Maine at the present time. Would it not be a good policy to import a quantity into the Adirondacks and so stock that forest?

Mr. Julius Burres, New Russia, Essex County, N. Y.—If there is any change in the law the hounding ought to be a little later in the season, as now the does stay in the edge of the forest. If it were later there would be more bucks killed. It would be better to stop hounding for five years at least; then the deer would have a chance to increase instead of decreasing as now.

If it were not for the Adirondack Mountain Reserve, where deer are not killed at all, there would be scarcely any deer in these parts.

Mr. James Weeks, 18 Wall Street, New York (President Adirondack Preserve Club.)—The Adirondack Club controls about 100,000 acres in Essex county. The number of deer killed there annually is small as compared with the acreage. Our membership is small, and the laws of the State are rigidly adhered to. The number of deer on the tract has increased enormously in the last twenty years. In the spring, when members are at the club for fishing, numbers of deer are seen both on the roads and around the clearings, lakes and ponds. The writer has been familiar with the territory for over forty years, and can safely say the deer are much more plentiful than they were back in the fifties. Have no suggestion to make as to the game laws. If the laws as they stand are lived up to, there will be no trouble about deer.

Mr. H. L. Ives, Potsdam, St. Lawrence County, N. Y. (President Raquette Club.)—My experience covering more than forty years in the Adirondacks, is that dead deer are liable to be found in the spring in the vicinity of where hounding has been done the fall before. This no doubt is a new idea to many; but a correct one, nevertheless. Deer that have been run by hounds and not killed by the hunter are in a poor condition to stand the winter, and in many cases they will die before spring. The same is true of sheep. If dogs chase a flock of sheep late in the fall, in most cases half the flock will die before spring. In the vicinity of the Raquette Club's grounds every lumber camp we have ever had near us has slaughtered our deer badly, and the only thing that has saved them from total annihilation is the fact that the log choppers remain only one winter in the same vicinity. When the logs are all cut the loggers are gone, and that has saved our deer.

The writer is not inclined to be a kicker, or to find fault with the Commission. We have no doubt they aim to do the best that can be done under the circumstances; but this circular asks for my opinion, and if I give it at all I must give it from facts based on my own experience. If the Commission would appoint a sufficient number of good game protectors whose duty should be to locate in different sections of the Adirondacks, each one to dress in uniform and each to look after a certain prescribed section of the country three hundred and sixty-five days in the year, give them a good salary, and in every case where they neglect to attend to their duty cut their heads off without delay, then the game would be preserved. No business man can deny the fact that if he owned the grounds as an individual he would take the above course to preserve the game.

Mr. David G. Helms, Long Lake, Hamilton County, N. Y. (State Forester and Game Protector.)—There is no question about the deer in this territory being on the increase. I am traveling in the woods nearly every day, and have a good chance to know something about the deer, as I have always been interested in their protection. There has been the least illegal hunting this fall that I have ever known.

Mr. William Harris, Hope Centre, Hamilton County, N. Y. (Lumberman and Owner of Forest Lands.)—If the law is lived up to, and no deer killed out of season, we will have plenty of deer in this locality. The worst feature in the present law is night-hunting. The hunters leave a great many wounded deer that crawl off in the brush and die; and they can't find them in the dark. I knew several such cases years ago, when I had men working for me around lakes.

Mr. Charles H. Wood, North Elba, Essex County, N. Y. (Guide and Hunter.)—It seems to be the general opinion that if the hounding season was shortened it would be better.

Mr. J. H. Kirby, Brainardsville, N. Y. (Hotel Proprietor on Lower Chateaugay Lake.)—The question of deer hunting and the law regulating the same is a very interesting one to me. I live during the summer by the side of the Lower Chateaugay Lake, one of the most beautiful bodies of water in the Adirondacks. I was born within two miles of this spot and have lived here fifty years.

From my earliest recollection this has been a famous hunting ground, especially for deer. In my boyhood there was only one or two summer hotels on the lakes and the outside visitors were few, but those who did come were treated to venison and trout from June till December. Few hounds were known. The favorite way of getting deer was by still-hunting; and there were but few men skillful enough to get a deer. Within a few years all this has changed. Dozens of hounds are now owned within a few miles of the lake, and from the first day of the hounding season till the last, the

shores of the lake are literally alive with men watching for deer. Ten years ago there were several points in the woods where the dogs could be put out with a very reasonable chance of starting a deer. Now, I know of but one. In this secluded spot they yard in the winter, and here the hunter finds them in the fall. The hounding of them at the present time is simply barbarous. No regard is paid to *feeling*. I saw one brought to my landing that had been run for six hours through a farming section that had its *intestines* brought to view in several places by jumping barbed wire fences. Another was caught while hanging on such a fence. Another was found dead after the season was over, apparently killed in that way. No attention is paid to the *Sabbath*, but the barking of hounds and shooting by hunters all around the lake and through the woods are heard everywhere. A man too unskillful and lazy to get a deer by still-hunting, can, with a boat, watch a runway and with a club kill the deer. Is this sport? And yet dozens are so killed every year.

That deer are decreasing very fast in this locality * is well known, and only a few years more hounding will make them extinct. The men who hunt, nearly all say this, and to my personal knowledge would vote to stop it; but as long as the law permits they will follow. *I would prohibit hounding entirely for a term of years.* No one thing would draw as many sportsmen to the woods and keep them; for by this action we would have more good hunting.

Mr. Frank Pierce, Stratford, N. Y. (Supervisor Town of Stratford, Fulton County.)—The present deer law is all right, if enforced during the crusting season. I believe that special protectors employed for six weeks in winter would reduce illegal killing ninety per cent.

Mr. D. E. Farrington, Indian Lake, Hamilton County, N. Y. (Guide and Proprietor of a Hunter's Lodge.)—In regard to hounding deer I think we ought to have a longer season for hounding. My opinion, like that of most of the guides, is that we should be allowed twenty days more hounding under the law; then there will be less violations, or less dogs.

Mr. Charles H. Palmer, Elizabethtown, Essex County, N. Y.—The hounding season should be changed. It is very essential that hounding should be allowed here; but the date fixed by law, as it now stands, is too early to commence hounding. I would recommend that the hounding season be changed so as to commence September 20th and end October 20th or November 1st. If this is done, less deer will be slaughtered;

* In publishing Mr. Kirby's interesting and valuable opinion, it may be well to explain that the locality which he refers to is situated on the northern edge of the Great Forest; and that the gradual disappearance of the deer in his vicinity may be due to the steady encroachment of agricultural operations and consequent disappearance of the forests.

for the reason that a less number will be engaged in the sport, by reason of cold weather. The percentage of bucks killed after October 1st throughout the Adirondacks would be far greater than does, and consequently must increase the number of deer.

Mr. William S. DeCamp, 35 Mount Morris Avenue, New York (Proprietor DeCamp Preserve, Fulton Chain.)—Deer which were found dead were all fawns, and my opinion is that if the does are killed in August, about eight out of ten of the fawns die in the winter.

Mr. Hal. D. Stevens, Malone, Franklin County, N. Y. (Newspaper Editor and Proprietor.)—I think from personal experience the past two years that hounding means the extermination of the deer; and if it cannot be generally prohibited, we, in Franklin county, want the county exempted from the law permitting it, as St. Lawrence is exempted. The deer are actually disappearing from the northern portions of the woods. At Mountain View, not ten years ago the best hunting ground near Malone, they have been almost exterminated by the big hunting parties in the hounding season. I have always favored hounding until now. I have become convinced that it allows no deer to hide from the destructive weapon of the sportsman. The killing of does should be prohibited at all times in order to absolutely insure the preservation of the species in the Adirondacks. That will also preserve the young bucks whose horns are not long enough to be seen at a distance. A man should look before he shoots; and such a provision would compel it. It would thus save the lives of some persons who are accidentally shot while still-hunting. Our Board of Supervisors has adopted a resolution requesting our Senator and Assemblyman to make earnest endeavor to so amend the game law as to prohibit hounding and night-hunting for five years, and to prohibit the killing of does altogether, at least so far as Franklin county is concerned. Early hounding is exterminating the does which alone will take water at the beginning of the season, and we shall soon have nothing left but hardwood groves inhabited by squirrels and partridges, and lakes and streams inhabited by bullheads and suckers. It is rapidly approaching this condition now at nearly all points within twenty miles south of Malone, where ten years ago could be had good deer hunting and trout fishing. The sale of trout in the Adirondacks to the hotels should be prohibited.

Mr. Robert Bibby, Minerva, Essex County, N. Y. (Superintendent Adirondack Preserve Association.)—Deer are very plentiful on and around the club property. Night-hunting is not allowed on the preserve. The club is in favor of stopping the hounding; but it is few deer they will get without dogs.

I think the deer law is quite good enough. If I were to suggest any change, I would make the still-hunting longer and later.

Mr. R. G. Low, Mountain View, Franklin County, N. Y. (Hotel Proprietor.)—I think hounding should be prohibited entirely in Franklin county, and a law passed that there should be no deer killed in five years. When I first came to this place fourteen years ago, from fifteen to twenty deer were killed night-hunting that season. It is a very rare thing for a deer to come to the water now. From sixty to seventy deer were killed every fall hounding. This fall only twenty-eight were killed hounding, and if hounding is kept up, I do not think there will be a deer left in this locality in five years more.

Mr. George C. Lewis, Potsdam, St. Lawrence County, N. Y. (Secretary of the Granshue Club.)—This club has since its organization made every effort to protect its deer. We know that the private game preserves have been about the only friends the deer have had for several seasons past, and the only protection they have had the past season.

Anyone who wanted to kill a deer at any season, or in any way, has done so without any fear of the law; and it is the opinion of this club that unless the law is enforced that a very few years will exterminate the deer in the Adirondacks. Our club was informed last March that hunters were on our grounds slaughtering deer. We sent our game keeper to look after it, and found that several had been killed when so poor that they were entirely useless to anyone. The law is all right, but it is not looked after. We believe the State should appoint all keepers of private game preserves, special game protectors without pay, giving them the fines collected through them. In our section the deer-licks have been the means of killing more deer than any other means by far. The woods are full of them on preserves as well as public lands. Our club has destroyed many such licks the past two seasons.

Mr. William H. Burnett, Lake George, N. Y. (Special Game Constable.)—I think that all dogs which hunt or chase wild deer should be chained up, or enclosed in a yard during the close season.

Mr. John H. Miller, Saranac Lake, Franklin County, N. Y. (Secretary Adirondack Guides' Association.)—I believe it would be better, on the whole, to discontinue the hounding of deer for at least five years, and to prohibit hunting and shooting them by a "jack light."

I am Secretary of the Adirondack Guides' Association, and have acted in such capacity for five years. During that time, and also during the past eighteen years in which I have been a guide in the Adirondack forests, I have become acquainted with the views of almost all the prominent guides. Our association numbers 236 of them, and with a few exceptions, the majority of them are of my opinion on this subject. This was not the case until within a year or two, however.



BURR OF DEER'S ANTLER SHED IN THE WOODS.

I would be very glad, myself, to have the open season begin August 1st, and close October 20th, and prohibit the killing of does.

Mr. John Cummings, Jr., Utica, N. Y. (Secretary of the Maple Lake Club.)—Maple Lake is not far enough in the woods for good deer shooting. No deer were killed by members of the club. The natives hunt them during the season by hounding, and shoot them on runways leading to the Black River.

Mr. W. J. Alford, St. Regis Falls, Franklin County, N. Y.—There were more deer killed out of season the past year in this section than ever before. I attribute this largely to the lack of protection, this section of country being left almost entirely to the mercy of the people who do this kind of hunting.

There are more deer killed with dogs than by all other methods combined, and until this method of hunting is stopped the deer will continue to decrease.

I have control of over thirty thousand acres of this wild country, and I use dogs; but I can see plainly that if this kind of hunting is allowed for two or three years more that we will be hunting foxes instead of deer.

Mr. Charles M. Barrett, Old Forge, Herkimer County, N. Y. (Hotel Proprietor.)—Floating or jacking ought to be stopped altogether, and the season ought not to open until the first of September. It should close the first of November.

Shortening the hounding season to twenty days, and permitting still-hunting or daylight shots during the balance will, if lived up to, increase the deer.

Dogging deer ought not to commence until the 15th of September, and ought to close on the 10th of October.

Mr. Charles A. Tatum, 46 Barclay Street, New York. (Proprietor of the Bog Lake Preserve, Hamilton County.)—Our party is usually in the Adirondacks for about six weeks each year, and most of that during the hunting season. This season we were only up for between two and three weeks, and none of us during the hounding season; consequently the dogs were not run at all. There appeared to be fully as many deer tracks through the woods as usual, but they were mostly farther back from the water; more on the hills and in the swamp ground, but not so many around the lakes and streams. The deer in our section have certainly increased enormously within the past six or eight years; in fact, ever since the law prohibiting the shipping of game from the woods was passed. In regard to the number of dead deer found in the woods last winter, it is impossible for me to give you any correct information. My men who had charge of the place in the winter report that they had seen several dead deer, presumably starved or frozen to death; but how many, I do not know. I heard a good many reports of numbers of dead deer being found in the adjacent territory, but no numbers were stated, consequently I paid very little attention to it.

There is no doubt whatever but that a great number of deer are killed out of season in the territory surrounding the different lumber camps; but it seems impossible to obtain accurate information about them. The same applies to fish, as large numbers of trout are caught in the winter through the ice by people connected with the different lumber camps. There were a number of poachers last season on Mud Lake, and although we kept one or two men watching the lake all the time, it was impossible to keep all these poachers off. They fired a good many shots; but whether they killed any deer or not, I do not know. They certainly did not take any out with them.

*Mr. E. J. Lobdell, Northville, N. Y. (Forester and Game Protector).—*At the opening of the season every stream or pond which furnishes food and water for the deer (especially for the female with young) is watched by the early hunter with a shotgun and a jack. More deer are wounded (and escape only to die by their young) than are killed; and their young invariably die at once, or reach winter so poor that they perish with cold and hunger. This is not overdrawn. Then the dogging begins, and the deer which only a few days before could be seen on any early evening or morning quietly feeding, suddenly hear the deep baying of the hound. Paralyzed with fear they seek the water as a means of escape, only to find themselves surrounded by boats propelled by "sports," so-called, armed with the deadly Winchester, who finally succeed, if their ammunition holds out, in blowing the animal's brains out or braining him with an oar. And this they call sport. For whom? Surely not for the poor dumb animal.

Deer are killed one month too early. They are decreasing every year, and we will wake up some morning to find them—like the buffalo—gone, unless some prohibitory laws are passed. Jacking or floating with a head-light on waters that are frequented by wild deer should be prohibited.

The general feeling of the people in my locality is that hounding and floating should be stopped for five years at least. Too much precaution cannot be taken in drafting the law to prohibit floating. Deer do not starve to death if they are not driven out of the place they select for yarding; but the fact is they are so driven and hunted in different ways that they are forced from their feeding grounds. They are forced to yard on some bleak mountain where they are starved and frozen to death in sight of plenty. They could not be thus driven away without the aid of dogs. You will doubtless hear it said that still-hunting destroys more deer than dogging; but from personal knowledge I know this is not so. You will find that those stories come from floaters and hounders who cannot kill a deer in any other way.

Mr. A. H. Ehus, Old Forge, Herkimer County, N. Y. (Railroad and Express Agent at Fulton Chain Station.)—The deer this year were hounded to death, and the majority of the does killed had fawns, thus causing the death of young deer in the early winter by starving and freezing to death. Does killed in the early fall leave the poor fawns to look out for themselves and get their own living, which is impossible for them to do when snow falls. Fawns depend on their mother for their living, most all winter. When deprived of their help they are unable to get anything to eat. They are left to starve and freeze to death. I have never heard of a large deer being found dead, unless it had been wounded and got away, or hounded to death in the winter. If hounding and floating are stopped, there will be a great increase of deer in this section. The hunting season should be from September 1st to November 1st, and if the killing of does cannot be stopped next year, stop it as soon as you can.

Mr. George W. Sisson, Potsdam, N. Y. (Lumberman and Owner of Forest Lands.)—Would recommend prohibiting night or jack-hunting and hounding, and give the does a chance to increase. They would soon become sufficiently abundant so that any good sportsman could kill all that ought to be killed by still-hunting in a sportsmanlike manner.

Mr. Frank L. Hunter, Peasleville, Clinton County, N. Y.—It would be better if the season were changed; for instance, still-hunting to begin about September 1st and hounding to end about November 20th. From the 15th of August until about the 10th of September the deer seem to lie around back meadows, and it is very easy to still-hunt them. But when they get back in the big timber, they cannot be hunted quite so easily.

There are about two deer killed by still-hunting where there is one by hounding. It is not so injurious to the deer to hunt them by hounds as to still-hunt them; for the reason that a good many that are shot by still-hunting will get away and die, and will never be found.

Mr. Byron H. McCollom, Oswegatchie, St. Lawrence County, N. Y. (State Game Protector, and formerly a Guide.)—It would be a good plan to make a law to stop killing does for two or three years, for there are about four bucks to one doe in this territory; also to stop night-hunting at once, for most of the deer obtained that way are does and there is no possible way of telling them apart.

Mr. Wellington Kenwill, Indian Clearing, Moose River, Hamilton County, N. Y. (Guide and Woodsman.)—The deer have decreased some in this locality during the last three years by dying in winter. In the winter of '93 it was estimated that 250 deer died from starvation, disease, or some unknown cause. One-half that number were

found dead in the woods. The decrease was very noticeable during the summer of '93. In the winter of '94 they wintered fairly well; but in the following winter, that of '95, the death record ran very high. The greatest number were old bucks and fawns. The does seem to stand the winters the best. The bucks furnished three-fourths of all the deer that died during the winter. Some of these deer died as late as the 22d day of May. They were bucks with horns four inches long, in the velvet. Grass was up so that cows might live well on it.

The present law regarding deer is satisfactory. If any change is made, let the season continue later in the fall. If shortened at all, let it be cut off from August and give the fawns a chance to mature.

Mr. Spencer J. Prime, Upper Jay, Essex County, N. Y.—I think it would be more desirable to have the hounding season later. Floating is where the mischief comes in; because so many are wounded that get away and die from their wounds.

Mr. Morton S. Parmelee, Malone, N. Y. (Lumberman and Owner of Forest Lands.)—I have seen in some of the papers that you were going to take some measures to prevent the extermination of the deer in the Adirondacks. These measures must be taken soon. The enclosed article from an experienced surveyor and woodsman voices, I think, the very general feeling of the people of this section as regards the killing of deer.

“Yesterday I walked for six solid hours through a dense, untouched forest on the top and slopes of Humbug Mountain. A light snow had fallen the night before. In that six hours' walk I saw not one track of a deer. This, you will understand, was in the very heart of the woods, in a locality where deer were very plenty a few years ago. How anyone who goes into the deep woods in winter can fail to see that the deer are rapidly being exterminated passes my comprehension. The old runways worn three or four inches into the 'duff' are deserted.”

A very few years of the methods now in use will tell the story, and one of the greatest charms of the Adirondacks, a bit of poetry worth a summer's trip—that is, the sight of an unscared deer in its native haunts—will be a thing of the past.

I favor, in the interest of all sportsmen, hotelkeepers, guides, and men in business, in the interest of the State's most precious natural legacy, the following restraints before it is too late: First, stop all killing for five years; or, second, stop all jack-hunting and hounding, and allow killing only from October 1st to November 11th or 15th, when the fawns are fully grown; or, third, forbid all killing of does under heavy penalties. At Ragged Lake, in this county, this fall, out of nine deer killed with dogs I am told on good authority *eight* were does. And this in September, when the fawns are only babies, smaller than the dogs that run in packs.

Mr. William Humes, Harrisville, Lewis County, N. Y. (Lumberman and an Experienced Hunter.)—As far as my knowledge goes, which is quite extensive as to this matter, the deer in this territory are increasing very rapidly.

The reason for so many deer dying, in my judgment, based largely on personal observation, is, that in certain other localities as well as in this the deer are so numerous that there is not sufficient food for them.

In my opinion the open season should be from September 1st to October 20th; and that floating should be prohibited entirely. Hounding should be allowed only from September 20th to October 5th.

Mr. H. A. Maxam, North River, Warren County, N. Y. (Guide and Hotelkeeper.)—The cause of the decrease of deer during the last two years is evident, and I would recommend that the killing of does should be prohibited by law; if not altogether, then at least for a period of two years.

In my judgment, floating and night-hunting is also one of the chief causes for the decrease of the deer. I would suggest that this kind of hunting be altogether forbidden by law.

In addition to this, an increase of deer might be brought about by shortening the deer killing season. For instance, limiting the hunting season to the period between September 20th and October 31st, inclusive.

Mr. Orrin Harris, Paradox, Essex County, N. Y. (Postmaster.)—I think that deer should not be killed before the 15th day of September in any way. The only way to preserve deer in this section is to have the jack or still-hunting and hounding all commence together and stop together. In that way the people will be satisfied with a reasonable time for hunting,—say the two months from September 15th to November 15th. The hunters are very much dissatisfied with the law as it now is, and I think that some of them break over the law some. A deer at this season—in November—is worth four times what it is on the first day of September. There are many threats of breaking the law.

Mr. Edwin Courtney, Sageville, Hamilton County, N. Y. (Postmaster and an Experienced Guide.)—Would recommend doing away with all night-hunting, under a heavy penalty for violation.

Think if hounding period was extended later in the season, less deer would be killed and better satisfaction given to all sportsmen; for the venison could be kept in better condition, and less killed to be used in camps. Half of the carcasses are now thrown away because the meat spoils before it can be used up, and another is killed to replace it, but with same results.

Mr. William R. Bishop, Cranberry Lake, St. Lawrence County, N. Y. (Hotel Proprietor.)—I think there should be a law passed prohibiting the use of dogs anywhere in the State; also, that jack-hunting should be stopped; also, that no does shall be killed for three years. And this is the opinion of the guides in this locality.

Mr. Frederick M. Heath, Potsdam, N. Y. (Proprietor Ozonia Park.)—My preserve, Ozonia Park, lies on the border of Franklin county, and sometimes suffers from hounds started there which cross the line. The deer are certainly decreasing, and I think hounding should be forbidden entirely.

Mr. George A. Dukelow, Tupper Lake, Franklin County, N. Y. (Hotelkeeper.)—Without a doubt we have been breeding as many deer as there is food for. We know that in some localities deer die for lack of feed.

The deer killed in this territory the past season were fully as large as those killed any past season. On account of so much lumbering in this region the feed for deer is steadily increasing.

I have conversed with quite a number that have the interests of our woods and game at heart; and the general feeling seems to be to have the hunting season open a little later, and extend later in the fall. One reason is, deer in August are not in as good condition as later.

Mr. James La Mont, Brantingham, Lewis County, N. Y.—I am in favor of prohibiting floating, and not killing does when dogging, for the next three or five years. I understand there was a great number of deer found dead in the woods last winter, whether from disease or the amount of snow, I don't know which. Unless there is some way to save the deer, there will be none to multiply. Prohibit killing does. I have not been much in this locality this year, but have been up the Fulton Chain and other places where I have found as many as fifteen dead deer in one yard and five or six in other places.

Mr. Charles O. Dwight, Brandon, Franklin County, N. Y. (Merchant.)—Those that want to stop hounding talk that way, so that they can slaughter deer by night-hunting, of which the larger part is done out of season. As an experienced guide I would advise the night-hunting to be stopped at once, and all hunting until September 1st, which is early enough for the hunting season to open. That would give the fawns a better chance to take care of themselves. Furthermore, in regard to night-hunting, thirty per cent. of the deer that are hit with buck shot are wounded, and go into the woods to die. They are often found when spoiled, and no good to anyone. When a deer is wounded in daylight he is easily found and is not wasted.

Mr. S. M. Prouty, Whitehall, N. Y. (State Game Protector.)—If the season opened one month later it would be an advantage; for some does that are killed at the opening

of the season have young with them, and they, the fawns, consequently are unable to look out for themselves. These fawns are left to starve or otherwise perish. This seems to be the general opinion of the guides that follow the hunting of deer during the season.

Mr. Warren J. Slater, Saranac Lake, Franklin County, N. Y. (Guide.)—In my opinion the hounding should be stopped altogether for five years. The law should be enforced in regard to hounds running at large all winter; many deer are killed by them and they do nobody any good.

Mr. Fred W. Allen, Bolton, Warren County, N. Y. (Postmaster.)—I would make the open season from September 10th to November 1st; and hunting during that period, the same as under the present law.

Mr. Gardner Smith, Ragged Lake, Franklin County, N. Y. (Gamekeeper, Ragged Lake Rod and Gun Club.)—If hounding and night-hunting were stopped for five years we shall all see the deer increasing fast. I would favor still-hunting in the month of November.

Mr. E. J. Pickett, Saranac, Clinton County, N. Y.—The hounding season should commence November 1st and end November 30th. The weather is too warm during the present open season, and a great deal of venison is spoiled before it can be used.

Mr. Myron L. Buttle, Tahawus, Essex County, N. Y. (Superintendent Adirondack Preserve—96,000 acres.)—I think it would be of interest to the State if the hounding season were extended ten days (as in most localities, unprotected they will run dogs as long as they are permitted to still-hunt) and then make it close season.

On our territory the deer are very numerous, as many in fact as there is feed for. There are ten deer now on our grounds where was one fifteen years ago.

We very rarely night-hunt, as the chances are that we would kill the does which we try to protect.

Mr. Nelson La Bier, Boreas River, Essex County, N. Y. (Postmaster and Farmer.)—If the hunting season was a little later, there would be less meat spoiled by the hot weather which we have in the first part of September.

Mr. George L. Clemons, Dresden Centre, Washington County, N. Y. (Postmaster.)—Hounding deer should be prohibited at any season of the year, and the season for still-hunting changed so as to include the time from, say, October 1st to December 15th.

Mr. W. H. Roblee, North River, Warren County, N. Y. (Hotelkeeper and Experienced Hunter.)—I think the open season for killing deer should commence on September 1st and close on November 1st. Hounding should be permitted.

Mr. Hugh Clemons, Luzerne, Warren County, N. Y.—There are two small herds of wild deer in this town (Luzerne), and one of four and another of six or seven in the northeast part of the town. Six years ago there was not one in the town.

Mr. George S. Bennett, Baker's Mills, Warren County, N. Y. (Guide.)—I think that the hunting should be extended to the first of December, and open September 15th. The venison would then be better, and it would keep better. A great deal of it spoils before it is taken out of the woods.

Mr. John McClanathan, Hague, Warren County, N. Y. (Postmaster.)—My opinion is that if hounding deer could be stopped entirely, that deer in this vicinity would increase materially.

Mr. C. L. Marcellus, West Day, Saratoga County, N. Y.—I think that in a few years deer will be plenty if the present law is maintained. The season for hunting should be shorter.

Mr. George H. Hooper, Graphite, Warren County, N. Y. (Postmaster.)—The sportsmen in this section would rather do away with hounding altogether, and only be allowed to still-hunt two months in the year, from about October 1st to December 1st. The dogs now drive the deer away as a general thing. There are many wounded that are driven away by the dogs, and die and never are found.

Mr. Henry Day, Stark, St. Lawrence County, N. Y. (Gamekeeper, Kildare Club.)—I think the public is satisfied with the deer law as it is, except the dogging and artificial lights; that should be stopped.

Mr. Emory P. Gale, Gale Post Office, St. Lawrence County, N. Y. (Guide and Hotel Proprietor.)—It is not the city hunters that kill many deer out of season; it is these natives that live around the borders of the woods. Take off the fifteen days hunting in August and put it on in November. It would be a great saving of the deer. Three-fourths of the deer killed in August by jack-hunting are does. The city people do not care very much about hunting at that time of the year—not near as much as they would in November. Do not allow any time after the 15th of November to get out venison. In November, and up to December 15th, is the time the game protectors should look after these still-hunters, for they kill a great many more deer than they ought. Some of them kill old bucks by following their tracks on the snow, and kill them expressly for their head and hams. They get from \$2.50 to \$5.00 per head, and that is quite an inducement for a common laborer to take his gun and start out hunting. This must be looked after more closely, as we are not going to have any deer in a short time.

Mr. Fletcher S. Beede, Keene Valley, Essex County, N. Y. (State Game Protector.)—It would be much better for this part of the country if we could stop the hounding of deer entirely.

The country is full of hounds from the time the hunting season opens until its close. They certainly drive lots of deer out of the country. Deer having a hard race and finally going in the water to shake the dogs off, are pretty sure to go out and die. My idea is that one month is long enough to hunt deer in any shape.

"Commodore" Henry Bradley, Olmsteadville, Essex County, N. Y. (Lumberman and Town Supervisor.)—The law should be changed so as to prevent the night-hunting or floating. Not more than one-half the deer that are shot in the night time are saved, but go into the woods and die. The deer that feed around the lakes and ponds in the early part of the hunting season are mostly does and have fawns near by. If the mother is killed the fawns never amount to much, and if you find any dead deer in the woods in the winter time it is these that you find. I am satisfied from personal knowledge of the Adirondacks that the deer are increasing every year very fast. For this reason: the wolves and panthers are all killed off in the Adirondacks, and the game law has stopped the crust hunting in the winter. The first thing to be done by the State is to buy all the forest land within the Forest Park lines; the State will then have control of all the feeding grounds in the Adirondacks for deer.

Mr. James Galvin, Carthage, N. Y. (of Myers & Galvin, owners of Fifth and Sixth Lakes, Fulton Chain.)—Pass a law to stop floating. I heard of a great many deer being wounded by night-hunters and never found. I would also stop hounding for a few years. If deer are slaughtered for five years, as they have been for the past five years, there will be few deer left.

Mr. Reuben Ross, Newton's Corners, Hamilton County, N. Y. (Guide and Woodsman.)—In my opinion it would be best to do away with night-hunting in all of its forms, and allow about twelve days longer for hounding. Then I think there would be less deer killed.

Mr. C. D. Allen, Peru, Clinton County, N. Y.—Hounding deer is an unfair and cruel way of hunting. Sportsmen should be allowed to hunt at certain seasons only; and, then, by still-hunting.

Mr. George H. Mead, Piseco, Hamilton County, N. Y.—It would be well to stop hounds being brought in from other counties into the hunting districts. Now for, example, there are some parties in Fulton county that come into Hamilton county, parties of eight or ten with from six to eight dogs. They let them all go, and as these dogs are in a strange place half of them get lost. Then they run the woods and kill deer.

Mr. Warren Humes, Harrisville, Lewis County, N. N. (Famous Hunter and Proprietor of the Humes Preserve.)—That the deer are rapidly decreasing in this locality is positively shown by the fact that although this year there were twice as many hunters and dogs as last they only killed about one-half the number of deer. The smaller size, and more does than bucks, also goes to show that the deer are diminishing. Regarding the deer that were found dead: it is the opinion of all old hunters and woodsmen that the direct cause can be traced to the evil of hounding. It is estimated that of the total number of deer driven to water by dogs, the hunter kills one-third on the spot; one-third are shot and wounded so that they may die of their injuries; and the other third escape in a heated condition, part of which contract disease and die the following winter, because they are not able to procure food enough in their poor and enfeebled state. I am told by reliable guides that in territories where deer are not hunted with dogs, few or none have been found dead. The twelve dead deer that I reported were all found in the country most frequented by hounds. In my opinion, if the present laws remain, the deer will be exterminated in this locality within two years. The open season for killing should not begin before October 1st, and should be allowed to run through October and November to December 1st, or two months. That is time enough.

It is very important that does and fawns should not be killed at any time; for upon them depends the propagation of the species.

Hounding should be forbidden entirely, as that manner of hunting is most destructive and detrimental to the increase and growth of Adirondack deer.

Mr. G. H. Rison, Morehouseville, Hamilton County, N. Y. (Custodian of Morehouse Lake Club.)—It is reported by some of our townsmen that several deer were shot at floating at night, and they were not found until they were spoiled. I for one am against floating or night-hunting.

In my estimation more deer are killed in the lumbering section, by lumbermen, in and out of season, than by all the other deer hunters that try to live up to the laws. Some lumbering camps hire men to do nothing but kill deer for the camp in or out of season.

This fall only three were killed at Morehouse Lake, about half the number of last year. I am in hopes that something can be done to stop illegal deer killing. If that is stopped, and all are made to live up to the law, we can have plenty of deer in the Adirondacks. Otherwise the deer will not last long.

Mr. O. A. Cowles, Cedar River, Hamilton County, N. Y. (Hotel Proprietor.)—The open season begins too early, for this reason; the 10th of September is very warm and if a deer is killed at that time it is of no use to the sportsman. It will spoil before he can get it out of the woods.

Mr. Fitz Greene Halleck, Nchasane, Hamilton County, N. Y. (Superintendent Nchasane Preserves.)—Our deer need more protection. We would say—do away with jack-hunting and hounding.

Mr. Oliver St. Marie, Indian Lake, Hamilton County, N. Y. (Merchant and Experienced Hunter.)—The law should be amended so as to stop floating. The season should not open until September 1st, and it should last until November 1st. More attention should be paid to the protection of deer. I approve of hounding.

I have not heard of any deer being found dead in the woods, except at Moose River. Everyone that has been there claims that a good many were found dead there.

Mr. Edward F. Boehm, Newton's Corners, Hamilton County, N. Y. (Superintendent Sacandaga State Fish Hatchery.)—Floating is worse than hounding; for they kill lots of does that have not weaned their fawns. Many are wounded which are not found till they are spoiled. The season ought not to begin until September 17th. It should close November 1st, and not give them any extra time to get their venison out, for they will surely kill just to the last day.

If floating and hounding is not stopped, and is allowed to run for five years more, the deer will be just as scarce as the moose are now.

Many of the guides here are in favor of stopping hounding deer altogether for five years, but allow still-hunting for the regular length of time.

I live on a road where lots of parties have to go to get to the West Canadas and Cedar Lakes; and I have seen lots of venison come out of the woods; all it was good for was to throw to the hogs, for it will not keep after it has been run and shot down in the water.

Mr. Joseph Sherman, Caroga, Fulton County, N. Y. (Hotel Proprietor.)—I think it would be an advantage to have some of the officials or protectors located in the vicinity where the deer exist, so that when there is a heavy snow crust they can be watched and protected; for that is the time when they are slaughtered the most, out of season.

Mr. Allen Olmsted, Potsdam, N. Y. (Woodsman and Hunter.)—Do away with hounding; then, with the law as it now is in regard to the number each man may kill, in five years the deer in the Adirondacks will be more than double. A good many deer are killed by men in lumber camps; but they are not wasted. It is different with the deer that have been run with dogs. If they have a long race the meat is frothy and black, and is not fit to be eaten by any man, but is fed to the dogs.

When I was a forester I have seen ten dogs at a time on a train going to the woods to hound deer. Those dogs had to be fed, and the main feed they got was from the game they killed. You will hear Franklin county men say that deer are thicker, and more plentiful than they were ten years ago. Why? It is possible there is some

truth in the statement, more particularly along the west line of Franklin county, for this reason: All the lands along the county line in St. Lawrence county are preserved from the middle of Township 12, "Riversdale," south to the Hamilton county line. Do away with the hounding throughout the State, and leave the balance of the law as it now is. In five years there will be two deer where there is one now.

Mr. F. E. Abrams, Newton's Corners, Hamilton County, N. Y.—I have lived in this locality almost seven years, and I don't think there is one deer here where there were four when I came here. It would be good protection to stop hounding for five years.

Mr. A. M. Church, Boonville, N. Y. (Fulton Chain Guide and Taxidermist.)—Make the open season shorter than at present. September 1st to October 15th would be ample. Place no restrictions on the mode of hunting.

Prohibit the killing of does and fawns; also the sale or shipment of venison or trout, killed in this State, at any time whatever.

Allow one man to kill but two deer in a single season, and also restrict or prohibit the catching of over ten pounds of brook trout by one man in one day.

All the best guides in the Fulton Chain region have advocated an amendment of this kind for a number of years.

*Mr. David Hunter, Tahawus, Essex County, N. Y. (Gamekeeper, Adirondack Preserve.)**—I would propose to have the law changed in regard to still-hunting and night-hunting. Have it stopped entirely. There are more deer slaughtered in some localities by night and still-hunting than in any other way.

Mr. Martin Moody, Tupper Lake, Franklin County, N. Y. (Pioneer Hunter and Trapper and Guide.)—The law should be changed from September 15th to October 20th. All hunters are anxious to get a buck's head to take away with them; and from October 10th to the 20th is the time the bucks are running. The does are then hidden away, and so at that time the largest per cent. of deer killed would be bucks.

Mr. Bentley S. Morrill, Plattsburg, N. Y. (State Game Protector.)—The deer that are killed in this section are driven from the denser woods of the Forest Preserve by hounds. I would suggest the stopping of hounding for at least two years. People owning dogs swear, when brought before a justice, that they were fox or rabbit hunting. It would have a tendency to give us protectors a better show to protect game.

Mr. Carlos Hutchins, Cedar River, Hamilton County, N. Y. (Guide.)—To preserve the deer it would be well to stop the killing of does entirely. In the vicinity of Moose River there were eighty-three dead deer found this spring.

* The 96,000 acres around Lakes Colden, Sanford, etc., including the old Iron Works or "Deserted Village."

Capt. Thomas Montague, Crown Point, Essex County, N. Y.—In my opinion no deer should be killed except from the 1st day of October to the 31st day of October, both inclusive.

Mr. Warren Pooler, Westport, Essex County, N. Y.—There were more deer killed this year than last; but do not think there were more deer in the town than there were last year.

Mr. Edward S. Higby, Willsborough, Essex County, N. Y.—I think all the deer killed in this town, except three, were perhaps driven from some place twenty to twenty-five miles back, escaped the dogs and wandered afterward to this town.

Mr. Cornelius Carter, Benson Mines, St. Lawrence County, N. Y. (Gamekeeper, Connell Preserve.)—The winters of 1893 and 1895 were very destructive to deer in this section of the Adirondacks, for there were no beech nuts for them to subsist upon while the snow was very deep and the cold severe.

In the spring of 1893 I had occasion to go out from my camp about half a mile early in April, the snow being mostly gone. I had nothing to guide me, yet I casually ran on the carcasses of three. They were simply a rack of bones with the hides on. The winter of 1895 was nearly as bad; for within a radius of half a mile of my camp I could count ten carcasses. The oldest and youngest deer suffered the most. The snow being about five feet deep, and no crust, they were unable to move about much. There was no crust to hold them up so they could forage upon the browse, mosses and toad-stools, and if they attempted to leap it was but to fall back in about the same hole.

It must be conceded that the destruction of deer during the winters of 1893 and 1895 was far greater than from the deadly rifle and shot-gun combined. If these seasons are to continue, it will be necessary for the legislator to scratch his head and rake out an idea which enacted into a law will prove a better protection to deer, or there will be none to protect.

In my judgment if either hounding or jacking is to be abolished, I should be in favor of stopping the hounding upon the following grounds:

First.—Because it has a tendency to drive the deer out of the country.

Second.—That during the fall months deer are fat, and after they have been run from one-half to three hours they become so heated that when they plunge into the cold water the muscles stiffen so that the poor creatures become like a foundered horse, and never recover.

Third.—That it is cruel and inhuman. When they were allowed to hound on the Webb tract, a distance of from seven to eight miles, they would run them almost every day into the Oswegatchie, where I would frequently find them hidden under the alders in the water near the shore with their heads just above the water, with their

ears torn nearly off their heads, and their noses terribly lacerated by the hounds that they had escaped. The Legislature enacts a law under the title to prevent "Cruelty to Animals," and under its provisions arrest and fine a poor Frenchman \$5.00 for driving a poor lame horse to the mill that he might have a johnny-cake to keep his family from starving; and during the same session enact a law legalizing the most damnable and inhuman practice in the world, and all this to please men of means who are too lazy to put on their moccasins and kill deer by their skill as a hunter. They will hire their guides to put out the hounds while they themselves are perched upon some rock or hidden in their boats awaiting the unsuspecting game that comes bounding into the water (to escape the hounds in the rear) with blazing eye, bated breath, and dilated nostril, only to meet the more deadly Winchester.

Again, I would not have you think that I favor jacking; but, if we can stop but one, I would stop hounding. I see that the act introduced by Mr. Sanger to amend Section 44, of the Laws of 1895, would allow hounding in this county. This, I hope, will be fought to the death by our members as in the past. I certainly think that such a law would be a great calamity to the people of our county, who have so long and so nobly stood by this noble game that there might be one spot where the baying hound will not be tolerated.

What I have said here is not to be considered by you as dictatorial. Far from it. I only give my views, based on sixty years' experience and after having been in the woods six months consecutively in each year for the last fourteen years.

Abstract of Laws on Deer Hunting in the Various States and Canadian Provinces.

Maine.—Open season from October 1 to December 1. Hounding and jacking prohibited. Each hunter is restricted to two deer.

Vermont.—Hunting or killing deer not permitted. Close season all the year until 1900.

New Hampshire.—September 15 to November 15. Hounding prohibited. Hunters limited to three deer each.

Massachusetts.—No deer hunting allowed. Close season during the entire year.

New York.—August 15 to October 31. Hounding permitted from September 10 to October 10. Hunter limited to two deer. No hunting allowed at any time in Ulster, Greene, Sullivan and Delaware counties, and on Long Island.

Pennsylvania.—October 1 to December 15. Hounding prohibited.

Ohio.—October 15 to November 20.

Indiana.—October 1 to December 31. Hounding prohibited.

Michigan.*—November 1 to November 25. Hunter limited to five deer, and must procure license. License fee for residents, 50 cents; for non-residents, \$25.00.

Wisconsin.—November 1 to November 20; except in Sheboygan county, where deer are protected until 1900.

Minnesota.—November 1 to November 20. Hounding prohibited. Hunter limited to five deer.

Missouri.—October 1 to December 31. Hounding prohibited; also the killing of does and yearlings.

Manitoba.—October 15 to December 15. Non-residents must procure a license, for which the fee is \$25.00.

Ontario.—November 1 to November 15. Hunter limited to two deer. Non-residents must procure a license; fee, \$25.00. Hounding permitted. "All sneaking devices" and Sunday shooting prohibited.

Quebec.—October 1 to December 31. Hounding prohibited. Hunter limited to three deer. Non-resident license, \$20.00; but members of an incorporated club may obtain a license for \$10.00.

Nova Scotia.—Deer hunting prohibited. Close season all the year.

New Brunswick.—September 15 to January 1. Hounding, night-hunting, and Sunday shooting prohibited. Each hunter limited to three deer; but if in a party of three or more, he is limited to two, exclusive of guides.

The deer laws of the Southern and Pacific States are omitted, as they are based on climatic and natural conditions widely different from those existing in the Northern States and Canada.

All of which is respectfully submitted,

WILLIAM F. FOX,

Superintendent of Forests.

*In Michigan, reliable reports from 47 counties show that over 8,000 deer were killed in the season of 1894. These reports were made to the Chief Game Warden. There were 3,423 deer shipped from various points, and there are reasons for estimating the number killed at 10,000.

Forest Fires.

PURSUANT to the requirements of Section 279, Chapter 395, Laws of 1895, we submit the reports of the various firewardens in whose towns forest fires have occurred in the year 1895.

There were two large fires in the Adirondack Park and one in the Catskill region, neither of which occurred on State land. The large number of incipient fires which were extinguished indicates that the firewardens were vigilant and prompt in the discharge of their duties.

By the Law of 1895 the entire expense of fighting forest fires was made a State charge.* The aggregate bills presented under this law, including the expense and services of the firewardens in posting the "Rules and Regulations," amount to \$1,919.95.

ESSEX COUNTY.

C. A. Jordan, Firewarden for the town of Elizabethtown, reports :

A fire occurred in Elizabethtown on Lots 173 and 177, Iron Ore Tract, on October 24th and 25th, which burned over about fifty acres. The damage amounted to about fifty dollars, I think. It being late in the fall, and the leaves all off the trees, I can hardly tell the exact amount. I warned out Elbert Daniels, Ira Daniels and Alexander Pasneau. We worked on the 24th all day, and at night we had it under control. But the next day it broke out again, and I had to warn them out again.

James Patten with six of his men fought the fire on the south side of the hill two half days to keep the fire from burning his pulp wood. The wind being in the south, we thought there was no trouble on the south side of the hill. It rained on the night of the 25th and extinguished it. The reason I have not reported before was because I heard it hinted that the fire was set. But I find that the report came from some hard feeling between neighbors. The origin of the fire is not known.

E. C. Wiley, Firewarden for the town of Ticonderoga, reports :

A fire occurred in this town on July 12th. I am unable to ascertain the cause, but it was probably set by berry pickers. It occurred on what is known as "Cook's Mountain," and about thirty or forty acres were burned over. The amount of damage

* Amended in 1896, making one-half the expense a town charge, and one-half a State charge.

I am unable to state, as the wood was very small, and a great portion of first growth had been cut off heretofore. I employed two men, and we worked nearly all night.

I visited the place of the fire the next day, and saw that no further damage could be done. The fire was probably accidental. As a rough estimate, I should say the damage was two or three dollars per acre.

Cassius N. Winch, Firewarden for the town of Wilmington, reports .

On the 15th of September I was notified by Alpheus Perry that he had a fallow to burn and wanted me to be present. I went on the 16th, but the wind blew so hard that I forbid him setting any fire on that day. On the 17th I went there again, and he started his fire. We burned over about ten acres of fallow ground.

I went there again on the 25th of the same month and we burned over about ten acres more. No damage was done to anyone. The fire was set for the purpose of clearing land in the town of Wilmington near timbered land belonging to other parties.

On June 25th I worked one day in putting up fire notices. Please send me some more notices.

FRANKLIN COUNTY.

Martin Moody, Firewarden for the town of Altamont, reports :

On July 6th I discovered a fire on Mount Morris, in Township 25. It was supposed to have been started by a man that was lost in the woods in going to a lumber camp. It was very dry, but after hard work I succeeded in confining it to the district that had been lumbered. Very little damage was done outside of the middle third of the township. It burned over about one thousand acres around the top of the mountain. The damage was largely where the fire ran out of the lumbered land. I should estimate the damage at \$500.

At this same time a fire started on the west side of Big Tupper Lake, at Grindstone Bay, in St. Lawrence county. It burned along the shore of the lake, destroying about thirty cords of hemlock bark and some spruce timber. It burned over about twenty acres. I estimate the damage at \$200, not counting the injury to the scenery on the shore. I got it stopped at each end of the fire. This fire was started by campers.

Still another fire was burning at this same time on Green Island, at the lower end of Big Tupper Lake. This island contains about seven acres, and before the fire could be stopped it ran over about three-fourths of the ground. It killed most of the timber on four acres. The damage was \$50. It started from a camp fire left by a party of tourists.

On the 14th of July there was a fire at Gull Pond, which was put out easily. It burned over about one-half acre. Damage \$5. The origin of this fire is unknown.

Small fires started up also at Bridge Brook Bay, Hamlin Bay, Back Island Bay, and on Long Island, all of which I put out before any damage was done. After careful investigation I find that all of these fires were started by hunters and fishermen who failed to put out their fires on leaving camp or stopping places. There was not much actual damage done; but it was a very dry time, and if these fires had not been thoroughly attended to, a large amount of property would have been destroyed.

James Wardner, Firewarden for the town of Brighton, reports:

On May 2, 1895, a fire occurred in this town near the line of the Adirondack and St. Lawrence Railroad which was started by sparks from a locomotive. It happened on the premises of Dayton Bryant and Lorenzo Chase, and if it had not been fought promptly would have destroyed their houses and barns. About five acres were burned over. No damage. Expense in fighting this fire was \$6.00.

On May 25th a spark from a locomotive on the Adirondack and St. Lawrence Railroad caused a fire on the premises of J. M. Wardner. Two acres of meadow were burned over. Damage \$20. Cost of extinguishing same and watching fire, \$4.

On July 10th a fire on some waste land was set by a train on the Adirondack and St. Lawrence Railroad. About one-half acre was burned over. No damage. Expenses, \$1.00.

Paul Smith, town of Brighton, reports:

A fire occurred in this town July 30th, 1895, on Lot 84, Township 18, which burned over one hundred acres. The damage, at a low estimate, amounted to \$200.

A town highway was being built through the land referred to, and the men were burning the timber, brush, etc., as fast as the right of way was cleared. On account of the heavy winds they lost control of the fire and could not stop its spreading over the ground mentioned.

James W. Littlejohn, Forester, of Loon Lake, Franklin county, reports:

On Saturday, May 25th, 1895, a fire started by James Hodge, town of Franklin, for the purpose of clearing land, got beyond his control, and did considerable damage to forest land belonging to Edward Denio and others, and endangered forest land belonging to the State. He had a "bee" that day to assist in clearing the land. The fire was started several days before, but did not become unmanageable until Saturday. Mr. Hodge told Mr. Denio that he was not going to burn the fallow, but would have the firewarden do it. But he neither notified the firewarden nor the owners of adjoining lands. The people are anxious that the man shall be punished. I have to-day sent the particulars to the district-attorney.

FULTON COUNTY.

Frank B. Warner, Firewarden for the town of Johnstown, reports:

A fire started in this town on July 24, 1895, about three miles west of the city of Johnstown. About three acres of farming land were burned over, but no damage was done, as the crops had been removed. The cause of this fire is unknown. It started on the highway about three P. M. No one was employed in extinguishing it.

On October 19th, a small fire started at a place four miles west of Johnstown. It was caused by a party who were gathering chestnuts and who built a camp fire, which spread and got into a hollow hemlock tree. No damage was done or expense incurred in putting it out.

On October 28th and 29th, a fire occurred about one mile west of Gloversville, and burned over about fifty-one acres. It started in the latter part of the afternoon on the 28th and burned until the next day. It destroyed \$500 worth of pine timber. The cause is unknown. Marcus Fosmire and Lorenzo Phillips were employed to assist in extinguishing it.

Orrin Cross, Firewarden for the town of Indian Lake, reports:

A forest fire started July 30th, on the southeast quarter of Township Thirty-two, on lands owned by Underwood and Moynehan, and the Morgan Lumber Company. I saw the smoke as soon as the fire started, and went there with three men as soon as possible. It was so hot we could do nothing then. But at night we dug ditches and put out as much fire as we could. We got it under control, and were able to keep it from spreading until it rained. It burned over about twenty acres. All the valuable timber had been taken off the land, and so the damage was slight.

I could get no clue as to the cause of this fire. It was very dry at the time. It could have started from a pipe or dropping a match. It sprang up by the side of a road leading to some lumber camps. Several men traveled through there that day, but none of them seemed to know anything about it.

HAMILTON COUNTY.

F. W. Abrams, Firewarden for the town of Arietta, reports:

Two fires were started in this town in June, 1895, by parties who were clearing land and who let the fire get away from them. In putting out the first fire I employed five men to assist me. No timber was burned and but little damage done.

The second fire did no damage. I put it out without assistance.

The third fire was on State land and occurred the last of June. It was started by some parties that made a smudge to keep off gnats. It burned over about one acre.

No timber was destroyed, and not much damage done; only the looks. At this last fire I employed four men besides myself.

W. H. Lawton, Firewarden for the town of Hope, reports:

In the month of September, a fire, started for the purpose of clearing land, escaped and ran over twenty or twenty-five acres, which were covered mostly with briars. No damage was done, as it was stopped before it reached any valuable timber.

P. Hanley, Firewarden for the town of Wells, reports:

I was present as firewarden at fallow fires at the following named places:

May 2—A. Francisco,	Wells,	2 acres.
“ 4—Jerome Woods,	“	1½ “
“ 6—D. B. Gallop,	“	2½ “
“ 7—George Spencer,	“	2½ “
“ 8—Edward Slack,	_____	3 “
“ 9—James Pease,	Griffin,	_____
“ 10—Fred. Van Every,	_____	3 “
“ 11—N. Wager,	_____	2 “
“ 12—Jerome Mattice,	_____	2½ “

In nearly all these cases I had the owners of the land make careful preparations against the spreading of the fire; consequently no damage was done to outside parties. All these fires were in the town of Wells, and were set by the owners or residents of the property for the purpose of clearing their land, with one exception. The fallow on James Pease's farm was set fire to by some person unknown, and the fire got into the adjoining woods. But by hard fighting it was extinguished before any serious damage was done.

Robert Hanley, District Firewarden in the town of Wells, reports:

I was present and assisted as district firewarden at fallow fires in various places as follows:

1895.		
May 6—George Stewart,	Windfall,	2 acres.
“ 8—Milo Corey,	Wells,	1½ “
“ 10—Arthur Mattice,	“	1½ “

The above fires were set by owners or residents after due and careful preparation. By means of water and “threshing” the fire was kept from running.

Herbert Snell, Firewarden for the town of Benson, reports:

In June, 1895, I had quite a fire on Lots 116, 118 and 119, Benson Township, and on the corner of these three lots. This land had been burned over once before. This time about twenty-five acres were burned over; but no damage was done, because there was nothing but blackberries on it. I was at work five days before I could put it out, and I had three men at work with me.

I have attended quite a number of fallow fires. If you want me to make a report of those also, I will do so.

The fire on Lots 116, 118 and 119, in June, was started by some person unknown.

B. F. Merwin, Firewarden at Blue Mountain Lake, reports :

There were no fires in this district to do any damage. Several fallows were burned without doing any injury. There was one forest fire on the south side of Blue Mountain that was started by someone who built a camp-fire, and went away and left it burning. I had it put out before any damage was done.

HERKIMER COUNTY.

J. M. Richard, Firewarden for the town of Wilmurt, reports :

There were no fires in this town during the past year except on the line of the railroad, about two miles above Old Forge. It burned over less than half an acre, and occurred before I was notified of my appointment.

Part of what we call, or is commonly called, the Potter Hills, were burned over. That was also before I was appointed. That hill covers about 300 acres, and has been burnt over, or partly over, every year or two since I have lived in this town, and that is since 1865. But the burned spot is not fifty acres larger now than thirty years ago. It grows up with brakes and briars, and burns over rapidly. The people in the near vicinity watch it pretty close, as it lies among us residents, and we take care of it.

There has been no fire of any account the past season, and the charges I have made are for putting up the notices. I have made no charge for fighting fire. But it is one of the best things we can do to keep these notices posted. It shows the people there is a firewarden. I think it is the means of parties being more careful of their camp-fires, for they might run across the firewarden.

Henry Conklin, Firewarden for the town of Wilmurt, reports :

On June 1st there was quite a forest fire in the central part of this town, known as North Wilmurt. The fire was started by some unknown person, along the highway leading from the town of Russia up the Black River towards North Lake, on Great Lots 15, 16 and 12, in the Remsenburg Patent, between the highway and the Black River, mostly on the north side of the highway. There were nearly 200 acres burned over. It was on land that has been partly cleared by a few residents, and all the valuable timber has been cut away years ago. What scattering trees remained had been more or less burned. The old dead tops were falling down, and with the briars and bushes that grow and die yearly to encumber the ground, made it a fit place for forest fires. It burned a day or two, when there came a heavy rain and put it out.

No one notified me of the fire. I went over there afterwards and looked over the territory. In my estimation there was not over \$100 worth of valuable substance destroyed.

LEWIS COUNTY.

Charles C. Brown, Firewarden for the town of Greig, reports:

On July 26th and 27th there was a fire on Lots 13 and 14. I extinguished it with one assistant. I did not appraise the damages at any fixed amount, for the reason that the lands had been denuded of all timber, and nothing remained but brush and briars.

ST. LAWRENCE COUNTY.

Charles F. Thomas, Firewarden for the town of Clifton, reports:

On July 3d I put out a fire with the assistance of one man, and on July 15th I extinguished another with the assistance of one man; also on July 17th with one assistant.

On July 21st there was a fire at which I warned out six men besides myself. There was little or no damage done, as the fires were extinguished promptly. I could not find out their origin. I think they started through the neglect of campers. It was very dry at the time.

SARATOGA COUNTY.

Anson J. Larkin, Firewarden for the town of Ballston, reports:

We have been very much favored as to fires this season. There has not been the usual number of forest fires, although we have had the dryest season for many years; not sufficient rain to wet the ground as deep as we plow. The fires this season were as follows:

September 20, 1895, in the hickory grove of S. W. Buell, near Ballston Lake Station of the D. & H. R. R. I employed help, and the fire was soon extinguished. Not over half an acre was burned, and very little damage was done.

October 28, 1895, a fire broke out along the D. & H. R. R. about half a mile north of the Ballston Lake Station. It must have started about 3 P. M. It was seen, but thought to be of little consequence, and I was not notified until early in the evening, about 6 P. M.

The wind blew a gale all the afternoon, but subsided at sundown. George D. Buell notified me of a fire in the woods of Mrs. McKinley, near Ballston Lake. I employed help, and repaired to the place with pails and shovels. The fire was raging

and spreading rapidly. All went to work with a will. I employed all who came, and they went to work with hemlock boughs whipping out the flames. We soon began to conquer the fire in the leaves, but the dead trees, stumps and logs were still blazing, and occasionally a fresh brand of fire would be blown beyond us, and start a fire in a new place. We worked all the evening fighting fire.

The section boss on the railroad was notified of the fire, and he responded promptly with all his men. They brought shovels and pails, rendering valuable assistance until we had the fire under control. We then went away and got our suppers, after which two of the men returned. They found considerable fire, and remained all night. They carried hundreds of pails of water.

This fire started near the railroad track, and ran east towards the lake. There is an extensive swamp between the railroad and the lake, but it was nearly dry, and the fire spread nearly across the ravine. The muck and a large amount of leaves, limbs and dead trees were on fire, and if the flames had got in the woods beyond the swamp, in which there are many beautiful cottages, much damage would have been done. It was to prevent this that I sent the two men back for the night, and they had a very busy night. Four or five acres were burned over. The fire was in two places.

October 29th another fire was started in the lake woods. I was notified by Albert West, and taking some help with me went to the place. I found the railroad men had put out most of the fire; but it would have spread again if we had not stayed and finished the job. This fire was on the lands of the late S. W. Buell, on the west side of the railroad. About one-quarter of an acre was burned over.

H. D. Stone, Firewarden for the town of Luzerne, reports:

On May 10th a fire broke out in the town of Luzerne, on lands owned by Wilson Smead, caused by parties burning a fallow. It ran over about 100 acres of land belonging to private individuals, causing damage to the amount of \$500. I ordered out six men as soon as I heard of it, and after fighting fire all night put it out with the aid of other parties.

SULLIVAN COUNTY.

William Ruddick, Firewarden for the town of Lumberland, reports:

We had two forest fires during the past year. One occurred May 25th, and one October 26th, covering about 400 acres of land in all. The damage amounted to about \$400.

WARREN COUNTY.

William Merrill, Firewarden for the town of Johnsburgh, reports:

May 21st, 1895, there was a fire on Edwards' Hill, on or near Lot 149. It is supposed to have been started by a fishing party, by throwing down a lighted cigar or

something of the kind. It was put out by myself and one man. It burned over about one acre. No serious damage done.

May 21st there was a fire at Truman Ward's, caused by burning a few brush heaps. I employed two men besides myself, but it soon got beyond our control and spread over about seven acres. We then dug trenches around the fire and stopped it.

May 27th a fire started on Lot 33, which was put out by myself and one man. It burned over about half an acre. Cause unknown.

May 29th there was a fire in Dutch Washer's woods. It was caused by a burning fallow. S. T. Thomas took charge of it and put it out, as I was called to the south part of the town.

May 30th had a fire on Glen Road, Lot 14. I was notified by Gilbert Pasco that it was burning near his buildings and near State lands. I ordered out nine men, and kept it off from the State lands. It burned over about sixty acres. I was unable to appraise the damages. It was caused by a fishing party on Glen Brook.

There was also a fire in Robert Wakeley's woods which escaped from a burning fallow, but it was kept under control and no serious damage was done.

June 17th there was a fire in Moses' woods, which lasted four days. Moses had burned some log heaps, and supposed the fire was all out. He went away into the lumber woods to work. The fire started up in the muck. The wind from the south blew it up and took it into the woods near by, where it raged fiercely. We worked hard, but it was the fourth day before we could get it under control. We had to carry water a long way. It burned over about six acres on Lot 70 and four acres on Lot 51. Damage \$130.

September 5th I was engaged in appraising damages where a fire had caught from an engine on the Adirondack Railroad in S. C. Armstrong's woods. Damages \$50. Paid by the D. & H. R. R. Co.

September 23d there was a fire on Edward's Hill, Lot 27, caused by a burning fallow. The fire was kept off State land.

September 28th there was a fire on or near Lot 55. Ellis Dunklee was burning brush. It was kept under control.

October 19th a fire started on Lot 61, near Kibbe Pond, caused by a hunting party. It ran over about sixty acres of State land, doing damage to the amount of \$100.

William Merrill, Firewarden for the town of Johnsburg, reports also:

The fire near South Pond—better known as Fish Pond—has burned over about 300 acres, half of which is State land. We worked hard, but the wind blew strong from the south, and the fire was beyond our control. We have it now (June 17th) under subjection. If the wind does not rise we will have it all put out by noon to-day.

This fire was supposed to be set by parties from Green Island who were fishing in that vicinity, but there is no positive proof as yet. It did a good deal of damage. A man who was intending to build in that vicinity had some shingles and lumber burned. His loss was about \$100.

A. O. Ingraham, Firewarden for the town of Thurman, reports :

May 23d, 1895, a fire occurred on Lot 39, State land, in Hyde Township. The origin of the fire is not known. About 130 acres were burned over.

June 19th, 1895, there was a forest fire on Great Lot 20, Township 29, Totten & Crossfield purchase. Origin unknown. About sixty-five acres were burned over. Damage \$200. All of the timber was killed on the burned territory.

June 29th, 1895, forest fire on lot 13, Range 9. The damage is not fully known. I estimate it at \$40. The fire ran over about 400 acres.

J. D. Gates, Firewarden for the town of Bolton, reports :

On June 15th there was a fire on Tongue Mountain at Lake George. I employed three men to fight it. It burned over about eight acres before it was extinguished. No damage was done, for the land was covered with small brush only. The cause of the fire is unknown.

I assisted and supervised at the burning of fallow fires on May 23d, 25th, and on June 13th. None of these fires were allowed to spread beyond the fallow.

Summary.

The law requires that "a consolidated summary of these returns by counties shall be included in the annual report." In accordance therewith we submit the following recapitulation :

Date	County	Acres	Damage	Cause
May 2, 1895.	Franklin	5	\$12 00	Railroad locomotive
May 9, "	Hamilton	10	20 00	Clearing land
May 10, "	Saratoga	100	500 00	" "
May 21, "	Warren	7	15 00	" "
May 23, "	Warren	130	300 00	Unknown
May 25, "	Franklin	2	20 00	Railroad locomotive
May 25, "	Franklin	20	60 00	Clearing land
May 25, "	Sullivan	200	300 00	" "
May 30, "	Warren	60	200 00	Fishermen
June 1, "	Herkimer	200	200 00	Unknown
June 6, "	Hamilton	5	10 00	Clearing land
June 15, "	Hamilton	25	50 00	Unknown
June 15, "	Warren	8	20 00	Clearing land
June 17, "	Warren	10	130 00	" "
June 19, "	Warren	65	200 00	" "
June 29, "	Warren	40	100 00	" "
June 30, "	Hamilton	1	8 00	Insect smudge
July 6, "	Franklin	1000	500 00	Campers
July 6, "	Franklin	20	200 00	"
July 6, "	Franklin	7	50 00	"
July 10, "	Franklin	1	4 00	Railroad locomotive
July 12, "	Essex	30	60 00	Berry pickers
July 14, "	Franklin	2	15 00	Fishermen
July 18, "	Franklin	1	5 00	Unknown
July 21, "	St. Lawrence	20	60 00	Campers
July 24, "	Fulton	3	6 00	Matches
July 26, "	Lewis	10	20 00	Clearing land
July 30, "	Franklin	100	200 00	" "
July 30, "	Hamilton	25	25 00	" "
Sept. 30, "	Saratoga	5	40 00	Railroad locomotive
Oct. 19, "	Fulton	1	4 00	Campers
Oct. 19, "	Warren	60	200 00	Hunters
Oct. 24, "	Essex	50	50 00	Unknown
Oct. 26, "	Sullivan	200	200 00	Clearing land
Oct. 28, "	Fulton	5	500 00	Unknown

Total number of acres burned over 2,448.

Total Damages \$4,309.

The thirty-six cases reported may be classified as follows :

Clearing land	14
Railroad locomotives	4
Camp fires	5
Fishermen	2
Hunters	1
Berry pickers	1
Insect smudges	1
Careless use of matches	1
Unknown	7
Total	36

The Chinese Pheasant.

BY HON. S. H. GREENE, OF PORTLAND, OREGON.

YOUR kind favor requesting information regarding the Mongolian, or Ring-necked pheasant duly received, and I hasten to answer to the best of my ability.

The Ring-neck pheasant is certainly one of the hardiest and handsomest game birds of the earth. A cock in full plumage would make an Oregon rainbow turn green with envy. The hen, while smaller and not so gaudily dressed, is equally wary, hardy, active and diligent, as is evidenced by her domestic exhibits—three broods a year, averaging at least a dozen chicks each (Oregon climate). When the hen brings her brood off, the cock generally takes charge of the younglings, while Mrs. Ring-neck starts right in on another brood. The eggs can be hatched under the domestic hen, but the Ring-neck will breed in confinement. The Mongolian or Ring-necked pheasant, as its name would indicate, is a native of China. Here in Oregon it is always spoken of as the China pheasant. There are, I believe, thirteen varieties of pheasants in China. In fact, China is known as the home of the pheasant. On the Island of Formosa (recently Japanned) is found the Swinnos; in the Ningpo district, the Elliot and Darwin; in Tschitzuen, the Reebes and Amherst. These varieties took their names from the foreigners discovering them. Then there are the varieties introduced into this country by Hon. O. N. Denny while he was United States Consul-General at Shanghai, and others. Something like fifteen years ago Judge Denny sent to this country, besides the Ring-necked, the green or Japanese, the copper or Scholmeringu, the Tragopan, the Silver, and the Golden. He sent about fifty pairs of the various kinds mentioned, none of which cost him less than eight dollars per pair. At that time the old Multnomah Rod and Gun Club was in existence, and it proceeded to take charge of the birds. The pheasants were placed on Protection Island over in Puget Sound, and a man was hired to take care of them. The club afterwards broke up in debt to the man in charge of the pheasants, and he, in order to get even, leased the right to shoot the birds to certain San Francisco and other parties. Oregon never got the benefit of that first lot of pheasants, but I am informed that the birds thrived and are now very numerous on the island. If the birds had gone into the hands of the Oregon farmers, instead of the club's, we would have plenty of all these varieties now. But Judge Denny was not disheartened, and generously sent us another invoice, of Ring-necks only. To-day Oregon, west of the Cascade Range, is full of them, and they are here to stay. They are good breeders, very hardy, and they never "tree."

They will get up on fences, stumps and lower limbs of spreading trees when unmolested; but they do not seek refuge in trees like the blue grouse and native ruffed grouse when flushed. When they become aware that they are pursued by either man or dog they put their trust in their heels, and quietly but very quickly "take a sneak," as it were.

If the hunter expects to get a shot he must move lively and keep close to his dog, with his gun in readiness for instant use when the bird flushes. The bird will run just as long as there is any show to evade his pursuers in a foot race. Then he arises with a whirr and cackle, flies very strong, and alights with his feet moving for another race. And as he always alights on the ground and never in a tree, you can see how little show the pot-hunter stands with him. It takes an active dog to flush him at any time and a quick shot to drop him, for he is very cunning, alert and strong.

You ask as to the probability of the birds becoming acclimated in New York and New England States. Judge Denny has favored me with many delightful chats about the bird in his native land, and we have often discussed the question of whether he can withstand the rigors of Eastern winters. We agree that they can, so far as the *cold* is concerned, but the other part of the proposition, *snow*, can only be determined by experiment. Judge Denny tells me that he procured some of the birds from about the Mongolian hills, where the thermometer sometimes goes down to forty degrees below zero. But he thinks that the birds had less snow to contend with than they would have in New York and the New England States. So far as cold is concerned, they can live and prosper anywhere in the United States. How well they can stand snow is now being tested in various places, and we are watching the solution of the problem with much interest. Of course, they easily adapt themselves to the country and climate of Western Oregon, for although we have much rain we have very little cold weather and scarcely any snow. In many respects our country and climate is similar to the "Flowery Kingdom." The birds are certainly very hardy, and are better "rustlers" than either the Bob White or ruffed grouse. On occasions of snowy or extremely bad weather they seek out protected places, and even go to the barn-yards for provender. Cold, dry snow seems to have little effect upon them, but with wet snowballs on their long tails they cannot take to wing, and they become helpless victims to the country urchin and varmints. They are not subject to any of the diseases of the native ruffed grouse, to my knowledge. Neither are they bud eaters, although (possibly) they might take to buds in time of deep snows, when their regular rations from other sources are shut off. I do not state this as a fact, but simply suggest it as probable. They are insectivorous, as much so as the pinnated grouse of the prairie States. The Chinese farmers never shoot the birds or do anything which tends to frighten them from their fields, as they hold them friends, rather than enemies, doing

far more good to their crops than harm. When they take them for food it is with nets and alive. But they do eat grain, particularly wheat. It has been claimed by some of our farmers that were seeking excuses for killing them that they lead their young to the ripened wheat fields, and, flying close over the heads of the grain, whip out with their wings a good breakfast and more for themselves and their young. I more than half believe that they do, for Mr. Ring-neck believes in eating plenty, and that of the best, but he is not only willing but anxious to recompense the farmer for all the forty-cent-a-bushel wheat he destroys by destroying bugs and insects that are even more destructive to the grain fields.

They like open but bushy country, with adjacent meadows and farms. It is in such places that we generally find them. There they live and breed. The Ring-neck is never found in heavy timber. In regard to their introduction in new countries, I incline to the belief that the best plan is to keep the birds over winter in confinement, liberating them in the spring near where they are expected to make their home, say about the first of April in New York.

Summer Woodcock Shooting.

By G. HILLS.

IN giving consent to have my woodcock pictures reproduced in your Annual Report, I do so in order that the Brotherhood of Sportsmen may have the satisfaction of seeing in the picture what I, with some of my friends, saw in the

reality, and which I am assured by many sportsmen is a very rare occurrence. I have always been opposed to spring and summer shooting, and think the law should provide a close season on all birds from December 1st to October 1st.

These photographs were taken June 28th and the young hatched the 30th. When July 4th was the beginning of the open season, some sportsman would drop in that cover, the dog would point, he would walk up to the bird, and, if successful in his shot, would kill this mother bird; then what would become of the three young ones five days old? I hear some one say: "But they don't all hatch as late as this!" This is true, but how many sportsmen have shot woodcock on August 1st that were nothing but bone and pin feathers. Another says: "A brood of woodcock hatch near my house; they will move out by August 15th, then I can't get them." They do move out, but would not some others move in, and during the season would not all get their

share of the birds? The present law, August 15th, is not late enough for either woodcock or grouse. Woodcock are in no condition for the table in August, and

grouse are not able to take care of themselves. I know of two men who killed fourteen grouse the first day of the open season, and four of these were knocked out of the bushes with sticks; another told me he shot five without moving out of his tracks.

Now, Brother Sportsmen, we have got to be up and doing if we wish our children's children to know anything about native game birds. Here is where I stand: Close the season on all birds from December 1st to October 1st. Why can't my boy hunt meadow larks in Columbia county while other boys are hunting them on Long Island? Another man says, "he is a crank; why, he would deprive us of duck shooting in the spring." Yes, I would; for every pair of ducks shot in the spring there are ten ducks less to return in the fall; just so with snipe and geese. Our short-sighted friends are living only for self and present; they can't see that "they are killing in the spring the goose that would lay the golden eggs in the fall." My friends, after we are gone the ducks will come and go just the same, but not so many of them. The position we take and the protection we desire will keep up the numbers in the future. It has been said by legislators that we are selfish; that the sportsmen from any ten counties in the State would never be able to agree upon a game law. This may be so. Some have friends who have hotels and must have game for the table; must have the season open early so they can advertise good shooting and fishing on the back stoop. Some may have friends that are market shooters (they call them sportsmen; I can't), and I don't believe while there is a money consideration at the end of a day's sport a man can be called a sportsman. I don't believe that a man who sells game will enjoy the sport and go out as much, when he can't count up at night ten partridges worth five dollars, and the market shooters in Columbia and Dutchess counties kill more game in the season, ten to one, than the sportsmen. They hunt every day, from early morning until late at night, from the opening of the season until the close. Why? Because there are dollars in it.

Now, Brother Sportsmen, this, I believe, is a matter upon which each of us must sacrifice some of our individual opinions in order that the game may be protected and the whole body of sportsmen thereby benefited. If you believe that I am too severe, I ask you this question, Is it not better to err upon the side of severity, and thereby save and perpetuate the game, rather than by too lenient laws cause its destruction and perhaps extermination? Let us be united and protect the game at all hazards.



WOODCOCK NESTING.

From Photographs of Living Bird.

No. 1. Was first taken. No. 2. Is the same, except a stick was used to lift the bill of the bird. No. 3. Camera placed eighteen inches from the bird. No. 4. The bird was lifted from its nest and the eggs photographed.

Fisheries,
Game and Forest Law

of the

State of New York,

Relating to

Game, Fish and Wild Animals, and to the Forest
Preserve and Adirondack Park,

As Revised and Enacted by the Legislature of 1895 and

Amended by the Legislature of 1896.

State of New York.

Commissioners of Fisheries, Game and Forests.

BARNET H. DAVIS, PALMYRA, N. Y., *President.*

HENDRICK S. HOLDEN, SYRACUSE, N. Y.

WILLIAM R. WEED, POTSDAM, N. Y.

CHARLES H. BABCOCK, ROCHESTER, N. Y.

EDWARD THOMPSON, NORTHPORT, L. I., N. Y.

CHARLES A. TAYLOR, *Assistant Secretary.*

Standing Committees.

Forest Preserve and State Lands.

WILLIAM R. WEED, HENDRICK S. HOLDEN, BARNET H. DAVIS.

Executive.

HENDRICK S. HOLDEN, CHARLES H. BABCOCK, BARNET H. DAVIS.

Hatcheries, Fish Culture and Game.

CHARLES H. BABCOCK, EDWARD THOMPSON, BARNET H. DAVIS.

Shellfish, Licenses and Permits.

EDWARD THOMPSON, HENDRICK S. HOLDEN, BARNET H. DAVIS.

Legislation.

BARNET H. DAVIS, WILLIAM R. WEED, CHARLES H. BABCOCK.

Fisheries, Game and Forest Law.

CHAPTER 395.

AN ACT to amend the game law and to repeal chapter three hundred and thirty-two of the laws of eighteen hundred and ninety-three, entitled "An act in relation to the forest preserve and Adirondack park, constituting articles six and seven of chapter forty-three of the general laws."

BECAME a law April 25, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. The title to chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two is hereby amended to read as follows :

"An act relating to game, fish and wild animals and to the forest preserve and Adirondack park, constituting chapter thirty-one of the general laws and to be known as the fisheries, game and forest law."

§ 2. Articles one and two of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two, known as the game law, are hereby amended to read as follows :

Article 1. Fisheries, game and forest commission.

2. Game protectors' powers and duties.
3. Quadrupeds.
4. Birds.
5. Fish.
6. Miscellaneous and local provisions.
7. Special provisions as to Queens and Suffolk.
8. Shellfish.
9. Private grounds and parks.
10. Prosecutions.
11. Fishways.
12. Forest preserve.
13. Adirondack park.
14. Laws repealed, definitions and other provisions.

ARTICLE I.

FISHERIES, GAME AND FOREST COMMISSION

Section 1. Short title of chapter.

2. Fisheries, game and forest commissioners, how appointed.
3. Terms of office of the commissioners.
4. Commissioners, compensation and expenses.
5. Fish culturist.
6. Office and clerical force.
7. Duties of commissioners.
8. Board to report annually to the legislature.

Short Title of Chapter.

Section 1. This chapter shall be known as the fisheries, game and forest law.

Fisheries, Game and Forest Commissioners, How Appointed.

§ 2. The governor shall appoint, by and with advice and consent of the senate, five commissioners who shall constitute the board of fisheries, game and forest.

Terms of Office of Commissioners.

§ 3. The terms of office shall be five years. The governor shall nominate and appoint, by and with the advice and consent of the senate, one of the commissioners, to be president of the commission. The commissioners shall designate one of their number as shellfish commissioner, who shall have entire charge of the shellfish work of the commission and shall certify to the commission as to whether the grounds applied for are beds of oysters of natural growth. The commissioners shall also designate one of their number to act as secretary of the board, and may remove him at their pleasure, who shall perform the duties of secretary without extra compensation, and who, while so assigned, shall devote his entire time to the work of the commission.

(As amd. by chap. 169 of Laws of 1896.)

Compensation and Expenses of Commissioners.

§ 4. The president shall receive an annual salary of three thousand dollars. Each of the remaining commissioners shall receive an annual salary of two thousand five hundred dollars, and each member of said board shall also receive, in addition thereto, the sum of eight hundred dollars for traveling expenses, to be paid in monthly installments.

(As amd. by chap. 169 of Laws of 1896.)

Fish Culturist.

§ 5. The board of commissioners shall appoint a fish culturist, not one of their number, who shall be known as the state fish culturist, and who shall have charge under the direction of the commission, of the culture of all fish in the state, and who shall receive an annual salary of three thousand dollars and necessary traveling expenses.

(As amd. by chap. 169 of Laws of 1896.)

Office and Clerical Force.

§ 6. The board shall have an office in the capitol at Albany, and shall hold meetings at such office at least once each month upon such dates as they may determine, and at such other times and places as the commissioners shall appoint for the transaction of business. The commission is empowered to lease an office in the city of New York or Brooklyn for the transaction of business connected with the sale or lease of lands under water as provided by law. It shall be allowed an assistant secretary at one thousand eight hundred dollars per annum, and expenses not to exceed two hundred dollars payable monthly, and such other clerical assistance as shall be actually needed, together with the necessary contingent office expenses, and the commissioners may appoint an engineer and fix his compensation.

(As amd. by chap. 169 of Laws of 1896.)

Duties of Board of Commissioners.

§ 7. The duties of the board of commissioners shall be to propagate and distribute food and game fishes, and shellfish, and to keep up the supply thereof in the various waters of the state, and for this purpose it shall have the conduct and control of such hatching stations as are now owned or operated by the state, and such as may be hereafter established. The board of commissioners shall also be charged with the enforcement of all laws passed for the protection of fish and game, and for the protection and preservation of the forest preserve, and shall have the care, custody and control of the Adirondack park and forest preserve, and shall have all the powers and duties imposed upon them by articles twelve and thirteen of this chapter. The board of commissioners shall also have the care of all lands under water which have been designated, surveyed and mapped out, pursuant to law, for oyster beds, and power to grant franchises of such lands according to the provisions of law now enforced, or which may be hereafter enacted. It shall also possess all the powers and perform all the duties given and imposed by this chapter and by other provisions of law.

Board to Report Annually to Legislature.

§ 8. Such board shall annually make a full report to the legislature of all their official operations for the year ending on the thirtieth of September previous, with such suggestions and recommendations as they shall deem useful. The present commissioners shall continue to hold their offices until new appointments are made under the provisions of this act.

ARTICLE II.

FISH AND GAME PROTECTORS' AND FORESTERS' POWERS AND DUTIES.

- Section 20. Fish and game protectors and foresters, how appointed.
21. Terms of office of fish and game protectors and foresters.
22. Chief fish and game protector and forester.
23. Protectors and foresters to give bonds.
24. Compensation of protectors and foresters.
25. Office of chief protector and forester to be at the capitol.
26. Duties of protectors and foresters.
27. Records and reports.
28. Payment of salary and expenses.
29. Reports by chief protector and forester to the board of fisheries, game and forest.
30. Special protectors.
31. Powers of sheriffs, constables and deputy sheriffs.
32. Nets to be destroyed by protectors and foresters.
33. Expense of seizure of nets.

Fish and Game Protectors and Foresters, How Appointed.

§ 20. The fisheries, game and forest commission shall appoint thirty-five fish and game protectors and foresters, whose powers and duties are hereinafter defined, and who shall be known as fisheries and game protectors and foresters.

Terms of Office of Fish and Game Protectors and Foresters.

§ 21. Fish and game protectors and foresters so appointed, shall hold office during the pleasure of the board of commissioners, which may summarily remove any of their number and appoint another in his place.

Chief Fish and Game Protector and Forester.

§ 22. The commission shall, from time to time, designate one of such protectors as chief fish and game protector and forester, and two others as his assistants, under whatever title he may give them, and the three protectors and foresters so designated shall hold office during the pleasure of the commission; the commissioners shall further designate another protector to act as state oyster protector, and another protector to act as protector of the waters of the Thousand Islands, and the protectors so designated shall hold office during the pleasure of the board. The chief fish and game protector and forester shall have the direction, supervision and control of the entire force.

(As amd. by chap. 531 of Laws of 1896.)

Protectors and Foresters to Give Bonds.

§ 23. The chief protector and forester shall give a bond to the board of commissioners, with sureties in the sum of one thousand dollars, and each of the other protectors a bond with sureties in the sum of five hundred dollars, conditioned for the faithful discharge of his duties, such bond to be approved by the board of commissioners. Any action thereof shall be brought in the name of the people.

Compensation of Protectors and Foresters.

§ 24. The compensation of the chief protector and forester shall be two thousand dollars per annum, payable monthly, and he shall be allowed his actual and necessary traveling expenses in the performance of his duty, not exceeding one thousand dollars per year. The two assistant protectors and foresters shall each receive twelve hundred dollars per year, together with their traveling and incidental expenses, not to exceed seven hundred and fifty dollars per year; the protector designated as state oyster protector shall receive twelve hundred dollars per year and his actual incidental and traveling expenses, not exceeding four hundred and fifty dollars per year. The protector designated as protector of the waters of the Thousand Islands shall receive five hundred dollars per year and his actual, incidental and traveling expenses, not exceeding four hundred and fifty dollars per year, and the thirty-one remaining protectors shall each receive five hundred dollars per annum, payable monthly, and an allowance for expenses not exceeding four hundred and fifty dollars per year, and each of the said protectors shall receive one-half of all the fines and penalties collected in actions brought upon information furnished by him after all the expenses of recovering said fines and penalties shall be paid.

(As amd. by chap. 659 of Laws of 1896.)

Office of Chief Protector and Forester.

§ 25. The chief protector and forester shall have his office with the commissioners of fisheries, game and forest in the capitol at Albany.

The Duties of Protectors.

§ 26. The fish and game protectors and foresters shall enforce all the fish and game laws of the state and the provisions supplementary thereto made by boards of supervisors for the additional protection of fish and game, and all laws passed for the protection and preservation of the forest preserve, and all rules and regulations made by the commissioners of fisheries, game and forest for the care, custody and control of the forest preserve and the Adirondack park, and shall have full power to execute all warrants and search warrants issued for the violation of the fish and game laws, and laws passed for the protection of the forest preserve, and the care, custody and control of the Adirondack park, and to serve subpœnas issued for the examination, investigation or trial of all offenses against said laws.

Records and Reports.

§ 27. Each protector and forester shall keep a daily record of his official acts, and at the close of each month make a summary of such record with such statements in detail as shall be necessary for the information of his chief, and report the same to the chief protector and forester.

Payment of Salary and Expenses.

§ 28. Payment of salary and traveling expenses to protectors and foresters shall only be made upon the certificate of the chief protector and forester that the protector and forester has made such report and properly performed his duties.

Reports by Chief Protector and Forester to the Board of Commissioners.

§ 29. The chief protector and forester shall report to the board of commissioners any negligence or dereliction of duty on the part of any of the protectors and foresters, with the facts relating thereto, and he shall report monthly to said commissioners the operation of his department during the preceding month, and shall make such further report as may be required by the board of commissioners.

Special Protectors and Foresters.

§ 30. The board of commissioners may, in its discretion and at pleasure, appoint or remove a person recommended by the majority of the supervisors of any county or by any incorporated game club for the protection of fish and game as special protector and forester, who shall possess the same powers that are enforced upon the state protectors and foresters; such special protectors and foresters shall receive no compensation from the state. They shall make similar reports to those required from state protectors and foresters.

(As amd. by chap. 284 of Laws of 1896.)

Powers of Sheriffs, Constables and Deputy Sheriffs.

§ 31. Peace officers shall have the same powers as are conferred upon the game protectors and foresters for the enforcement of the provisions of this chapter.

Nets to be Destroyed by Protectors and Foresters.

§ 32. It is the duty of every protector and forester to seize, remove and forthwith destroy any net, pound or other illegal devices for the taking of fish or game found in or upon any of the waters or islands of this state where hunting and fishing with nets or other illegal devices is prohibited or illegal or upon the shores or islands of such waters, and such nets, pounds or other illegal devices are declared to be a public nuisance and shall be abated and summarily destroyed by any game protector and forester and no action for damages shall lie or be maintained against any person for such seizure or destruction.

(As amd. by chap. 661 of Laws of 1896.)

Expense of Seizure of Nets.

§ 33. The reasonable expense of any seizure, removal or destruction of such nets, pounds or other illegal devices shall be a county charge against the county in which the same shall be seized and shall be audited and paid as other county charges are paid on the certificate of such protector and forester stating the time and place of such destruction, the name of the person employed therein, the time spent thereabout, and the money advanced, if any, and to whom, and shall be verified by the oath of such protector and forester making such seizure and destruction.

(As amd. by chap. 661 of Laws of 1896.)

ARTICLE XII.

FOREST PRESERVE.

Section 270. Forest preserve.

271. Powers and duties.

272. Accounts and annual report of board of fisheries, game and forest relative to the forest preserve.

273. Partition of lands.

274. Taxation of forest preserve.

275. Duties of railroad companies.

276. Powers and duties of certain officers in case of fire.

277. Supervisors to be town protectors of lands.

278. Supervisors ex-officio, firewardens.

279. Supervisors to report fires.

280. Actions for trespass upon forest preserve.

281. Penalty for setting fire to forest lands.

282. Arrest of offenders without warrant.

283. Deer parks in the Catskill region.

Forest Preserve.

§ 270. The forest preserve shall include the lands owned or hereafter acquired by the state within the counties of Clinton, except the towns of Altona and Dannemora, Delaware, Essex, Franklin, Fulton, Hamilton, Herkimer, Lewis, Oneida, Saratoga, St. Lawrence, Warren, Washington, Greene, Ulster, and Sullivan, except

1. Lands within the limits of any village or city, and

2. Lands, not wild lands, acquired by the state on foreclosure of mortgage made to the commissioners for loaning certain moneys of the United States, usually called the United States deposit fund.

Powers and Duties.

§ 271. The board of fisheries, game and forest shall :

1. Have the care, custody, control and superintendence of the forest preserve.

2. Maintain and protect the forests in the forest preserve, and promote as far as practicable the further growth of the forests therein.

3. Have charge of the public interests of the state with regard to forestry and tree planting, and especially with reference to forest fires in every part of the state.

4. Possess all the powers relating to forest preserve which were vested in the commissioners of the land office, and in the comptroller on May fifteen, eighteen hundred and eighty-five.

5. Prescribe rules and regulations affecting the whole or any part of the forest preserve and for its use, care and administration and alter or amend the same; but neither such rules or regulations nor anything contained in this article shall prevent or operate to prevent the free use of any road, stream or water as the same may have been heretofore used, or as may be reasonably required in the prosecution of any lawful business.

6. Take such measures as in the judgment of the commissioners may be proper, and the state superintendent of public instruction and the regents of the university may approve, for awakening an interest in behalf of forestry in the common schools, academies and colleges of the state and of imparting elementary instruction on such subject therein; and prepare and distribute the tracts and circulars of information, giving plain and concise instruction for the care of private wood lands and for the growth of new forests upon lands that have been denuded, exhausted by cultivation, eroded by torrents, or injured by fire, or that are sandy, marshy, broken, sterile, or waste and unfit for other use. These publications shall be furnished without cost to any citizen of the state on application, and proper measures may be taken for bringing them to the notice of persons who would be benefited thereby.

7. Cause rules for the prevention and suppression of forest fires to be printed for posting in schoolhouses, inns, saw-mills and other wood-working establishments, lumber camps and other places in such portions of the state as they may deem necessary. Forest inspectors, foresters, firewardens, supervisors and school trustees shall cause these rules, when received by them, to be properly posted and replaced when lost or destroyed. Any person maliciously or wantonly defacing or destroying any such notice shall forfeit to the people of the state, the sum of five dollars for every such offense.

Accounts and Annual Report of the Board of Fisheries, Game and Forests, Relative to the Forest Preserve.

§ 272. All income from state forest lands, including receipts for trespasses, shall be paid over by the board of fisheries, game and forest to the state treasurer, by whom it shall be placed to the credit of the special fund established for the purchase of lands within the Adirondack park, and a strict account shall be kept of all receipts and expenses of the commission, which account shall be audited by the comptroller. The commission shall, annually, in the month of January, make a written report to the legislature of their receipts and expenses, and of all their proceedings, with such recommendations of further legislative or official action as they may deem proper.

Partition of Lands.

§ 273. Whenever the state owns an undivided interest with any person in lands of the forest preserve, or holds and is in possession of such lands as joint tenant or tenant in common with any

person who has a freehold estate therein, the attorney-general shall, on the request of the board of fisheries, game and forest, bring an action in the name of the people of the state, for the actual partition of such land; and on the written consent of the board such person may maintain an action for the actual partition of such land in the same manner as if the state were not entitled to exemption from legal proceedings, and service of process in such action upon the attorney-general shall be deemed service upon the state. Such actions, the proceedings and judgment therein and the proceedings under the judgment shall be according to the practice at the time prevailing in actions of partition, and shall have the same force and effect as in other actions, except that no costs against the state shall be allowed in such actions and no sale of such lands shall be adjudged therein. The board of fisheries, game and forest may without action, but with the consent of the comptroller, agree with any person or persons owning lands within the forest preserve jointly or as tenants in common, with the state for the partition of such lands, and on such agreement and consent, the comptroller shall make on behalf of the people of the state, any conveyance necessary or proper in such partition, and such conveyance shall be forthwith recorded as now provided by law as to conveyances made by the commissioners of the land office.

Duties of Railroad Companies.

§ 275. Every railroad company whose road passes through waste or forest lands or lands liable to be overrun by fires within the state, shall twice in each year cut and remove from its right of way all grass, brush or other inflammable materials, but under proper care and at proper times when fire, if set, can be kept under control. All locomotives which run through forest lands shall be provided with approved and sufficient arrangements for preventing the escape of fires from the furnaces or ashpans, and with netting of steel or iron wire upon their smokestacks to prevent the escape of sparks or fire, and every engineer and fireman employed upon a locomotive shall see that the appliances to prevent the escape of fire are in use and applied as far as it can be reasonably and practically done. No railroad company shall permit its employes to deposit fire coals or ashes upon their track in the immediate vicinity of woodlands, or lands liable to be overrun by fires, and where any engineers, conductors or trainmen discover that fences or other material or substances along the right of way upon woodlands adjacent to the railroad are burning, or in danger from fire, shall report the same at their next stopping place, and the person in charge of such station shall take prompt measures to extinguish such fires, and shall immediately notify the nearest firewarden or fish and game protector and forester. In seasons of drought and especially during the first dry time in spring after the snows have gone, and before vegetation has revived, railroad companies shall employ a sufficient number of trackmen for the prompt extinguishment of fires; and where a forest fire is raging near the line of their road they shall concentrate such help and adopt such measures as shall most effectually arrest its progress. If any railroad company or any of its employes violate any provisions of this section, the company shall forfeit to the people of the state the sum of one hundred dollars for every such violation.

Appointment of Firewardens.

§ 276. The board of fisheries, game and forests shall appoint a firewarden in each town within the counties mentioned in section two hundred and seventy of this chapter, who shall act during the pleasure of such board. In such of these towns as are particularly exposed to forest fires, or in which there is a large proportion of woodlands, or which may be specified by the fisheries, game and forest commission, the firewarden thus appointed shall divide the town into two or more districts, bounded as far as may be by roads, streams of water, dividing ridges of land, or lot lines, and appoint, in writing, one resident citizen in each district as district firewarden therein. A description of these districts and the names of the district firewardens thus appointed shall be recorded in the office of the town clerk. The firewarden shall also cause a map of the fire districts of his town to be posted in some public place together with the names of the district firewardens appointed. The cost of such map, not exceeding ten dollars, shall be a town charge.

(As amd. by chap. 655 of Laws of 1896.)

Duties and Powers of Firewardens.

§ 277. On the discovery of a forest fire, or a fire in or near any woods, the firewarden of the district shall repair immediately to the place where the fire is burning, and shall take such measures as shall be necessary for its extinction or to prevent it from spreading. For this purpose he may call on any person in his district, or adjoining district or town, to go to the fire and render assistance in extinguishing it or controlling its progress, and any person refusing to act or assist when so called on or warned out shall forfeit to the people of the state the sum of ten dollars. The firewarden, where acting in general charge, may cause fences to be destroyed or furrows to be ploughed to check the running of fire; or, in case of great danger, back-fires may be set along a road or stream or other line of defense to clear off the combustible material before an advancing fire. No action for trespass shall be brought by any owner of lands for entry made upon his premises by persons going to assist in extinguishing a forest fire, although such fire may not be upon his land. The firewarden of every town in which a forest fire of more than one acre in extent has occurred within a year, shall report to the board of fisheries, game and forests, the extent of area burned over, to the best of his information, together with the probable amount of property destroyed, specifying the value of timber, as near as may be, and amount of cord-wood, logs, bark, or other forest products, and of fences, bridges and buildings that have been burned. He shall make inquiries and report as to the causes of such fires, if ascertainable, and as to the measures employed and found most effectual in checking their progress. A consolidated summary of these returns by counties, and of the information relating to the same matter otherwise gathered, shall be included in the annual report of the board of fisheries, game and forests.

(As amd. by chap. 655 of Laws of 1896.)

Compensation of Firewardens.

§ 278. For their services while on duty at a forest or woodland fire, or in connection with the prevention of fires, the firewardens shall receive a compensation of two dollars and fifty cents per day for the time actually employed; and each person assisting in extinguishing a forest or woodland fire, or who shall have been ordered to go to the place where such fire may be burning, shall receive a compensation of two dollars per day for the time actually employed. The services of the town firewarden, district firewardens, or persons assisting or ordered out at a forest fire shall be a town charge, and shall be audited and paid by the town; but the comptroller of the state shall annually pay to the town a sum equal to one-half the expenses thus incurred, audited and paid. In order to secure such payment from the state, all bills for the services of the town firewarden, district firewardens, or persons assisting or ordered out at a forest or woodland fire, shall be made out in duplicate and approved by the town firewarden, one of which bills shall be forwarded to the board of fisheries, game and forests, and to which bill there shall be attached a certificate of the town board of auditors stating that said bill has been audited and paid; and no payment of moneys or rebate of any kind, for expenses incurred in the extinguishment or prevention of forest fires shall be made to the town by the comptroller, except on such bills, which must also be approved by the board of fisheries, game and forests or by such official in their employ as they may designate to perform such duty.

(As amd. by chap. 655 of Laws of 1896.)

Supervisors to be Firewardens Ex-Officio.

§ 279. In all towns not within the counties mentioned in section two hundred and seventy of this act the supervisors shall be firewardens ex-officio, and there shall be applicable to them all the provisions of this act with reference to town and district firewardens. If a forest fire occurs in any town in which the firewarden or supervisor may be absent, or may fail to take measures to extinguish the fire, or in which no firewarden may have been appointed, any justice of the peace in the town where such fire occurs may act as firewarden and summon assistants; and for all such services payment shall be made the same as hereinbefore provided for a firewarden and his assistants. Any person who shall willfully or negligently set fire to, or assist another to set fire to any waste or forest lands belonging to the state or to another person, whereby such forests are injured or endangered; or who suffers any fire upon his own lands to escape or extend beyond the limits thereof to the injury of the woodlands of another or of the state, is guilty of a misdemeanor, punishable by imprisonment not exceeding one year, or by a fine not to exceed two hundred and fifty dollars, or both, and be liable to the person injured for all damages that may be caused by such fires.

(As amd. by chap. 655 of Laws of 1896.)

Fallow Fires.

§ 281. It shall be unlawful for any person to light fires for the purpose of clearing lands, burning fallows, stumps, logs, or fallen timber, in the towns hereinafter specified in this section,

between April first and June tenth, and between September first and November tenth; but from June tenth to September first such fires may be started upon giving three days' notice to a firewarden or district firewarden and securing his written permission. During the period last mentioned, if the place where a fire is to be lighted is near any woodlands or forest which might possibly be endangered by lighting such fire, it shall be the duty of the town firewarden or district firewarden to be present personally when the fire is lighted, and to remain until it is extinguished; and the firewarden or district firewarden thus in attendance shall not permit the starting of any fallow fires, or brush fires, or fires for clearing land, during a dangerous wind, nor until the person desirous of starting such fires shall have employed at his own expense a sufficient number of persons to watch and prevent any possible spreading of the flames, and who shall remain on watch until the fire is out and completely extinguished. The services of a firewarden or district firewarden at such times shall be a town charge, the same as when employed in extinguishing a forest fire; and one-half of the expense thus incurred by the town may be refunded by the comptroller of the state as hereinbefore provided in case of forest fires. Any person violating the requirements of this section by lighting fallow fires or fires for clearing land otherwise than as herein provided, shall be guilty of a misdemeanor, and in addition thereto shall be liable to a fine of not less than fifty dollars nor more than three hundred dollars, one-half of which amount shall be paid to the person or persons furnishing the evidence necessary to conviction. The provisions of this section shall apply to Hamilton county, and to the towns of Minerva, Newcomb, North Hudson, Schroon, Keene, Jay, Lewis, North Elba, Saint Armand, and Wilmington, of Essex county; to the towns of Waverly, Harrietstown, Brandon, Santa Clara, Brighton, Belmont, Franklin, Duane, and Altamont, of Franklin county; to the towns of Hopkinton, Colton, Clifton, Fine, Edwards, Pitcairn, Clare, Russell, and Parishville, of Saint Lawrence county; to the towns of Diana, Croghan, Watson, Greig, and Lyonsdale, of Lewis county; to the towns of Wilmurt, Ohio, Salisbury, Remson, and Russia, of Herkimer county; to the town of Forestport in Oneida county; to the towns of Stratfort, Caroga, Bleecker, and Mayfield, of Fulton county; to the towns of Day, Edinburgh, Hadley, and Corinth, of Saratoga county; to the towns of Johnsburch, Thurman, and Stony Creek, of Warren county; to the towns of Putnam, Dresden, and Fort Ann, of Washington county; to the towns of Altona, Dannemora, Ellenburgh, Saranac, and Black Brook, of Clinton county; to the towns of Denning, Hardenburgh, Shandaken, Olive, Rochester, Wawarsing, and Woodstock, of Ulster county; to the towns of Neversink and Rockland, of Sullivan county; to the towns of Andes, Colchester, Hancock, and Middletown, of Delaware county; and to the towns of Hunter, Jewett, Lexington, and Windham, of Greene county.

(As amd. by chap. 655 of Laws of 1896.)

Actions for Trespass upon Forest Preserve and Disposition of Penalties.

§ 280. The board of fisheries, game and forest may bring, in the name of the people of the state, any action to prevent trespass upon, or injury to the forest preserve, and recover damages therefor, or to recover lands properly forming a part of the forest preserve, and occupied or held by persons not entitled thereto, or for the maintenance and protection of the forest preserve

which any owner of lands would be entitled to bring, or for cutting or carrying away or causing to be cut or assisting to cut or carry away, any tree, bark or timber within the forest preserve, or removing any tree, wood, timber or bark or any portion thereof from such forest preserve, or from any land or lands now owned by the state or which may hereafter be acquired by the state. Every person violating the provisions of this section, relating to the cutting or carrying away any wood, timber, tree or bark, shall be deemed guilty of a misdemeanor, and in addition shall forfeit to the state the sum of ten dollars for every tree, cut or carried away by him, or by any person in his employ or under his direction. The Board of fisheries, game and forest may employ attorneys and counsel to prosecute any such action of trespass or damage to the state or of forest land or to defend any such action brought against the board or any of its members, or any person acting under or by authority of the board of fisheries, game and forest, arising out of their or his official conduct with relation to the forest preserve, together with all lands, now owned or which may hereafter be acquired by the state. The compensation of such attorneys and counsel shall be fixed by the board. A preliminary or final injunction shall, on application in an action brought by or at the instance of the board of fisheries, game and forest, be granted restraining any act or trespass, waste or destruction upon the forest preserve or other lands owned by the state or which may hereafter be acquired by the state. All such actions shall be brought in the county where the trespass is alleged to have been committed, the same as other actions are now brought, by or under the direction of either of the commissioners of fisheries, game and forest, or on order of the chief fish and game protector and forester, in the manner provided in section two hundred and thirty-one of chapter nine hundred and seventy-four of the laws of eighteen hundred and ninety-five. Witness and other fees and disbursements and full costs shall be recovered in any judgment in favor of the people, under this act, at the rate fixed by section three thousand two hundred and fifty-one of the code of civil procedure, without regard to the amount recovered. All moneys recovered under the provisions of this chapter, either upon criminal or civil prosecution, shall be paid to the board of commissioners, to be by it disposed of as hereinafter provided, and it shall be the duty of every person to whose hands such money shall come, to forthwith pay over the same to the said commission, and in case of failure so to do, such money may be recovered from such person in the name of the people by the commission. The commission shall dispose of the fines and penalties received by them as follows: They shall deduct all expenses incurred in the prosecution or collection of such fines and penalties, and shall pay to the protector and forester, or special protector or forester, upon whose information the action was brought, one-half of all recoveries, less the costs, where the total net amount recovered, upon such information does not exceed fifty dollars. Such payments shall be made on the certificate of the chief game protector and forester that such protector and forester is entitled thereto. The remainder of the moneys shall be used in the employment of surveyors and other persons in assisting in procuring evidence to establish cases of trespass, and other violations of this chapter, and in payment of expenses of enforcing the laws for the preservation of fish and game on the certificate of the chief protector and forester, or for such other purposes within the scope of this chapter as the board may determine, provided that the board of commissioners of fisheries

game and forest shall deposit all moneys received for violations of the fish, game and forest laws, and on account of trespasses of the state land, in some bank in the city of Albany, to be approved by the comptroller. The board shall render to the comptroller, on or before the tenth day of each month, an itemized monthly account, showing its receipts and disbursements on account of such fines and penalties, with the names of the persons from whom recovered, and to whom paid, which account shall also include the balance in the bank on the last day of the preceding month.

(As amd. by chap. 114 of Laws of 1896.)

Arrest of Offenders Without Warrant.

§ 282. The fish and game protectors and foresters, and other persons acting upon the forest preserve under the written employment of the board of fisheries, game and forest, may without warrant arrest any person found upon the forest preserve violating any of the provisions of this article and forthwith take the person so arrested before a magistrate having jurisdiction to issue warrants in such cases, and there make or procure to be made a complaint in writing, on which complaint the magistrate shall act as the case may require.

Deer Parks in the Catskill Region.

§ 283. The board of fisheries, game and forests shall set apart tracts of land (not exceeding three) of such size as they may deem proper, belonging to the state and including such adjoining lands as may be deemed necessary, in the Catskill region, now constituting that part of the forest preserve situated in the counties of Delaware, Greene, Sullivan and Ulster, for the purpose of breeding deer and wild game. The board of fisheries, game and forest shall purchase and turn out upon such lands such deer or other game as they may think proper and establish all proper rules for the protection of such land and the game thereupon. No game shall be killed, pursued, or trapped or in any way destroyed within the limits of such land so set apart for the period of five years from the time that such land shall be so set apart. The board may receive private subscriptions of money and expend the same for the purposes specified in this section, and may, from time to time, enlarge the area of any such park by purchasing other lands adjacent thereto, so as to include as large an acreage of state lands as practicable within the bonds of each park. The proceeds of the lands sold prior to January first, eighteen hundred and ninety-five, shall be used for no other purpose than the purchase of additional lands for such parks, and the board may execute and receive and accept, in the name of the state, all contracts and conveyances necessary to carry into effect the provisions of this section.

ARTICLE XIII.

ADIRONDACK PARK.

Section 290. Adirondack park.

291. Powers and duties of forest commission.

292. Contracts.

293. Proceeds of lands sold and payments for lands purchased.
294. Revenues from leases made prior to January first, eighteen hundred and ninety-five.
295. Annual report.

Adirondack Park.

§ 290. All lands now owned or hereafter acquired by the State within the county of Hamilton; the towns of Newcomb, Minerva, Schroon, North Hudson, Keene, North Elba, Saint Armand and Wilmington, in the county of Essex; the towns of Harriestown, Santa Clara, Altamont, Waverly and Brighton, in the county of Franklin; the town of Wilmurt, in the county of Herkimer; the towns of Hopkinton, Colton, Clifton and Fine, in the county of Saint Lawrence, and the towns of Johnsburgh, Stony Creek, and Thurman, and the islands in Lake George, in the county of Warren; except such lands as may be sold as provided in this article, shall constitute the Adirondack park. Such park shall be forever reserved, maintained and cared for as ground open for the free use of all the people for their health and pleasure and as forest lands, necessary to the preservation of the headwaters of the chief rivers of the state, and a future timber supply; and shall remain part of the forest preserve.

Powers and Duties of Forest Commission.

§ 291. The board of fisheries, game and forest shall have the care, custody, control and superintendence of the Adirondack park, and within the same and with reference thereto and to acts committed therein and to persons committing the same, all the control, powers, duties, rights of action and remedies belonging to such board or the commissioners of the land office within and with reference to the forest preserve as to acts committed therein and persons committing the same. The board of fisheries, game and forest shall have power:

1. To contract as herein provided for the purchase of land situated within the bounds of the park as defined in the preceding section; if any such lands can not be purchased on advantageous terms unless subject to leases or restrictions or the right to remove soft wood timber, the contract may provide accordingly, but not for any such right, lease, or restriction after ten years from the date of the contract, nor for the right to remove any such trees with a diameter of less than twelve inches at the height of three feet from the ground.

2. To contract with owners of land situated within the bounds of the park that such lands may become part of the park and subject to the provisions of this article, in consideration of the exemption of such lands from taxation for State and county purposes, which contract shall contain a provision that the owners of such land and their grantees shall refrain forever from removing any of the timber thereupon except spruce, tamarack or poplar timber twelve inches in diameter, at a height of three feet above the ground, or fallen, burned or blighted timber, and such other and further conditions as to the right of occupancy of such lands by such owners or their grantees as may be equitable. Such contract may also reserve to the owners of such forest lands and their grantees the privilege of clearing portions of such lands for agricultural or

domestic purposes under regulations to be prescribed by the forest commissioners, but no such privilege shall give to the owners or grantees of said lands, the right to clear more than one acre within the boundary of each one hundred acres covered by said contract.

3. To prescribe and enforce ordinances and regulations for the government and care of the park and for the licensing or regulation of guides or other persons engaged in business therein.

4. To lay out paths and roads in the park.

Contracts.

§ 292. A contract mentioned in this article shall not take effect until approved by the commissioners of the land office; a certificate of which approval, certified by the clerk of said commissioners shall be attached to the copy of the resolution of the board of fisheries, game and forest authorizing such contract. Every conveyance mentioned in this article shall be certified by the attorney-general to be in conformity with the contract, and approved by him as to form before the acceptance or delivery thereof, and shall be made to the people of the State, recorded in the proper county, and after record delivered to the commissioners of the land office as a part of their archives.

Proceeds of Lands Sold and Payments of Lands Purchased.

§ 293. The proceeds of lands sold prior to January first, eighteen hundred and ninety-five, and paid to the State treasurer shall be held by him as a separate fund and special deposit at all times available for the purchase of other lands under this article. Payments for such purchases and for expenses necessarily incurred by the board in the preliminary examinations of lands purchased under authority of this article, or in the examination of titles of lands so purchased, or otherwise necessarily incidental to such purchases, may be made from such fund or from any moneys appropriated therefor on the certificate of the commission and audit of the comptroller.

Revenues from Leases Made Prior to January First, Eighteen Hundred and Ninety-five.

§ 294. All revenue received from leases of State lands made prior to January first, eighteen hundred and ninety-five, shall be paid into the State treasury, and shall be placed to the credit of the special fund established for the purchase of lands within the Adirondack park.

Annual Report.

§ 295. The board of fisheries, game and forest shall include in its annual report an account of its proceedings with reference to the park, including a statement of the number of acres of land purchased during the year, the locality thereof, the price paid, the revenue from leases made prior to January first, eighteen hundred and ninety-five, and all other information of importance connected with such transactions; and shall state the amount of money required in the next fiscal year for the purchase of lands and expenses of the park, and make such recommendations with reference thereto as it deems wise.

§ 4. Article twelve of the game law, being chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two, is hereby made article fourteen, and sections two hundred and seventy and two hundred and seventy-nine, inclusive, are hereby renumbered three hundred to three hundred and nine, respectively.

§ 5. Chapter three hundred and thirty-two of the laws of eighteen hundred and ninety-three chapters four hundred and thirty-nine and six hundred and sixty-five of the laws of eighteen hundred and ninety-four are hereby repealed.

§ 6. The schedule of articles at the beginning of the agricultural law, chapter three hundred and thirty-eight of the laws of eighteen hundred and ninety-three, is hereby amended to read as follows :

CHAPTER XXXIII OF THE GENERAL LAWS.

THE AGRICULTURAL LAW.

- Article 1. General provisions. (§§ 1-12.)
- 2. Dairy products. (§§ 20-37.)
- 3. Adulterated vinegar. (§§ 50-53.)
- 4. Diseases of domestic animals. (§§ 67-71.)
- 5. Miscellaneous provisions. (§§ 80-90.)
- 6. Laws repealed. (§§ 100-101.)

§ 7. The agricultural law is further amended by adding at the end thereof the following new article:

ARTICLE VI.

LAWS REPEALED.

- Section 100. Laws repealed.
- 101. When to take effect.

Laws Repealed.

§ 100. Of the laws enumerated in the schedule hereto annexed, that portion specified in the last column is repealed.

When to Take Effect.

§ 101. This chapter shall take effect immediately.

SCHEDULE OF LAWS REPEALED.

Revised Statutes, Part 1, chapter 17, title 3, §§ 1-4.

Laws of	Chapter	Sections
1841	169	All except §§ 3 and 6.
1844	336	All.
1848	299	All except §§ 3 and 6.
1869	167	All.

SCHEDULE OF LAWS REPEALED.—(Continued.)

Revised Statutes, Part 1, chapter 17, title 3, §§ 1-4.

Laws of	Chapter	Sections
1878	134	All.
1879	306	All.
1880	592	All.
1881	300	All.
1882	215	All.
1882	246	All.
1882	238	All.
1883	13	All.
1884	202	All.
1884	418	All.
1884	474	All.
1885	183	All, except § 26.
1885	283	All.
1885	127	All.
1885	458	All.
1886	280	All.
1886	577	All, except that part of § 6 designated as § 24.
1887	155	All.
1887	223	All.
1887	403	All.
1887	430	All.
1887	475	All.
1887	562	All.
1887	583	All.
1888	286	All.
1888	298	All.
1888	520	All.
1888	550	All.
1889	24	All.
1889	148	All.
1889	515	All.
1889	538	All.
1890	8	All.
1891	140	All.
1891	354	1, 2.
1892	501	All.
1892	707	All.

§ 8. This act shall take effect immediately.

CHAPTER 974.

AN ACT for the protection, preservation and propagation of birds, fish and wild animals in the State of New York and the different counties thereof.

BECAME a law June 7, 1895, with the approval of the Governor. Passed by a two-third vote.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. Article three of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two is hereby amended to read as follows :

ARTICLE III.

QUADRUPEDS.

- Section 40. Deer, close season.
41. Deer or venison, when not to be possessed.
 42. Fawns not to be killed.
 43. Traps.
 44. Hounding.
 45. Dogs may be killed.
 46. Transportation.
 47. Crusting and yarding.
 48. Moose, caribou and antelope.
 49. Black and gray squirrels, hares and rabbits.
 52. Bears, wolves and panthers, bounty.
 53. Claim for bounty; how proven.
 54. Certificate to be issued.
 55. County treasurer to pay certificate.

Deer, Close Season.

§ 40. Wild deer shall not be caught, shot at, hunted or killed except from the sixteenth day of August to the thirty-first day of October, both inclusive. No person shall kill or take alive more than two deer in any season. And in the counties of Ulster, Greene, Sullivan and Delaware no wild deer shall be caught, shot at, hunted or killed at any time within five years from the passage of this act. Deer may be taken alive in any part of the State at any season of the year under the direction of the fish, game and forest commission to be placed in the deer parks belonging to the State for the purpose of breeding. The provisions of this section as to close season shall not apply to Long Island. This section shall not be so construed as to prevent any person from reclaiming alive any deer which may have escaped from a private park or inclosure. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each wild deer caught, shot at, hunted or killed.

Deer or Venison, When Not to be Possessed.

§ 41. Wild deer or venison shall not be possessed or sold except from the sixteenth day of August to the thirty-first day of October, both inclusive, and possession thereof from the thirty-first day of October to the tenth day of November, inclusive, is forbidden, and shall be deemed a violation of this section unless it be proved by the possessor or seller that such deer or venison was killed within the lawful period or out of the State. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each wild deer or part thereof had in possession in violation of this section.

Fawns Not to be Killed.

§ 42. No fawns shall be caught or killed at any time in this State, nor any part thereof be possessed at any time; possession of a fawn or fawns shall be presumptive evidence of the violation of this section. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each fawn caught, killed or possessed in violation of this section.

Traps and Artificial Lights.

§ 43. Traps, or any device whatsoever, to trap and entice deer, including salt licks, shall not be made, set or used, and deer shall not be caught, hunted or killed by the aid or use thereof. No jack light or any other artificial light shall be used in hunting or killing or attempting to kill any deer, except from September first to September fifteenth, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

(As amd. by chap. 654 of Laws of 1896.)

Houndings.

§ 44. Deer shall not be hunted, pursued or killed with any dog or bitch in this state at any time except from the first to the fifteenth day of October, both inclusive. Dogs of the breed commonly used for hunting deer shall not be permitted by the owner or person harboring the same to run at large, except between such dates, in the forest where deer inhabit. Deer shall not be hunted with dogs in the counties of Saint Lawrence, Delaware, Greene, Ulster or Sullivan, except in the towns of Highland, Cumberland, Tusten, Cochocton and Bethel, in the county of Sullivan, deer may be hunted, pursued or killed with dogs, from the first to the fifteenth day of October, both inclusive. The provisions of this section as to the close season shall not apply to Long Island. If any dog or bitch of the breed used for hunting deer shall be found hunting, pursuing or killing any deer or running at large in the forests of this state where deer inhabit, except between the first and fifteenth days of October, both inclusive, it shall be deemed prima

facie evidence of the violation of the foregoing section, by the person or persons owning, using, having or harboring such dog or bitch. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

(As amd. by chap. 652 of Laws of 1896.)

Dogs May be Killed.

§ 45. Dogs, while chasing deer in violation of law, may be killed by any person.

Transportation.

§ 46. Deer or venison killed in this state shall not be transported to any point within or without the state from or through any of the counties thereof or possessed for that purpose, except as follows: One carcass or a part thereof may be transported from the county where killed when accompanied by the owner. No individual shall transport or accompany more than two deer in any one year under the above provision. The possession of deer or venison by a common carrier, or by any person in its employ then actually engaged in the business of such common carrier, unaccompanied by the owner, shall constitute a violation of this section by such common carrier. This section does not apply to the head and feet or skin of deer severed from the body. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each wild deer or part thereof had in possession in violation of this section.

Crusting and Yarding.

§ 47. Deer shall not be hunted, killed or captured by what is commonly known as crusting, nor while they are yarded. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Moose, Caribou and Antelope.

§ 48. Moose, caribou or antelope shall not be hunted, killed or possessed or sold during the close season for the possession of deer or venison, after the same have been killed. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Black and Gray Squirrels, Hares and Rabbits.

§ 49. Black and gray squirrels, hares and rabbits shall not be hunted, shot at, killed or possessed, except from the fifteenth of October to the fifteenth day of February, both inclusive. The use of ferrets in the hunting of rabbits is hereby prohibited. The provisions of this section

shall not apply to Long Island. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof. The counties of Wayne, Onondaga and Oswego are hereby exempt from the provisions of this section in so far as it relates to the killing or hunting with ferrets of hares and rabbits.

(As amd. by chap. 179 of Laws of 1896.)

Beaver not to be Killed.

§ 50. No beaver shall be caught or killed at any time in this state. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of a misdemeanor, and in addition thereto shall be liable to a penalty of fifty dollars for each beaver caught or killed in violation of this section.

(This sec. (No. 50) is chap. 463 of Laws of 1896.)

Wolves and Panthers, Bounty.

§ 52. A bounty of thirty dollars for each grown wolf, fifteen dollars for each pup-wolf, and twenty dollars for each panther shall be paid to any person who shall kill such animals in the state.

Claim for Bounty ; how Proven.

§ 53. The killing of a wolf or panther shall be proved by affidavit satisfactory to the supervisor and one of the justices of the town where the animal was killed, and the delivery to them of the skull and skin thereof, which skull shall be by them burned, and the skin branded, so as to be capable of identification.

Certificate to be Issued.

§ 54. The supervisor and justice so acting shall issue to the person making such satisfactory proof a certificate directed to the county treasurer of the county, stating the kind of animal killed, the date of killing and amount of bounty to which the person is entitled.

County Treasurer to Pay Certificate.

§ 55. The county treasurer to whom such certificate is directed shall pay the amount of bounty specified in said certificate to the person holding the same, out of the funds of the county, and on the presentation of said certificate to the comptroller, he shall allow the amount thereof to the county by which it was paid in settlement of taxes due therefrom.

§ 2. Article four of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two is hereby amended to read as follows :

ARTICLE IV.

BIRDS.

- Section 70. Wild fowl; close season.
71. Manner of killing.
72. Quail; close season.
73. Quail; when not to be possessed.
74. Woodcock and grouse; close season.
75. Woodcock and grouse; when not to be possessed.
76. Woodcock and grouse; when not to be transported.
77. Plover and other birds: close season.
78. Certain wild birds protected.
79. Meadow larks; close season.
80. Destroying or robbing nests.
81. Snaring, netting or trapping certain game birds forbidden.
82. Mongolian ring-necked pheasant.
83. Authority to collect birds, et cetera, for scientific purposes.
84. Steps to be taken to procure certificate.
85. Time for which certificates shall be in force.

Wild Fowl; Close Season.

§ 70. Web-footed wild fowl, except geese and brant, shall not be pursued, shot at, hunted, killed, possessed or sold between the last day of April and the first day of September, and shall not be pursued, shot at, hunted or killed, except during the hours in each day commencing one hour before sunrise and terminating one hour after sunset. On the Hudson river below the dam at Troy, boats propelled by hand may be used for the purpose of shooting web-footed fowl. The provisions of this section shall not apply to Long Island and Long Island sound. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Manner of Killing.

§ 71. Web-footed wild fowl shall not be pursued, shot at, hunted, killed or caught in any way, save with gun raised at arm's length and fired from the shoulder without other rest; nor from any boat other than a boat propelled by hand or floating device; nor by the use of any bough-house at a greater distance than fifty feet from either the shore or a natural growth of grass or flags. Such fowls caught or killed in any manner prohibited by this section shall not be brought to the shore, sold or possessed. The provisions of this section shall not apply to Long Island and Long Island sound. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Quail ; Close Season.

§ 72. Quail shall not be pursued, shot at, hunted or killed, except during the months of November and December. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Quail ; When Not to be Possessed.

§ 73. Quail shall not be sold or possessed except during the months of November, December and January, but possession thereof during the month of January is forbidden and shall be deemed a violation of this section unless it be proved by the possessor that said birds were killed within the lawful periods for killing the same, or outside the State, and they shall not be killed or possessed in the counties of Genesee, Wyoming, Orleans, Livingston, Monroe, Cayuga, Seneca, Wayne, Tompkins, Tioga, Onondaga, Ontario, Steuben, Cortland and Otsego, prior to the first day of November, eighteen hundred and ninety-eight. The provisions of this section shall not apply to Robbin's Island and Gardiner's Island. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Woodcock and Grouse ; Close Season.

§ 74. Woodcock, ruffed grouse, commonly known as partridge, or any member of the grouse family, shall not be pursued, shot at, hunted or killed except from the sixteenth day of August to the thirty-first day of December, both inclusive. The provisions of this section shall not apply to Long Island. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped, or possessed contrary to the provisions of this section.

Woodcock and Grouse ; When Not to be Possessed.

§ 75. Woodcock, ruffed grouse, commonly known as partridge, or any member of the grouse family, shall not be sold or possessed except from the sixteenth day of August to the thirty-first day of January following, both inclusive, and possession or sale thereof during the month of January is forbidden and shall be deemed a violation of this section, unless it be proved by the possessor or seller that said birds were killed within the lawful period for killing the same, or out of the State. The provisions of this section shall not apply to Long Island. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Woodcock, Quail and Grouse ; When Not to be Transported.

§ 76. Woodcock, ruffed grouse, commonly known as partridge, or any member of the grouse family, or quail killed in this State, shall not be transported to any point within or without this State, from or through any of the counties thereof, or possessed for that purpose, except that such birds may be transported from the county where killed, when accompanied by the owner thereof. Possession of the birds named by a common carrier, or by any person in its employ then actually engaged in the business of such common carrier unaccompanied by the owner, shall constitute a violation of this section by such common carrier. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped, snared or possessed contrary to the provisions of this section.

Plover and Other Birds; Close Season.

§ 77. Wilsons, commonly known as English snipe, plover, rail, mud-hen, gallinule grebe, bittern, surf-bird, curlew, water chicken, bay snipe, or shore bird shall not be shot at, hunted, killed or possessed during the months of May, June, July and August. The provisions of this section shall not apply to Long Island. Whoever shall violate or attempt to violate, the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Certain Wild Birds Protected.

§ 78. Wild birds shall not be killed or caught at any time, or possessed after the same are dead. This provision does not affect any birds the killing of which is prohibited between certain dates by the provisions of this act, nor does it protect the English sparrow, crow, hawk, crane, raven, crow blackbird, common blackbird and kingfisher; and it does not apply to any person holding a certificate under the provisions of this act. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Meadow Larks ; Close Season.

§ 79. Meadow larks shall not be shot at, killed or possessed after they are dead, at any time. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section. The provisions of this section shall not apply to Long Island.

Destroying or Robbing Nests.

§ 80. The nests of wild birds shall not be robbed or willfully or needlessly destroyed unless when necessary to protect buildings or prevent their defacement. This section does not apply to the English sparrow, hawk, crane, crow, raven, crow blackbird and common blackbird or kingfisher. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of a misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each nest robbed or destroyed contrary to the provisions of this section.

Snaring, Netting or Trapping Certain Game Birds Forbidden.

§ 81. English pheasants, ruffed grouse, commonly known as partridge, or any member of the grouse family, or quail, shall not be trapped, netted or snared, nor shall any person possess any of said birds so taken, nor shall any net, trap or snare of any kind commonly used for taking ruffed grouse, or any member of the grouse family, or quail, be set. Any such net, trap or snare is declared to be a public nuisance and may be abated and summarily destroyed. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped, snared or possessed contrary to the provisions of this section.

Mongolian Ring-necked Pheasant.

§ 82. No person shall kill, expose for sale or have in his or her possession after the same has been killed, any wild Mongolian ring-necked pheasant (*phasius torquatus*) prior to the year nineteen hundred. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped, snared or possessed contrary to the provisions of this section. The provisions of this section shall not apply to the county of Suffolk.

(As amd. by chap. 180 of Laws of 1896.)

Authority to Collect Birds, Et Cetera, for Scientific Purposes.

§ 83. Certificates may be granted by any incorporated society of natural history in the state or by the regents of the university of the state of New York, through such persons or officers as said society may designate, to any properly accredited person of the age of eighteen years or upwards, permitting the holder thereof to collect birds, their nests, or eggs for strictly scientific purposes only. In order to obtain such certificate the applicant for the same must present to the person or persons having the power to grant said certificates written testimonials from two well-known scientific men, certifying to the good character and fitness of said applicant to be intrusted with such privilege.

Steps to be Taken to Procure Certificates.

§ 84. Such person except officers of the New York State Museum, must pay to said persons or officers one dollar to defray necessary expenses attending the granting of such certificate, and

must file with said persons or officers a properly executed bond in the sum of two hundred dollars, signed by two responsible citizens of the state as sureties. This bond shall be forfeited to the state and the certificate become void upon proof that the holder of such certificate has killed any bird or taken the nest of eggs of any bird for other than the purposes above mentioned.

Time for which Certificates shall be in Force.

§ 85. Such certificates shall be in force for one year only from the date of their issue and shall not be transferable.

§ 3. Article five of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two, is hereby amended to read as follows :

ARTICLE V.

FISH.

- Section 100. Polluting streams.
- 101. Taking fish by drawing off water forbidden.
 - 102. Unlawful devices and explosives prohibited.
 - 103. Waters not to be stocked from streams.
 - 104. Fishing through the ice in waters inhabited by trout, et cetera, forbidden.
 - 105. Trout; close season.
 - 106. Trout not to be taken unless six inches in length.
 - 107. Trout, et cetera, not to be disturbed while spawning.
 - 108. Salmon trout and land-locked salmon; close season.
 - 109. Certain fish not to be transported.
 - 110. Black bass and Oswego bass, pickerel and wall-eyed pike in Saint Lawrence river; close season.
 - 111. Bass not to be taken less than eight inches in length.
 - 112. Muskallonge; close season.
 - 113. Salmon; close season.
 - 114. Salmon not to be taken less than eighteen inches in length.
 - 117. Sign-boards near fishways.
 - 118. Fishing near fishways prohibited.
 - 121. Salt-water striped bass.
 - 122. Striped bass; close season.

Polluting Streams.

§ 100. No dyestuff, coal tar, refuse from gas houses, sawdust, shavings, tanbark, lime or other deleterious or poisonous substances shall be thrown or allowed to run into any of the waters of this State, either private or public, in quantities destructive to the life of fish inhabiting the same. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Taking Fish by Drawing Off Water and by Other Devices Forbidden; Exception.

§ 101. No fish shall be taken by shutting or drawing off water for that purpose; provided, however, that the commissioners of fisheries, game and forest may give permission to persons owning or in charge of private ponds, reservoirs or the waters of the state, the privilege of taking therefrom carp, pickerel or other deleterious fish with nets or other devices, or by drawing off the waters from said ponds or reservoirs. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of a misdemeanor and, in addition thereto, shall be liable to a penalty of one hundred dollars for each violation thereof, and ten dollars for each fish so taken.

(As amd. by chap. 462 of Laws of 1896.)

Unlawful Devices and Explosives Prohibited.

§ 102. The use of dynamite or other explosives in any of the waters of the state is prohibited except for mining and mechanical purposes. The possession by any person on the shores or islands of the inland waters of this state of dynamite or other explosives where the use of the same is prohibited by this section, shall be deemed a violation thereof. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and on conviction thereof shall be imprisoned for a period of not less than thirty days, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Stocking Private Waters.

§ 103. No trout of any kind, salmon trout or land-locked salmon, shall be taken from any of the waters of this state for the purpose of stocking a private pond or stream, except that the owner of such private pond may, upon the written consent of the fisheries, game, and forest commission, take any such fish from any stream of water running through premises owned by him, solely for the purpose of being placed in such private pond. Whoever shall violate, or attempt to violate the provisions of this section shall be deemed guilty of a misdemeanor, and, in addition thereto, shall be liable to a penalty of twenty-five dollars for each violation thereof, and ten dollars for each fish so taken.

(As amd. by chap. 368 of Laws of 1896.)

Fishing Through the Ice in Waters Inhabited by Trout, Et Cetera, Forbidden.

§ 104. No fish shall be fished for, caught or killed through the ice in any waters inhabited by trout, salmon trout or land-locked salmon during the closed season for the taking of such fish. The provisions of this section do not apply to Lake Ontario, Lake Erie, the Hudson and Niagara rivers, nor to Silver lake in the county of Wyoming, from the first day of January to the fifteenth day of February, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof and ten dollars for each fish so caught or possessed.

(As amd. by chap. 367 of Laws of 1896.)

Trout ; Close Season.

§ 105. Trout of any kind shall not be fished for, caught, killed or possessed except from the sixteenth day of April to the thirty-first day of August, both inclusive. This section shall not apply to Long Island. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation and ten dollars for each fish so caught or possessed.

Trout not to be Taken Unless Six Inches in Length.

§ 106. Trout of any kind, salmon trout or land-locked salmon, less than six inches in length, shall not be intentionally taken or possessed, and in case any such fish is caught or taken, the person taking it shall immediately place such fish back in the waters from which it was taken, without unnecessary injury. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of ten dollars for each fish so taken or possessed.

Trout, Et Cetera, not to be Disturbed While Spawning.

§ 107. Trout of any kind, salmon trout or land-locked salmon shall not be willfully molested or disturbed while upon their spawning beds during the close season, nor shall such fish or any spawn or milt from any such fish be taken or carried away while upon the spawning beds. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each fish so taken, possessed or carried away.

Salmon Trout and Land-locked Salmon ; Close Season.

§ 108. Salmon trout, sometimes known as lake trout, and land-locked salmon, shall not be caught or killed in the inland waters of this state, except from the first day of May to the thirtieth of September, both inclusive ; provided, however, that it shall be lawful to possess and sell at any time salmon trout, or land-locked salmon, if said fish have not been taken from the inland waters of this state during the close season, but possession of such fish during such close season is forbidden and shall be deemed a violation of this section, unless it be proved by the possessor that such fish were not caught in such inland waters during the close season. The provisions of this section shall not apply to Long Island. Whoever shall violate the provisions of this section, shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation and ten dollars for each fish so caught, killed or possessed.

Certain Fish not to be Transported.

§ 109. Trout of any kind, salmon trout or land-locked salmon, caught in any of the inland waters of this state, shall not be transported to any point within or without the state from or

through any of the counties thereof, or possessed for that purpose, except when accompanied by the owner. Possession thereof by a common carrier or by any person in its employ then actually engaged in the business of such common carrier unaccompanied by the owner shall constitute a violation of this section by such common carrier. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation and ten dollars for each fish so caught or possessed.

Black Bass, Oswego Bass, Pickerel, Pike or Wall-Eyed Pike ; Close Season.

§ 110. Black bass or Oswego bass, shall not be fished for, caught, killed or possessed except from the thirtieth day of May to the thirty-first day of December, both inclusive, and shall not be fished for, caught or killed in Lake George or Schroon lake, except from the first day of August to the thirty-first day of December, both inclusive, and shall not be fished for, caught or killed in the Schoharie river or in Foxes creek within three years from the thirty-first day of May, eighteen hundred and ninety-six, except in the month of August. Pickerel, pike, or wall-eyed pike, shall not be fished for, caught or killed or possessed except from the first day of May to the thirty-first day of January, both inclusive, except as provided in section one hundred and forty-one. Provided, however, that the commissioners of fisheries, game and forest shall have power to permit the taking or destruction of pickerel at any time in the waters inhabited by trout. The provisions of this section shall not apply to the Saint Lawrence between Tibbet's point lighthouse and the city of Ogdensburgh. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each fish so caught, killed or possessed. Every person fishing in the Schoharie river or in Foxes creek, or having fish in his possession caught in either of said waters, shall, whenever requested by any fish and game protector, or by any sheriff, deputy sheriff, constable, game constable or police constable, permit such officer to inspect and examine the fish taken by him or in his possession or control or in the boat, basket, creel, lock-up, or other thing occupied or possessed by him, and in case of his refusal to permit such inspection or examination he shall be liable to a penalty of twenty-five dollars for each such refusal, and such officer making such request shall have power, and he is hereby authorized, without a search-warrant, to at once proceed and make such inspection and examination of said fish, boat, basket, creel, lock-up or other thing in his possession or control, and to use such force as may be necessary for such purpose. Such refusal, if in the open season in said waters, shall be presumptive evidence that such person so refusing had intentionally taken from said waters, in said open season, and kept and not returned thereto, one black bass less than eight inches in length, in violation of this article, and if in the closed season in said waters, that he had taken one black bass from said waters during such closed season, in violation of the provisions of this section.

(As amd. by chap. 531 of Laws of 1896.)

Black Bass not to be Taken Less Than Eight Inches in Length.

§ 111. No black bass, less than eight inches in length, shall be intentionally taken from any of the waters of this state, nor possessed, and in case any such fish is caught or taken the person taking it shall immediately return it to the waters from which it was taken without unnecessary injury. The provisions of this section shall not apply to the Saint Lawrence river between Tibbet's point lighthouse and the city of Ogdensburgh. Whoever shall violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of ten dollars for each fish so taken or possessed.

(As amd. by chap. 531 of Laws of 1896.)

Muskallonge ; Close Season.

§ 112. Muskallonge shall not be fished for, caught or possessed, except from the thirtieth day of May to the last day of February, both inclusive. The provisions of this section shall not apply to the Saint Lawrence river between Tibbet's point lighthouse and the city of Ogdensburgh. Whoever shall violate, or attempt to violate, the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation and ten dollars for each fish so caught, killed or possessed.

(As amd. by chap. 531 of Laws of 1896.)

Salmon ; Close Season.

§ 113. Salmon shall not be fished for, caught or killed between the fifteenth day of August and the first day of March following, nor shall such fish taken between those dates in this state be possessed. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation, and ten dollars for each fish so caught, killed or possessed.

Salmon Not to be Taken Less than Eighteen Inches in Length.

§ 114. No salmon less than eighteen inches in length shall be intentionally taken alive from any of the waters of this state, nor possessed, and in case any such fish is caught or taken the person taking it shall immediately place such fish back in the waters from which it was taken without unnecessary injury. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation and ten dollars for each fish so taken, killed or possessed.

Signboards Near Fishways.

§ 117. The commissioners of fisheries, game and forest are required to maintain, fifty rods from any fishway erected by the state, and on both sides of the stream, signboards containing substantially the following notice : " Fifty rods to the fishway ; all persons are by law prohibited from fishing in this stream between this point and the fishway." The provisions of this section shall apply to public waters only.

Fishing Near Fishways Prohibited.

§ 118. Fishing or attempting to take fish by any device whatever within fifty rods of such fishway, erected by the state, and any interference with the signboards there maintained by the commissioners of fisheries, game and forest, is forbidden. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation and ten dollars for each fish so taken, killed or possessed.

Salt-water Striped Bass.

§ 121. No salt-water striped bass less than eight inches in length shall be intentionally taken from any of the waters of this state, nor possessed; and, in case any such fish is taken, the person so taking it shall immediately place such fish back into the water from which it was taken without unnecessary injury. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation, and ten dollars for each fish, so taken, killed or possessed.

§ 4. Article six of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two, is hereby amended to read as follows:

ARTICLE VI.

MISCELLANEOUS PROVISIONS.

- Section 130. Certain fish not to be placed in the waters of the Adirondacks.
131. St. Lawrence river, Niagara river and Lake Champlain, fishing by certain devices prohibited.
132. Lake Ontario, Lake Erie, and Cattaraugus creek, fishing by certain devices prohibited.
134. Meshes of nets in Lakes Erie, Ontario and Cattaraugus creek.
136. Taking shad, herring and other fish in the Hudson and Delaware rivers and other waters.
137. Salmon taken in nets from the Hudson river to be thrown back.
138. Richmond county and New York or Raritan bay; regulations as to nets.
139. Nets not to be used in the Harlem river.
140. Exceptions as to Saint Lawrence and Warren counties.
141. Certain fish may be caught through the ice in lakes named.
143. Eel-wiers.
145. Taking minnows for bait.
146. Size of meshes in Coney Island creek regulated.
149. Frost fish and whitefish may be taken with nets in certain lakes.
150. Fishing with nets and other devices.
151. Nets to be licensed.
152. Thumping.
153. Exceptions as to commissioners of fisheries, game and forest.

Certain Fish Not to be Placed In the Waters of the Adirondacks.

§ 130. No fish, fish fry, spawn or melt, except speckled trout, brook trout, brown trout, salmon trout, rainbow trout, Adirondack frost fish or land-locked salmon, shall be placed in the waters of the Adirondack region except under the immediate supervision and in pursuance of a resolution of the commissioners of fisheries. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of five hundred dollars for each violation thereof.

Saint Lawrence River, Niagara River and Lake Champlain, Fishing by Certain Devices Prohibited.

§ 131. No fish shall be fished for, caught or killed in any manner, or by any device except angling in the waters of the St. Lawrence river, Niagara river, nor in Lake Champlain in this state, except that it shall be lawful to fish with seines, machines or traps in that portion of the waters of Niagara river adjacent to and included within the limits of the town of Lewiston, county of Niagara, for the purpose of catching fish of all kinds, except black bass, yellow pike, salmon trout, whitefish, pickerel and muskallonge, during the same months in the year in which it is lawful for a citizen of the Dominion of Canada to fish in like manner and for a like purpose in that portion of the waters of said river within said dominion adjacent or opposite to those herein last aforesaid; provided, however, that no such seine, machine or trap shall be used for fishing purposes without first obtaining a license to use the same from the commissioners of fisheries, game and forests, who, upon application of a person entitled thereto, as provided herein, may grant such license upon payment of five dollars a year for each and every seine, machine or trap licensed. No license, however, shall be granted to any person except citizens of the United States of America, and except that it shall be lawful to take bullheads, eels, suckers, catfish and pike or pickerel in Lake Champlain, except during the months of March, April and May, and in the waters of Niagara river during the months of November, December, January and March it shall be lawful to take all fish excepting black bass and muskallonge with a seine, providing that permission so to do has been first obtained from the commissioners of fisheries, game and forests, and fish taken contrary to the provisions of this section shall not be knowingly possessed. No fish shall be taken from the waters of Silver lake or the marshes adjoining such lake, by any means or device whatever, during the months of March and April. Whoever shall violate or attempt to violate the provisions of this act shall be deemed guilty of misdemeanor, and in addition thereto, shall be liable to a penalty of one hundred dollars for each violation thereof.

(As amd. by chap. 783 of Laws of 1896.)

Lake Ontario, Lake Erie, and Cattaraugus Creek, Fishing by Certain Devices Prohibited.

§ 132. No fish shall be fished for, caught or killed in any manner or by any device except angling, in the waters of Lake Erie, within one-half of a mile of the shores thereof, or of any of the islands therein; nor in the Cattaraugus creek, or within five miles of the mouth thereof, or of any

island therein; nor in Lake Ontario, within one mile of the shore, or of any island therein, nor within three miles of the mouth of the Niagara river, the waters of Lake Ontario in the county of Jefferson, included between Blue Rock Point, in the town of Brownville, and the town line between the towns of Lyme and Cape Vincent, including Chaumont bay, Griffin bay, and Three Mile bay, in the county of Oswego, between the northerly line of the town of Mexico and Jefferson county line, are hereby exempt from the provisions of this act, but sections one hundred and ten, one hundred and eleven and one hundred and sixty-eight of this act shall apply to said waters. Fish taken contrary to the provisions of this section shall not be knowingly possessed. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Meshes of Nets Used In Lakes Erie and Ontario and Cattaraugus Creek.

§ 134. The meshes of nets used in Lake Erie and Lake Ontario and Cattaraugus creek shall not be less than one and one-eighth inch bar. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Taking Shad, Herring and Other Fish In the Hudson and Delaware Rivers, and Other Waters.

§ 136. Shad, herring and other fish shall not be taken from the Hudson or Delaware rivers or Rondout creek with nets of any kind. Shad and herring shall not be taken from Rondout creek or the Hudson or Delaware rivers between the fifteenth day of June and the fifteenth day of March following; between the fifteenth day of March and the fifteenth day of June shad and herring may be taken from said waters by nets; but said nets shall not be drawn nor fish taken therefrom between sunset on Saturday night and sunrise on Monday morning, unless by reason of the inclemency of the weather said nets can not be drawn prior to sunset on Saturday night, in which case it shall be lawful to take fish therefrom as soon as the weather will permit, and between the first day of September and the thirtieth day of May following, bullheads, catfish, suckers, eels, pickerel, sturgeon, white and yellow perch, may be caught by means of hoop-nets, fykes, and gill-nets, in the Hudson river, Wallkill creek and in Rondout creek, below the dam at Eddyville and in Wappingers creek, and in the Ten Mile river in the town of Dover, nets shall not be set or used north of the dam at Troy between June first and September first; sturgeon may also be taken in the waters of the Hudson river with sturgeon nets of not less than seven inches. Nothing in this section shall be construed to prohibit the catching of fish with hook and line in Rondout creek at any time.

(As amd. by chap. 154 of Laws of 1896.)

Salmon Taken In Nets From the Hudson River to be Thrown Back.

§ 137. Salmon, black bass, trout, salmon trout, and pike perch caught in nets, in fishing for other fish in the Hudson river, shall be thrown back into the water without unnecessary injury. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof.

Richmond County and New York or Raritan Bay ; Regulations as to Nets.

§ 138. No device except angling shall be placed, drawn or used for the capture of any fish, except menhaden, in the waters of Raritan bay, nor in any waters adjacent thereto, in Richmond county, except that shad may be taken by shad-nets between the fifteenth day of March and the fifteenth day of June, both inclusive, but said nets shall not be allowed to remain in said waters from Saturday at sunset to the following Monday at sunrise. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Nets Not to be Used In the Harlem River.

§ 139. Nets, set-nets, pounds or fykes shall not be used in Harlem river or East river or the adjacent waters or confluent brooks within five miles from Middlegate or between said Middlegate and Fort Schuyler. This section shall not apply to nets used for catching lobsters or crabs in Harlem, North or East rivers. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Exceptions as to Saint Lawrence and Warren Counties.

§ 140. It shall be lawful to fish at any time for perch, suckers, bullheads and pickerel with nets and fykes, and to spear such fish through the ice in any of the streams, ponds or lakes in Warren county, excepting that in Schroon lake, Long pond or Glen lake and Lake George the use of nets, spears and fykes is forbidden. No fish of any kind, except suckers and billfish or garpikes, shall be caught in Black lake, in Saint Lawrence county, or in the waters tributary to said lake, or in the Oswegatchie river, from the boundaries of the city of Ogdensburgh to the village of Heuvelton, except from the first day of May to the fifteenth day of November, both inclusive. Nothing herein contained shall be construed as prohibiting the catching of fish by angling, in the waters of Black lake, in Saint Lawrence county, at any time, nor the use of spears in catching fish in said Black lake during the months of September, October and November. No transportation company in Saint Lawrence or Jefferson counties shall transport any fish caught contrary to the provisions of this section, and when fish, at any time, are offered such company for transportation, they may at their option refuse to accept the same until satisfactory proof is furnished that they were not caught in violation of law. Possession thereof by a

common carrier, or by any person in its employ then actually engaged in the business of such common carrier, unaccompanied by the owner, shall constitute a violation of this section by such common carrier. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Certain Fish May Be Caught Through the Ice In Lakes Named.

§ 141. Pickerel, bullheads, catfish, eels, perch and sunfish may be fished for through the ice with hooks and lines or tip-ups in Lake Keuka or Crooked lake or in any of the waters of the state not inhabited by trout, lake trout, salmon trout, black or Oswego bass or land-locked salmon or muskallonge and by set lines in the Susquehanna river, and in the waters of Port bay, in the county of Wayne. Suckers, bullheads, eels and dog-fish may be caught at any time by means of hooking and spearing in Oneida lake and Oneida river or in any of the waters of the state not inhabited by trout, lake trout, land-locked salmon, muskallonge, black bass or Oswego bass. Provided, however, that pike, pickerel and wall-eyed pike may be taken with hook and line or spear, and muskallonge with hook and line, in any of the inland waters of this state not inhabited by trout, or salmon of any kind during the months of December, January and February, except in waters of Cortland county. Suckers, bullheads and eels may be caught in Seneca lake with seines four rods in length and meshes to be not less than one and one-fourth inches in size, with rope for hauling not to be more than thirty feet in length at each end of net, providing that permission so to do has been first obtained from the commissioners of fisheries, game and forests.

Eel Weirs.

§ 143. Eel weirs of which the laths are not less than one inch apart, may be maintained at any time in any of the waters of this state not inhabited by trout, lake trout, salmon trout, or land-locked salmon, except in the Chemung river and its tributaries in the counties of Steuben and Chemung, and except in the Susquehanna river; provided, that there be a clear passage at low water mark at some point in said weir of not less than ten feet in width for the passage of boats and fish. Eel pots of a form and character such as may be prescribed by the rules of the commissioners of fisheries, may be used in any waters not inhabited by trout, lake trout, salmon trout, or land-locked salmon. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of fifty dollars for each and every eel weir or eel pot built or maintained in violation of this section, and ten dollars for each fish caught therein in violation of this section.

(As amd. by chap. 658 of Laws of 1896.)

Taking Minnows for Bait.

§ 145. The provisions of this act prohibiting the use or placing of nets and certain devices in waters of the State shall not apply to taking minnows for bait, but nets for that purpose must not exceed forty feet in length and four feet in depth, with ropes at either end not exceeding

thirty feet. This section shall not authorize the placing or use of nets or any other device of a kind used for catching fish in streams inhabited by trout, nor the taking of trout by means of nets or other devices except angling in any waters. The provisions of this section shall not apply to salt waters.

Size of Meshes in Coney Island Creek Regulated.

§ 146. The meshes of nets used in Coney Island creek to the mouth thereof, extending out into Gravesend Bay one-half mile each way, shall not be less than four inches square, except that for eel and flounder fishing hoop-nets with suitable meshes may be used within said bay from the fifteenth day of October to the thirty-first day of March following, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof.

Frost Fish and White Fish May Be Taken with Nets in Certain Lakes.

§ 149. Frost fish and white fish may be taken from the waters of Otsego Lake in the county of Otsego, from the first day of May to the thirty-first day of August, both inclusive, with seines having meshes not less than one and three-quarter inches bar, provided, however, that such fishing with seines shall only be done in the daytime, between sunrise and sunset, and pickerel may be taken through the ice in said lake, by tip-ups or set lines; and frost fish, white fish or Otsego bass, lake trout, perch, eels, and pickerel may be taken from the waters of said lake by rod and reel or by hook and line held in hand from the first day of January to the thirty-first day of October, both inclusive. Frost fish, whitefish, catfish, sunfish, pumpkin seeds, bullheads, perch and suckers may also be taken with nets from inland lakes not inhabited by brook trout during such period, and in such manner and under such rules and regulations as the commissioners of fisheries, game and forest may prescribe, which rules and regulations may be amended or abrogated at any time. Such rules may be either general or special at the option of the commissioners, and may be published in such manner as they may deem proper. Whoever shall violate or attempt to violate such rules and regulations or the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

(As amd. by chap. 150 of Laws of 1896.)

Fishing With Nets and Other Devices.

§ 150. Fishing with nets, seines, fykes, dip-nets or other devices except angling or placing, drawing or using the same in any of the rivers, lakes and inland waters of this State is prohibited except as permitted by this act, and except where otherwise provided. The meshes of all nets seines, fykes and dip-nets which may be lawfully used shall in no case be less than one and one-eighth inch bar. Whoever shall violate or attempt to violate the provisions of this section shall

be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for the first violation thereof and two hundred dollars for each subsequent violation thereof.

Nets to Be Licensed.

§ 151. It shall be the duty of the board of commissioners of fisheries, game and forest to prescribe rules and regulations for the purpose of granting all licenses to seines, fykes and nets in water when specially permitted by this act, other than dip-nets, scap-nets and nets used for taking minnows for bait and to cause a duly authenticated copy of the same to be filed in the office of the secretary of state; and it shall be the duty of the secretary of state to print such rules and regulations in the volume of session laws for the current year. Such rules and regulations shall take effect upon the first day of September, eighteen hundred and ninety-five, and thereafter fishing with seines, fykes, and nets other than scap-nets, dip-nets and nets used for catching minnows for bait, without a license having been obtained therefor in accordance with such rules and regulations, is prohibited. Whosoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof. The provisions of this section shall not apply to the salt waters of the state.

Thumping.

§ 152. Sailing, rowing, pushing or floating in any boat or vessel on any waterway, run or channel in which the waters are too deep to draw a seine in the usual way, or patrolling the banks of such waterway, run or channel and at the same time stamping, jumping, shouting, pounding, beating, or splashing the waters, beating or pounding the banks, waters or boats while a seine is set, drawn, held or floated at either end of such waterway, run or channel or the sides thereof with the intent to frighten the fish out of the deep waters into such seine and generally known as thumping, is forbidden. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of fifty dollars for each violation thereof.

Exceptions as to Commissioners of Fisheries, Game and Forest.

§ 153. The provisions of this act shall not be so construed as to prevent the commissioners of fisheries, game and forest, or persons in their employ and under their direction from taking fish with nets at such times and in such manner as they may direct for the purpose of the artificial propagation of fish.

§ 154. It shall be lawful to fish in the waters of Seneca lake with nets or seines, the meshes of which shall not be less than a two-inch bar, from the first day of June to the thirtieth day of September, both inclusive, provided that permission so to do has been first obtained and a

license secured from the commissioners of fisheries, game and forests. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of a misdemeanor and in addition thereto shall be liable to a penalty of fifty dollars for each violation thereof.

(This Sec. (No. 154) is chap. 660 of Laws of 1896.)

§ 5. Article seven of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two, is hereby amended to read as follows :

ARTICLE VII.

SPECIAL PROVISIONS AS TO KINGS, QUEENS AND SUFFOLK COUNTIES AND LONG ISLAND SOUND.

Section 160. Article to apply to Kings, Queens and Suffolk counties and Long Island Sound only.

- 161. Close season for wild fowl.
- 162. Exception as to wild fowl.
- 163. Plover and other birds ; close season.
- 164. Woodcock and grouse ; close season.
- 165. Robbins and Gardiners islands.
- 166. Trout ; close season.
- 167. Salmon trout and land-locked salmon ; close season.
- 168. Black bass ; close season.
- 169. Hares and rabbits.
- 170. Deer.
- 171. Black and gray squirrels.
- 172. Jamaica bay.
- 173. Supervisors of Suffolk county ; powers conferred.
- 174. Destroying or robbing nests.
- 175. Meadow hens and other birds ; close season.

Article to Apply to Kings, Queens and Suffolk Counties and Long Island Sound Only.

§ 160. This article applies exclusively to the counties of Kings, Queens and Suffolk and Long Island sound.

Close Season for Wild Fowl.

§ 161. Web-footed wild fowl shall not be shot at, hunted, killed or possessed from the first day of May to the thirtieth day of September, both inclusive, nor shall the same be pursued, shot at, hunted or killed between sunset and daylight. Whoever shall violate or attempt to violate the provisions of this section, shall be deemed guilty of a misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Exceptions as to Wild Fowl.

§ 162. Floating devices may be used for the purpose of shooting web-footed wild fowl therefrom in Long Island sound, Great South Bay, west of Smith's Point, Shinnecock and Peconic bays, and in any part of said counties said birds may be pursued and killed from boats propelled by hand, and from any sail boats in Long Island sound, Gardiner and Peconic bays. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed or possessed contrary to the provisions of this section.

Plover and Other Birds; Close Season.

§ 163. Plover, curlew, jack snipe, bittern, Wilsons, commonly known as English snipe, yellow legs, Killdeer, Willet snipe, dowitcher, short-necks, rail, sandpiper, baysnipe, surf snipe, winter snipe, ring-necks, and oxeys shall not be shot at, hunted, killed or possessed, except from the first day of July to the thirty-first day of December, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Woodcock and Grouse; Close Season.

§ 164. Ruffed grouse, commonly known as partridge, or any member of the grouse family or meadow larks shall not be hunted, shot at or killed from the first day of January to the thirty-first day of October, both inclusive. Woodcock shall not be hunted, shot at or killed from the first day of January to the thirty-first day of July, inclusive. Nor shall either of such birds be possessed, dead or alive, or sold after the thirty-first day of January until the end of the close season for such birds respectively. Possession thereof during the month of January is forbidden and shall be deemed a violation of this section, unless it be proved by the possessor or seller that said birds were killed within the lawful period for killing the same or out of this state. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each bird killed, trapped or possessed contrary to the provisions of this section.

Robbins and Gardiners Island.

§ 165. Quail may be shot on Robbins island so long as it remains the property of the Robbins Island club, and on Gardiners island, from the fifteenth day of October to the thirty-first day of January following, both inclusive, and woodcock may be shot on such islands from the first day of August to the thirty-first day of December, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor.

Trout ; Close Season.

§ 166. Trout shall not be fished for, caught, killed or sold as food except from the twenty-ninth day of March to the thirty-first day of August, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof and ten dollars for each fish so caught.

Salmon Trout and Land-locked Salmon ; Close Season.

§ 167. Salmon trout and land-locked salmon shall not be fished for, caught, killed or possessed except from the first day of April to the thirtieth day of September, both inclusive; provided, however, that it shall be lawful to possess and sell at any time salmon trout if said fish have not been taken from the inland waters of this state during the close season, but possession of such fish during such close season is forbidden and shall be deemed a violation of this section, unless it be proved by the possessor that such fish were not caught in such inland waters during the close season. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof and ten dollars for each fish so caught.

Black Bass ; Close Season.

§ 168. Black bass shall not be fished for, caught, killed or possessed except from the thirtieth day of May to the thirty-first day of December, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof and ten dollars for each fish so caught.

Hares and Rabbits.

§ 169. Hares and rabbits shall not be shot at, hunted, killed or possessed, except from the first day of November to the thirty-first day of December, both inclusive. The use of ferrets in the hunting of rabbits is hereby prohibited. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each animal killed, trapped or possessed contrary to the provisions of this section.

Deer.

§ 170. Shooting at, hunting with dogs or otherwise, or killing deer is prohibited, except during each Wednesday in the month of November in each year. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

(As amd. by chap. 144 of Laws of 1896.)

Black and Gray Squirrels.

§ 171. Black and gray squirrels shall not be hunted, shot at, killed, or possessed except from the first day of November to the thirty-first day of December, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each animal killed or possessed contrary to the provisions of this section.

Jamaica Bay.

§ 172. Fish shall not be fished for, caught or killed by any device except angling in the waters of Jamaica bay; and nets shall not be placed in said waters for any purpose. The inlet from the ocean to Jamaica bay shall not be obstructed by any net or device at any time so as to prevent the passage of fish. Angling shall be lawful in said bay every day of the year. This section does not prevent the catching of eels by the use of spear or eel-weir; or the capture of minnows or shrimp for bait by means of hand nets, not exceeding forty feet in length, and four feet in depth, nor the taking of refuse or debris from said water with nets, the meshes of which shall not be less in size than six inch bar. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof and ten dollars for each fish so caught.

Supervisors of Queens and Suffolk Counties; Powers Conferred.

§ 173. The boards of supervisors of the counties of Queens and Suffolk shall, in addition to the powers herein conferred upon boards of supervisors, have power to pass rules, regulations, laws and ordinances permitting, regulating, controlling or prohibiting the taking of fish and shellfish from or in the salt water of either of such counties.

(As amd. by chap. 975 of Laws of 1896.)

Destroying or Robbing Nests.

§ 174. The nests of wild birds known as meadow hens or mud hens, the robbing of which is commonly called egging, shall not be robbed or needlessly or willfully destroyed at any time. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof.

Meadow Hens and Other Birds; Close Season.

§ 175. Meadow hens, mud hens, gallinule or water chickens or grebe shall not be shot at, hunted, killed or possessed from the sixteenth day of August to the thirty-first day of December, both inclusive. Whoever shall violate or attempt to violate the provisions of this

section shall be deemed guilty of misdemeanor and shall in addition thereto be liable to a penalty of twenty-five dollars for each violation thereof.

§ 6. Article eight of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two, is hereby amended to read as follows:

ARTICLE VIII.

SHELLFISH.

Section 180. State oyster protector.

181. Salary and traveling expenses.

182. Assistant to protector.

183. Salaries, how paid.

184. Polluting waters.

185. Garbage, et cetera, not to be thrown into Long Island sound.

187. Taking oysters from Hudson river for replanting.

188. Close season in Harlem river.

189. Oyster beds protected.

190. Non-residents not to gather shellfish.

191. Dredging and raking for oysters and clams regulated.

192. Sale of lobsters under certain size prohibited.

193. Oysters, how sold, in shell.

194. Taking clams and oysters about Staten Island regulated.

195. Taking oysters in South bay regulated.

197. Leases for cultivation of shellfish.

198. Limitation of preceding section.

State Oyster Protector.

§ 180. The commissioners are authorized to appoint a state oyster protector, whose duty it shall be to patrol, under the direction of the commissioners, the oyster regions of the state for the purpose of enforcing the provisions of this act and guarding the shellfish property thereof, who shall have the same powers and duties with reference to shellfish as given by law to game and fish protectors and foresters for the protection of fish, game and forests.

Salary and Traveling Expenses.

§ 181. The salary of such protector shall be one thousand dollars per annum, and he shall be allowed in addition his actual traveling and incidental expenses, not exceeding seven hundred and fifty dollars per year.

Assistant to Protector.

§ 182. The commissioners, in their discretion, shall allow such protector an assistant, who shall be paid at the rate of two dollars and fifty cents per day for the time of actual service, together with his actual traveling and incidental expenses not exceeding five hundred dollars per year.

Salaries, How Paid.

§ 183. The protector and his assistant shall be paid their salaries and expenses in the same manner as game, fish and forest protectors are paid.

Polluting Water.

§ 184. Sludge, acid and other refuse from any oil works, or sugarhouses, or from buildings connected with either of the same, or any substance injurious to oyster culture shall not be placed or allowed to run into any waters within the jurisdiction of the State. This section shall not apply to refuse arising from the manufacture of oil from menhaden or other oil-bearing fish. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Garbage, Et Cetera, Not to be Thrown Into Long Island Sound.

§ 185. No garbage, cinders, ashes or refuse of any kind shall be thrown from any vessel into the waters of Long Island sound or into the bays or harbors opening into the same, west of a line drawn from Old Field Point due north to the boundary line between New York and Connecticut, and within two miles of the shore, and no starfish shall be thrown into any waters of the state. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Taking Oysters From Hudson River For Replanting.

§ 187. Oysters shall not be taken from the Hudson river north of the county of New York at any time for the purpose of conveying them to another state to have them replanted. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof.

Close Season In Harlem River.

§ 188. Oysters shall not be taken from the Harlem river between the thirty-first day of May and the first day of September. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof.

Oyster Beds Protected.

§ 189. Sub. 1. No person shall fish for, take or catch any oysters or hard clams between half an hour after sunset and half an hour before sunrise, except in the waters of the Kill von Kull and the Arthur Kill. No person shall in any wise interfere with, take, disturb or carry away the oysters of another lawfully planted or cultivated in any of the waters of this state, or remove any stakes or buoys or any boundary marks of any planted or cultivated beds. The presence of any person on said beds with dredges or tongs overboard shall be considered prima facie evidence of guilt. Whoever shall violate or attempt to violate the provisions of this subdivision shall be guilty of a misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

2. All sheriffs, deputy sheriffs and constables, shall, and any other person, may, seize any boat or vessel used by any person or persons in violation of subdivision one of this section, together with the tackle, apparel and furniture of said boat or vessel wherever found, within one year after such violation, and shall forthwith give notice thereof to any justice of the peace of the county where the seizure was made.

3. The justice of the peace, to whom such notice is given as provided in subdivision two of this section, shall forthwith fix a time and place for trial, and give at least six days' previous notice of the same to the person or persons in possession of said boat or vessel at the time of such seizure, and also to the owner thereof, if said persons entitled to such notice are known and are residents of the county within which the seizure is made. If any of the persons entitled to such notice are unknown or are non-residents of the county where the seizure is made, then the said justice of the peace shall order that a notice directed to such person or persons, if known, or if unknown, then generally to whom it may concern, be published once a week, for two successive weeks, in a newspaper published in the said county, which notice shall contain, as near as may be a description of the boat, vessel or property seized, a concise statement of the grounds of seizure thereof and the time and place fixed by the said justice of the peace for trial, which time shall not be less than six days from the day of the last publication of such notice.

4. At the time and place fixed by the said justice of the peace for trial or at such time and place to which the said justice of the peace may adjourn the same, he shall determine by the evidence taken by him whether such boat, vessel or property was used in interfering with, taking, disturbing or carrying away oysters or other shellfish in violation of any provisions of this section, and if said justice of the peace shall determine that said boat, vessel or property was so used, he shall order the same to be sold together with the furniture, tackle and apparel, and shall direct the manner of the sale thereof. The avails from such sale, after deducting all the charges and expenses of such seizure, trial and sale, which said justice of the peace may allow, shall be paid to the commissioners of fisheries, game and forest.

5. Any person who shall prevent or obstruct any person from entering and seizing any boat or vessel liable to seizure under the provisions of this section, shall be guilty of misdemeanor and shall be punished by a fine not exceeding one hundred dollars, or by imprisonment for not more than one year or both.

(As amd. by chap. 383 of Laws of 1896.)

Non-residents Not to Gather Shellfish.

§ 190. Only persons who have been actual residents of this state for six months shall be entitled to gather shellfish from the waters of this state, except when such non-resident is employed for that purpose by a person authorized to gather the same. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Dredging and Raking for Oysters and Clams Regulated.

§ 191. No dredge operated by steam power or weighing over fifty pounds, shall be used on beds of natural growth in dredging for shellfish. No rake, tongs, dredge or other device shall be used for taking hard or round clams with spaces or openings between the teeth or prongs of less than one inch, and no hard or round clams less than one inch in thickness shall be caught or possessed, but, if caught shall be returned to the water from which they are taken without unnecessary injury, except as provided in section one hundred and seventy-three. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Sale of Lobsters Under Certain Size Prohibited.

§ 192. Lobsters less than nine inches in length, measured from one extremity to the other, exclusive of claws or feelers, shall not be caught, sold or possessed. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof.

Oysters, How Sold, In Shell.

§ 193. Oysters in the shell may be sold either by count or measure; if not sold by count they shall be sold in a stave measure, which shall be uniform in shape and of the following dimensions:

The bottom to be sixteen and one-half inches across from inside to inside, and the top to be eighteen inches diagonally from inside chine to top; such measure shall be even or struck measure, to be inspected and sealed by the sealer of weights and measures in the county where used. This provision shall not affect the shipment of oysters in barrels to foreign countries. Oyster measures sealed by the county sealer may be used in any county of the state. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof.

Taking Clams and Oysters About Staten Island Regulated.

§ 194. Oysters and clams, whether of natural growth or planted, shall not be dug up, caught, or removed between half an hour after sunset and half an hour before sunrise, from the waters on

the south side of Staten Island, lying between a line extending due south from the point known as the point of the beach at Great Kills, and a line extending due south west from Wards Point, in the town of Westfield. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Taking Oysters In South Bay Regulated.

§ 195. Oysters, spawn, seed oysters or shells shall not be dug up, caught or removed from any of the waters of South bay, in the county of Suffolk, between the thirty-first day of May and the first day of September, nor between sunset and sunrise at any time. Any oyster shells caught or taken from the public waters of said bay, in said county, shall be returned to the water in the locality where taken within ten minutes after being so taken. No blade or scraper tongs shall be used or possessed on the waters of said bay, in said county for the purpose of catching such shellfish, and possession of a blade or scraper tongs on said waters is a violation of this provision. This section is subject to the provisions of section one hundred and seventy-three. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of a misdemeanor and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Leases For Cultivation of Shellfish.

§ 197. The commissioners may make leases of lands under water for the purposes of shellfish cultivation; beds of oysters of natural growth shall not be leased unless the same have for five years ceased to produce natural oysters in sufficient quantities to enable persons engaged in the planting and cultivation of oysters to earn a livelihood by working on such lands. Such leases shall not be made unless notice thereof has been posted for not less than three weeks in a conspicuous place in the office of the commissioners, and in the office of the clerk of the town nearest to the lands applied for and also in the post office nearest such lands. The letting shall be at public auction to the highest bidder and shall not be made for a less sum than twenty-five cents per acre per annum, nor for a longer period than fifteen years. The moneys received for such leases shall be paid forthwith into the treasury of the state. The lessee shall immediately cause the grounds so leased to him to be plainly marked out by stakes, buoys, or monuments, which shall be maintained by the lessee, his successor or assigns during the continuance of the lease. Any controversy respecting the boundaries of lands so leased shall be determined by the commissioners on application of any party thereto. The commissioners may remove summarily from such lands any tenants who neglect to pay rent.

(As amd. by chap. 653 of Laws of 1896.)

Limitation of Preceding Section.

§ 198. The preceding section does not limit the power of the commissioners of the land office that any grant of land under water made by such commissioners where such land is

actually occupied and in use for the cultivation of shellfish shall be subject to the right of the occupant to occupy and use such grounds for a period not exceeding the unexpired term of his lease, nor longer than two years ; nor does such section apply to or affect lands under water owned, controlled or claimed under colonial patents or legislative grants by any town or person in the counties of Suffolk, Queens, Kings or Richmond ; lands under the waters of Gardiners and Peconic bays ceded by the state to the county of Suffolk pursuant to chapter three hundred and eighty-five of the laws of eighteen hundred and eighty-five, or lands under water in Jamaica bay, in the counties of Queens and Westchester. Nothing in this act contained shall be construed as invalidating any leases or franchises of land under water, issued or granted by the commissioners of fisheries of this state subsequent to the first day of January, eighteen hundred and ninety-three ; and all such leases and franchises made subsequent to the first day of January, eighteen hundred and ninety-three, are hereby declared to be valid and the lessees holding under and by virtue thereof are hereby confirmed in their leases and franchises ; nor shall this act apply to any lands under water, which at the time of the passage of this act are advertised to be leased at public auction, for the purpose of shellfish cultivation, by said commissioners.

§ 7. Article nine of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two is hereby amended to read as follows :

ARTICLE IX.

PRIVATE GROUNDS AND PARKS.

- Section 210. Trespassing on private grounds forbidden.
- 211. Notices to be posted on private grounds.
- 212. Laying out grounds in private parks.
- 213. Notice to be posted in private parks.
- 214. Notice when territory is fenced.
- 215. Fish or game so protected not to be interfered with.
- 216. Signs not to be defaced.

Trespassing on Private Grounds Forbidden.

§ 210. No person shall trespass upon inclosed or cultivated lands for the purpose of shooting or hunting any game, or taking any fish from private ponds or streams, after public notice has been given by the owner or person entitled to the exclusive right to shoot or fish thereon, as provided in this article. Whoever shall violate the provisions of this section shall be deemed guilty of misdemeanor and shall in addition thereto be subject to exemplary damages in an amount not more than twenty-five dollars in addition to the actual damages sustained by the owner or lessee.

Notices to be Posted on Private Grounds.

§ 211. The notice provided for in the last section shall be given by maintaining signboards at least one foot square upon at least every fifty acres of the premises sought to be protected

upon or near the lot lines thereof, or upon or near the shores of any waters thereon, in at least two conspicuous places, or by personal service of a notice containing a brief description of the premises and name of the owner or of the person having the exclusive right to shoot, hunt or fish thereon, and prohibiting the same.

Laying Out Grounds for Private Parks.

§ 212. A person owning or having the exclusive right to shoot, hunt or fish on lands, or lands and water, desiring to devote such lands or lands and water, to the propagation or protection of fish, birds or game shall publish in a newspaper printed in the county within which such land or lands and water are situate a notice, once a week, for a term not less than four weeks in the county where the lands so described are situated, substantially describing the same and containing a clause declaring that such land or lands and water will be used as a private park for the purpose of propagating and protecting fish, birds and game. Provided, however, that all waters heretofore stocked by the state, or which may hereafter be stocked by the state from any of the hatcheries, hatching stations, or by fish furnished at the expense of the state, shall be and remain open to the public to fish therein the same as though the private park law had never existed. But nothing herein contained shall be construed as affecting any rights now existing of persons owning lands or holding leases of private grounds, waters or parks prior to the passage of this act.

(As amd. by chap. 319 of Laws of 1896.)

Notice to be Posted in Private Park.

§ 213. There shall be posted and maintained upon such private territory, notices or signboards, not less than one foot square, warning all persons against trespassing thereon. Such notice or signboards shall be placed not more than forty rods apart, along the entire boundary of such private territory, when the same shall consist entirely of land, or when it shall consist of both land and water they shall be placed so that there shall be at least one notice or signboard for every hundred acres thereof. When the private property consists of a lake, pond or stream only, such notices shall be placed in at least four conspicuous places on or near the shore of such lake or pond, and one of such notices shall be placed on every half mile of such stream in a conspicuous place on the bank thereof.

Notice When Territory is Fenced.

§ 214. When such territory or any part thereof is fenced, notices or signboards shall be placed on or near such fences not more than forty rods apart.

Fish or Game when so Protected not to be Interfered with.

§ 215. Upon compliance with the foregoing provisions for preventing trespassing or for devoting lands to propagation of fish, birds and game, no person shall disturb or interfere in any way with the fish or wild birds or wild animals while on the premises so protected, except with

the consent of the owner or person having the exclusive right to shoot, hunt or fish thereon. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and shall, in addition thereto, be subject to exemplary damages in an amount not less than fifteen dollars, nor more than twenty-five dollars, in addition to the actual damages sustained by the owner or lessee.

Signs not to be Defaced.

§ 216. Signs placed pursuant to the foregoing provisions shall not be defaced or removed under penalty of twenty-five dollars.

§ 8. Article ten of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two is hereby amended to read as follows :

ARTICLE X.

PROSECUTIONS.

- Section 230. Actions, how entitled.
231. Authority to bring actions.
232. Actions, where brought.
233. Discontinuance.
234. Two or more penalties in one action.
235. Witness fees and disbursements in actions by people.
236. Actions by persons or societies.
237. Judgments recovered under this act, how collected.
239. Recovery, how disposed of in actions by individuals.
240. One-half of recovery to go to protector.
241. Expenses of actions by people, how paid.
242. Report of commissioners to legislature.
243. Arrests of offenders by protectors and trial thereof.
244. Jurisdiction of courts.
245. Punishment for misdemeanor.
246. Issue of warrants of arrest.
247. Search warrant, when issued.
248. Witnesses.

Actions, How Entitled.

§ 230. All penalties imposed by this act may be sued for and recovered in the name of "The People of the State of New York."

Authority to Bring Action.

§ 231. Actions for penalties, and as provided in section two hundred and thirty, shall be brought in the name of the people on order of the chief fish and game protector and forester, or

by direction of either of the commissioners who are hereby authorized in their discretion, to employ special counsel to commence and maintain such actions, and the compensation of such special counsel may be fixed and allowed by the commissioners.

(As amd. by chap. 233 of Laws of 1896.)

Actions, Where Brought.

§ 232. Actions for penalties imposed by this act may be brought in any town in the county where the penalty shall be incurred, or in the county where defendant resides, subject only to the right to remove the same to any other county adjoining that in which the penalty shall be incurred, or in which the action shall have been brought as aforesaid, for cause shown, as provided by the code of civil procedure.

Discontinuance.

§ 233. Actions for penalties in the name of the people may be discontinued by order of the court upon the application of the chief fish and game protector and forester at any time before trial upon such terms as the court may direct.

Two or More Penalties In One Action.

§ 234. Two or more penalties may be sued for and recovered in the same action, whether brought by the people or in the name of an individual or society.

Witness Fees and Disbursements In Actions By People.

§ 235. Witness and other fees and disbursements and full costs shall be recovered in any judgment in favor of the people under this act at the rate fixed by section thirty-two hundred and fifty-one of the code of civil procedure, without reference to the amount of recovery.

Actions By Persons or Societies.

§ 236. Any individual upon giving security for costs, unless he shall be the owner or lessee of the premises upon which it shall be claimed the penalty was incurred, and any society or corporation, or any agent of any society or association for the protection of fish or game may recover in his or its name all penalties provided for by this act, with costs, but on recovery by the plaintiff in such case of a less sum than fifty dollars, plaintiff shall only be entitled to costs to the amount of such recovery. Such person shall be entitled to one-half of the penalty recovered, the other half to be paid to the board of commissioners, but any such action shall be discontinued without costs or disbursements to either party, in case an action shall be thereafter brought for the same violation in the name of the people and an order to that effect may be entered on motion of the chief fish and game protector and forester or one of the commissioners, on notice to all the parties thereto. Such motion shall be entitled and made in both actions. Any person or society bringing an action under this section shall notify the chief fish and game protector and forester thereof, within fifteen days after service of the summons therein, and failure so to do shall be a defense to the action.

Judgments Recovered Under this Act, How Collected.

§ 237. All judgments recovered under the provisions of this act may be enforced by execution against the person; any person in prison upon such execution shall be so imprisoned for a period of not less than one day, and at the rate of one day for every dollar of such judgment when the same exceeds one dollar; no one shall be more than once imprisoned, nor for a longer period than six months upon any judgment; such imprisonment shall not be a satisfaction of such judgment.

Recovery, How Disposed Of In Actions By the People.

§ 238. The amount of fines imposed or penalties recovered and collected in all actions, settlements, compromises or proceedings hereafter or heretofore brought under the direction of a commissioner or upon the order of the chief fish and game protector and forester in the name of the people shall be disbursed by said board as hereinafter provided. Any officer or person failing to pay over any such money recovered by him shall be guilty of a misdemeanor, and shall be removed from office, and a civil action may be brought against any such officer or person for the recovery of any such money received by him in the name of the people under the direction of either of the commissioners.

Recovery, How Disposed Of In Actions By Individuals.

§ 239. One-half of the recovery in all actions heretofore brought or hereafter to be brought by an individual or society in his or its name shall be paid to the board of commissioners to be by it disposed of in the same manner as other moneys received by it, and it shall be the duty of the person in whose hands such moneys shall come to pay over the same, and in case of failure so to do such moneys may be recovered from the person receiving the same in action brought in the name of the people under the direction of the chief fish and game protector and forester or the commissioners.

One-half of Recovery to Go to Protector.

§ 240. The commissioners shall dispose of the fines and penalties received by them as follows. They shall deduct all the expenses incurred in the inquisition or collection of such fines or penalties and shall pay one-half of the remainder to the protector and forester or special protector and forester upon whose information the action was brought. Such payment shall be made on the certificate of the chief fish and game protector or forester that such protector and forester is entitled thereto, and the certificate of the chief protector and forester shall be final.

Expenses of Action by People, How Paid.

§ 241. The remaining money received by the board of commissioners shall be applied to the payment of the expenses of actions for violation of this act on the certificate of the chief protector and forester.

Report of Commissioners to Legislature.

§ 242. The board of commissioners shall include in their annual report to the legislature a detailed report of their receipts and disbursements under this article.

Arrest of Offenders by Fish and Game Protectors and Foresters and Trial Thereof.

§ 243. Any protector or peace officer may, without warrant, arrest any person committing a misdemeanor under the provisions of this act, in his presence, and take such person immediately before a justice of the peace or other magistrate, having jurisdiction, who shall, after giving defendant reasonable time to prepare for trial, proceed without delay, to hear, try and determine the matter, and give and enforce judgment according to the allegations and proofs.

Jurisdiction of Courts.

§ 244. Courts of special sessions in towns and villages, and the several courts in cities having jurisdiction to try misdemeanors, as provided by section fifty-six of the code of criminal procedure, shall have jurisdiction to try offenders in all cases occurring under this act, in the same manner as in other cases where they now have jurisdiction, and to render and enforce judgment to the extent herein provided, and said courts shall have jurisdiction of all said offenses committed within the county where said courts are held, in the same manner as though the defendant had been taken before a magistrate of the town where the offense was committed.

Punishment for Misdemeanor.

§ 245. Any person convicted of a misdemeanor under the provisions of this act shall be punished except as otherwise provided by this act by a fine of not less than ten dollars, nor more than at the rate of one dollar for every dollar of the penalty provided by the section so violated under which he is connected, or be imprisoned in the county jail or penitentiary for a period of not less than one day, nor more than at the rate of one day for every dollar of such fine, or by both such fine and imprisonment.

Issue of Warrants of Arrest.

§ 246. Any justice of the peace, police justice, county judge, judge of any city court, or magistrate having criminal jurisdiction, on sufficient proof by affidavit that any of the provisions of this chapter have been violated by any person temporarily within his jurisdiction, but not residing there permanently, or by any person whose name and residence are unknown, shall issue his warrant for the arrest of such offender and cause him to be committed or held to bail to answer the charge against him.

Search Warrant ; When Issued.

§ 247. Any justice of the peace, police justice, county judge, judge of any city court, or magistrate having criminal jurisdiction, upon receiving proof of probable cause for believing in the concealment of any game or fish taken or possessed contrary to the provisions of this act, shall issue his search warrant and cause a search to be made in any place, and to that end may cause any building or inclosure to be entered and may cause any apartment chest, box, locker, crate, basket or package to be broken open and the contents examined.

Witnesses.

§ 248. No person shall be excused from giving evidence in any civil or criminal action, prosecution, or proceeding, under or authorized by this act on the ground that the evidence might tend to convict such witness of a crime, or misdemeanor, or to establish the liability of such witness under any of the provisions thereof ; but such evidence shall not be received against such witness in any civil or criminal action, protection or proceeding.

§ 249. No person or persons shall be deemed to have violated any law or ordinance by reason of his or their selling, exposing for sale, transporting or possessing, or attempting so to do, the body or a part of the body of any wild animal or bird in the close season for such animal or bird, provided it be proved by him or them by production of proper invoices and freight or express receipts, that such wild animal or bird was shipped from a point at least three hundred miles distant from the state of New York. For the purpose of the proper enforcement of the section the package containing this wild animal or bird shall be marked plainly "game," and the place of shipment and destination shall also be plainly marked. All transportation companies which shall transport the same shall keep books plainly showing the receipt and delivery of such packages of game, and dealers in the same shall keep books of account showing the number of birds or animals received, sold or delivered by them, and shall, at all times, permit any authorized agent of the commissioners of fisheries, game and forest to examine their books of record for purpose of establishing the right of such possession or transportation in close season.

§ 9. Article eleven of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two is hereby amended to read as follows :

ARTICLE XI.**FISHWAYS.**

- Section 260. Commissioners to be notified of construction of dam.
 261. Authority of commissioners to direct fishways.
 262. Owners to comply with direction of commissioners.
 263. Commissioners to recover for construction and penalty.

Commissioners to be Notified of Construction of Dam.

§ 260. No dam shall be constructed by the state or any person upon any stream more than six miles in length inhabited by fish protected by this act, until the person about to construct, or the officers having charge of the construction of the same shall give written notice to the commissioners of such intention, together with a statement of the name, length and location of said stream, and the size and general description of such dam, and the purposes for which it is to be erected, together with a diagram thereof.

Authority of Commissioners to Direct Fishways.

§ 261. The commissioners are authorized in such cases to direct the construction of suitable fishways by an entry on their minutes and service of a copy of such order on a person constructing or officers having charge of the construction of such dam, and the person so constructing shall at his own expense, or the officers having charge of the construction shall, out of the funds appropriated for the construction of such dam comply with such directions, subject, on application on notice as on a motion, to the right of the supreme court to affirm, reverse, modify or alter such directions.

Owners to Comply with Directions of Commissioners.

§ 262. Such fishways shall be properly maintained by the owner or persons in possession of such dam, and shall be subject to examination and inspection on behalf of commissioners, who may direct such repairs and alterations as they may deem necessary, subject to the order of the supreme court, as in case of construction.

Commissioners to Recover for Construction and Penalty.

§ 263. In case of failure, refusal or neglect on the part of any person to comply with the directions of the commissioners as to building and repairing fishways, the commissioners may cause such fishways to be constructed or repaired, and the expense thereof may be recovered by the commissioners in an action against the owner or person in possession, or both, in the name of the people, and shall, in addition to the personal liability of such owner or person in possession be a lien upon the premises upon which such dam is situated. The person refusing or neglecting to comply with such directions of the commissioners as to construction or repairs shall also be liable to a penalty of ten dollars for each day during which they neglect to obey such directions, which penalty may be recovered in like manner in the same or a separate action.

§ 10. Article twelve of chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two is hereby made article fourteen, and is amended to read as follows :

ARTICLE XIV.

LAWS REPEALED, DEFINITIONS AND OTHER PROVISIONS.

- Section 300. Amendments to the game law.
 301. Definitions.
 302. Ordinances and regulations of boards of supervisors repealed.
 303. Powers of boards of supervisors.
 304. Laws repealed and saving clause.
 305. Construction.
 306. The clerk of the assembly to print and distribute copies of this act.
 307. Construction.
 308. When to take effect.

Amendments to the Game Law.

§ 300. All amendments to the game law shall be made a part of this act and additions to the game law shall be numbered as sections thereof.

Definitions.

§ 301. Words and phrases under this act, and in proceedings pursuant thereto, shall, unless inconsistent with the context, mean or include as follows :

1. " Person " shall include persons, copartnerships, joint-stock companies and corporations, and when used with reference to commission of acts which are herein forbidden, shall include persons *particeps criminis* in the acts, and the officers, agents and directors or trustees and similar controlling body of corporations.
2. Words importing masculine gender may apply to copartnerships, females, joint-stock companies and corporations.
3. Words importing the plural number may import the singular number.
4. Words importing the singular number may extend to and be applied to several persons or things.
5. " Angling " is defined to mean taking fish with hook and line and by rod held in hands, and does not include set lines. In fishing from boats, rods and lines not exceeding two in number may be used by any one person.
6. " Exclusive right to shoot, hunt or fish " is defined to mean the right of any person owning or having the right to the possession of the premises, or of any person leasing or reserving the exclusive right to shoot, hunt or fish thereon from the owner.
7. " Commissions," " commissioners " or " board of commissioners," as used in this chapter, shall be construed to mean the commissioners of fisheries, game and forest.
8. " Article," when standing alone in this act, shall be construed to refer to one of the articles hereof.
9. " Close season " is that period of time during which an act is prohibited.

10. Inclosed lands is defined to mean lands, the outlines or boundaries of which are marked by water, by a wire, ditch, hedge or fence, road or highway, or partially by one or more of said means, or any visible inclosure or distinctive boundary which indicates a separation from the surrounding or contiguous territory of whatever nature.

Ordinances and Regulations of Boards of Supervisors Repealed.

§ 302. All laws or ordinances heretofore passed by any board of supervisors of any county in this state, relating to birds, fish and wild animals, are hereby repealed, except the laws passed by the supervisors of the county of Suffolk in respect to salt water fishing, and in respect to shellfish, and boards of supervisors shall hereafter have no power or authority to pass any regulation or ordinance relating to birds, fish or game specified or referred to in this act.

Powers of Boards of Supervisors.

§ 303. The board of supervisors of any county may raise by tax any sum not exceeding one thousand dollars in any year, to aid in the enforcement of the provisions of this act.

Laws Repealed and Saving Clause.

§ 304. All laws and parts of laws inconsistent with this act are hereby repealed, but such repeal shall not affect or impair any act done or right accruing, accrued or acquired, or liability, penalty, forfeiture or punishment incurred prior to the time when this act takes effect, under or by virtue of any law so repealed, but an action may be commenced therefor and the same may be asserted, enforced, prosecuted or inflicted as fully and to the same extent as if such law had not been repealed, and all actions or proceedings, civil or criminal, commenced under or by virtue of the law so repealed and pending when this act takes effect, or commenced after this act takes effect, may be prosecuted and defended to final effect in the same manner as they might under the laws then existing, unless it shall be otherwise specially provided by law.

Construction.

§ 305. The provisions of this act, so far as they are substantially the same as those of laws existing when this act took effect, shall be construed as a continuation of such laws modified or amended according to the language employed in this act and not as new enactments, and references in laws not repealed, to provisions of laws incorporated into this act and repealed, shall be construed as applying to the provisions so incorporated, and nothing in this act shall be construed to amend or repeal any provision of the criminal or penal code.

The Clerk of the Assembly to Print and Distribute Copies of this Act.

§ 306. The clerk of the assembly shall cause to be printed and distributed twenty-five copies of this act to each of the following persons: Each senator and member of assembly, each fish and game protector and forester and each of the town clerks of the several towns of this state;

to the chief fish and game protector and forester, two thousand, and to the commissioners of fisheries, five hundred copies.

§ 307. Nothing in this act contained shall be construed to in any way repeal or modify chapter three hundred and ninety-five of the laws of eighteen hundred and ninety-five.

When to Take Effect.

§ 308. This act shall take effect immediately.

ARTICLE XV.*

SPECIAL PROVISIONS AS TO THE WATERS OF THE THOUSAND ISLANDS.

- Section 320. Article to apply to certain waters of the St. Lawrence river.
321. Protector to be appointed.
322. Definition of black bass.
323. Black bass, pickerel, pike, wall-eyed pike and muskallonge ; close season.
324. Fishing through the ice prohibited.
325. Black bass, limit as to size.
326. Black bass, limit as to catch.
327. Fishing by certain devices prohibited.
328. Unlawful devices and explosives prohibited.
329. Duty of anglers to exhibit their catch.
330. Right of protector to make search or examination.

Article to Apply to the Saint Lawrence River between Tibbet's Point Lighthouse and the City of Ogdensburg Only.

§ 320. This article applies exclusively to the waters of the Saint Lawrence river lying between an imaginary line drawn from Tibbett's Point lighthouse, about four miles southwest from Cape Vincent to the Snake Island lighthouse, about four miles southwest from the city of Kingston in Ontario, and an imaginary line drawn from the northern part of the city of Ogdensburg to the northern part of Prescott, in Ontario, situated on the opposite side of the Saint Lawrence river, and to be known for the purposes of this article as "the waters of the Thousand Islands."

Protector to be Appointed.

§ 321. The board of fisheries, game and forest is authorized to appoint a protector, to be known as the protector of the waters of the Thousand Islands, whose duty it shall be to patrol, under the direction of said board, the waters of the Thousand Islands, and to enforce the provisions of this article.

*Article XV. is an addition to chapter 974 of the Laws of 1895, as provided for by chapter 531 of the Laws of 1896.

Definition of Black Bass.

§ 322. Black bass, under this article, includes small-mouthed black bass, and large-mouthed black bass, otherwise known as Oswego bass.

Black Bass, Pickerel, Pike, Wall-Eyed Pike and Maskinonge ; Close Season.

§ 323. Black bass, pickerel, pike, maskinonge, commonly called muskallonge, shall not be fished for, caught, killed or possessed in the waters of the Thousand Islands, between the first day of January and the ninth day of June, both inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each fish so caught, killed or possessed.

Fishing Through the Ice Prohibited.

§ 324. No fish shall be fished for, caught or killed in any manner, or by any device, through the ice in the waters of the Thousand Islands, between the first day of January and the ninth day of June, inclusive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Black Bass Not to be Taken Less Than Ten Inches In Length.

§ 325. No black bass less than ten inches in length shall be intentionally taken alive from the waters of the Thousand Islands, nor shall the same be killed or possessed, and in case any such fish is caught or taken, the person taking it shall immediately place such fish back in the waters from which it was taken without unnecessary injury. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of twenty-five dollars for each violation thereof, and ten dollars for each fish so taken, killed or possessed.

Limit as to Catch of Black Bass.

§ 326. No person shall take, catch, kill or possess more than twelve black bass of the size permitted by this article in any one day. Where two or more persons are fishing or angling from the same boat the aggregate number of bass taken, caught, killed or possessed by the occupants of said boat in any one day shall not exceed twenty-four. Whoever shall violate or attempt to violate the provisions of this section shall be liable to a penalty of twenty-five dollars for each fish so taken, caught, killed or possessed in addition to the number hereby allowed.

Fishing by Certain Devices Prohibited.

§ 327. No fish shall be fished for, caught, or killed in any manner or by any device except angling in the waters of the Thousand Islands, except that it shall be lawful to take minnows

for bait in the manner provided for by section one hundred and forty-five of this act ; provided, however, that if any black bass, pickerel, pike, wall-eyed pike or maskinonge are taken in such nets they shall be immediately returned to the waters alive. Whoever shall violate or attempt to violate the provisions of this section shall be deemed guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Unlawful Devices and Explosives Prohibited.

§ 328. The use of dynamite or other explosives in any of the waters of the Thousand Islands is prohibited except for mining and mechanical purposes. The possession by any person on the shores or islands of the waters of the Thousand Islands of dynamite or other explosives where the use of the same is prohibited by this section, shall be deemed a violation thereof. Whoever shall violate or attempt to violate the provisions of this section shall be guilty of misdemeanor, and in addition thereto shall be liable to a penalty of one hundred dollars for each violation thereof.

Duty of Anglers to Exhibit Their Catch of Fish.

§ 329. Every person fishing in the waters of the Thousand Islands shall, whenever requested by any fish and game protector, permit such protector to inspect and examine the fish taken by him or in his possession, or in the boat occupied by him, and the implements by which the same were taken, and in case of his refusal to permit such examination or inspection he shall be deemed guilty of misdemeanor, and also be liable to a penalty of twenty-five dollars for each such refusal.

Right of Protector to Make Search or Examination.

§ 330. In case any angler or person fishing in the waters of the Thousand Islands shall, upon the request of any fish and game protector, refuse permission to such protector to inspect and examine the fish taken by him or in his possession or in the boat occupied by him or the implements by which the same were taken, such inspector shall have power and he is hereby authorized, with or without a search warrant, to examine the contents of such boat or of any box, locker, basket, crate or other package therein, or in the possession of such angler or person so fishing, for the purpose of ascertaining whether the provisions of this article have been violated, and to use such force as may be necessary for the purpose of such examination.

APPENDIX.

Appendix.

CHAPTER 802 OF THE LAWS OF 1896.

AN ACT for the establishment of a state reservation upon and along the Saint Lawrence river in the state of New York.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. All that part of the river Saint Lawrence, lying and being within the state of New York, with the islands therein, is hereby constituted an international park which shall be known as "The State Reservation on the Saint Lawrence."

§ 2. The said state reservation on the Saint Lawrence shall be under the control and management of the board of fisheries, game and forest, who shall have the power to make and enforce ordinances, by-laws, rules and regulations for the management of the property of the state within the borders of said reservation, and for the orderly transaction of business not inconsistent with the laws of the state; to designate one of the present fish and game protectors as a superintendent, who shall be subject to the order of said board, who shall have the authority of a fisheries and game protector, and of a police constable in criminal cases within the limits of the state reservation.

§ 3. It shall be the duty of the said board of fisheries, game and forest to report to the next legislature of this state what laws, in their opinion, should be enacted for the government and control of said state reservation, so as to make the same the most useful to the people of the state as a part of an international park upon the Saint Lawrence river, comprising the whole of said river.

§ 4. This act shall take effect immediately.

CHAPTER 657 OF THE LAWS OF 1857.

AN ACT conferring jurisdiction upon the board of fisheries, game and forest, to hear and determine any controversies regarding the leasing of lands under water for the purpose of the cultivation of shellfish.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. Jurisdiction is hereby conferred upon the board of fisheries, game and forest to hear any and all controversies which have arisen or may hereafter arise, regarding the leasing of lands under water for the purpose of the cultivation of shellfish, and to determine the same, upon such terms as may be just and equitable.

§ 2. The said board of fisheries, game and forest, in addition to the powers and duties heretofore conferred upon it by law, shall have power to sue for and collect and to compromise,

compound and satisfy any and all rents which now are and may hereafter be in arrears, from lands under water leased by the state for the purpose of shellfish cultivation, and to make such rebates, for the rental of such lands, as in their judgment shall seem just and equitable ; provided, however, that no such rental shall be reduced to less than twenty-five cents per acre per annum for each acre leased.

§ 3. This act shall take effect immediately.

CHAPTER 251.

AN ACT for the protection of the fur-bearing animals in the county of Wayne.

BECAME a law April 15, 1896, with the approval of the Governor. Passed, a majority being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. No person shall catch or kill, or attempt to catch or kill, within the county of Wayne, any mink, skunk, muskrat or fox, except upon his premises or within the limits of an incorporated village, or have the same in his possession which was so killed, from the first day of May to the thirtieth day of the following October; except that foxes shall not be so killed or caught from the first day of May to the thirtieth day of the following September.

§ 2. Any person violating the provisions of this act shall be liable to a penalty of twenty-five dollars for each and every offense, to be recovered, with the costs of the suit, by any person in his own name, or by a game constable of a town, before a justice of the peace in the county of Wayne, when the amount does not exceed the jurisdiction of such justice, or before a court of record in such county. One-half of the penalty so recovered shall go to the person bringing the action and one-half to the county treasurer, to be credited to the poor fund of the town where the offense was committed.

§ 3. This act shall take effect immediately.

CHAPTER 561.

AN ACT providing for the protection of Antwerp or homing pigeons.

APPROVED by the Governor May 13, 1892. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. That on and after the passage of this act it shall be unlawful for any person or persons to shoot, maim or kill any Antwerp or homing pigeon, either while in flight or at rest, and any person guilty of killing, shooting, or maiming such pigeon or pigeons, as aforesaid, shall be guilty of misdemeanor, and upon conviction thereof shall, for every such offense, pay a fine of not less than ten nor more than twenty-five dollars.

§ 2. That on and after the passage of this act it shall be unlawful for any person or persons to detain or entrap any Antwerp or homing pigeon, provided, however, that such Antwerp or homing pigeon shall have the name of its owner stamped upon its wing or tail, or wear a ring or seamless leg band with its registered number stamped upon it, and any person or persons so detaining such pigeon or pigeons, shall be guilty of a misdemeanor, and upon conviction thereof, shall, for every such offense, pay a fine of not less than ten nor more than twenty-five dollars.

§ 3. That on and after the passage of this act, it shall be unlawful for any person or persons to remove the ring or seamless leg band with its registered number from any Antwerp or homing pigeon, to which he or they cannot prove ownership, and any person or persons removing such a ring or leg band from such pigeon or pigeons shall be guilty of misdemeanor, and upon conviction thereof shall, for every such offense, pay a fine of not less than ten nor more than twenty-five dollars.

(As amd. by chap. 824 of Laws of 1896.)

CHAPTER 656 OF THE LAWS OF 1896.

AN ACT for the republication and distribution of the fish, game and forest laws of eighteen hundred and ninety-five, and all acts of eighteen hundred and ninety-six amendatory and supplementary thereto.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. The clerk of the assembly shall print and distribute copies of the fish, game and forest laws of eighteen hundred and ninety-five and all acts amendatory and supplementary thereto of eighteen hundred and ninety-six, as follows : Twenty-five copies to each senator and member of the assembly, each game protector and forester, and each of the town clerks of the several towns of this state ; and twenty-five hundred copies to the commissioners of fisheries, game and forest.

§ 2. This act shall take effect immediately.

Suffolk County.

AN ACT for the protection of soft shell clams in the waters of the town of Brookhaven, in Suffolk county.

The authority to pass this resolution is found in chapter 488 of the session laws of 1892.

It was passed March 21, 1893, by a vote of two-thirds of all members elected.

The board of supervisors of the county of Suffolk, at a meeting thereof lawfully assembled on the 21st day of March, 1893, at least two-thirds of all the members elected being present and voting therefor, do enact as follows :

Section 1. It shall not be lawful for any person to catch or take any soft shell clams for the purpose of sale, or to sell or expose for sale any soft shell clams so caught or taken from the bottom or shore of Port Jefferson bay, or of any of the public waters of the town of Brookhaven during the months of May, June, July and August.

§ 2. It shall not be lawful for any person to carry away or to have on board any vessel with intent to carry away from the waters of Port Jefferson bay, or any public waters in the town of Brookhaven, in the county of Suffolk, any soft shell clams caught or taken in said bay or waters during the months of May, June, July and August.

§ 3. Any person who shall violate either of the foregoing sections shall forfeit and pay a penalty of fifty dollars for each offense.

§ 4. Any person may in his own name, prosecute any offender for the penalty specified in this act before any justice of the peace of the town of Brookhaven, and on recovery shall be entitled to retain one-half of such penalty; and the other half, after deducting the expenses of the prosecution, shall be paid to the supervisors for the use of the overseer of the poor.

§ 5. This act shall take effect on the first day of May next.

Filed July 13, 1893, in the office of the secretary of state.

AN ACT for the protection of soft shell clams within the waters within the boundaries of the town of Smithtown, county of Suffolk, state of New York.

The authority to pass this act is found in chapter 488 of the Session Laws of 1892.

Passed April 25, 1893, by a vote of two-thirds of all the members being present.

The board of supervisors of the county of Suffolk, at a meeting thereof, lawfully assembled on the 25th day of April, 1893, at least two-thirds of all the members elected being present and voting therefore, do enact as follows:

Section 1. It shall not be lawful for any person or persons to catch or take from the waters, from the bottoms, or from the shores within the boundaries of the town of Smithtown, any soft shell clams in quantities exceeding one bushel in any one day between the first day of May and the first day of October in each year.

§ 2. It shall not be lawful for any person or persons to sell or offer for sale during the months of May, June, July, August or September, any soft shell crabs caught or taken within the boundaries of said town of Smithtown.

§ 3. Any person or persons who shall violate either of the foregoing sections shall be liable to a penalty of twenty-five dollars for each offense. The penalty imposed in this act may be sued for and recovered, with costs of suit by any person in his own name, before any justice of peace in the town of Smithtown; one-half of such penalty imposed and collected under this act shall be paid to the person making the complaint, the other one-half to the supervisor of the said town to be applied by him to the contingent fund of the town.

§ 4. This act shall take effect immediately.

Filed, July 13, 1893, in the office of the secretary of state.

AN ACT for the protection of seed oysters on natural beds of oysters within the waters within the boundaries of the town of Smithtown.

The authority to pass this act is found in chapter four hundred and eighty-eight of session laws of eighteen hundred and ninety-two.

It was passed April twenty-five, eighteen hundred and ninety-three, by a vote of two-thirds of all the members present.

The board of supervisors of the county of Suffolk at a meeting thereof lawfully assembled on the twenty-fifth day of April, eighteen hundred and ninety-three, at least two-thirds of all members elected being present and voting therefor, do enact as follows :

Section 1. It shall not be lawful for any person or persons to catch or take from any natural bed of oysters within the waters within the boundaries of the town of Smithtown, any seed oysters excepting from planting beds within the boundaries of said town.

§ 2. Any person or persons who shall violate the foregoing section shall be liable to a penalty of twenty-five dollars for each offense. The penalty imposed in this act may be sued for and recovered with costs of suit, by any person in his own name before any justice of the peace in the town of Smithtown ; one-half of such penalty imposed and collected under this act shall be paid to the person making the complaint, the other one-half to the supervisor of said town, to be applied by him to the contingent fund of the town.

§ 3. This act shall take effect immediately.

Filed, July 13, 1893 in the office of the secretary of state.

AN ACT in relation to taking eels in certain waters of the town of Smithtown.

The authority to pass this resolution is found in chapter four hundred and eighty-eight, laws of eighteen hundred and ninety-two.

It was passed April twenty-five, eighteen hundred and ninety-three, by a vote of two-thirds of all the members elected.

The board of supervisors of the county of Suffolk, at a meeting thereof lawfully assembled, at least two-thirds of all the members elected being present and voting therefor, do enact as follows :

Section 1. It shall not be lawful for any person or persons at any time to place eel pots, or to use any seine for the purpose of taking eels in the waters known as St. James harbor and its tributaries, Nissequogue river, and Sunken Meadow creek and situated within the boundaries of the town of Smithtown, Suffolk county, New York.

§ 2. Any person or persons who shall violate the foregoing shall be liable to a penalty of twenty-five dollars for each offence. The penalty imposed in this act may be sued for and recovered with costs of suit by any person in his own name before any justice of the peace of the town of Smithtown ; one-half of such penalty imposed and collected under this act shall be paid to the person making the complaint, the other one-half to the supervisor of the town to be applied by him to the contingent fund of said town.

§ 3. This act shall take effect on the first day of May next.

Filed, July thirteen, eighteen hundred and ninety-three, in the office of the secretary of state.

AN ACT to regulate the taking of jingle and quarterdeck shells from the public grounds in the waters of Suffolk county, for the purpose of transportation and sale, and to protect and preserve the business of taking said shells in said waters to the inhabitants of said county.

The authority to pass this resolution is found in chapter thirty-one of the general laws, and the acts amendatory thereof.

The board of supervisors of Suffolk county, at a meeting thereof lawfully assembled on the twenty-fourth day of April, eighteen hundred and ninety-three, at least two-thirds of all the members elected being present and voting therefor, do enact as follows :

Section 1. It shall not be lawful for any person or persons to take from the public grounds in the waters of Suffolk county, during the months of July, August and September, by dredging, raking or in any other manner, any jingle or quarterdeck shells for the purpose of transportation and sale.

§ 2. Any person or persons violating any of the provisions of the foregoing section shall be liable for each offense to a penalty of twenty-five dollars, or to imprisonment in the county jail for not less than ten nor more than twenty-five days, in the discretion of the court.

§ 3. It shall not be lawful for any person not an inhabitant of the county of Suffolk, to take from the public grounds in the waters of said county, at any time by dredging, raking or in any other manner, any jingle, quarterdeck or other shells for the purpose of transportation and sale.

§ 4. Any person or persons violating any of the provisions of the foregoing section shall be deemed guilty of a misdemeanor, and for each offense shall be liable to a penalty of fifty dollars, or to imprisonment in the county jail for not less than twenty nor more than fifty days, in the discretion of the court.

§ 5. Any overseer of the poor of any town bordering upon the waters where any offense under this act is committed, shall prosecute for and recover the penalties specified for any violations of the provisions of this act, such penalties to be applied to the support of the poor of the town in which such overseer shall reside. In case such overseer shall refuse or neglect for a period of ten days to prosecute, then any person who is an inhabitant of said county may prosecute for and recover any such penalties in his own name, and may retain one-half thereof; the other half, after deducting the one-half of the expenses of the prosecution, shall be paid to the overseer of the poor of the town where such person resides, for the support of the poor of said town.

§ 6. This act shall take effect immediately.

Filed, July thirteen, eighteen hundred and ninety-three, in the office of the secretary of state.

AN ACT to regulate the taking of shad in the Nissequogue river within the boundaries of the town of Smithtown.

The authority to pass this act is found in chapter four hundred and eighty-eight of the laws of eighteen hundred and ninety-two, amended by laws of eighteen hundred and ninety-three, chapter five hundred and seventy-three.

Section 1. It shall not be lawful for any person or persons to catch or take from the waters of the Nissequogue river below a point of land bordering thereon known as "Hogs Leg" any shad between the fifteenth day of June and the first day of May in each year.

§ 2. No net having a smaller mesh than five inches shall be used for the purpose of catching shad.

§ 3. No nets shall be left in the water at any time without an attendant.

§ 4. All trout caught while fishing for shad shall be immediately returned to the water.

§ 5. No shad shall be taken between twelve o'clock Saturday night and six o'clock Tuesday morning.

§ 6. Any person or persons who shall violate any of the foregoing sections shall be liable to a penalty of twenty-five dollars for each and every offense. The penalty imposed by this act may be sued for and recovered with cost of suit by any person in his own name before any justice of the peace in the town of Smithtown; one-half of such penalty imposed and collected under this act shall be paid to the person making the complaint, the other one-half to the supervisor of said town to be applied by him to the contingent fund of the town.

§ 7. This act shall take effect immediately.

Filed May first, eighteen hundred and ninety-five, in the office of the secretary of state.

AN ACT entitled an act for the preservation of the scallop fisheries in the public waters of the towns of Huntington, Smithtown and Brookhaven, in Suffolk county, New York.

The authority to pass this resolution is found in chapter four hundred and eighty-eight, laws of eighteen hundred and ninety-two, amended by laws of eighteen hundred and ninety-three, chapter five hundred and seventy-three, section one hundred and seventy-three.

Section 1. It shall not be lawful for any person or persons by means of dredges, tongs, nets or in any other manner to take from the public waters or shores of the towns of Huntington, Smithtown, and Brookhaven in Suffolk county, any shellfish commonly called scallops, between the first day of June and the first day of October in each year. Any person or persons offending against the provisions of this section, on conviction shall be liable to a penalty of fifty dollars for each offense.

§ 2. The penalty imposed in this act may be sued for and recovered, with costs of suit, by any person in his own name, before any justice of the peace in said towns, when the amount does not exceed the jurisdiction of such justice; one-half of any penalty imposed and collected under this act shall be paid to the person making the complaint, the other one-half to the supervisor of the town, to be by him applied to the support of the poor of said town.

§ 3. This act shall take effect immediately.

Filed May first, eighteen hundred and ninety-five, in the office of the secretary of state.

Taxation of the State Forest Lands.

Section 22 of Article 2 of Chapter 908 of the Laws of 1896.

Assessment of State Lands in Forest Preserve.

§ 22. All wild or forest lands within the forest preserve shall be assessed and taxed at a like valuation and rate as similar lands of individuals within the counties where situated. On or before August first in every year the assessors of the town within which the lands so belonging to the state are situated shall file in the office of the comptroller and of the board of fisheries, game and forest, a copy of the assessment-roll of the town, which, in addition to the other matter now required by law, shall state and specify which and how much, if any, of the lands assessed are forest lands, and which and how much, if any, are lands belonging to the state; such statements and specifications to be verified by the oaths of a majority of the assessors. The comptroller shall thereupon and before the first day of September following, and after hearing the assessors and the board of fisheries, game and forest, if they or any of them so desire, correct or reduce any assessment of state lands which may be in his judgment an unfair proportion to the remaining assessment of land within the town, and shall in other respects approve the assessment and communicate such approval to the assessors. No such assessment of state lands shall be valid for any purpose until the amount of assessment is approved by the comptroller, and such approval attached to and deposited with the assessment-roll of the town, and therewith delivered by the assessors of the town to the supervisor thereof or other officer authorized to receive the same from the assessors. No tax for the erection of a schoolhouse or opening of a road shall be imposed on the state lands unless such erection or opening shall have first been approved in writing by the board of fisheries, game and forest.

Section 80 of Article 4 of Chapter 908 of the Laws of 1896.

Payment of Taxes on State Lands in Forest Preserve.

§ 80. The treasurer of the state, upon the certificate of the comptroller as to the correct amount of such tax, shall pay the tax levied upon state lands in the forest preserve, by crediting to the treasurer of the county in which such lands may be situated, such taxes, upon the amount payable by such county treasurer to the state for state tax. No fees shall be allowed by the comptroller to the county treasurer for such portion of the state tax as is so paid.

Form of Application for Fish Net License.

The Board of Fisheries, Game and Forests of the State of New York.

Application paper for license to use seines, fykes and nets.

(Pursuant to section 151 of the fisheries, game and forest law, as amended by the laws of 1895, chapter 974.)

I,, residing in, county of, state of New York; post office address,, New York, do hereby make application for a license to use:

(1) Kind and number of nets

(2) In the waters of

(3) In the towns of

(4) In the county of

(5) For the purpose of catching the following kinds of fish

(6) Are there brook, brown or California trout in such waters?

(7) Have you been convicted of illegal fishing within one year?

Applicant.

Dated,, 189..

We hereby recommend the granting of the foregoing application.

.....
P. O. address

.....
P. O. address

Received,, 189.. No.

Rules and Regulations

Relating to the use of nets, adopted by the board of fisheries, game and forests, at the city of Albany, on the tenth day of July, 1895, pursuant to section 151 of the fisheries, game and forest law, as amended by chapter 974 of the laws of 1895.

All licenses for nets shall be granted pursuant and subject to the following rules, regulations and restrictions, which shall be plainly printed on the back of each license issued, and made a part thereof.

1. Only one kind of net shall be used under each license granted.
2. The license shall specify the kind of net to be used and the duration of the license. Licenses will be granted for no longer than one year; all licenses granted during the year will expire on the thirty-first day of December following; and the chief fish, game and forest protector may, at any time, in his discretion, revoke any license after notice to the licensee of the charges made against him.
3. A license issued, pursuant to these rules, is not transferable, and if a licensed net be used by any other person than the licensee, it shall be deemed forfeited.
4. A metal tag shall be issued with each license, upon which shall be stamped a number corresponding with the number of the license; such tag must be attached to the net, when in use. The licensee must exhibit his license, when required, to any game protector or peace officer of this state, or to any person designated by the board of fisheries, game and forests.
5. Licenses granted may be for one seine, not exceeding one hundred feet in length; two fyke nets, not more than three feet in diameter, with leaders not more than fifty feet in length, except in Lake Ontario and Lake Erie.
6. Nets shall be set, drawn or used only between sunrise and sunset, and no net shall remain in the water after sunset unless raising them is prevented by the weather. (This rule shall not apply to Lake Ontario and Lake Erie.) Fish of all kinds, except those permitted to be taken in nets by section one hundred and forty-nine, chapter nine hundred and seventy-four, laws of eighteen hundred and ninety-five, shall, with careful handling, be returned to the water immediately.
7. The mesh of all nets used under any license shall not be less than one and one-quarter inch bar (one and one-quarter inch square.)
8. A licensed net shall only be used in the waters for which the license is given, and may be determined by the commissioners and specified in the license.
9. A violation of any of these rules and regulations, or any hereafter adopted, or of the game laws of this state, shall be sufficient cause for the forfeiture of said license.
10. Any person holding a license, who shall forfeit the same by reason of being hereafter convicted of illegal fishing, or shall violate any of these rules, shall not thereafter be granted another license, and no person shall be granted a license who, within the year preceding the application, has been convicted of illegal fishing.
11. All applications for licenses must be indorsed by two responsible persons.

12. All persons holding a license shall make monthly reports to the chief protector of all nets drawn, with statement of number and kind of fish caught and the value of the same.

13. Each applicant shall, at the time of filing his application, pay to the secretary of this board a fee of one dollar for such license.

14. No pickerel, pike, black or Oswego bass, trout of any kind, salmon, perch, wall-eyed pike or muskallonge shall be taken with nets under these rules and regulations; the license to be issued hereunder shall specify what fish may be caught.

15. The use of gill-nets will not be permitted in any of the fresh waters of this state, except in Lake Ontario and Lake Erie, more than one mile from shore, or from the islands therein, except as specially authorized by law. Gill-nets of not less than two-inch bar may be used in Lake Ontario and Lake Erie more than one mile from shore, after being duly licensed.

16. Eel-pots must not exceed in length fifty-six inches and in diameter not more than twelve inches, if round or otherwise, and not more than twelve inches square, if square in form; that the aperture or mouth of all eel-pots shall not be more than one and one-half inches in diameter, if round in form or otherwise, and not more than one and one-half inches square, if square in form; and that there shall be no fixtures or wings of any kind attached to or used in connection with eel-pots, intended to stop fish or to guide or force them into the mouth of the pot.

17. A bond to the people of the state of New York in the penal sum of three hundred dollars, with two sureties, to be approved by the board of fisheries, game and forests, conditioned that the applicant or applicants will not violate or attempt to violate any of the provisions of the laws of the state of New York relating to the protection of game and fish, and that he or they will faithfully observe all the rules and regulations of the board of fisheries, game and forests, so far as the same are applicable to, or made a part of, the conditions of the license, will be required before any license will be issued.

18. The board of fisheries, game and forests reserve the right to alter, amend, repeal or modify any or all of the foregoing rules and regulations, and may adopt new ones at any time as they deem expedient. They may revoke any license granted hereunder at any time, and for any reason which, to them, may seem sufficient. Nothing contained in any of these rules and regulations shall be construed as compelling the issuing of a license to any person, nor to prevent the revoking of such license at any time.

Information for All Who Apply for State Fish.

ALBANY, N. Y., *April*, 1896.

All persons who desire to obtain fish or fish fry from the fisheries, game and forest commission for planting in public waters of the state (for under no circumstances are fish furnished by the state to be planted in private waters), should apply to the secretary of the commission at the office in Albany, for blanks to be filled out for this purpose, at the same time stating the kind or kinds of fish desired. Three different blanks are furnished. Blanks for trout fry,

blanks for fish fry (including all fish furnished by the commission other than trout and black bass), and blanks for black bass. A separate blank must be filled for each kind of fish applied for. All applications for trout fry (including brook, brown, rainbow and lake trout), whitefish, ciscoes, Adirondack frost fish and smelts, must be filed in the office at Albany on or before February first, each year.

Applications for tomcods must be filed on or before January first.

Pike-perch and muskallonge applications may be filed as late as April first, and applications for black bass as late as May first.

Most of the species of the salmon family reared by the state, spawn in the fall and are hatched the following spring, and are ready for delivery from March to May, depending upon the season, and the situation of the hatchery. The spring spawning fishes, like the muskallonge, pike-perch and black bass, may be delivered in May and June. Applicants for fish are notified in advance of the shipments of fish assigned to them. Applications for fish received after the dates fixed by the commission for that purpose, must be rejected for that year, as assignments once made are final. The clerical work of filing applications and assigning millions of fish is so great that it can not be reviewed for reassignment before distribution begins.

By law, no fish, fish fry, or spawn, other than trout, salmon and frost fish, can be planted in the waters of the Adirondack region, and the penalty for violating the law is \$500. The law further provides that no trout of any kind or land-locked salmon shall be taken from any waters of the state for stocking a private pond or stream.

A. N. CHENEY,

State Fish Culturist.

Instructions for Transporting and Planting Young Fish.

Brook, brown, rainbow and Loch Leven trout should be planted in small rivulets tributary to the larger stream to be stocked. From the rivulets they will work down as they grow, into the main stream.

Lake trout should be planted among boulders or rocks on a shoal in mid-lake, very near to deep water, into which the young trout will find their way. In the absence of such shoals with rocks to afford hiding places for the young trout, they may be planted on natural spawning beds, when they are known.

In transporting young trout if they come to the surface of the water in the cans, it is a sign of exhaustion, and the water should be frequently aerated by dipping it from the can in a dipper and letting it fall into it again from a considerable height. It is safer to aerate the water placed in the cans at the hatchery than to add fresh water during the journey, the qualities of which are unknown. Should the water in the cans become warm, the temperature should be reduced by the addition of ice broken into small pieces.

If the water in the cans containing young trout should be warmer or colder than the water in the lake or stream at the time of planting the fish, the temperature should be equalized by mingling the two waters in the can before the fish are turned out, as marked changes in the temperature may kill the young trout.

Fish cans ordinarily hold about 5,000 trout fry, and not more than three cans of fry should be planted in one year in a stream from six to eight miles long, and the fry should be well distributed throughout the length of the stream (by planting in rivulets as previously stated), as by bunching the plant there is danger of exhausting the food suitable for the young fish.

Fry or yearling fish should be planted as soon as received, and never under any circumstances kept over night without constant watching and aerating the water. Trout are sent out by the state in the spring or fall, as transportation during the hot months is attended with great risk.

Applicants for fish should, so far as possible, ascertain the kinds and quality of fish food in the streams they desire to plant.

A. N. CHENEY,
State Fish Culturist.

Look Out for Fires—Rules and Laws.

Fires for clearing land near a forest must not be started until the trees are in full leaf. Before lighting such fires three days' notice, at least, must be given to the firewarden and occupants of adjoining lands. After such fires are lighted, competent persons must remain to guard them until the fire is completely extinguished, and the persons starting such fires will be held responsible for all damages, notwithstanding notice has been given to the firewarden.

Fires will be permitted for the purposes of cooking, warmth and insect smudges; but before such fires are kindled, sufficient space around the spot where the fire is to be lighted must be cleared from all combustible material; and before the place is abandoned, fires so lighted must be thoroughly quenched.

All fires, other than those hereinbefore mentioned are absolutely prohibited.

Hunters and smokers are cautioned against allowing fires to originate from the use of firearms, cigars and pipes; and all persons are warned that they will be held responsible for any damage or injury to the forest which may result from their carelessness or neglect.

Girdling and peeling bark from standing trees is prohibited. Fallen timber only may be used for firewood.

Fish and game protectors and foresters, firewardens and all citizens are requested to report to the fish, game and forest commissioners immediately all cases which may come to their knowledge, of damage or injury to forest trees arising from a violation of these rules.

By order of the fish, game and forest commission.

B. H. DAVIS,
President.

Fishways in St. Lawrence and Franklin Counties.

CHAPTER 498 OF THE LAWS OF 1895.

AN ACT to provide for the construction of fish-slides or fishways through private dams in the counties of Saint Lawrence and Franklin.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

Section 1. All and every person or persons owning or holding any mill dam or dams except in the Oswegatchie river, in and above the natural dam at Gouverneur, in Saint Lawrence county, upon any river located in Saint Lawrence or Franklin counties, shall construct in, or connect with, every such dam or dams, a slide, apron, waste-gate or other passage, sufficient to admit of all fish as usually enter the mouth of such river, in the spring of the year, to pass by, through or over the said dam or dams; which said slide, apron, waste-gate or other passage, shall be kept constantly open and unobstructed from the time said river or stream shall be cleared of ice in the spring, until the first day of June in each year; provided, that the keeping open of such slide, apron, waste-gate or other passage shall not cause a want of water for the use of any mills or machinery connected with, or depending upon any such dam or dams.

§ 2. Any and every person or persons, who now own or hold or hereafter becomes the owner or holder of such dam or dams, and who shall after January first, eighteen hundred and ninety-six, neglect or refuse to supply such dam or dams with sufficient slide, apron, waste-gate or other passage, for the passage of fish by, through or over the said dam or dams, or to keep said slide, apron, waste-gate or other passage open and unobstructed, shall be liable to a penalty of five dollars for every day he so neglects or refuses.

§ 3. All the provisions of the fish and game law, not inconsistent herewith, shall apply hereto.

§ 4. This act shall take effect immediately.

Fish and Game Protectors and Foresters.

J. Warren Pond, Chief Protector,	Albany, N. Y.
William Wolf, Clerk to Chief,	Waterford, N. Y.
John E. Leavitt, Assistant Chief,	Johnstown, N. Y.
M. C. Worts, Assistant Chief,	Oswego, N. Y.
Sebastian Hesbach, Oyster Protector,	Ozone Park, N. Y.
Edgar Hicks, Oyster Protector,	West New Brighton, N. Y.
John Ferguson, Assistant Oyster Protector,	Patchogue, N. Y.
J. L. Ackley,	Penn Yan, Yates County, N. Y.
F. S. Beede,	Keene Valley, Essex County, N. Y.
George Carver,	Lyons, Wayne County, N. Y.
S. T. Clock,	Bay Shore, Suffolk County, N. Y.
T. H. Donnelly,	Perry, Wyoming County, N. Y.
L. S. Emmons,	Oneonta, Otsego County, N. Y.
Ira Elmendorf,	Brodhead, Ulster County, N. Y.

Eugene Hathaway,	Harrisville, Lewis County, N. Y.
Spencer Hawn,	Cicero, Onondaga County, N. Y.
James Holmes,	Apalachin, Tioga County, N. Y.
Carlos Hutchins,	Indian Lake, Hamilton County, N. Y.
Willett Kidd,	Newburg, Orange County, N. Y.
A. B. Klock,	Herkimer, Herkimer County, N. Y.
J. H. Lamphere,	Weedsport, Cayuga County, N. Y.
J. D. Lawrence,	Bloomville, Delaware County, N. Y.
J. W. Littlejohn,	Loon Lake, Franklin County, N. Y.
E. J. Lobdell,	Northville, Fulton County, N. Y.
B. H. McCallum,	Oswegatchie, St. Lawrence County, N. Y.
Joseph Northup,	Alexandria Bay, Jefferson County, N. Y.
F. M. Potter,	Chautauqua, Chautauqua County, N. Y.
D. N. Pomeroy,	Lockport, Niagara County, N. Y.
W. L. Reed,	Canandaigua, Ontario County, N. Y.
R. M. Rush,	Camden, Oneida County, N. Y.
Bernard Salisbury,	Ellicottville, Cattaraugus County, N. Y.
Nicholas Shaul,	Middle Grove, Saratoga County, N. Y.
George B. Smith,	Horseheads, Chemung County, N. Y.
Alvin Winslow,	Stony Creek, Warren County, N. Y.
E. I. Brooks,	Brookmere, Monroe County, N. Y.

E. A. Hazen, Protector for the Thousand Islands, Hammond, St. Lawrence County, N. Y.

James Green, Caldwell, Warren County, N. Y., Custodian of Lake George Islands.

Firewardens.

CLINTON COUNTY.

Town.	Name.	Post Office Address.
Black Brook,	Wm. Hopkins,	Ausable Forks, N. Y.
Dannemora,	Arza Turner,	Dannemora, N. Y.

DELAWARE COUNTY.

Andes,	W. A. Elliott,	Andes, N. Y.
Bovina,	John W. Blair,	Bovina, N. Y.
Colchester,	Thomas Ford,	Shavertown, N. Y.
Davenport,	I. E. May,	Davenport, N. Y.
Delhi,	George Van Dyke,	Delhi, N. Y.
Franklin,	William Miller,	Franklin, N. Y.
Hamden,	Ralph Andrews,	Hamden, N. Y.
Hancock,	Francis Bonneford,	East Branch, N. Y.
Harpersfield,	J. Irving McLamey,	Harpersfield, N. Y.
Kortright,	J. A. Hill,	Kortright, N. Y.
Masonville,	John Barnabas,	Masonville, N. Y.

Town.	Name.	Post Office Address.
Meredith,	John White,	Meredith, N. Y.
Middletown,	DeWitt B. Cole,	Arkville, N. Y.
Roxbury,	Richard S. Hammon,	Roxbury, N. Y.
Stamford,	John H. King,	Stamford, N. Y.
Tompkins,	E. C. Howes,	Tompkins, N. Y.
Walton,	George P. Beers,	Walton, N. Y.

ESSEX COUNTY.

Chesterfield,	Carlos W. Rowe,	Keeseville, N. Y.
Crown Point,	H. Underhill,	Crown Point, N. Y.
Elizabethtown,	Carlos A. Jordon,	Elizabethtown, N. Y.
Essex,	Denton Sayer,	Essex, N. Y.
Jay,	Chas. O. Bartlett,	Upper Jay, N. Y.
Keene,	James Hall,	Keene, N. Y.
Lewis,	Charles Cutting,	Lewis, N. Y.
Minerva,	Robt. H. Wilson,	Olmsteadville, N. Y.
Moriah,	James Wright,	Moriah, N. Y.
Newcomb,	Washington Chase,	Newcomb, N. Y.
North Elba,	Fred. Lamb,	North Elba, N. Y.
North Hudson,	Chas. H. Lamb,	North Hudson, N. Y.
St. Armand,	Sylvester L. Reed,	Bloomington, N. Y.
Schroon,	Gustav Wickham,	Schroon Lake, N. Y.
Ticonderoga,	E. C. D. Wiley,	Ticonderoga, N. Y.
Westport,	William Ormiston,	Westport, N. Y.
Willsborough,	E. Severance,	Willsborough, N. Y.
Wilmington,	Cassius Winch,	Wilmington, N. Y.

FRANKLIN COUNTY.

Altamont,	E. Le Bouf,	Tupper Lake, N. Y.
Bangor,	Chas. J. Adams,	Bangor, N. Y.
Belmont,	Joseph Williamson,	Belmont Centre, N. Y.
Bombay,	W. H. Niles,	Bombay, N. Y.
Brandon,	B. Reynolds,	Brandon, N. Y.
Brighton,	E. C. Pine,	Paul Smith's, N. Y.
Dickinson,	James W. Sabin,	Dickinson, N. Y.
Duane,	A. R. Fuller,	Meacham Lake, N. Y.
Franklin,	Henry Pay,	Vermontville, N. Y.
Harrietstown,	Warren J. Slater,	Saranac Lake, N. Y.
Malone,	Fred. Degan,	Malone, N. Y.
Moir,	T. R. Eddy,	Moir, N. Y.
Waverly,	W. H. Flack,	St. Regis Falls, N. Y.

FULTON COUNTY.

Bleecker,	E. Fisher,	Bleecker, N. Y.
Caroga,	Englebert Hine,	Pine Lake, N. Y.
Ephratah,	M. G. Van Voarst,	Ephratah, N. Y.

Town.	Name.	Post Office Address.
Johnstown,	F. B. Warren,	Johnstown, N. Y.
Mayfield,	Wm. F. Bellin,	Gloversville, N. Y.
Northampton,	C. H. Ressiguie,	Northville, N. Y.
Stratford,	Netus Lancaster,	Stratford, N. Y.

GREENE COUNTY.

Ashland,	Frank Dodge,	Ashland, N. Y.
Athens,	Douglas W. McKnight,	Athens, N. Y.
Cairo,	Gaston Wynkoop,	Cairo, N. Y.
Catskill,	Benj. W. Grant,	Catskill, N. Y.
Durham,	Adelbert Newell,	Durham, N. Y.
Greeneville,	W. S. Rundell,	Greeneville, N. Y.
Hunter,	Wm. Douglass,	Hunter, N. Y.
Jewett,	Monroe Truesdell,	Jewett, N. Y.
New Baltimore,	Wm. Friend,	Stanton Hill, N. Y.
Prattsville,	Edward A. Clark,	Prattsville, N. Y.

HAMILTON COUNTY.

Arietta,	F. C. Adams,	Piseco, N. Y.
Benson,	H. Snell,	Benson, N. Y.
Hope,	Wm. Lawton,	Hope, N. Y.
Indian Lake,	Orrin Cross,	Indian Lake, N. Y.
Lake Pleasant,	D. E. Call,	Sageville, N. Y.
Long Lake,	W. D. Jennings,	Long Lake, N. Y.
Morehouse,	M. Boh,	Morehouseville, N. Y.
Wells,	T. D. Brown,	Wells, N. Y.

HERKIMER COUNTY.

Columbia,	W. A. Hatch,	South Columbia, N. Y.
Danube,	S. L. Harder,	Newville, N. Y.
Fairfield,	Herman Dodge,	Fairfield, N. Y.
Frankfort,	John Maynard,	Gulph, N. Y.
German Flats,	P. H. Steele,	Mohawk, N. Y.
Herkimer,	Earl Brice,	Ilion, N. Y.
Litchfield,	Wm. Norton,	North Litchfield, N. Y.
Little Falls,	A. X. Willard,	Little Falls, N. Y.
Manheim,	W. F. Stoddard,	Dolgeville, N. Y.
Newport,	Howard Voorhees,	Newport, N. Y.
Norway,	Henry Nichols,	Norway, N. Y.
Ohio,	A. C. Bullock,	Gray, N. Y.
Russia,	Carey Garlock,	Grant, N. Y.
Schuyler,	John Wood,	West Schuyler, N. Y.
Stark,	Gresham Smith,	Van Hornesville, N. Y.
Warren,	James Fagan,	Cullen, N. Y.
Wilmurt,	John M. Richards,	Wilmurt, N. Y.
Winfield,	H. C. Nichols,	West Winfield, N. Y.

LEWIS COUNTY.

Town.	Name.	Post Office Address.
Diana,	W. H. Mantle,	Harrisville, N. Y.
Greig,	Duane Norton,	Greig, N. Y.
Harrisburgh,	W. D. Robeson,	Harrisburgh, N. Y.
Highmarket,	Michael O'Brien,	Highmarket, N. Y.
Lewis,	Charles Myers,	West Leyden, N. Y.
Leyden,	C. D. Wilcox,	Leyden, N. Y.
Lowville,	Chas. Fowler,	Lowville, N. Y.
Lyonsdale,	Edward Burdick,	Lyonsdale, N. Y.
Martinsburgh,	John Taylor,	Martinsburgh, N. Y.
New Bremen,	John H. Blintz,	Croghan, N. Y.
Osceola,	Chas. Corbett,	Osceola, N. Y.
Pinckney,	C. E. Greenley,	Barnes Corners, N. Y.
Turin,	C. R. McCulloch,	Turin, N. Y.
Watson,	Stephen Waldron,	Chase's Lake, N. Y.
West Turin,	F. E. Taylor,	Constableville, N. Y.

ST. LAWRENCE COUNTY.

Brasher,	B. P. Clarke,	Brasher, N. Y.
Canton,	S. Heminway,	Canton, N. Y.
Clare,	William N. Dean,	Clare, N. Y.
Clifton,	Chas. F. Thomas,	Clifton, N. Y.
Colton,	W. J. Horton,	Colton, N. Y.
DePeyster,	N. E. Griffin,	DePeyster, N. Y.
DeKalb,	A. C. Farr,	DeKalb, N. Y.
Fine,	Thos. Willis,	Fine, N. Y.
Herman,	A. O. Morgan,	Herman, N. Y.
Hopkinton,	E. F. Gale,	Gale, N. Y.
Lisbon,	E. B. Hobbs,	Lisbon, N. Y.
Macomb,	John R. Mills,	Brasie Corners, N. Y.
Pitcairn,	D. G. Graham,	Pitcairn, N. Y.
Potsdam,	L. DeLisle,	Potsdam, N. Y.
Rossie,	M. H. Turnbull,	Rossie, N. Y.
Russell,	Edgar Lane,	Russell, N. Y.

SARATOGA COUNTY.

Ballston,	Anson J. Larkin,	Ballston Spa, N. Y.
Corinth,	A. C. Hickok,	Corinth, N. Y.
Edinburgh,	Frank R. Smith,	Edinburgh, N. Y.
Greenfield,	Fayette H. Baker,	North Greenfield, N. Y.
Hadley,	Edward J. Wilcox,	Conklingville, N. Y.
Half Moon,	Edward McDonnell,	Mechanicville, N. Y.
Moreau,	Job Hubbell,	Fortsville, N. Y.
Wilton,	Ray Schermerhorn,	Wilton, N. Y.

SULLIVAN COUNTY.

Town.	Name.	Post Office Address.
Bethel,	Newcomb Mapes,	White Lake, N. Y.
Callicoon,	Casper Van Weisenflugh,	Youngsville, N. Y.
Cochecton,	Peter Theiss,	Fosterdale, N. Y.
Delaware,	W. D. Spurling,	Callicoon Depot, N. Y.
Fallsburgh,	Morris Downey,	Mountaindale, N. Y.
Forestburgh,	G. L. Decker,	Oakland Valley, N. Y.
Fremont,	M. A. Hoffman,	North Branch, N. Y.
Highlands,	Geo. W. Parker,	Eldred, N. Y.
Liberty,	Fred Buckley,	Liberty, N. Y.
Lumberland,	Wm. Ruddick,	Glen Spey, N. Y.
Mamakating,	Wesley Marshall,	Wurtsboro, N. Y.
Neversink,	Samuel J. Groo,	Grahamsville, N. Y.
Thompson,	W. S. Coddington,	Rockhill, N. Y.
Tusten,	Wm. Darling,	Beaver Brook, N. Y.

WARREN COUNTY.

Bolton,	J. D. Gates,	Bolton, N. Y.
Caldwell,	Chas. Wood,	Caldwell, N. Y.
Chester,	Geo. Swan,	Chestertown, N. Y.
Hague,	Jas. A. Balcom,	Hague, N. Y.
Horicon,	Stephen Hoyt,	Horicon, N. Y.
Johnsburgh,	Wm. Merrill,	Johnsburgh, N. Y.
Luzerne,	W. J. Hall,	Luzerne, N. Y.
Queensbury,	Wm. Roach,	Queensbury, N. Y.
Stony Creek,	L. R. Dunlop,	Stony Creek, N. Y.
Thurman,	A. O. Ingraham,	Thurman, N. Y.
Warrensburgh,	Wm. Woodworth,	Warrensburgh, N. Y.

WASHINGTON COUNTY.

Argyle,	Wm. Kilmer,	Argyle, N. Y.
Cambridge,	Abram Robertson,	Cambridge, N. Y.
Dresden,	Patrick Crockwell,	Dresden Centre, N. Y.
Easton,	Eugene Briggs,	Easton, N. Y.
Fort Ann,	E. H. Sturtevant,	Fort Ann, N. Y.
Fort Edward,	Thomas Ellis,	Fort Edward, N. Y.
Granville,	E. B. Temple,	Granville, N. Y.
Hampton,	Lyman Warren,	Hampton, N. Y.
Hartford,	Judson Maynard,	South Hartford, N. Y.
Hebron,	Alton Wilson,	Hebron, N. Y.
Jackson,	V. S. Houghtaling,	Battenville, N. Y.
Putnam,	J. D. Leigh,	Putnam, N. Y.
Salem,	Christopher Burnett,	Salem, N. Y.
Whitehall,	Robert Steeves,	Whitehall, N. Y.
White Creek,	Charles Agan,	Cambridge, N. Y.

CHAPTER 385 OF THE LAWS OF 1884.

AN ACT to cede lands under water of Gardiner's and Peconic bays to Suffolk county, Long Island, for the cultivation of shellfish.

PASSED May 28, 1884.

Section 1. All the right, title and interest which the people of the state of New York have in and to the lands under water of Gardiner's and Peconic bays in the county of Suffolk, is hereby ceded to said county, for the purpose of oyster culture, to be managed and controlled by the board of supervisors thereof provided that such lands shall revert to the state when they shall cease to be used for oyster culture, and provided that nothing in this act shall be held to interfere with the right of the commissioners of the land office to grant lands under water in said bays to owners of adjacent uplands for purposes of commerce or of beneficial enjoyment within the existing bulkhead lines.

§ 2 The board of supervisors of Suffolk county shall have power, and it shall be their duty, within thirty days after the passage of this act, to appoint three commissioners of shellfisheries in the waters of Gardiner's and Peconic bays and the tributaries thereof, in the county of Suffolk. Said commissioners shall be residents of some one or other of the towns lying contiguous to said bays, and at the first appointment thereof one shall be appointed for the term of one year, one for a term of two years, and one for a term of three years; and annually thereafter one commissioner shall be appointed for a term of three years. Said commissioners when so chosen shall take the usual oath of office and shall give bonds in one hundred dollars each, to the board of supervisors of said county, conditioned for the faithful performance of their official duties; and all moneys received by them for the sale of the lands hereinafter specified shall be paid over by them to the county treasurer of said county.

§ 3. Upon the written application of any person of full age who has been an actual resident of Suffolk county for six months next preceding the date of such application, the said commissioners, or a majority of their members, shall cause a survey and map to be made of any land under water of said bays or the tributaries thereof, suitable for planting oysters thereon, as described in such application, and shall take the proper steps to determine whether there is on said lands any natural growth of clams such that one person in one day could take three bushels, or a natural shell bed from which shells can be taken in quantities for use in other places; and if there be no such natural growth or shell bed said commissioners shall sell and convey to said applicant, by warranty deed, all the right, title and interest which the said county of Suffolk shall have in and to said land. Said application shall not cover more than twenty-five acres, nor shall said commissioners sell and convey to any one person less than one or more than twenty-five acres; and they shall receive for said land at the rate of one dollar per acre, together with such further sum as may be deemed by the supervisors of said county sufficient to compensate said commissioners for their services and expenses in surveying and setting off said lands and in preparing and executing the proper deeds to said applicant; said deeds shall expressly provide and

stipulate that the grantee shall, within one year from the date of their execution, plant not less than ten bushels of oysters for each acre of said land on said land, or otherwise the grant shall be void and the land so granted shall revert to the county. (Laws of 1896.)

§ 4. Any and all grantees of land conveyed under this act shall, within three months from the date of their several grants, have the deed recorded in the office of the county clerk of Suffolk county, and thereafter said land so granted shall be held to be real estate in possession of the grantee and shall be subject to taxation as any other real property.

§ 5. All questions and disputes in regard to ownership, title, buoys, boundaries, ranges, or extent or location of grounds, may be referred to and settled by the said commissioners of shell-fisheries, who may summon before them all the parties in interest and take sworn statement of facts as claimed on either side. From their decision an appeal may be taken to the county judge, whose decision shall be final.

§ 6. Any person wilfully disturbing the bottom of the lands so granted, with intent to remove or injure the shellfish thereon, shall be guilty of a misdemeanor, and on conviction, shall, if said disturbance be done in the daytime, be punished by a fine not exceeding one hundred dollars and confiscation to the state of the boat and tools so used, or by imprisonment in the county jail for not exceeding three months or by both such fine and imprisonment in the discretion of the court; but if such disturbance shall take place in the nighttime, or between sunset and sunrise, the penalty shall be a fine of not more than two hundred and fifty dollars and confiscation to the state of the boat and tools so used, or by imprisonment in the county jail for not exceeding six months, or by both such fine and imprisonment in the discretion of the court.

§ 7. Any justice of the peace in either of the said towns bordering on said bays shall have jurisdiction over offenses under this act.

CHAPTER 549 OF THE LAWS OF 1874.

AN ACT to provide for the planting and protection of oysters in those portions of the Great South bay, lying in the towns of Islip and Babylon in Suffolk county, wherein the taking of clams cannot be profitably followed as a business.

PASSED May 22, 1874.

Section 1. It shall be lawful for any inhabitant of either of the towns of Islip or Babylon, in Suffolk county, of full age, and having resided in either of said towns for one year next preceding, by and with the consent of the oyster commissioners hereinafter named, and upon complying with the provisions of this act hereinafter contained, to locate a lot, not to exceed four acres in extent, under the public waters of the Great South bay, in either of said towns where the taking of clams can not be profitably followed as a business, and he shall be entitled to and shall have the exclusive ownership and property in all oysters upon said lot, and the exclusive right to use the said lot for the purposes aforesaid. (Laws 1878, ch. 142.)

§ 2. For the purpose of ascertaining and determining what portion or portions of said bay may be taken for the purpose of planting oysters as aforesaid, a board of commissioners, consisting of two from the town of Islip and one from the town of Babylon, whose official title shall be "Oyster Commissioners," shall be appointed each by the board of town auditors, or a majority of them, of his or their said town respectively. The first appointment to be made within twenty days after the passage of this act, and, when so appointed, they shall hold office until the next annual town meeting; and their successors in office shall annually be appointed in same manner, on the Tuesday immediately preceding every annual town meeting. Such appointment shall be certified in duplicate, in writing, that by Babylon, by said auditors of Babylon, or a majority of them; that by Islip, by said auditors of Islip, or a majority of them; and a copy of said certificate shall be filed with the town clerk of each of said towns, and it shall be the duty of said town clerks respectively, forthwith to notify each person so appointed in his town of such appointment. (Laws 1878, ch. 142.)

§ 3. Every person appointed to the office of oyster commissioner, before he enters upon the duties of his office, and within ten days after he shall be notified of his appointment, shall take and subscribe the oath of office prescribed by the constitution and shall execute, in the presence of the supervisor or town clerk of his town, a bond to the supervisor of his town, in the penalty of not less than two hundred dollars, with one or more sufficient sureties to be approved of by such supervisor or town clerk, conditioned for the faithful performance of his duties as such commissioner, which bond shall be filed in the office of such town clerk. (Laws 1878, ch. 142.)

§ 4. If any person appointed as such commissioner shall not take and subscribe such oath and file such bond as herein provided, such neglect shall be deemed a refusal to serve.

§ 5. If any person appointed to the office of oyster commissioner shall refuse to serve, or shall die or resign or remove out of town, for which he shall have been appointed, or become incapable of serving, before the Tuesday next preceding the next annual town meeting after he shall have been appointed, the said board of town auditors, of his said town, shall within ten days after the happening of such vacancy supply the same, as hereinbefore provided. (Laws 1878, ch. 142.)

§ 6. It shall be the duty of said commissioners, or a majority of them, on application of any such inhabitants as aforesaid, and upon notice to all of said commissioners, to attend and examine the lot applied for and ascertain and determine whether the taking of clams can or can not be profitably followed as a business thereon, and if they shall determine that it can not, then and not otherwise they shall locate the lot for him, which shall be clearly marked and defined by means of buoys, stakes or otherwise, as said commissioners, or a majority of them shall direct, and in such manner as shall not interfere with net fishing, as a notice to the public that it has been selected for the purposes aforesaid. And it shall be the duty of said commissioners to procure or cause to be made, all surveys and maps which they may deem necessary for defining the portions of said bay which may be allotted for the purposes aforesaid, describing thereon the lots which may be located under this act, and to file copies of all such surveys and maps in the office of the town clerk of each of said towns. On all questions which may arise under this act as to the location of the lots or the boundaries thereof or the portions of said

bay which may be allotted for the purposes aforesaid, the decision of the said commissioners, or a majority of them, shall be final and conclusive. On payment by any such applicant of the expense of locating his lot, which shall be determined by the said commissioners, but shall in no case exceed the sum of ten dollars, and the additional sum of one dollar per acre as yearly rent, they or a majority of them, shall give to such applicant a certificate showing that he has by their consent located a certain lot, and particularly describing said lot, and stating the amount of charges and rental paid therefor, and that the taking of clams cannot be profitably followed thereon as a business, and directing in what manner said lots shall be marked and defined, which certificate shall entitle the person named therein to the possession of said lot for the purposes of this act, so long as he shall keep the said lot clearly defined in the manner so directed by said commissioners; but if such person shall neglect to plant his lot with at least one hundred bushels of oysters and shells during the period of one year from the date of his certificate, or shall neglect to pay said yearly rent on or before the first day of April in each and every year, his rights to the possession of the said lot may be terminated at the option of a majority of said commissioners, and in case such right of any person shall be terminated by the decision of said commissioners as aforesaid, a written certificate of such fact shall be made in duplicate, and one of the said certificates shall be filed with each of the town clerks of said towns. A duplicate of every certificate consenting to the location of any lot as aforesaid shall also be filed by said commissioners with each of the said town clerks, who shall enter the name of the person entitled thereto and the sum or sums specified therein in a book, to be procured and kept by them respectively for that purpose. (Laws 1878, ch. 142.)

§ 7. Each of said commissioners shall be allowed the sum of five dollars per day for his services actually rendered under this act, the same to be paid only out of the fund received for locating lots pursuant to section six of this act, and shall not receive therefor any additional fees or compensation from any person or persons whomsoever, and each of said commissioners shall at the usual annual auditors' meeting of said towns account for and pay over all moneys in his hands to the said board of auditors, to wit: The moneys paid in by inhabitants of Babylon to the board of auditors of the town of Babylon, and all moneys paid in by the inhabitants of the town of Islip to the board of auditors of the town of Islip, and the said respective boards of auditors shall audit the accounts of the said commissioners or commissioner appointed from their town at the same time and in the same manner as those of other town officers, and shall pay all proper charges for services rendered under and by virtue of the provisions of this act out of the moneys so received, and shall pay the balance, if any, to the supervisor of said town, to be credited on its contingent fund. But no fees or salary allowed any commissioner named under this act shall be a charge upon or be paid by either of said towns of Islip or Babylon. (Laws 1878, ch. 142.)

§ 8. It shall not be lawful for any person to retain possession of any such lot after he shall cease to be a resident of either of said towns of Islip or Babylon, but he may sell and assign his interest in any such lot to any inhabitant of either of said towns for one year; but no person shall acquire possession of more than one lot, by purchase or otherwise. (Laws 1878, ch. 142.)

§ 10. Any person prosecuted for a penalty under this act may be arrested and held to bail in the same manner as upon warrants issued by justices of the peace; and whenever a hearing shall be had for any violation of the provisions of this act, execution shall be issued thereon immediately, in the same manner and with like effect as is provided in section one hundred and forty-three, article nine, title four, chapter two, third part of the Revised Statutes, and all the provisions of the said sections shall apply to executions issued pursuant to the provisions of this act.

§ 12. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

§ 13. Upon the appointing of such commissioners and the filing of the certificates thereof, as herein above provided, the term of office of the present oyster commissioners, now acting in the town of Islip, shall cease. (Laws 1878, ch. 142.)

§ 14. The provisions of this act shall not in any way impair the right of the present owners of oyster lots planted pursuant to the provisions of the act hereby amended. (Laws 1878, ch. 142.)

§ 15. The title of said act is hereby amended so as to read as follows: An act to provide for the planting and protection of oysters in those portions of the Great South bay, lying in the towns of Islip and Babylon, in Suffolk county, wherein the taking of clams can not be profitably followed as a business. (Laws 1878, ch. 142.) Amended Laws 1878, chapter 142; section 9, repealed Laws 1886, chapter 593; section 12, see Laws 1857, chapter 167; section 11, repealed Laws 1878, chapter 142.

CHAPTER 384 OF THE LAWS OF 1879.

AN ACT to regulate the planting of oysters in the public waters of the town of Hempstead, in the county of Queens.

PASSED May 28, 1879.

Section 1. It shall be unlawful for any person to use or occupy any portion of the public lands under water in the town of Hempstead, in the county of Queens, for the purpose of planting oysters thereon, without first having obtained the license so to use and occupy such lands authorized and provided for in and by chapter six hundred and thirty-nine of the laws of eighteen hundred and seventy-one, entitled "An act to regulate the planting of oysters in the public waters in the towns of Jamaica and Hempstead, in Queens county," nor shall license be granted to any person to so use or occupy more than three acres of such lands.

§ 2. Any person violating any of the provisions of this act shall be guilty of a misdemeanor.

CHAPTER 468 OF THE LAWS OF 1859.

AN ACT in relation to the planting of shellfish in the waters of Jamaica bay and creeks adjoining, in the county of Queens.

Section 1. The owners and lessees of land lying on Jamaica bay and the streams tributary thereto, in the county of Queens, may plant oysters or clams in the waters of said bay or creeks, opposite their respective lands extending from low-water mark into said bay, not exceeding four rods in width, and in the creeks not exceeding half the width of said creek; but no one person or association shall plant such bed more than one-quarter of a mile long.

§ 2. Any owner or lessee so planting oysters or clams, shall designate the locality by two or more stakes driven into the bottom at the extreme corner of the bed so planted, and shall, by a suitable monument erected on the adjacent shore, indicate the fact of such planting, but no stake shall be placed so as to interfere in any way with the navigation of said bay or creeks.

(Section 3 repealed L. 1886, ch. 539; see L. 1863, ch. 493; L. 1865, ch. 343; L. 1866, ch. 306; L. 1866, ch. 753; L. 1868, ch. 734; L. 1871, ch. 639; L. 1872, ch. 659; L. 1878, ch. 302; L. 1879, ch. 384.)

CHAPTER 493 OF THE LAWS OF 1863.

AN ACT for the protection of the planting of oysters in the towns of Hempstead and Jamaica, county of Queens, New York.

PASSED May 5, 1863.

Section 1. It shall be lawful for any person being an inhabitant of the towns of Hempstead or Jamaica, in Queens county, of said state, and having been such for the period of six months, to plant oysters in any of the public waters within either of the said towns; and upon complying with the provisions of this act hereinafter contained, he shall be entitled to, and have the exclusive ownership and property in, all oysters upon the beds where the same were planted, and the exclusive right to use the said beds for the purpose aforesaid.

§ 2. Any person being such inhabitant of either of said towns, may use a portion of the land under the public waters within said town, not to exceed two acres in a bed, and on which there is no natural or planted bed of oysters, for the purpose of planting oysters thereon; but to entitle such person to the privileges and comforts of such act, the portion so selected by him shall be clearly marked and defined by means of stakes, or otherwise, as a notice to the public that it is selected and is occupied for the purpose aforesaid, and no bed shall be so marked and defined until the bed shall be actually planted by said person; and shall not be so planted or held with less than four hundred bushels to the acre, or at the same rate for less than an acre.

§ 3. Any person being an inhabitant of either of said towns as aforesaid, may, upon complying with the provisions of this act, plant oysters on the beds so designated and marked out, and it shall not be lawful for any person other than the one who planted the oysters, and his legal representatives, to take away said oysters, or to disturb said beds either by oystering thereon, or in any other way disturbing said beds, under the penalty hereinafter provided.

§ 4. Any person other than the one who planted the oysters, or his legal representatives, who shall take any oysters from a bed thus marked out and occupied, as above provided, or who shall oyster on the said beds, or in any way disturb the same, shall be liable to a penalty of fifty dollars for each offense, to be recovered by the owner of the oysters, or his legal representative, in any action brought before any justice of the peace of either of said towns, and shall also be guilty of a misdemeanor, and upon conviction shall be punished by a fine of not over one hundred dollars, or imprisonment in the county jail for not more than sixty days, or by both such fine and imprisonment.

§ 5. Any person prosecuted for a penalty under this act, may be arrested and held to bail in the same manner as upon warrants issued by justices of the peace; and whenever a hearing shall be had for any violation of the provisions of this act, execution shall be issued thereon immediately, in the same manner and with like effect as is provided in section one hundred and forty-three, article nine, title four, chapter two, third part of the Revised Statutes; and all the provisions of said section shall apply to execution issued pursuant to the provisions of this act.

§ 6. Any person entitled to plant oysters by having complied with the provisions of this act, and any such person who shall have abandoned or ceased to use any such land for the purpose intended by this act, for the period of one year, shall forfeit all rights and privileges to use of the same under this act, and any such person who shall remove from the town and cease to be an inhabitant thereof, shall forfeit all rights and privileges acquired by him under this act, after two years of such removal, which period shall be allowed him for the purpose of removing the oysters planted by him, and remaining on said beds at the time of his removal. (See Laws 1859, chap. 468.)

CHAPTER 343 OF THE LAWS OF 1865.

AN ACT for the protection of the planting of oysters in the county of Queens, New York.

PASSED April 8, 1865.

Section 1. It shall be lawful for any person, being an inhabitant of the county of Queens, in this state, and having been such for the period of six months, to plant oysters in any of the public waters within said county, except Hempstead harbor, Jamaica and Hempstead bays and Oyster bay harbor; and upon complying with the provisions of this act hereinafter contained, he shall be entitled to and have the exclusive ownership and property in all oysters upon the beds where the same were planted, and the exclusive right to use the said beds for the purpose aforesaid.

§ 2. Any person being such inhabitant of such county may use a portion of the land under the public waters within such county, except in those named in section first of this act, not to exceed three acres in a bed, and on which there is no natural or planted bed of oysters, for the purpose of planting oysters thereon; but to entitle such person or persons to the

privilege and comforts of such act, the portion so selected by him shall be clearly marked and defined by means of stakes or otherwise, as a notice to the public that it is selected and occupied for the purpose aforesaid, and shall not be so planted or held with less than fifty bushels to the acre, or at the same rate for less than one acre. If the person entitled to plant oysters by having complied with the provisions of this act, shall not actually occupy the land so staked out by him by planting oysters thereon within six months, he shall forfeit all rights and privileges to the use of the same under this act. (Laws 1886, ch. 399.)

§ 3. Any person being an inhabitant of said county as aforesaid may, upon complying with the provisions of this act, plant oysters on the beds so designated and marked out. (Laws 1886, ch. 593.)

§ 5. Any person prosecuted for a penalty under this act, may be arrested and held to bail in the same manner as upon warrants issued by justices of the peace; and whenever a hearing shall be had for any violation of the provisions of this act, execution shall be issued thereon immediately in the same manner and with like effect as is provided in section one hundred and forty-three, article nine, title four, chapter two, third part of the revised statutes; and all the provisions of said section shall apply to execution issued pursuant to the provisions of this act.

§ 6. Any person entitled to plant oysters by having complied with the provisions of this act, and any such person who shall have abandoned or ceased to use any such land for the purpose intended by this act, for the period of one year, shall forfeit all rights and privileges to the use of the same under this act; and any such person who shall remove from the county and cease to be an inhabitant thereof, shall forfeit all rights and privileges acquired by him under this act after two years of such removal, which period shall be allowed him for the purpose of removing the oysters planted by him and remaining on said beds at the time of his removal.

§ 8. All acts or parts of acts inconsistent with the provisions of this act, or any portion thereof, are hereby repealed.

§ 9. This act shall take effect immediately.

(By chapter 93, Laws 1870, the provisions of this act are extended to the waters of Jamaica and Hempstead bays. See Laws 1859, chapter 468, and Laws 1864, chapter 574. Amended Laws 1866, chapter 399; Laws 1870, chapter 93. Section 7 partly repealed Laws 1879, chapter 402. Sections 4 and 7 and part of section 3 repealed Laws 1886, chapter 595.)

CHAPTER 399 OF THE LAWS OF 1866.

AN ACT to amend an act entitled "An act for the protection of the planting of oysters in the county of Queens, New York," chapter three hundred and forty-three, passed April eighth, eighteen hundred and sixty-five.

PASSED April 5, 1866.

Section 1. [Same as section 2, chapter 343, Laws, 1866.]

§ 3. The natural growth of bed of oysters in the waters known as Little Neck bay in said county, is hereby defined as being between low-water mark and a distance of five hundred feet therefrom into the waters of said bay towards its centre, beyond which, in the planting of oysters as provided in the first section of this act, the word "natural" in said section shall not apply.

§ 4. Any person who, having planted oysters in pursuance of said act on natural beds of oysters on any grounds under the public waters aforesaid, shall have until the fifteenth day of August, eighteen hundred and sixty-six, to remove said oysters, after which time said person or persons shall cease to have exclusive right or control over said ground or beds of natural growth of oysters, except as provided in section third of this act.

§ 5. This act shall take effect immediately.

(See Laws 1865, chapter 343; amended Laws 1870, chapter 93; § 2 repealed Laws 1886, chapter 593.)

CHAPTER 306 OF THE LAWS OF 1866.

AN ACT for the protection of the planting of oysters in the towns of Islip and Huntington, county of Suffolk, New York.

PASSED March 31, 1866.

Section 1. It shall be lawful for any person being an inhabitant of the towns of Islip or Huntington, in Suffolk county, state of New York, and having been such for the period of six months, to plant oysters in any of the public waters of the Great South bay, within either of the said towns; and upon complying with the provisions of this act hereinafter contained, he shall be entitled to and have the exclusive ownership and property in all oysters upon the beds where the same were planted, and the exclusive right to use the said beds for the purpose aforesaid.

§ 3. Any person being an inhabitant of either of said towns, as aforesaid, may, upon complying with the provisions of this act, plant oysters on the beds so designated and marked out, and it shall not be lawful for any person other than the one who planted the oysters and his legal representatives, to take away said oysters or to disturb said beds either by oystering thereon, or in any other way disturbing said beds, under the penalty hereinafter provided.

§ 6. Any person entitled to plant oysters by having complied with the provisions of this act and any such person who shall have abandoned or ceased to use any such land for the purpose intended by this act, for the period of one year, shall forfeit all rights and privileges to the use of the same under this act; and any such person who shall remove from the town, and cease to be an inhabitant thereof, shall forfeit all rights and privileges acquired by him under this act, after two years of such removal, which period shall be allowed him for the purpose of removing the oysters planted by him, and remaining on said beds at the time of his removal.

§ 7. This act shall take effect immediately.

(See Laws 1869, chapter 468; amended Laws 1872, chapter 666; repealed as to Huntington, Laws 1880, chapter 240; section 4 and 5 repealed Laws 1886, chapter 593.)

CHAPTER 666 OF THE LAWS OF 1872.

PASSED May 13, 1872.

Section 1. Section two of the act entitled "An act for the protection of the planting of oysters in the towns of Islip and Huntington, county of Suffolk," passed March thirty-one, eighteen hundred and sixty-six, is hereby amended so as to read as follows :

§ 2. Any person being such inhabitant of either said towns may use a portion of the land under public waters within said towns, not to exceed two acres, and on which there is no natural or planted bed of oysters or clams, for the purpose of planting oysters thereon ; but to entitle such person to the privileges and comforts of such, all the portion so selected by him shall be clearly marked and defined by means of stakes or otherwise, as a notice to the public that it is selected and occupied for the purpose aforesaid ; and no bed shall be so marked and defined until the bed shall be actually planted by such person, and shall not be so planted or used with less than four hundred bushels to the acre, or at the same rate for less than an acre.

§ 3. Any person who shall have planted oysters on any natural growth of clams before the passage of this amendment shall have two years from the date of this amendment allowed him to remove the same, and any oysters remaining on such natural growth of clams beyond that time shall become public property.

(See Laws of 1866, chapter 306 ; repealed as to Huntington, Laws 1880, chapter 240.)

CHAPTER 240 OF THE LAWS OF 1880.

PASSED May 8, 1880.

Section 1. Chapter three hundred and six of the Laws of eighteen hundred and sixty-six, entitled "An act for the protection of the planting of oysters in the towns of Islip and Huntington, county of Suffolk, New York," and chapter six hundred and sixty-six of the Laws of eighteen hundred and seven-two, amendatory thereof, so far as said acts affect the present town of Huntington, in said county, are hereby repealed.

§ 2. This act shall take effect immediately.

CHAPTER 404 OF THE LAWS OF 1866.

AN ACT for the better protection of the planting of oysters in the waters of Richmond county and of this state surrounding said county, and to regulate oystering and clamming upon beds of natural growth therein.

PASSED April 5, 1866.

§ 5. Actions for any penalty under this act, brought before any justice of the peace, may be commenced by warrant, and the party arrested and held to bail in the same manner as upon warrant issued by justice of the peace (and such process by warrant shall be deemed the commencement of such action), and the same proceedings had as in civil actions commenced by warrant

before justices of the peace, and shall be governed by the same rules. And whenever any judgment thereon shall be had, execution shall be issued thereon immediately in the same manner and with the like effect as is provided in section one hundred and twenty-six, article nine, title four, chapter two, third part of the Revised Statutes; and all the provisions of said sections shall apply to executions issued by any justice of the peace pursuant to the provisions of this act.

§ 8. In the event of any persons violating the provisions of either of the first, second or sixth sections of this act, if the person or persons by said sections authorized to sue for the penalty therein prescribed shall so select, in lieu and instead of suing for said penalty in a civil action, said person or persons may make complaint on oath in writing before any justice of the peace of said county of the infraction of the provisions of either of said sections, describing as near as may be the apparatus, boats and implements used in violating such provisions, and it shall thereupon be the duty of the officer to whom such complaint is made, to issue a warrant under his hand commanding the sheriff or any constable of said county to seize, attach, and safely keep all apparatus, implements, boats or other vessels used by any person or persons in violating the provisions of either of the aforesaid sections of this act.

§ 9. It shall be the duty of the sheriff or constable receiving such process, to seize and take possession of all such apparatus, implements, boats or other vessels used by any person or persons in violating any or either of the provisions of the aforesaid sections of this act, and such sheriff or constable shall forthwith make return thereof to the officer issuing the same, and hold said property in like manner as upon attachment in justices' courts, until such complaint shall be determined and judgment thereon satisfied, and shall give notice to the owner or person in possession of such property when he will return said warrant, together with a copy of said warrant and the complaint upon which it was issued, and also give notice of such return to the complainant.

§ 10. Upon the return of the said warrant, the person or persons charged with such offense, or the owners or persons in possession of the property so seized, may file an answer denying any or all of the allegations in said complaint alleged, and the hearing of said matter, or the trial of the issues thus joined, may be adjourned upon the application of either party, for a period not exceeding ninety days or longer by consent. If upon the hearing of said matter and trial of said issues, it shall appear that an offense has been committed against any of the provisions of the aforesaid section of this act, judgment therein shall be rendered for the penalty prescribed therein, and for the costs of said attachment at similar rates as upon attachments in justices' courts, and if the person or persons owning or claiming the said property so attached, or some one on their behalf, shall not pay the same within ten days after the rendering of said judgment, the property seized shall be sold in the same manner, and upon like notice as personal property under an execution in said courts under an execution to be issued therefor.

§ 11. Upon return being made of the said sale, after satisfying the amount of the judgment and costs, and the costs of said sale, the balance, if any, shall be paid to the owner or owners of the articles seized, or shall be deposited with the treasurer of the county of Richmond to his or their credit.

§ 12. Upon the return of said warrant, either party may demand, upon paying the fees therefor, a trial by jury, which jury shall be summoned and empaneled in the same manner as juries in courts of justices of the peace; and the attendance of witnesses for either party, and the giving of testimony as a witness in behalf of either the complainant or claimant of the property seized, may be compelled in the same manner as in courts of justices of the peace, and the trial of the issues shall be conducted in the same manner as in courts of justices of the peace, and the officer issuing such warrant and executing the same shall be entitled to the same fees as are now prescribed for the like service in proceedings by attachments in courts of justices of the peace.

§ 13. The proceedings by attachment provided for in the five last preceding sections of this act, shall be a bar to any action or prosecution for the penalties prescribed and imposed in the third, fourth and sixth sections of this act.

§ 15. The act entitled "An act for the better protection of oysters in Richmond county," passed May fourth, eighteen hundred and sixty-four, and all acts and parts of acts inconsistent with the provisions of this act or any part thereof, are hereby repealed.

§ 16. This act shall take effect immediately.

(See Laws 1880, chap. 453; secs. 1, 2, 3, 4, 6, 7 and 14 repealed Laws 1886, chap. 593.)

CHAPTER 639 OF THE LAWS OF 1871.

AN ACT to regulate and protect the planting of oysters in the public waters of the towns of Jamaica and Hempstead, in the county of Queens.

PASSED April 20, 1871.

Section 1. It shall be lawful for any person, being an inhabitant of the towns of Jamaica and Hempstead, in the county of Queens, and having been such for a period of one year, to plant oysters, as provided in section second of this act, in any of the public waters within the said towns, and upon complying with the provisions of this act, he shall be entitled to have exclusive property and ownership in all oysters upon the beds where the same were planted, and the exclusive right to use the said beds for the purpose aforesaid; and no person other than such inhabitant of the towns of Jamaica and Hempstead shall have the right or privilege of using any portion of the lands under the said public waters for the purpose of planting oysters thereon.

§ 2. Any person, being such inhabitant of the towns of Jamaica and Hempstead, may use a portion of the land under the aforesaid public waters, not to exceed three acres, on which there is no planted bed of oysters, for the purpose of planting oysters thereon; but to entitle such person to the privileges and benefits of this act the portion so settled by him shall be clearly marked and defined, by means of stakes or otherwise, as a notice to the public that it is selected and is occupied for the purpose aforesaid; and shall not be so planted or held with less than fifty bushels to the acre, or at the same rate for less than one acre. If the person entitled to

plant oysters, by having complied with the provisions of this act, shall not actually occupy the land so staked out by him by planting oysters thereon within six months after the granting of the certificate hereinafter mentioned, he shall forfeit all rights and privileges to the use of the same.

§ 3. Before any person shall occupy any lands under the public waters aforesaid, for the purpose of planting oysters under the provisions of this act, he shall prove to the satisfaction of the board of auditors of town accounts of said town, or a majority of them, that the land selected is not a legally planted bed of oysters, or, if planted, is not so planted by any person other than the applicant, and shall also prove to the satisfaction of said board of auditors that he is, and has been for one year preceding an inhabitant of the town. All the aforesaid proof shall be taken in writing and signed and sworn to. Such board of auditors, or a majority of them, shall thereupon give such person a certificate, under their hands, certifying that they are satisfied from such proof that the applicant is, and has been for one year preceding, an inhabitant of the town, and that the land selected does not contain a legally planted bed of oysters, or is not so planted by any person other than such applicant. Such certificate and deposition aforesaid shall thereupon be filed in the town clerk's office, and the certificate shall be evidence of the facts therein contained. (As amended by chapter 183 of the Laws of 1887.)

§ 4. Any person being an inhabitant of the town as aforesaid, may, upon complying with the provisions of this act, and obtaining such certificate yearly, plant oysters upon the beds so designated and marked, and shall pay for the use of said land to the supervisor of the town the annual rent of five dollars for each acre so occupied or staked off, and a fee of one dollar to said board for each such certificate granted. The sum so received per acre in each year shall be appropriated toward the payment of the current annual expenses of said town, and it shall not be lawful for any person other than the one who planted the oysters, and his legal representatives, to take said oysters or disturb said beds, either by oystering or clamming thereon, or in any other way, under the penalty hereinafter provided. (As amended by chapter 183 of Laws of 1887.)

§ 6. Any person prosecuted for a penalty under the provisions of this act, may be arrested and held to bail in the same manner as upon warrants issued by justices of the peace, and whenever a recovery shall be had for any violation of the provisions of this act, execution shall be issued thereon immediately in the same manner and with the like effect, as is provided in section one hundred and forty-three, article nine, title four, chapter two, third part of the Revised Statutes, third edition; and all the provisions of said section shall apply to executions issued pursuant to the provisions of this act.

§ 7. If any person, after having planted oysters in pursuance to the provisions of this act, shall have abandoned or ceased to use the land whereon the same are planted for the period of six months, he shall forfeit all right and privilege to the use of the same under this act, and any such person who shall remove from the town and cease to be an inhabitant thereof shall forfeit all rights and privileges acquired by him under this act after six months from such removal, which period shall be allowed him for the purpose of removing the oysters planted by him and remaining in the said beds at the time of his removal. (As amended by chapter 183 of Laws of 1887.)

§ 8. All persons now having oysters planted in the said public waters under the provisions of any former act, shall have until the first day of January, one thousand eight hundred and seventy-two, to remove the same, after which time all such persons shall cease to have exclusive right or control of the lands whereon the same are planted unless such person or persons again acquire the right to use said lands under the provisions of this act.

§ 9. It shall not be lawful for any person to dredge for oysters in any of the said waters; any person found dredging shall be guilty of a misdemeanor, and upon conviction shall be punished by a fine of not over one hundred dollars, or imprisonment in the county jail for not more than sixty days, or both such fine and imprisonment; and it shall be lawful for either of said boards, in its discretion, to employ or pay a suitable person to prosecute any person or persons violating any of the provisions of this act or any law relating to the planting of oysters in the public waters of the towns of Jamaica and Hempstead, in the county of Queens. (As amended by chapter 183 of Laws of 1887.)

§ 10. This act shall take effect immediately.

(See Laws 1859, chap. 468; amended by Laws 1872, chap. 667. See Laws 1879, chap. 384; sec. 5 repealed Laws 1866, chap. 593.)

CHAPTER 667 OF THE LAWS OF 1872.

AN ACT supplemental to an act entitled "An act to regulate and protect the planting of oysters in the public waters of the towns of Jamaica and Hempstead in the county of Queens," passed April twentieth, eighteen hundred and seventy-one.

PASSED May 13, 1872.

Section 1. It shall be lawful for any person, being an inhabitant of the towns of Jamaica and Hempstead, in the county of Queens, and having been an inhabitant thereof at least one year, to plant oysters in any part of the public waters of said towns, or either of them; subject however to the provisions of the second section of the act to which this is a supplement.

§ 2. Whenever any inhabitant of either of said towns shall have proved to the board of auditors of such town where the land applied for is situated, that he is entitled to receive the same, by having complied with the provisions of the second section of the act to which this is a supplement, it shall be the duty of said town board of auditors, or a majority of them, and they are hereby required to give to such persons a certificate, as provided for in the third section of the act to which this is a supplement, whether such persons reside in the same town where the land applied for is situated or not; providing that where any person residing in one of said towns applies for land lying in the other, such application must be made to the board of auditors of the town where such land is situated.

§ 3. All acts or parts of acts inconsistent with this act shall be and the same are hereby repealed.

§ 4. This act shall take effect immediately.

(See Laws 1871, chapter 639.)

CHAPTER 734 OF THE LAWS OF 1868.

AN ACT for the protection of the planting of oysters in the towns of Gravesend and Flatlands, Kings county.

PASSED May 8, 1868.

Section 1. It shall be lawful for any inhabitant of the towns of Gravesend and Flatlands, in Kings county, who shall have been such inhabitants for six months immediately preceding, upon complying with the terms of this act, to plant oysters under the public waters within their respective towns, and to have the exclusive property in the oysters so planted, and the exclusive use of such oyster beds.

§ 2. The extent of the land under water so to be used by any one person shall not exceed three acres, and shall be distinctly marked out by stakes or otherwise; but such privilege shall not be exercised without the written permit of the justice of the peace and the supervisor of such respective towns, setting forth the locality of such premises sufficiently to distinguish the same, the terms of such privilege, and the person to whom the same is given. Before granting such permit, evidence satisfactory to the officer granting the same shall be furnished that such premises are not a natural bed of oysters, and that they are not already occupied or used. A copy of such permit, with the accompanying evidence, shall be deposited in the office of the town clerk of the town where such premises are situated; and such copy of the permit may be used as evidence of the facts therein stated. (Laws 1886, chap. 593.)

§ 3. Such privilege shall be forfeited by the person receiving such permit, if the same be not actually used for such purposes within six months from the granting of the same, or if the same be abandoned for a period of six months, or if such person shall cease to be an inhabitant of said town, or shall die; but in any such case of the forfeiture of such privilege, the owner of such oysters, or his legal representatives, shall have six months thereafter to remove the oysters already planted in such beds.

(See Laws 1859, chap. 62; sec. 2 partly repealed Laws 1888, chap. 573; Sup. Ct., 1883, *People v. Thompson*, 30 Hun, 457.)

CHAPTER 279 OF THE LAWS OF 1888.

AN ACT to cede lands under water of Huntington bay, town of Huntington, Suffolk county, Long Island, to the trustees of the town of Huntington, and their successors in office, for the cultivation of shellfish.

Land under water ceded to Huntington; proviso.

Section 1. All the right, title and interest which the people of the State of New York have, if any, in and to the lands outside of and beyond low water mark under the waters of Huntington bay, in the town of Huntington, Suffolk county, southerly of a line drawn from a granite monument now set near high-water mark in the northerly point of Eaton's Neck, and west of the United States Life Saving Station, to a locust monument now set on Loyd's Neck, which line runs on a course south fifty-nine degrees, twenty minutes and twenty-five seconds west, and which is the line claimed by the trustees of the town of Huntington as the northerly line of their grants under

colonial patents, is hereby ceded to the present trustees of the town of Huntington, Suffolk county, and their successors in office for the purpose of oyster cultivation. Provided nothing in this act shall be held to interfere with the rights and powers of the commissioners of the land office to grant all the right, title and interest of the state to lands under water in said bay, to the owners of adjacent uplands for purpose of commerce or beneficial enjoyment, and nothing herein contained shall be construed as interfering with rights of riparian owners. Subject, however, and without prejudice to the legal rights, if any, of such persons as now have oysters planted on the lands aforesaid.

CHAPTER 167 OF THE LAWS OF 1857.

AN ACT authorizing the inhabitants of the town of Islip, in the county of Suffolk, to regulate the planting and taking of oysters and the time and manner of using the fisheries in the Great South bay, within the limits of the said town.

Section 1. It shall be lawful for the inhabitants of the town of Islip in the county of Suffolk, at their annual town meetings to make such prudential rules and regulations for the planting and taking of oysters and the time and manner of using the fisheries, in the Great South bay within the limits of said town, as may from time to time be deemed expedient to encourage the increase and prevent the destruction of the fisheries of the said town.

§ 2. No person other than a resident of Islip shall take any oysters, clams or other shellfish from any part of the Great South bay, in said town, for the purpose of selling the same or for the purpose of conveying the same to any place out of said town to have them replanted, under a penalty of fifty dollars for each offense; but nothing in this section shall be construed so as to affect or invalidate any agreement now in force or which may hereafter be made between the towns of Huntington and Islip, for the enjoyment of equal privileges of fishing by the inhabitants of said towns.

§ 3. The penalty imposed by section two of this act, may be sued for and recovered before any justice of the peace of said town or in any court having cognizance of the same, in the name of the overseers of the poor of said town, for the use of the poor.

§ 4. This act shall take effect immediately.

(See ch. 549 of Laws of 1874.)

CHAPTER 308 OF THE LAWS OF 1890.

AN ACT for the preservation and protection of the shellfisheries in the waters of the South bay, in the county of Suffolk, and to repeal chapter two hundred and thirty-four of the Laws of eighteen hundred and seventy.

BECAME a law without the approval of the Governor, in accordance with the provisions of article four, section nine of the Constitution, May 8, 1890. PASSED, three-fifths being present.

Section 1. No person shall catch or take any oysters, spawn or seed oysters, clams or shells in any of the waters of the South bay in said county except between sunrise and sunset on any day.

§ 2. No person shall catch or take any oysters, spawn or seed oysters or shells in the waters of the South bay in said county after the first day of June and before the first day of September in any year.

§ 3. No person shall take or carry away any oyster shells caught or taken from the public grounds within the waters of said bay in said county, but the same shall be returned to the water upon the bed or in the locality where they were caught or taken and within ten minutes thereafter.

§ 4. No person shall catch or take any oysters, spawn or seed oysters or shells in the waters of the said bay in said county with blade or scraper tongs.

§ 5. No person shall have in his possession or use, blade or scraper tongs in the waters of the said bay, in said county for the purpose of catching or taking oysters, spawn or seed oysters or shells from the bottom thereof. When any person or persons shall be found on the waters of said bay in said county, with blade or scraper tongs in his or their possession, such possession shall be prima facie evidence of an intent to use the same in violation of the provisions of this act.

§ 6. Every person who shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor and on conviction shall be punished by a fine of not less than fifty dollars and not exceeding two hundred and fifty dollars, or by imprisonment in the county jail not exceeding six months, or by both such fine and imprisonment.

§ 7. Every person who shall violate any of the provisions of this act shall in addition to the punishment prescribed by the last preceding section, forfeit the sum of fifty dollars for each offense.

§ 8. Any person may in his own name bring an action for the recovery of the penalty prescribed in the last preceding section and upon a recovery thereof may retain the same for his own use.

§ 9. Courts of special sessions in and for said county of Suffolk shall have exclusive jurisdiction to hear, try and determine all charges of misdemeanors for violations of this act and upon conviction thereof to punish the offender or offenders as provided in section six of this act.

§ 10. Chapter two hundred and thirty-four of the Laws of eighteen hundred and seventy is hereby repealed.

§ 11. This act shall take effect immediately.

BAY CONSTABLES.

Chapter 89 of Laws of 1875, provides for the election of bay constables in the towns of Islip, Babylon and Huntington, in the county of Suffolk, and prescribes their powers, duties, etc.

Chapter 402 of the Laws of 1875, provides for the election of bay constables in the town of East Hampton, in the county of Suffolk, and defines their duties.

Adirondack Hatchery.

CHAPTER 320 OF THE LAWS OF 1884.

AN ACT to establish a fish hatchery in the Adirondack forest.

Section 1. The commissioners of fisheries are hereby authorized and directed, as soon as possible after the passage of this act, to erect a fish hatching establishment at some convenient point in the Adirondack forest, to be selected by said commissioners, for the purpose of restocking the lakes and streams of said forest with trout and other fish natural to that locality, and stocking such other streams as the commissioners may deem necessary.

§ 2. The treasurer shall pay to the commissioners of fisheries, upon the warrant of the comptroller, the sum of five thousand dollars, or so much thereof as may be necessary, which sum is hereby appropriated for the purposes of this act.

(See Laws 1885, ch. 85.)

CHAPTER 85 OF THE LAWS OF 1885.

AN ACT to grant the use of certain state lands for the purposes of the Adirondack fish hatchery.

Section 1. The lands belonging to this state, known as lots number four, five and six, in township twenty of great lot number one, Macomb's purchase, in the county of Franklin, on which has been located, pursuant to chapter three hundred and twenty of the Laws of eighteen hundred and eighty-four, the Adirondack fish hatchery, are hereby appropriated to the use of such hatchery; but no standing timber shall be cut on such lots except such as shall be needed for building purposes and for firewood for such hatchery.

§ 2. The lands mentioned in the first section of this act, shall be in the care of the commissioners of fisheries, and no person shall be permitted to fish in the waters of Little Clear pond, nor in its outlet, nor in any other waters on such lands, nor to enter on the same for the purposes of fishing without the consent or by the direction of the commissioners of fisheries; but the said waters shall be held by the said commissioners solely as reservoirs for breeding fish, and nurseries for young fish, and for experimental purposes in the business of fish culture.

§ 3. Whoever shall violate any of the provisions of the second section of this act shall forfeit a penalty of fifty dollars for each offense, to be sued for and recovered with costs of suit, by the said commissioners, in any court of competent jurisdiction in the county of Franklin, and the penalties recovered shall be paid into the state treasury.

Sacandaga Fish Hatchery.

CHAPTER 445 OF THE LAWS OF 1888.

AN ACT to set apart certain lands belonging to the state in the county of Hamilton, for the purposes of the Mill creek fish hatchery.

Section 1. The following described lands belonging to the state of New York and situated in township number two, Totten and Crossfield's purchase, in the town of Lake Pleasant, Hamilton county, as laid down in map two hundred and ninety-four (new number) on file in the office of the comptroller are hereby appropriated and set apart for the purpose of the Mill creek hatchery, established in pursuance of chapter two hundred and ninety-three of the laws of eighteen hundred and eighty-seven, viz. : Whole lots numbers thirty-three, forty-four, fifty-three, fifty-five, fifty-six, seventy-seven, twenty-nine, forty and forty-one ; part of lot number thirty-two, embracing all of such lot except one hundred acres on the southerly side, twenty-six chains and thirty-two links wide on the west side and twenty-six chains and thirty links on the east side of said lot number thirty-two.

§ 2. No standing timber shall be cut on any of the lands described in the preceding section except such as shall be needed for building purposes, firewood and fencing lumber for such hatchery.

§ 3. No person shall take at any time and by any means whatever any trout from any of the waters on such lands, nor enter upon the said lands for the purpose of fishing, nor take anywhere from Mill creek or any of its tributaries any trout except by permission of the commissioners of fisheries, for the uses of said hatchery.

§ 4. Any person offending against any of the provisions of this act shall be liable to a penalty of fifty dollars for each offense and the costs of suit, to be sued for and recovered in the name of the commissioners of fisheries, in any court of competent jurisdiction in either the county of Hamilton or Fulton, and all penalties recovered in such suits shall be paid into the treasury of the state.

CHAPTER 512 OF THE LAWS OF 1887.

AN ACT to provide for the construction of a fishway in the State dam at Troy.

Section 1. The superintendent of public works of this state is hereby authorized to cause to be constructed, maintained and operated in the state dam across the Hudson river at Troy, in such a manner as not to injure the said dam, a fishway of proper width and depth to allow all fish endeavoring to migrate to the waters of the said river above the dam to pass over the same; such fishway to be placed at an angle of not more than thirty degrees, and extend entirely to the running water below the dam. The said fishway shall be constructed under the supervision of the fish commissioners of this state, and be located at such a place in said dam, and built in such manner and of such materials as said commissioners may direct. It shall be

the duty of the superintendent of public works to close the said fishway whenever the water in said river shall have reached such a level as to in any wise interfere with the use of the surplus waters on either side of said river by the lessees thereof, or to impede canal navigation.

§ 2. The sum of eighteen hundred dollars, or so much thereof as may be necessary, is hereby appropriated out of any moneys in the treasury not otherwise appropriated, to build said fishway, payable by the treasurer on the warrant of the comptroller to the order of said superintendent.

§ 3. Nothing in this act contained shall be so construed as in any way to interfere with or abridge the rights to the surplus waters created by the erection of the state dam aforesaid demised by the people of the state of New York, in and by a certain grant or lease of said surplus waters, made by the people of the state of New York, to the Lansingburgh Dry Dock and Hydraulic Company, the second day of January in the year one thousand eight hundred and thirty-two, and in and by a certain grant or lease of said surplus waters made by the people of the state of New York to George Tibbits, the twenty-sixth day of November, in the year one thousand eight hundred and thirty-five, or to interfere with or abridge the use of said surplus waters, or the rights, liberties and privileges granted and demised by said grants or leases.

§ 4. Chapter five hundred and fifty-five of the Laws of eighteen hundred and seventy, entitled "An act to provide for the construction of fishways in the state dams at Troy and Fort Miller," and so much of chapter eight hundred and fifty of the laws of eighteen hundred and seventy-two, entitled "An act to provide for the construction of fishways in the state dams at Troy and Fort Miller," as relates to an appropriation for said dams, are hereby repealed.

§ 5. This act shall take effect immediately.

CHAPTER 212 OF THE LAWS OF 1862.

AN ACT to facilitate the ingress of salmon into Cayuga lake, and for the protection of the same.

PASSED April 12, 1862.

Section 1. The owner or owners of each and every dam, whether such owner be an individual, several individuals or the state, made across the Oswego river, or other rivers leading from the Cayuga lake into Lake Ontario, so as to prevent the usual course of the salmon from going up the said rivers into Cayuga lake, shall, on or before the first day of October next, so alter such dam, by making a slope apron in the dam in the said river, at least five feet wide, smoothly planked, descending from the top of the dam on an angle of not more than thirty degrees and extending to the bottom of the river below, with a side plank of at least one foot in width attached to each side of said apron, in such a manner as to confine the water to the channel-way of said apron in its passage over the dam. Each such dam shall be made at least one foot lower at the place where such apron is joined thereto to create a sufficient draft and depth of water on said apron for the free passage of salmon up said river and over said dams to the waters in Cayuga lake.

§ 2. The owner or owners of every such dam, who shall refuse or neglect to build and keep in repair an apron, according to the provisions contained in the foregoing section, shall forfeit the sum of one hundred dollars and costs of suit, for every month he or they may so neglect or refuse, and any person feeling himself aggrieved may prosecute therefor in his own name, by action of debt, in any court having cognizance thereof. The one-half of said penalty when so recovered shall be paid to the person prosecuting therefor, and the other half to the commissioners of highways of the town where such recovery shall be had, to be applied in repairing the roads and bridges in such town.

§ 3. It shall not be lawful for any person to spear, or in any manner catch or destroy any salmon or other fish, while passing up said apron or aprons, or within distance of ten rods thereof, whereby they may be prevented or disturbed from pursuing their usual course up said river. Every person offending against the provisions of this section, shall, for every such offense, forfeit the sum of twenty-five dollars and costs of suit, to be recovered in the same manner and applied in the same way as provided in the last preceding section.

§ 4. All acts and parts of acts, heretofore passed, in relation to dams or obstructions in the rivers above recited in the first section of this act, conflicting with this act, or regulating the fishery in the same, are hereby repealed.

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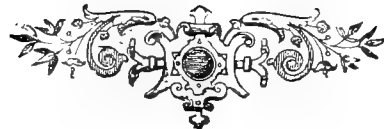
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