

REPORT

OF THE

Commissioners of Fisheries and Game

OF THE

STATE OF MAINE

FOR THE YEAR

1884.

AUGUSTA:

SPRAGUE & SON, PRINTERS TO THE STATE.
1884.

REPORT.

To His Excellency, FREDERICK ROBIE, Governor of the State of Maine:

In presenting this, our Annual Report, we have the pleasure to record continued success in our work and most gratifying appreciation in the public estimate of its benefit to the State. From the varied opinions and criticisms upon the laws passed for our department by the last Legislature, differing as they necessarily must according to the diversified interests of their authors, one great and important fact is deduced, that the object aimed at by the Legislature has been attained in a most marked increase in the game of the State, and an equally marked decrease in its exportation. To entirely guard one's house when a neighbor State allows laws to be enacted to encourage theft by bribes of purchase of stolen property is difficult. Maine has so framed her own laws as to protect her sister States, even to game that is not indigenous to her own soil. Prairie fowl and quail can find no market here during the close time of those birds in their respective breeding places or States. Black salmon reeking with slime, that an Indian's dog would reject, were cut up and offered for sale in Quincy Market, Boston, in October.

The work of the last two years has been effective. It has demanded all our time, and been limited only by our means. There is no law that our Legislature will enact that resolute men cannot enforce. The laws are framed by representatives who have the confidence of their fellow citizens, they are elected for the express purpose of making and correcting our

laws. How can we judge but by the demonstration of positive enforcement of the wisdom or efficacy of those laws? We can unmake or repeal as easily as enact. The error of the past has been in resting satisfied with putting good laws upon our statute books, anticipating that citizens whose time is required for the support of their families, would jeopardize their means of subsistence, incur animosities, by voluntarily enforcing laws that were abandoned without a definite executive so soon as set up by the printer. It should be the special duty of someone designated distinctly by the Legislature to enforce every law, and proper provision should be made for it. Do our moral guides, the ministers of the Gospel, serve without pay? Will simple philanthropy support a special constable or a fish and game warden better than a minister of the Gospel?

In the first years of the constitution of the department of fisheries, a salary of one thousand dollars per annum for the commissioner if serving alone, or to be divided if more than one was appointed, was deemed a sufficient compensation for the service, but allowing travelling expenses when on duty. At the period when this law was enacted, the duties of the Fish Commission were limited as at present to the territory as set forth in the appended statutes.

INLAND FISHERIES.

APPLICATION OF THE LAW.

SEC. 29. The following sections apply to all fresh waters above the flow of the tide, and to all tidal waters frequented by the various species of fresh water and migratory fishes, except to the capture of salmon, shad and alewives in Denny's River and its tributaries, and Pinmaquin River and its tributaries, and to the taking of white perch in tide waters, or in the stream between Grand Lake on the St. Croix waters and Sysladobsis Lake, known as Dobsis Stream, or within two hundred yards of the head and mouth of said stream, and except as provided in the two following sections.

SEC. 30. This chapter does not apply to that portion of the St. John River and its tributaries lying above Grand Falls in New Brunswick; nor to fish taken in the weirs on St. Croix River; and does not repeal the laws

relating to the St. Croix, Denny, Pemmaquam, Cobscook, East Machias and Narraguagus rivers.

SEC. 31. The following waters and their tributaries are exempt from provisions relating to migratory fishes, and the supervision of fishways by the commissioners, that is to say: Royall's River in North Yarmouth; Sewall's Pond or its outlet in Arrowsic; Nequasset Stream in Woolwich; so much of the waters of Damariscotta River as are west of the railroad bridge near Damariscotta Mills; Duck Trap Stream in Lincolnville and Belmont; the Eastern Penobscot River in Orland; Winslow's and Leach's Streams in Penobscot; all waters in Vinalhaven, Bluehill, Tremont, Mt. Desert, Eden, Franklin and Sullivan; Tunk River in Steuben; Pleasant River in Washington County; East Machias River, and Cobscook or Orange River in Whiting.

COMMISSIONERS OF FISHERIES AND COMMISSIONERS OF GAME.

SEC. 28. The powers and duties of the Commissioners of Fisheries, and wardens, extend to all matters pertaining to game, and they have the same powers to enforce laws pertaining thereto as they have in enforcing the laws relating to the fisheries.

Since then, not only has the territorial jurisdiction of the Commission been added to, but in 1880 the care of the game animals of the State was consigned to their charge, embracing the whole area of the Commonwealth. While this law increased the field of work of the Fish Wardens by constituting them also Game Wardens, it at the same time more than tripled the territorial jurisdiction of the Commissioners, for while the duties of the Commissioners were confined to but a limited portion of the State, the Game Commission embraces the whole without limitation, imperatively demanding not only tripled duties and care, but a three-fold increase of the number of wardens.

Under the able management of our distinguished predecessor, Mr. Atkins, sustained and advanced by the succeeding commissioners to the best of their ability and power, fish culture and protection has become a great and popular interest, and adds millions of dollars annually to the earnings of the people. The care of the game, enforcing such laws as enable the farmer to increase and derive profit from his domestic stock; the care of the fish, in extending kindred

laws protecting them while breeding and so long as they are unfit for food, has lengthened out the season of attraction to our visitors and added other millions, distributed among our people through our railroads, our livery stables, our stages, our steamboats, our villages, our hotels and our lake-side homes.

The Department of Fish and Game has developed and grown so rapidly, that its crude and careless organization, devised at a time when it was new and but little understood, is entirely inadequate to its present requirements. It has now become one of the most important interests of our Commonwealth—of more value to the people, we may say, than any other, for the simple reason that its earnings, instead of filling the coffers of one individual, or corporate company, is divided equally among the whole people, from Georgia to Maine, or from any point from whence the travel starts to the great summer resorts of our beautiful home. Public journals of our sister States already speak of Maine as being the only future hope of the lover of field sports; the only protected field where the destruction that has made desolate the western plains and now threatens the Government Reserve of Yellow Stone Park, bids fair, by the enforcement of our timely laws, to be checked. It has even been suggested that the United States Government give her aid in preserving Maine as an attractive home and refuge for our native wild game and fishes. That some conception may be formed of the value of this great interest to the State, and how eminently it demands the fostering care of the Legislature, we append two of the many references of the public journals to this emphatic interest:

WHAT THE SUMMER TRAVEL DOES FOR MAINE.

The *Press* says: "In conversation with one of the officers of one of our banks, Friday, the statement was made that few people have any idea of the amount of money left in Maine by summer visitors who visit our watering places and country resorts. He said that up to six weeks ago it was difficult for a bank in Portland to get many large bills, and the pay-rolls of various companies required an active 'shinning round' to

secure the necessary amounts in fives and tens to meet them, in addition to those of their regular customers. Since that time, however, bills have been a glut in the bank and the deposits have included many large-sized bills. This great increase is due to the summer visitors to Maine. Their money focuses in the Portland banks, and this officer's bank four weeks ago forwarded \$60,000 in bills to New York; two weeks later, \$30,000, and Friday, \$50,000 more, or \$140,000 in six weeks, and this bank is but one of six in Portland."

The Mining and Industrial *Journal* thinks it is within bounds to say that summer visitors are now paying out in Maine \$280,000 a [week for board bills. "This, in connection with the large expenditures for necessities and luxuries of various kinds by non-resident occupants of summer cottages at our coast and inland resorts; the sums, ranging from five to several hundred dollars each, left at various points in the State for outfits, guides, etc., by the army of sportsmen and campers; and the further fact that every Maine hamlet has its quota of summer visitors at more or less modest rates of entertainment, would seem to make it appear that the summer resort interest of Maine is worthy of development."

SALMON RIVERS AND SALMON OF MAINE.

At the date of the first appointment of Fish Commissioners in Maine, the KENNEBEC still yielded quite a large number of salmon. The period of the building of the dam at Augusta was the final blow to the destruction of the far-famed "salmon of the Kennebec." The fish were slaughtered at the dam; the fish were slaughtered in the canal or sluice-way or outlet of the factory by closing the gates and stranding them; no breeding fish could ascend the river to their spawning grounds. The Commissioners were forbidden to enforce the law by enactments obtained from the Legislature. After eight years of hard fighting the Commissioners were enabled to defeat a renewed attempt to suspend their action through the Legislature, and were able to enforce an order to build the present fishway. The salmon were virtually exterminated, hardly a remnant left. The people, knowing nothing of the habits of fishes, had supposed that by opening the fishway myriads of salmon would rush in like birds seeking a new resting place. The fish that are bred in a river will return there, but none others. Salmon, after depositing their spawn,

remain for a given period in the river and then return on the spring floods to the ocean, to again re-visit the place of their birth when the instinct of breeding recurs and points it out. This period is now supposed to be every two years. If in the mean time a dam be erected and their pathway interrupted, they will not seek a new spawning place, but continue to make fruitless attempts to reach the river where they were hatched until they are exterminated. That river is then vacant to salmon until a new family of salmon fry are planted there. Fish rarely make any mistakes; unlike birds, they will not seek a new nesting river when that in which they were born is shut to them. There are too few salmon now in the Kennebec River to breed from. If the river is to be re-stocked, if the destruction caused by the dam and the too amiable Legislature is to be remedied, the Commissioners must be allowed the means to plant not less than a million of salmon fry in the Kennebec for the next five years. There is no other remedy. To stock a river requires many fish. Will 100,000 grains of wheat prove sufficient to sow a prairie and send a day's food to Augusta? Will 100,000 salmon fry restore the work of centuries destroyed on the Kennebec?

DENNYSVILLE RIVER. Here is a field, a scene of senseless wanton waste and ruin. This river is naturally one of the most productive salmon rivers in the State. It is not within the jurisdiction of the State Commissioners, always excepting their right to order fishways. The fishways are simply used as traps, and persons are allowed to stand upon them and dip out the unfortunate fish that attempt to pass up. At the mouth of the river there are five weirs constructed in such positions as to intercept and catch, as far as possible, all salmon passing up on the tide. A few fish do succeed in escaping up the stream, and rise readily to the angler's fly, and might afford some inducements to visiting sportsmen, were not all the waste and slabs and drift of the saw mills thrown into the river bed, where it fouls the line of the angler and drives every sportsman from this beautiful village.

For the last two years the Commissioners have supplied Mr. Benjamin Lincoln with 40,000 salmon eggs, who has hatched them and turned the fry into Denny's River. Could all fishing on this stream, excepting with baited hook or fly, be prohibited, the throwing of drift into the river forbidden, an efficient warden be commissioned, Dennysville would become one of the most frequented and fashionable places of summer resort in the State.

THE ST. CROIX is another productive salmon river. Here, also, the Commissioners have no jurisdiction, excepting of fishways on the American side of the stream. The dividing line between Maine and New Brunswick is the middle of the channel. Some 500,000 salmon eggs have been contributed to this river by the Maine Commissioners; 380,000 of these were hatched and distributed in those waters at the expense of Mr. Frank Todd, the efficient Dominion officer at St. Stephen. A very fine large fishway has been built on the Dominion side of the river at the extensive new cotton mills, the plans and engineer work furnished by the State of Maine. This river has great capabilities, is full of salmon that rise readily to the fly, and may be made of much value to both New Brunswick and Maine. Under the present system, or rather no system, it had better be abandoned as at Dennysville. If deemed worthy of preservation by the respective governments that own it, it should be placed under a co-operative code of laws, viz: No salmon fishing in tide waters after July 15th; no nets used above tide waters at any time; fishing with baited hook or artificial flies until 1st of September; an equal number of wardens to be furnished on the respective sides of the river.

SACO RIVER is deemed by the local inhabitants worthy of being restored to its original place among the productive salmon rivers of Maine. Good fishways have been built after plans furnished by Mr. Harry Buck of Orland. The stock of salmon fry is now only required. The Legislature will

please remember that stocking a river is like seeding a section of a State. Estimate its area, or its number of acres, and then decide if 100,000 grass seeds will prove sufficient. Generous seeding for several years is requisite if a good crop is expected.

ANDROSCOGGIN. On the Androscoggin, our poverty of resource has ever prevented our properly stocking those waters. We have two very important and valuable fishways at the mouth of the river at Brunswick. Obstructions multiply on the river more rapidly than our ability to cope with them. Manufacturing enterprise not only obstructs the river with its monstrous dams, but, by the criminal neglect of the Legislature in providing no restrictive laws, the bed of the river is covered with waste matter that destroys both the spawning ground of the fish as well as the productive field of fish food. Poisonous matter from the Brunswick factories destroyed the spawning ground of the shad and drove them away.

PENOBSCOT. The Penobscot is the only river now left on the Atlantic coast of the United States where there is a sufficient number of salmon to supply the requisite fish for the works at Orland, where the eggs are taken for distribution, both for the United States and the several associated States that subscribe.

Maine's subscription to the works at Orland in 1883, for salmon eggs to be hatched and distributed to her rivers in 1884, was \$1,000. Our return from this sum was 702,000 eggs. Professor Baird, the United States Commissioner of Fisheries at Washington, afterwards gave us 200,000. By letter of February 15th, he gave 340,000 more eggs, upon condition that the hatched product be all put into Penobscot waters. It will be perceived that our whole stock of eggs to be hatched and distributed this year of 1884, was 1,242,000. These were distributed as follows: 702,000 at Enfield, all consigned to Penobscot and tributary streams;

300,000 at Norway, for Penobscot and Saco waters ; 200,000 at Weld, for Androscoggin and Kennebec waters ; 40,000 to Mr. Benjamin Lincoln, at Dennysville, for Denny's River. The run of salmon on the Penobscot River this year is reported to us as exceeding in number that of last year, the size of the fish as less. Good judges were of the opinion that, owing to the long continued high stage of water this last spring, an unusual number of the fish made their way directly to the upper waters of the river. As netting above tide water is forbidden by law, we have been unable to ascertain any facts from local residents. That the upper waters of the river are very full of young salmon of various sizes, seems to be the universal testimony. The Ouissaticook, a small tributary, is every year infested by miscreants, taking the salmon on their spawning beds. There seems to be no remedy for this destructive method of taking salmon but by increasing the penalty, by adding imprisonment at hard labor. At one period all methods of fishing for salmon on the east branch of the Penobscot River were abandoned, not from any spirit of reform on the part of the local inhabitants, but simply that there were no fish to be caught. So few were left that it did not pay longer to set their nets or traps, the last venture yielding as a dividend but one salmon for the whole year. Now that salmon have been again restored to the river, the work of destruction has been prosecuted on the east branch and on the Ouissaticook with renewed vigor and to a greater extent than ever. Traps have been used, set-nets have been used, dynamite has been used. It is for the Legislature to answer the question of the destruction of the breeding salmon of the great salmon river of Maine by a few abandoned scoundrels on the upper Penobscot. At Rockland they may be of some service to the State ; at large, they are an active blight, and curse, and canker upon industry and prosperity.

Other destructive influences are at work on the Penobscot, as on other rivers. New dams, new industries, poisonous

chemicals turned into the river ; river bottomed with waste ; decreased volume of water in the river, caused by destruction of forests ; long continued droughts, necessitating economy of water by dams to the numerous mills and factories, leaving no place of descent to the young fishes but through the machinery, where they are crushed. There is no more sense or justice to the people, in allowing the product of our waters to be destroyed by the waste of factories turned into our rivers and brooks, than giving other industries the same rights to cover our roads and pastures or cultivated fields with their refuse, and thus destroy agricultural crops and impede transportation. We are constantly receiving complaints from Lincoln and Olamont and other sources, of chemicals from the pulp mills killing the fish ; from Aroostook, of the starch factory waste and washing destroying the trout and other fishes.

LAND-LOCKED SALMON.

This fine fish is indigenous to several lakes of the State, for instance, the Grand or Schoodic lakes, Sebec Lake and tributary ponds and streams ; Reed's Pond, a tributary of Union River ; Sebago Lake and tributary streams, head waters of Presumpscot River. The salmon of Reed's Pond and of Sebago Lake, both in the vicinity of the ocean, are of large size. Those of Grand and Schoodic lakes, more remote, are smaller, averaging about one-half the weight of the former, and are more readily taken with the fly. The salmon of all these lakes, without any distinction, have been very rapidly diminishing in numbers and mostly from like causes, the persistent use of net and spear on the spawning ground, and killing at all times without regard to season, whenever accessible. The increased number of mouths to feed adds to the demand for fish, and the inducement to poachers, but not to the area of production. On the Grand and Schoodic lakes the number of fish has very much fallen off since the establishment of the tanneries on Grand Lake Stream. The stream is

now bottomed with hair and tan bark, and produces no food for young or old fish, and is now but sparsely frequented by them. Much nonsense is talked and written about the United States Works on Grand Lake Stream being the cause of diminution, by squeezing the eggs out of the fish (we use the local term of the poachers in philosophically discussing this question), and causing the death of the parent fish. The same number of squeezed fish may be found in proportion to the number of fish taken in any pond where these fish are bred. The facts are that these fish, like the sea salmon, spawn every second year. The spent fish of the sea salmon return to the sea and are not caught. The spent fish of the land-locked salmon remain in what to them is their ocean home, the lake, and are caught before they are in condition, and are supposed to be squeezed fish that are sick and pining away. While fishing this last spring at Sebago Lake, where no fish are squeezed for eggs, as many squeezed fish were taken as of the class of fish that were in perfect condition, and that would not be ready to spawn until the next season or in the autumn of 1884. Other and destructive causes are of course working and adding their mite to the diminution of our fishes. The clearing away of forests from the banks of our rivers and brooks, which, among other things, destroy the black fly that has so much profanity to answer for. The incipient black fly is the main dependence of the baby trout and other young fishes; it is the milk that nurses their infancy. Pulp mills, shingle mills, tanneries, starch mills, &c. &c. &c., all are destroying our fish nurseries. The idle talk about the diseased or weak progeny of artificially-taken eggs; about the want of worldly wisdom of the young fry, making them too easy prey to other fishes or to starvation, is silly nonsense. The planting of land-locked salmon, hatched from the eggs taken by Mr. C. G. Atkins, at Grand Lake Stream, has been a marked success in Maine. The fish are yearly taken at Moosehead Lake of from two to four pounds weight, the result of the very sparse contribution we have thus far been enabled to make to

that inland sea. At Webb's Pond, in the town of Weld, fish of from two to nine pounds have been taken within the last two years. At Rangeley, salmon have been taken for several years past of varied weight, from two to nine pounds. Salmon of ten pounds were taken this autumn while the trout for spawning purposes were being seined. At Auburn, like success has attended our work with this invaluable fish. Mr. Luther Hayes, of New Hampshire, reports a fish of ten pounds taken in a lake of his State stocked with Schoodic salmon fry. From other States equally favorable reports are received. Our subscription to Grand Lake Stream Works in 1883 for this year, 1884, distribution, was \$500. Our return from this sum was 133,500 eggs. Professor Baird, with his usual liberality to our State, gave us 50,000 more, making a sum total of 183,500. The supply of spawning fish at Grand Lake Stream is as limited as its waters, hence the greater cost of the eggs. At the Orland Sea Salmon Works the supply of fish is only limited by our means of purchase. A part of these eggs were intended for Moosehead Lake, that we have been engaged in stocking as rapidly as our slender resources would permit for the last five years. The burning of the Kinco House prevented Mr. Dennen giving any attention to the fine fish hatchery that he has fitted up, and we made the assignment for the State as follows, omitting Moosehead this year: 55,000 to Rangeley; 75,000 to Webb's Pond in the town of Weld; 55,000 sent to Enfield and the fry divided between Cold Stream Pond, Nicatous Lake and Island Falls.

TROUT.

Nearly one-half of the State is removed by special law from the jurisdiction of the Commissioners, viz: "all that part of the St. John's River and its tributaries lying above Grand Falls in New Brunswick." We refer to this because numerous complaints are made to us from the local residents, of the inhabitants of the neighboring Province coming over

into our State and sweeping the trout from their spawning beds and carrying the plunder back to their homes in the Dominion. We can afford no redress. Such protection as we have been able to afford within our own defined limits has led to increase of our stock and lessened exportation to Boston markets. The fifty pound law of the last Legislature, and allowing no transportation of fish but when accompanied by the person who captured them, has proved of great benefit to the State. The fame of the two great angling centers, Moosehead and Rangeley, now require the protection of new laws to prevent their being depleted by the monstrous number of fishermen from the whole Union, indeed from every quarter of the Globe. As we have before stated, no amount of fair angling can ever entirely exhaust a lake, pond or stream, for the instinct of fishes can be educated to the verge of reason, and is coeval with the cunning devices of anglers. But our open season for catching trout extends too far into the spawning season. As it approaches, the fish begin to crowd up into certain streams and are slaughtered when in a semi-stupid state, oblivious to all surroundings, to fear, to all but the instinct of breeding. There are other streams to which the young fry resort, away from the danger of the larger fishes that feed on them. These also should be protected from being angled on at any time. The Saccatien and Misery rivers, at Moosehead, should be closed by law for at least five years. The outlet of Moosehead Lake should also be protected for a distance to be decided upon and staked out, from the first day of September until the following May. Good, true and faithful wardens should be provided and paid to see the law rigidly enforced. No fishing should be allowed at any time on the outlet of Rangeley Lake, from the dam on the outlet to a line running directly across the stream at its point of junction with the Kennebago, near Indian Rock, and the same law should be extended over the Kennebago Stream. These two streams should be held sacred as nurseries of that splendid breed of monster brook trout to which the world has

yet shown no equal. We also ask protective laws from September 1st to all the spawning grounds below the respective dams of communication between the several lakes, to be defined hereafter. At all these places provision should be made for the services of tried and faithful men to enforce the law at all times. There is too much money in these great places of resort to allow the sources of attraction to be destroyed by either the Anglo Saxon love of butchery, or the rum and tobacco craze of the poaching slouch.

WHITE-FISH.

The beautiful White-Fish, common to most of the northern lakes of Maine, and thence far up to the Arctic, is but little appreciated or understood. The species known to us in Maine as the Pound Fish, from its average weight, has not the size and is more symmetrical and beautiful than the western fish of the same name. Our fish is as shapely and brilliant as a mackerel. The prejudice against introducing this fish into our inland lakes in New England, has been the impression that it is only to be taken with the net, which fish protection abjures as the great weapon of destruction of the poacher. The White-Fish reaches us in our markets, but when full of spawn and least fit to be eaten. It is only when full of spawn and schooling on its way to the spawning ground that it is profitably netted. Netting is now prohibited in all our waters above tide, under a severe penalty. The White-Fish which abounds in Moosehead Lake, is only taken with the hook and line. It is quite frequently caught in the trouting season, by anglers casting with the fly. The Maine season when it is taken in quantities for the table, is in March, through the ice, with hand lines. They are then in perfection, having recuperated from their spawning, which takes place in autumn, about coeval with the trout. We hope the White-Fish of Maine may attract the attention of the United States Fish Commission, and its eggs be taken in

sufficient quantities for general distribution. We think it may be found in some of the Fish River lakes in quantities to make it worthy the attention of Professor Baird, to establish a station for its capture and spawn-taking.

ALEWIVES.

There are few gold mines that are capable of turning out so much annual wealth to a people as the alewife fisheries of Maine. Mines, in their working, necessitate an accompaniment of vice and demoralization. All that is demanded for the working of the alewife fishery, is simply to again open the pathway to our lakes and ponds that they formerly traversed in their annual migrations from the ocean to their spawning grounds. The people of our State appear to have been stolidly unconscious of the wealth of resource they possessed. It would appear that the inhabitants, both the millmen and those engaged in developing manufacturing power, were so entirely ignorant of the habits of fishes, that they never dreamed that in shutting them off from their annual migration to our rivers, that they were exterminating the most valuable of our annual crops. Nature, in creating the necessity of the anadromous fishes to deposit their eggs in our fresh water streams and lakes, established the most wonderful system of commissary, by which the fish, when loaded with fat, fresh from the ocean, penetrated far up into the interior of the State and supplied the settlers with a store of fish food. While all our streams were being saddled with dams and mills, no one ever imagined that the result would be to kill out the most valued of our fishes. A word spoken then, both millmen and fishermen would have united to leave a free path to bring the food to their doors. Wisdom has come late, but the millmen are generous and willing—the roads will again be opened. Bristol has aroused and will have her fishways and her alewives again. Pembroke, by the expenditure of a little energy and money, can again open the way to the lakes and pay her taxes with the alewife crop.

Damariscotta rented her fishway this year for \$3,500, and this was the first fishway in Maine, extemporized from a few skilfully placed stones at the most rapid points of current in the brook that the alewives might stem it. The alewives were brought from a distance and planted in a pond, thus made accessible, where they could spawn. Hence this valued resource of a yearly income to Damariscotta.

Fishes are difficult of access to study their history and habits. The element they breathe is as fatal to our lungs as vital to theirs. We can not accompany them to their ocean homes. Years are consumed in seizing one probability and substantiating from it a fact. As many years are requisite to uproot a mischievous error. The assertion that the alewife returns but once to the river where bred, to spawn, and then dies, has been often times repeated to us. Yearly are we met by questions that the most competent and learned ichthyologist may not answer. We append two letters from learned authorities that will be appreciated by scientists as valued acquisitions to the history of the alewife.

U. S. COMMISSION OF FISH AND FISHERIES. }
WOODS HOLL, MASS., Aug. 6, 1884. }

Dear Mr. Stilwell:

I think we can send you the carp for which you ask, in the fall. We have none now available.

It is impossible to answer satisfactorily your inquiry in regard to the habits of the alewife. We know, of course, that they spawn in fresh, and perhaps slightly brackish, waters, and that the young return to the sea. We also know that the adults do likewise, but whether they come back again the second time, it is difficult to say. My own guess is that they do, as, so far as we know, most of our fishes spawn for several successive years; as the trout, the salmon, the carp, etc. We infer that the shad does the same, from the fact that very few dead fish are found floating in the rivers, or lying on the shore and in the bay. The fish are known to run out of the St. John's River in the summer, and to fatten up in the flats at the head of the bay, when they become even better than they are in the early spring.

Where shad are undisturbed for a long time, we find them of enormous size—up to ten and twelve pounds; thus showing that they continue to grow for a long period.

I think if alewives died after spawning, the fact would be noticed before they leave the rivers. When they get back to the ocean they have

every opportunity, by abundance of suitable food, and other favorable conditions, to recover their waste of flesh.

Perhaps Col. Lyman may have something to say about this, as he is an expert in alewives.

Yours truly,

SPENCER F. BAIRD.

E. M. STILWELL, ESQ., *Bangor, Maine.*

BROOKLINE, Aug. 9, '84.

E. M. Stilwell, Esq.,

MY DEAR SIR:—When you say of alewives “return to a river to spawn a second time,” you mean on some following year, I presume.

I do not know that any experiments have been made with marked fish to prove the point, but what we know seems to indicate that they do return.

1. The alewife, like the shad, takes four or five years to get its growth. They spawn, I think, at least a year before they get their full size.

2. After spawning, many “spent herring” (alewives), may be seen working down stream. These do not die. I have known them to get shut in a pond and live all winter.

3. In the ovary of a female may be seen not only the crop of eggs to be laid that year, but also the microscopic crop for the next year.

If the fish live, they ought to come back. And I know no reason why a whole school of fish should die after spawning. Some insects thus die; but not vertebrates, although they are most liable to perish at that moment.

Truly yours.

THEODORE LYMAN.

FISHWAYS.

The two fine fishways at Saco have at last been announced to us as completed. We have not formally accepted them, as it is necessary that the engineer who designed the plans should make the inspection and certify that they are built in accordance therewith. The absence of the engineer has involved a necessary delay. Two fishways have been ordered over the Sowadobscook, at Hampden, to facilitate the passage of alewives up the stream to Hermon Pond, in accordance with the wishes of numerous citizens of Hampden. These two fishways will be completed by the autumn of 1885. A new and excellent fishway has been built by the Bodwell Company, at Jonesboro', under the energetic superintendence

of Mr. Ephraim Whitney. This fishway is for the restoration of the alewife fishery. Fishways to restore the alewife fishery to numerous streams at Bristol, &c., &c., will be ordered and built just so soon as the people of those localities can make up their minds to take the initial, and dare to say "Who did it?"

LOBSTERS AND PORGIES.

Neither the porgie or the lobster fisheries are placed within the jurisdiction of the Commissioners of Fisheries by the law constituting their department. We assumed the charge of the lobster, and published the laws pertaining to them, simply because we saw it would become a dead letter, as most of our other laws, unless some one adopted and enforced it. The same is to be said of the porgie law. It is utterly disregarded. The steamers sweep into our bays, and mouths of rivers and inlets, robbing with their nets all the reserves where our shore fishermen can earn a living. Complaints are continually made to us of outrages committed upon the rights of our little shore villages and hamlets, for which we have neither the means or the right to afford redress, or administer punishment. What we require now, at once, is, no more tinkering or talking, but the Legislature to enact some good square laws, and define and commission some one to be stationed on our coast to see that every law passed is rigidly enforced. The lobster requires protection during the spawning season, not after the season is passed. Would such a law give you chickens, or eggs, or trout? The enforcement of any porgie or lobster law requires an efficient coast officer to visit all the porgie and lobster vessels, and stations, and canning establishments. Nothing less will prevent the extermination of the lobster. Nothing less will prevent the sweeping from our shores of every edible fish, to feed the insatiable maw of the oil factories. The canning factories should have never been allowed to touch the lobster. It brings a mass of consumers too large for the field of production. Better than

all else now, will be a law of close time of five years for the lobster, rigidly enforced with heavy penalties. Time can then be had for a careful review, and study, and revision of the whole subject for future action.

GAME.

When the law was passed for biennial sessions of our Legislature, a corresponding change was not made for rendering the reports from the different departments of our State Government. Hence our last year's report records the experience of but one year's working of the new game laws passed at the last session, as well as but one year's record of the transactions of the Commissioners. This places us under the necessity of repeating so much of last year's experiences as is substantiated by the occurrences of the present. No better comment can be rendered to the new game laws than the fact of the steady increase of the game of the State. This has arisen as much from the sanctuary afforded by the enforcement of the law against the use of dogs in hunting, as from the natural increase by breeding. Many hundred head of game have undoubtedly migrated into the State, simply for the shelter it has afforded from continual hunting and hounding. Even if all the moose, caribou and deer could be confined to the boundaries of the State by impassable barriers, the simple fact of hounding would affect their fecundity. All the severity of remark that the Commissioners felt warranted in uttering last year in relation to the acts of summer visitors, has been more than borne out, more than confirmed by the experiences of the year. Subornation of poor, ignorant Indian guides by whiskey and money, to conceal and bring out in the period of legal hunting, trophies of game killed in close time, where the Indians were hired to lie, and ready even to commit perjury, when the names of the real owners and killers of the property were borne upon the property seized. We again repeat, the meanness and infamy of the

acts seem to be in almost direct ratio to social position, education and profession. Allow us here to quote these few lines from *Forest and Stream*.

PROFESSIONAL MEN AND GAME.

It is a most mortifying and disheartening fact that among the summer visitors in the Maine woods detected in breaking the game laws there are many individuals of high professional standing, men who occupy a recognized place in the community where they live, persons of influence, leading citizens. They are the persons whom we should expect to be most careful of their good fame, solicitous to conduct themselves as gentlemen and law-respecting citizens; wary of giving offense by a bad example. But if, on the contrary, such men of learning, culture and influence persist in ignoring both the irrevocable laws of nature and the explicit statutes of the State, what are we to expect from others in humbler walks of life?

The game of Maine, fish, fur and feather, has been placed by the government of the State in charge of the Commissioners. Understanding the habits of their charge, they have asked and received from their Legislature such laws as a judicious farmer enforces for the most profitable management of his breeding stock, and are absolutely essential to their preservation. The Commissioners have the will to enforce our laws to the bitter end upon all offenders, but have not the power, both from restricted means and from other causes of which we propose to speak. The efficacy of all laws in correcting the habits of a people is dependent upon the facilities of enforcement afforded by speedy and *prompt* justice. All new laws, as we have before stated, like those given us at the last session of the Legislature, should be accompanied by a special appropriation for their enforcement. We should have been enabled to station a competent warden and assistants at certain portions of our State, to make prompt arrests of persons, weapons and outfits. To a limited extent we have done this, but were only enabled so to do by withdrawing funds and expending money that should have been devoted to other branches of service. We again here reiterate our recommendations of last year. Our wardens are to

look for their pay chiefly to one-half the penalty against convicted persons. At present, through the means afforded us, from the country trial justice to the bench, the enforcement of the laws and the punishment of crime is as uncertain and precarious as a venture by lottery. The jurisdiction of a trial justice is limited to twenty dollars. The penalty for killing a moose illegally is one hundred dollars; a caribou or deer, forty dollars. All these cases must go to a higher court. We are there met by a grand jury at best unsympathetic from indifference. Our county attorneys are elected by the votes of the people. Their salaries, as a rule, are entirely inadequate to the severe and important duties required of them. They are the advisers of the grand jury; a heavy docket of criminal cases does not render to the county attorney the pay that the most puny shyster can earn in the purlieus of a police court. Might we be allowed most respectfully to suggest whether it would not be an improvement on our present system, both in economy and justice, that the county attorneys be appointed by the Governor and Council, and hold office during good behavior? Let them have a good salary for the talent and work they are to devote to the duties of the office, and thus have protection in the fearless performance of their duty, independent of popular caprice. We most earnestly, emphatically desire to impress upon our Legislature the necessity that final jurisdiction be conferred upon our trial justices for all violations of our game laws, regardless of the amount of the penalty. We could then obtain speedy trial and justice, while the parties would be protected against the great expense of delay before our county courts, almost equal to the penalty, even when the defendant is successful.

The moose of Maine have increased in numbers in sections of the State remote from the borders. The law has been better observed by our own citizens than by visitors from other States. The most serious pest and outrage is by the Tobique and St. Francis Indians, and whites from New Brunswick and Canada, crust-hunting for skins. It is said,

and the information comes from reliable sources, that upwards of one thousand moose hides were marketed in Toronto this last spring, from animals killed in the State of Maine. It creates a great deal of bitter feeling among our own citizens, as aliens are beyond our jurisdiction unless caught in the act on our territory. Four good wardens stationed on our border could stop all this, had we the means. If the Dominion of Canada and the associated Provinces would pass laws co-operative with ours, forbidding the killing of moose, caribou and deer, excepting from October 1st to January 1st, and grouse from September 1st to December 1st, and their exportation from the Dominion or Provinces *at any time*, an effective and positive remedy would be applied. The Maine game laws were enacted entirely from a desire of our own citizens to protect and preserve the indigenous game of the State. The Legislature has at the same time generously so framed her laws as to shut out poached or stolen game from other States. Even the Provinces, and the Dominion, and Massachusetts are so protected. The citizens of Maine willingly, freely, liberally pay for the care and protection of the game of their State, that they may indulge—in their yearly vacation, in their own forests—their love of field sports. The United States laws do not permit us to shut out even aliens from sharing with us. We are taxed and pay the expense of legislation and protection; the least our visitors can do, if deserving the name of men, is to obey our laws. Maine owns all the game of the State, and has the right to dictate the terms upon which the same may be killed, and the extent of the title to the property when killed. If the game of Maine is to be preserved, so that her citizens may indulge in their favorite pastime, no future exportation of it must be permitted. Let the law be so amended, if possible without letting in the market hunter, that a man who has legally killed his quota of game may be allowed to take it to his own home within the boundaries of the State, but in all and every instance strictly accompanying it himself and having it in his own possession. The same law should apply to all our game,

ducks, woodcock, plover, partridge. Every class of men coming to our State, in the pure spirit of selfishness, to participate in our field sports, toward which they have paid and pay not one cent, deem themselves qualified to demand an alteration of the law to meet their own wishes. If their business require them to take their vacation in August, they modestly ask that they may be allowed to take, after they have dishonestly taken, so much of our immature and brooding and nursing game will eke out the scant fare of their camp. Others desire September added, &c., &c., &c., each presenting a reason for the desired change. In reply, let us state that every penny expended by our visitors is upon themselves, in pure selfishness, and in an indulgence of license they would not care to exhibit elsewhere. Our venison is not done nursing in September, and still comes down to the water in our usually hot and dry autumn. The cover is too thick for the most skilful of still hunters to secure fairly a head of game. The real object sought is a change that will permit moose calling when it is as fair and noble and sportsman-like as to spear fish on their spawning beds. It is also equally sought for the noble sport of shining or jack hunting the wretched deer in the water. No! no change there! From the prominent men of our own State, of all parties and professions, comes the request for a close time for all our venison for five years. When we applied for the relief which our Legislature so generously and promptly granted but two years since, had it not been extended to us there would not be a head of game left to raise an argument over now. It is true it has increased beyond even our most sanguine expectations, but it is not up to the desired standard; far below the capabilities of our territory. Let the present law, as a modified close time, remain untouched, in full force for two years longer. That will give us time to correct our laws understandingly, and take the position we intend to hold for all the future. The State of Maine owns all the game of Maine, and alone has the power to legislate and give the right to kill, and the title to property when killed, and its disposal.

Three thousand copies of the fish and game laws of the State of Maine, and two thousand posters containing abstracts from the laws as to dates of close and open times, penalties, &c., have been printed by the Commissioners and distributed at all the principal hotels, railroad stations, &c., throughout the State. Notwithstanding this large number circulated, it has not met the demand, and a further edition was withheld, simply from our want of funds.

To the poachers' cry of wolf, the Commissioners have responded by the offer of a double bounty for every wolf scalp. No claims have been presented.

Respectfully submitted,

E. M. STILWELL,

HENRY O. STANLEY.

FISH COMMISSIONERS.

FOREST AND STREAM presents its annual list of the Commissioners of Fish and Fisheries of the different Provinces, States and Territories of North America. The list has been revised to October, 1884 :

DOMINION OF CANADA—

[We have had no notice of any appointment to the office vacated by Mr. W. F. Whitcher.]

PROVINCE OF NEW BRUNSWICK—

W. H. Venning, Inspector of Fisheries, St. John.

PROVINCE OF NOVA SCOTIA—

W. H. Rogers, Inspector, Amherst.

PROVINCE OF PRINCE EDWARD'S ISLAND—

J. H. Duvar, Inspector, Alberton.

PROVINCE OF BRITISH COLUMBIA—

A. C. Anderson, Victoria.

THE UNITED STATES—

Prof. Spencer F. Baird, Washington, D. C.

ALABAMA—

Col. D. R. Hundley, Mooresville.

Hon. C. S. G. Doster, Prattville.

ARIZONA—

Hon. J. J. Gosper, Prescott.

Hon. Richard Rule, Tombstone.

J. H. Tagart, Business Manager, Yuma.

ARKANSAS—

James H. Hornibrook, Little Rock.

H. H. Rottaken, Little Rock.

CALIFORNIA—

J. D. Redding, San Francisco.
A. B. Dibble, Grass Valley.
B. H. Buckingham, Washington.

COLORADO—

Wilson E. Sisty, Idaho Springs.

CONNECTICUT—

Dr. W. M. Hudson, Hartford.
Robert G. Pike, Middletown.
James A. Bill, Lyme.

DELAWARE—

Enoch Moore, Jr., Wilmington.

GEORGIA—

Hon. J. T. Henderson, Commissioner of Agriculture, Atlanta.
Dr. H. H. Cary, Superintendent of Fisheries.

Under the laws of the State these two constitute the Board of Fish Commissioners.

ILLINOIS—

N. K. Fairbank, President, Chicago.
S. P. Bartlett, Quincy.
S. P. McDole, Aurora.

INDIANA—

Calvin Fletcher, Spencer, Owen County.

IOWA—

A. W. Aldrich, Anamosa.
A. A. Mosher, Spirit Lake.

KANSAS—

W. S. Gile, Venango.

KENTUCKY—

Wm. Griffith, President, Louisville.
P. H. Darby, Princeton.
John B. Walker, Madisonville.
Hon. C. J. Walton, Munfordville.
Hon. John A. Steele, Versailles.
W. C. Price, Danville.
Dr. W. Van Antwerp, Mt. Sterling.
Hon. J. M. Chambers, Independence, Kenton County.
A. H. Goble, Catlettsburg.
J. H. Mallory, Bowling Green.

MAINE—

E. M. Stilwell, Bangor.
Henry O. Stanley, Dixfield.

MARYLAND—

G. W. Delawder, Oakland.
Dr. E. W. Humphries, Salisbury.

MASSACHUSETTS—

E. A. Brackett, Winchester.
F. W. Putnam, Cambridge.
Edw. H. Lathrop, Springfield.

MICHIGAN—

Dr. J. C. Parker, President, Grand Rapids.
John H. Bissell, Detroit.
Herschel Whitaker, Detroit.

MINNESOTA—

1st District—Daniel Cameron, La Crescent.
2d District—Wm. M. Sweeney, M. D., Red Wing.
3d District—Robt. Ormsby Sweeny, President, St. Paul.

MISSOURI—

John Reid, Lexington.
J. G. W. Steedman, Chairman, 2,803 Pine st., St. Louis.
Dr. J. S. Logan, St. Joseph.

NEBRASKA—

R. R. Livingsson, Plattsmouth.
William L. May, Fremont.
B. E. B. Kennedy, Omaha.

NEVADA—

Hon. Hubb G. Parker, Carson City.

NEW HAMPSHIRE—

Geo. W. Riddle, Manchester.
Luther Hayes, So. Milton.
Elliott B. Hodge, Plymouth.

NEW JERSEY—

Richard S. Jenkins, Camden.
William Wright, Newark.
Frank M. Ward, Newton.

NEW YORK—

Hon. R. Barnwell Roosevelt, President, 76 Chambers Street,
New York.

Gen. Richard U. Sherman, Secretary, New Hartford, Oneida
County.

Eugene G. Blackford, 809 Bedford Avenue, Brooklyn.

William H. Bowman, Rochester.

NORTH CAROLINA—

S. G. Worth, Raleigh.

OHIO—

Col. L. A. Harris, President, Cincinnati.

Chas. W. Bond, Treasurer, Toledo.

George Daniel, Secretary, Sandusky.

OREGON—

A. B. Ferguson, Astoria.

PENNSYLVANIA—

John Gay, President, Greensburg.

James Duffy, Treasurer, Marietta.

H. H. Derr, Secretary, Wilkesbarre.

A. M. Spangler, Corresponding Secretary, Philadelphia.

Arthur Maginnis, Swiftwater, Monroe County.

Aug. Duncan, Chambersburg.

RHODE ISLAND—

John H. Barden, Rockland.

Henry T. Root, Providence.

Col. Amos Sherman, Woonsocket.

SOUTH CAROLINA—

Hon. A. P. Butler, Columbia, Commissioner of Agriculture.

C. J. Huske, Columbia, Superintendent of Fisheries.

These two officers constitute the Fishery Commission.

TENNESSEE—

W. W. McDowell, Memphis.

H. H. Sneed, Chattanooga.

Edward D. Hicks, Nashville.

TEXAS—

John B. Lubbock, Austin.

VERMONT—

Hiram A. Cutting, Lunenburg.

Herbert Brainerd, St. Albans.

VIRGINIA—

Col. Marshall McDonald, Berryville.

WASHINGTON TERRITORY—

Albert B. Stream, North Cove.

(Term expired Nov. 9, 1877; no notice of re-appointment)

WEST VIRGINIA—

H. B. Miller, President, Wheeling.

C. S. White, Secretary, Romney.

N. M. Lowry, Hinton.

WISCONSIN—

The Governor, *ex-officio*.

Philo Dunning, President, Madison.

C. L. Valentine, Secretary and Treasurer, Janesville.

J. V. Jones, Oshkosh.

J. F. Antisdell, Milwaukee.

Mark Douglass, Melrose.

C. Hutchinson, Beetown.

WYOMING TERRITORY—

Dr. M. C. Barkwell, Chairman, Cheyenne.

Otto Gramm, Secretary, Laramie.

N. L. Andrews, Buffalo, Johnson County.

E. W. Bennett, Warm Springs, Carbon County.

P. J. Downs, Evanston, Uinta County.

T. W. Quinn, Lander, Sweetwater County.

THE LONDON DIPLOMAS.

Exhibitors at the London Fisheries Exhibition will be interested in the following letter to Prof. G. Brown Goode, Commissioner in charge of the American exhibit:

“INTERNATIONAL FISHERIES EXHIBITION,
SOUTH KENSINGTON, LONDON, S. W., Sept. 12, 1884. }

My Dear Sir: “I beg to acknowledge the receipt of your letter of the 1st inst., and to inform you that the Diplomas will be forwarded before the end of the year. At the same time I am directed by the Executive Committee to express to you their regret at the delay, which has unavoidably occurred. I am, my dear sir, yours truly,

EDWARD CUNLIFFE OWEN, *Secretary.*”

