

SIXTH BIENNIAL REPORT
OF THE
STATE FISH COMMISSION
OF
IOWA,

For the Years 1883-84 and 1884-85.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

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1885.

The Iowa State Commissioner desires to return hearty thanks to all railroads and express companies for past favors and kindly recognition, and trusts that the same pleasant relations may exist in future.

REPORT.

To his Excellency, BUREN R. SHERMAN, Governor of the State of Iowa:

SIR—In compliance with the requirements of the law, I beg leave to offer my report as Fish Commissioner, as follows:

The work done by me during the past year has been more especially devoted to the enforcement of the law enacted for the protection of fish native to the waters of Iowa, than to the artificial propagation of varieties of fish new to these waters.

Heretofore nearly the whole energy of the Fish Commission has been expended upon a course of experiments to determine whether certain kinds of fish, which have thriven under artificial culture in other provinces of the United States and in foreign countries, could be introduced into Iowa waters and habituated to them, so they would grow and multiply as the native fish.

These experiments cover a period of ten years and more, and have been pursued with a vigor and patience that should have resulted in success; but, to state the matter in cold truth, with the exception of the German carp, there have been no results from all the expenditures of time and patience and money in this direction. There has been nothing but failure to show in the grand summing-up of results.

The varieties of fish used in these experiments were:

Shad, California salmon, Penobscot salmon, lake trout, white fish, and land-locked salmon—fish that are irresistibly attracted to the waters of the ocean when their breeding season is over, or thrives and fatten in the northernmore waters of the continent, which are colder and purer than those of Iowa.

A vast number of the fry of these fish have been planted in the lakes and rivers of Iowa, but we have yet to discover proof of the presence of any of these fish in any of the waters of this State where they have been placed. If one of them has ever reached maturity, it has never been seen by mortal eye, or impaled on the fisher-

man's hook, or entangled in the meshes of his net. If such has been the case, diligent inquiry has not revealed credible evidence of the existence of such fish of foreign descent. Had this experimental work been a success, the waters of Iowa would swarm with these fish. But as it is, there is not one fortunate vagrant left to tell the fate of the myriads that were consigned to the home and the hospitality of the bass and the pickerel.

To give the people of the State of Iowa a correct idea of the magnitude of these experiments, I append a statement showing the number of each variety of fish distributed in the waters of Iowa during the period stated:

Shad.....	1,340,000
California salmon.....	1,414,000
Penobscot salmon.....	170,000
Lake trout.....	2,196,000
White fish.....	1,750,000
Land-locked salmon.....	185,500
Total.....	7,007,500

The total lack of results in the cultivation of the varieties of foreign fish enumerated is not announced unadvisedly, nor without steps having been taken to ascertain whether these fish do swim the waters of our State. At least a million of their fry have been planted in Spirit lake, one of the largest lakes in Iowa, during the last ten years. About the middle of the month of July, 1885, a gill-net three-quarters of a mile long and six feet deep, was set in the deepest cold water in the lake for thirty-nine hours, to test the presence of these fish in the same manner that it is done in Lake Superior. When the net was lifted out of the water, not one fish of foreign varieties was taken, although abundant evidence was afforded of the water being exceedingly fruitful in native fish.

I do not wish to be understood as saying there has been any lack of honesty or good faith in the conduct of these experiments. That excellent scientist, Prof. Baird, of Washington, D. C., the most eminent authority on fish culture in the new world, approved the attempt to stock the waters of Iowa with these fish. He gave it his approval because such efforts had been fraught with some measure of good results elsewhere, and by the same methods as in Iowa.

The reason for this lack of success is not susceptible of absolute definition at this time. It is a far-reaching question in a scientific

point of view. Further experiment, though on a more limited scale, will be needed to clearly reveal it.

Whether it has been because the fry have been planted at too tender an age and died of starvation or were the prey of voracious native fish, or because the waters of Iowa are not adapted to these varieties of fish, on the same principle that the climate of our elevated plateau, is not agreeable and healthful to certain birds and quadrupeds that flourish in other regions of the earth, I shall not attempt to say, without further careful observation. The fact of this failure was sufficient to incite me to activity in a field where I was sure of results, and I have adhered closely to a line of work that will prove beneficial to the commonwealth in promoting an actual increase of food supply, which is the primary object of all fish culture.

The Fish Commissioners of Pennsylvania, New York, Connecticut, Massachusetts and New Hampshire, have made expensive experiments with the California and land-locked salmon with no results worthy of the great sums of money and great labor involved in the attempt to cultivate them and wot them to the waters of those States.

Millions of these fish have been planted in the waters of the east, and the net result has been about the same as in Iowa: (1) eggs. (2) fry. (3) nothing!

A salmon of fair size has been occasionally taken from the rivers of Pennsylvania, but no sign has ever been obtained to warrant a belief that these fish will ever become plentiful. Land-locked salmon planted in the lakes of Pennsylvania have also proven a dead loss.

After years of effort to propagate them, land-locked salmon are as numerous in the lakes of Pennsylvania as in the lakes of Iowa, and they are famously absent in both provinces.

In the rivers of Massachusetts not a single smolt has developed from the hundreds of thousands of California salmon fry planted.

With such stubborn facts in the records of fish cultivation, why should the people of Iowa squander money hereafter on California and land-locked salmon.

THE DESTRUCTION OF FOOD FISH.

The same ruthless extravagance of animal life and beauty which has derelict its fields and woods of deer, prairie chicken, quail, pheasant, woodcock and other game which gave the land of the Sacs and Foxes and Iowas a wild romance in the early days of the white

settlement has rendered its waters almost barren of the food fish native to them.

The waters of the lakes and rivers of Iowa are not as deep and clear and cool as can be found on the North American continent, but their funny inhabitants are as spirited in their motions, as resplendent in their scaly raiment, and as delicious to the taste of the epicure as the choicest and most famous fish that journey unsalted waters beyond the boundaries of our State.

With an abundance of brook trout, bass, pickerel, yellow pike, croppies, sun-fish and cat-fish, in the waters of the State there is little to be desired save the introduction of the German carp and the rainbow trout.

Our lakes and rivers swarmed with these fish when the face of the Indian was the only human face gazed in the waters of Iowa. Had the Indian remained in undisputed possession of the land they would still be plentiful. The Indian lived in closer accord with the children of nature than the white man, but he never indulged in the wasteful ingenuity of his civilized brother which has wrought poverty and lifelessness in the waters.

Twenty-five years ago native fish were so plentiful they could be taken from the water by the wagon load with a pitch-fork.

The pioneer settlers of the State speak in the language of enthusiasm regarding the glories, abundance and gameness of the native fish when the country was new and the net and the spear and the trap in the hands of the white men had not done their murderous and disgraceful work in making the wealth of the lakes and rivers a tradition rather than an enduring fact.

The incendiary who wantonly enters a golden field of grain on the eve of the harvest and applies the torch and destroys it before the farmer can cut and garner it, or the outlaw who by any manner of hateful violence destroys the records of the vested rights and privileges of the people, is not more deserving of execration than the men who have through a long series of years selfishly and systematically and for private gain preyed upon the waters of Iowa and abused the rights of citizenship.

A cry has been raised by the men engaged in this monstrous robbery of the waters, that the efforts made to stop it are in a line with the legislation enacted by aristocratic tyranny in Europe. It is the delusive shriek of the hypocrite! No complaint has ever been

made against a fair and legitimate fishing of the waters at all seasons of the year except the breeding season.

Never has it been proposed to institute fish preservers as the nobles of Europe have done for their own benefit and enjoyment to the exclusion of the poor and untitled. I am thankful we are not living under a government that will permit such insults to the poor man. The waters of Iowa receive the baited hook of the moneyless wight as eagerly and shunningly as they do that of the millionaire or the governor of the province. No legislation is wanted which will restrict the citizens of the State from a decent and honest invasion of the waters for food or amusement.

But when the word "fishing" is made a cloak for wholesale plundering and obstructing of the waters, which if carried on a few years longer will render food fish as scarce in Iowa as humming-birds are on the mountains of Greenland, it is time the people make these offenders conscious of their fault and compelled them to show some respect for the public interest.

Acting under a defective law and backed by the urgent demands of law-abiding citizens in every part of the State, I have done all I could with the limited financial resources at my command to repress the violation of the law, but I have not been able to fully cover the ground or meet half the demands made for my intervention as a fish warden of the State. Yet the work done by me has not been contemptible in its compass or in its results.

Since my appointment I have captured and destroyed no less than six hundred seines, fish traps and other implements used in the wholesale destruction of fish. Most of these captures have been made peaceably, but in a number of cases it was necessary to arrest the violators of the law to convince them I meant business.

But in every emergency I have endeavored to conscientiously perform my whole duty as an officer of the State, and if I have made enemies I have made them in the interest of the people. This work of protecting the fish supply of the State should be continued. A redoubled energy should be infused into it during the next biennial period, and the rights of the people protected.

Under the neglectful policy pursued by the Fish Commission for ten years before its responsibilities fell upon me, the extinction of the food fish of the State is certain.

In the destruction of this source of natural wealth a few men will be enriched, and the masses of the people robbed of that which was

designed by a wise Providence to be a constant source of nourishment and comfort to them.

The economic value of the fish taken from the waters of Iowa each year in the piratical manner I have described is probably not generally known to the citizens of the State.

As there are no official statistics to be found in the State department at Des Moines bearing upon the subject with breadth and accuracy, I have sought to obtain the coveted information by personal inquiry. The fruit of this inquiry is interesting and even startling. Up to within a few years the annual catch of fish from the Iowa side of the Mississippi, and from the waters of the lakes and rivers in the interior of the State, is estimated to have been not less than 4,000,000 pounds! Of this vast quantity of fish at least 2,000,000 pounds was taken at the mouths of Iowa rivers emptying into the Mississippi and the Missouri, and the rest was the product of seining, trapping and spearing in the waters of the interior. These fish are worth at the water's edge \$140,000 at three and one-half cents a pound on an average at wholesale, but when they pass into the hands of the retailer they rise in price to twelve and one-half cents a pound, and the total value of the catch swells to half a million dollars!

Facts like these are worth the serious consideration of the people of Iowa. They show that the fish supply of the State has an immense money value. That it means something more than the thrill of a summer play day with the fishing rod, by the pools or swirling torrents in sun and shadow.

On the reverse and more practical side of the question it means riches for greedy fish-mongers at the expense of the poor man. It signifies that the poor man shall be compelled to buy that which has been his inheritance from time immemorial, and that the poor man's birthright of bread and pleasure in the waters of our noble State shall at last be destroyed to satisfy the passing avarice of a few men who are willing to glut their coffers by completely ruining the fisheries of the State.

EXPRESSIONS OF PUBLIC SENTIMENT.

There is nothing chimerical about this, it is all true and more than true. The people have become roused to the importance of protecting the fish supply, and the demand for help has been spoken in every quarter. The office of the Fish Commission has become an

archive of letters on the subject. No part of the State has been exempt from the barbarous warfare which has depopulated the waters.

As an index to the popular feeling that has been aroused, I introduce a few of these letters:

ROCK VALLEY, IOWA, July 24, 1885.

State Fish Commissioner, Des Moines, Iowa:

DEAR SIR—I have been requested by several citizens to inform you of the seining and wanton destruction of the fish in our river. The parties do not live here but come and go like thieves in the night. Formerly the pickerel fishing in the upper river was superb, but now that part of the stream is as barren as a desert.

Very truly yours,

GRANT D. HARRINGTON.

MASON CITY, IOWA, December 22, 1884.

Hon. Fish Commissioner, State of Iowa, Anamosa, Iowa:

DEAR SIR—As I understand it an amendment was made to the fish laws during the last session prohibiting the catching of fish in our lakes with spear or other device during the winter season; such being the case, allow me to call your attention to the fact that numerous fish houses have been moved on to Lake Okoboji, and as I am credibly informed are being used contrary to law. Will be glad if you will take this matter up and enforce the observance of the law in this matter.

Yours truly,

G. W. SANBORN, *Supt.*

LYONS, IOWA, June 1, 1885.

State Fish Commissioner:

DEAR SIR—I feel it my duty to complain of the fishermen of this place. Our sloughs and ponds are completely filled with seines and other nets, so that we can hardly get through with a skiff. Now, if there is any law to protect our fish, I wish you would enforce it.

If you will come here I will point out to you the parties and otherwise assist you. * * * *

I remain yours, etc.,

P. J. PELTON.

WATERLOO, IOWA, December 6, 1884.

A. W. ALDRICH, Esq.:

DEAR SIR—Parties here, named * * * are nightly spearing bass and pike; some nights getting 40 to 60 pounds, and are selling them daily in the streets of Waterloo. * * *

I see the law prohibits spearing between November and May, and all the lovers of fish culture and anglers cry aloud to you to prevent this outrage.

These parties have large seines and during the spring, summer and fall, have taken out of the Cedar all the game fish, leaving the angler nothing to capture but a few croppies.

I wish you would look after this matter, and all the good people of Waterloo will ever feel thankful and grateful to you.

Very truly yours,

C. B. MCKIBBEN, *Com. Trav.*

DE WITT, IOWA, June 20, 1885.

MR. ALDRICH, *State Fish Commissioner:*

DEAR SIR—There are parties who are violating the fish law in this vicinity, and if you will come here you can get all the information concerning them that you want.

There is one man by the name of * who lives near the Wapsie river, about six miles southeast of here who has a large seine, which he is in the habit of using every Sunday. Also one other party by the name of * and one by the name of * * living near McCausland station, in Scott county, near the river.

There is a seine in Grand Mound, in this county, six miles west of this place, but at time of writing I have not found out the owner's name, but that will be an easy matter. If you come here call at * * * and we will furnish you any assistance which you require; we want to stop this thing if possible.

Respectfully yours,

THOS. W. WHEELER.

BELMONT, IOWA, April 4, 1885.

A. W. ALDRICH, *Fish Commissioner, Anamosa Iowa:*

DEAR SIR—Parties are fishing here with spears without stint; some have caught to-day over twenty pickerel; they are spearing them just below the dam by the wholesale. You had better come and attend to it at once.

Truly yours,

THOS. Y. KING.

LE GRAND, IOWA, April 9, 1885.

MR. ALDRICH, *Anamosa, Iowa:*

DEAR SIR—I write to find out what can be done with the persons of this place who are dipping fish here. * *

There has been over a thousand fish dipped out of the Iowa river in one day here. * I will get one or more witnesses. * * *

There are a great many fishing here almost every day, and selling the fish through the country.

Yours truly,

E. M. PEMBERTON, *Le Grand, Iowa.*

AMES, IOWA, May 23, 1885.

Fish Commissioner, Anamosa, Iowa:

DEAR SIR— * * I have it from responsible gentlemen that there are several seines about here, and that already this season dragging the seines has commenced. * * * I will mention a few who are like myself, much interested in the protection of the fish.

I will mention Robert McDowell, Mr. M. Chaney, Dr. Moss, Mr. Martin, Henry Lieghtiner, Ed. Whalen, Sr. These men are anxious that these seines may be obtained by you and disposed of, and in order to accomplish this scheme of protection we will aid you as best we can. * *

I am yours respectfully,

R. T. SISSON.

WEST UNION, May 23, 1885.

A. W. ALDRICH, ESQ.:

Reports come to me that there are three or four seines being used in the Turkey river near Eldorado. Hadn't you better come among us?

Yours,

C. H. TALMADGE.

EMMETSBURG, June 25, 1885.

A. W. ALDRICH, *Anamosa, Iowa:*

DEAR SIR—We have received information from good source that there are some parties using a seine in Lost Island lake, about midnight, when the weather will permit, for the last two weeks, using a small mesh seine, taking every thing from an inch up.

Yours, respectfully,

G. H. & F. H. GIDDINGS.

IOWA CITY, July 3, 1885.

DEAR SIR—I'll let you know that in three miles west of Iowa City, in the Iowa river, there are two mill-dams. There were in the last four weeks over fifty men snagging fish, I believe against the law. All that time the river was floating with dead fish which were not caught, but killed. * *

Yours respectfully,

HENRY EVERS.

MUSCATINE, IOWA, June 23, 1885.

MR. ALDRICH, ESQ., *Anamosa, Iowa:*

DEAR SIR—I wish to call your attention to the manner in which fishermen are seining the lakes and sloughs in this vicinity.

I wish to know whether a slough like the Muscatine slough, which is tributary to the Mississippi, is protected by our fish laws. This slough is naturally a breeder of some of our finest fish, like bass and pickerel. It is completely filled with nets, comparatively speaking, from its mouth at Port

Louisa to this city. But a few years ago it abounded with fine fish. Is there a remedy.

Yours,

Theron Thompson.

MILES, January 7, 1885.

A. W. ALDRICH, Esq., *Anamosa, Iowa:*

DEAR SIR—We have just received information at this place that parties are fishing at Brown's lake, about eight miles northeast of here, with a seine, by cutting holes in the ice and dropping in the seine—are taking large quantities in that manner; also that other parties are doing the same in Elk river, at Elk River Junction, about nine miles east of here. * *

Respectfully,

Thos. W. Darling.

STORM LAKE, IOWA, April 8, 1885.

A. W. ALDRICH, Esq., *Anamosa, Iowa:*

DEAR SIR—There are large numbers of fish running out of the outlet of our lake into the grass, where they are slaughtered with pitchforks, guns, etc. We have at different times placed screens over the place where they run (which is quite narrow), which are removed by parties interested in obtaining the fish. I understand our laws place our case in your hands. Our city wishes to protect the interest of the lake by preventing this wholesale slaughter of fish, and will be much pleased to have you interest yourself by informing us of our rights in such cases.

The lake is not within the corporate limits of the town. If you can visit us and look the ground over or notify us of what we will be justified in doing you will greatly oblige.

Yours very truly,

Jas. F. Toy, Mayor.

SIoux RAPIDS, May 6, 1884.

A. W. ALDRICH, *Anamosa, Iowa:*

DEAR SIR—The Sioux river at this point is being seined daily, and the fish being shipped to different points along the road, by parties who are making it a business for profit.

¶ Fish coming down from the lakes—Spirit and Okoboji—are being taken out probably faster than they are put in at those points. * *

Yours,

Chas. Isbell.

STORM LAKE, IOWA, August 17, 1885.

HON. A. W. ALDRICH, *Fish Commissioner, Anamosa, Iowa:*

DEAR SIR—We have one of the prettiest sheets of water in Iowa. It is fast becoming a delightful pleasure resort. Our people are organizing to make such improvements as are necessary to properly entertain excursion parties, pleasure seekers, etc.

Hence we are anxious to protect our fish from unlawful slaughter, and to protect the water in which they have their existence. To do this is the matter to which I wish to call your attention.

As I understand the law, you have control of all the lakes of our State. Your opinions and decisions for their protection are final, and to you should be submitted all matters thereto. If I am mistaken, you will please correct me, and refer me to the proper authorities, who may under the law take such action as may be deemed necessary.

During this season we have had a large rain-fall; the lake has been too high, and has washed a large amount of the perpendicular banks into the water, depositing it in its bottom, and filling the basin. This is caused by the outlet being too small to permit a sufficient flow to carry off the excessive bulk of water. It should be determined where the proper low water mark is, and have a permanent draw established wide enough to carry off any surplus we may reasonably anticipate, with such a fish screen as may meet your approval. Since the first settlement of this county, there have been large quantities of rock taken from the shore of the lake, depriving the banks of their natural protection and leaving them to the mercy of the waves. Stone boats are now in use, and a profitable business is being transacted by parties who are now destroying the lake to gratify their avarice; this should not be tolerated and active measures should be taken to stop this unwarranted traffic. There have during this month been large quantities of a green vegetable matter floating in the water, which first appears in small quantities, and through the action of the water condenses itself, and by the waves is throwing on the shores and becomes very offensive.

Many are the theories that are advocated, explaining the whys and wherefores of this deposit, none of which are entitled to more consideration than the private opinion of the parties advocating them. I wish you would refer this to some one who can account for it on scientific principles, and if possible suggest such means as will best counteract a repetition of it. I think it will be well for you to become better acquainted with our lake, and suggest that you visit us at your earliest convenience, and take such action in the premises as you feel warranted in taking.

I am yours very truly,

JAMES F. TOY.

The letters quoted are the language of men of intelligence, who perceive the outraged that is being done in the increasing and remorseless slaughter of the food fish of the State.

OTHER PHASES OF THE QUESTION.

The use of the net, trap and spear are the most widely known methods of taking the fish. But there are other devices as deadly. In my investigations of complaints lodged against violators of the

law, I found it to be quite a common practice to explode powder and dynamite bombs under the water, rending the bed of the stream or pool, and killing every fish within forty yards of the point where the explosion occurred. This is the most effective mode of carrying death through the waters that has come to my knowledge. Quicklime and *eculus indicus* are thrown into the water for the same purpose, but the catch obtained in this way is comparatively insignificant.

From the eastern to the western shores of the continent, and on all the shores between, a cry is being raised against the net fishers. Net fishing is named as one of the monopolies, subversive of the best interests of the communities of the nation. It has been righteously named. Like all other monopolies it has no soul. But unlike them it is an enemy to the community at large and an evil to itself. But a little while and it works its own destruction in a land of limited water area like Iowa. Like the scorpion it dies of its own sting. The net-fisher must know this. If farmers practiced no greater prudence in husbanding the resources of the soil than net-fishers do in using the food-producing life of the waters, the United States would be bankrupt. On the fishing grounds which the cod, mackerel, herring, salmon and other varieties visit in undiminished millions from year to year, net-fishing is not so censurable. Yet in these fields which have yielded greater wealth than mines of precious metals for centuries, the uninterrupted use of the net is exhausting the supply of fish, and the fisheries are declining in importance. God Almighty seems to have designed that man should take and enjoy the fruits of the earth and the water, but he never intended man should manifest less discretion in the use of the splendid bounties bestowed upon him than the long-tusled beast that wallows the soil, with bristles on his back and hungry gutters in his mouth. The citizens of Iowa who live wholly or in part by fishing should give the fish laws of the State the warmest commendation, and the sincerest co-operation, for the honest enforcement of these laws is meant to increase their harvest in the future.

The waters of Iowa need to be let alone. Banish the net, trap, spear and bomb, and the native fish will multiply and be as plentiful as they were in the pioneer days. There is not a river in the State that has not been obstructed for years by nets stretching across its channel, preventing the fish from ascending the stream to spawn. There is not a river in which destructive agencies have not been

used to disturb and destroy the fish during the breeding season. Let all this be stopped by the sturdy vigilance of the law. The partial clearance of the streams effected by me during the years 1884-5 has made a visible increase in the supply of fish, as can be proven by the affidavits of fishermen and mill-owners. I have confiscated fifty-nine seines on the shores of the Wapsipinican river between the town of Anamosa and the confluence of the river with the Mississippi, and one gill-net which had been set across the channel every spring for six or seven years. The result has been that bass, pickerel, yellow pike, croppies and sun-fish have been surprisingly abundant this year, and Wapsipinican water has been an Eden of sport to the angler.

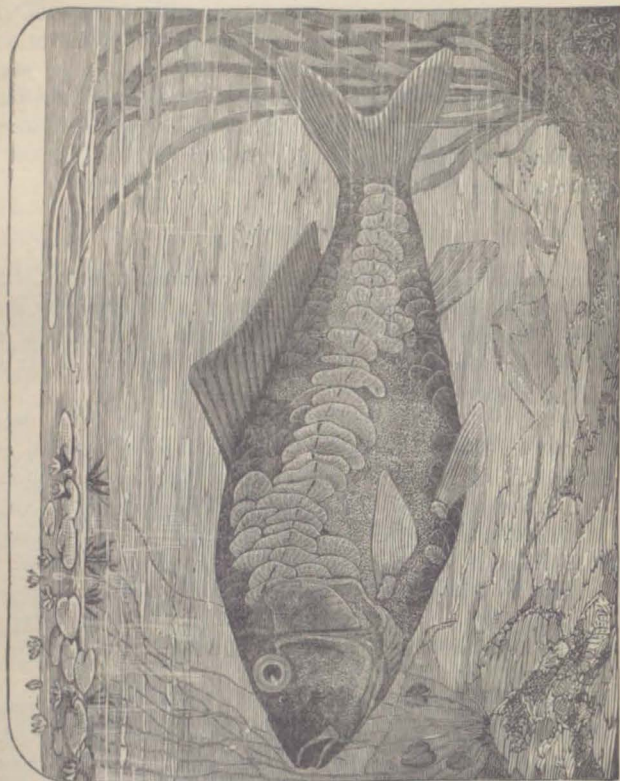
SUMMER RESORTS.

The encouragement of watering places or summer resorts within its borders has been a part of the policy of every thrifty State government in the Union. They are a source of revenue to the people, they attract population, and give the State a pleasant and enviable reputation abroad.

The chain of lakes in northwestern Iowa, which have become fashionable summering places for the business-weary from all over the continent, have grown as famous as the mountains of Colorado. They are charming bodies of water, but their loveliness to the visitor is enhanced by the plentitude of game fish they contain. A number of summer resorts are growing up on the rivers of the State: the Little Iowa, the Cedar, the Des Moines, and the majestic Mississippi. The State government should preserve the fish supply to foster the growth of these summering places, so beneficial to the public interest.

The State of Minnesota is bending every energy in this direction, lavishing money upon fish culture to add to the charm of their lakes, in the belief that Iowa cannot compete with her in this matter. Minnesota is not solitary in this ambition. Wisconsin, Michigan, every State that has a beautiful and lucid lake, is putting forth its strength of money and legislation to draw the multitudes of the wealthy and learned, the sick and weary to its waters.

Iowa should not be neglectful of her possessions of beautiful waters. She has as fine lakes as there are on the globe, aside from the great lakes of the north.



THE GERMAN CARP.

SAVING FISH FROM DEAD WATERS.

I would recommend that fish washed into bayous and marshes by floods in the rivers, be seined out and put back into the waters they came from. Enormous quantities of young fish are lost every year by the drying away of these waters. Hon. S. P. Bartlett, Fish Commissioner for the State of Illinois, has carried on this work very successfully and considers it essential to the growth of the supply of native fish.

GERMAN CARP.

No more desirable fish of the foreign varieties has been introduced into the waters of Iowa than the German carp. This fish is a favorite in Iowa. It is not a fish that can be cultivated ten years as I have cited in reference to the shad, California salmon, Penobscot salmon, land-locked salmon, lake trout and white fish, without fish of size and value being visible as the result of the attempt to propagate it. A less number of German carp has been distributed in Iowa during a shorter period than of any other foreign variety, and they show greater results. In the last year I have received nearly an hundred individual testimonials of the adaptation of German carp to western waters. Two of the letters will suffice to show the collective tone of all of them :

CEDAR RAPIDS, IOWA, August 12, 1885.

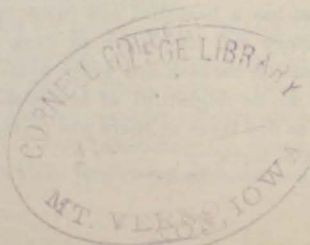
A. W. ALDRICH, Esq., *State Fish Commissioner, Anamosa, Iowa :*

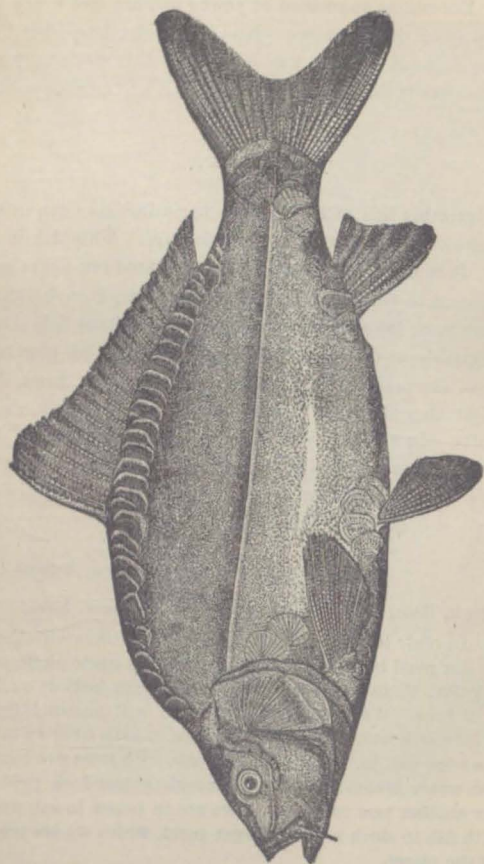
DEAR SIR—In reply to yours, inquiring as to our success with the German carp put into our pond last December, it affords me great pleasure to reply that we think that there are none in Iowa that can beat us on fish in the same length of time. We now have them that will measure from six to eight inches in length which is certainly a fine growth from an inch to two inches in size when put in. Our pond is 20x60, with from five to seven feet of pure clear water which discharges through a four-inch pipe the year around. Ere another year rolls around we are in hopes to call upon you to supply us with fish to stock a much larger pond, which we are preparing to build during the season.

We shall be pleased to have you come and see our pond and fish, and offer us any suggestions you may have, in our preparing our other ponds. Hoping to see you in our city ere long,

We remain yours truly,

BURNETT & EMERSON.





GERMAN LEATHER CARP.

The following letter was published in the Cedar Rapids *Republican*:

NEAR BELKNAP, IOWA, June 17, 1885.

A. W. ALDRICH, *Commissioner, Anamosa, Iowa*:

DEAR SIR—I will say that on June 7, 1882, I received eight carp of Mr. Shaw at Anamosa, and I never saw anything more of them for more than two years; when I had given up all hopes of ever seeing them, I discovered some very large fish that utterly astonished me. Cold weather, however, soon came on and put a stop to their coming near the surface.

The pond was treated about as usual, but this spring as the ice was breaking up, we found three of our carp dead; and fear all the rest may have gone the same way or disappeared in the three years. These three run from twenty-six to thirty inches in length, the largest of which measured twenty-one inches around the middle and weighed fifteen pounds and six ounces, and had more than two millions of eggs in it. But I am satisfied they left no young ones. Still it is possible I may have some of the old ones, and I think so much of them as being well adapted to our ponds of this interior and highlands as the fish of the farmer I am very anxious to try again.

These carp were about three inches long when I received them. Any information upon this subject will be very thankfully received by

Yours very respectfully,

A. W. RANKIN.

I cannot enter into an elaborate study of the German carp in the course of this report. A hand-book upon the subject will be issued by me at an early day, for the convenience of those who have begun the cultivation of this choice fish.

I expect to receive a car load of these fish from Prof. Baird, United States Commissioner of Fisheries, to supply orders already received.

As to the good qualities of the German carp, no greater eulogy can be uttered than is contained in the appended extract from the last report on Pennsylvania fisheries:

First. Its hardiness—that is, its ability to bear extremes of heat and cold, while by nature water of warm temperature seems best adapted to it. Experience has demonstrated that it is available in almost any pond or stream where there is sufficient depth of water to protect it from freezing in extremely cold weather.

Second. Its remarkable fertility. A female carp, weighing from four to five pounds, contains, according to Mr. Hessel—one of the best authorities on the subject—between 400,000 and 500,000 eggs. It needs little calculation to estimate the rapidity with which, under proper conditions, immense numbers of young carp can be produced.

"*Third.* Its adaptation to so many different waters—amongst them some in which no other food-fish could live and thrive. While it readily stands the heated water sometimes found in ponds, it appears to delight also in flowing streams where the water is cooler, provided the current be not too strong. As is well-known, it is found in great numbers in nearly all the rivers of Europe, where it attains a larger size than where confined to the limits of a pond. Carp of fine size have been found in the Delaware; also in the Schuylkill, they having no doubt escaped from private ponds. It is also well known that the gold fish, *carassius auratus*, which are so abundant in the Schuylkill, are of the carp family. If they live and multiply in so live a water as the Schuylkill, why not the German carp?

"There is scarcely a stream of any note in the commonwealth in which carp cannot be grown advantageously, and it is the purpose of the Board to stock all the principal ones as soon as the supply requisite for the purpose is obtained, either from the State ponds, or from other sources.

"But one of the most notable recommendations of the carp is that it is possible for almost every farmer to have a fish preserve of his own in which he can grow fish for his family with less cost and trouble than he can chickens and turkeys.

"*Fourth.* Rapidity of growth is another of its marked characteristics. This rapid growth depends largely, of course, upon the temperature of the water in which the fish live, the length and character of the season, whether it is warm or cold, the plentifulness of the natural food, or the quantity and quality of the artificial food supplied it. It has been estimated by competent authorities that the growth of the carp is fully four times as great as that of the trout; that is, that a carp will attain a greater size in one year than a brook trout in four. The carp is not merely long-lived, but under favorable circumstances attains an enormous size, sometimes reaching ninety pounds. But such monsters would not be desirable except as curiosities. Yearling carp, ranging from one and one-half to two pounds are considered about the best size and age for the table.

"*Fifth.* The carp is nearly omnivorous. It will live on purely vegetable food, though, when opportunity offers, it will not hesitate to take a grub, a worm, or even a fly. The larvæ of aquatic insects is a toothsome morsel to it. Where it is necessary, as is some times the case, to feed them, as where the amount of vegetable matter on which they feed is not sufficient to afford vigorous sustenance, offal

from the kitchen, refuse from the slaughter-house, curds from the dairy, or about any thing that poultry will eat will be accepted and partaken of with relish. It has other merits, which need not be enumerated, as this fish is now so well known that it would be almost superfluous to advert to them except in a general way."

RAINBOW TROUT.

The California or rainbow trout is another fish not native to Iowa waters, which is well adapted to them, and has given evidence of thriving qualities. The brook trout, with his shyness and rainbow flash in the waters, and his nervous fire on the hook, has always been at home in the spring branches of the State.

The rainbow trout is a hardier fish, and modester in his living than the brook trout.

His flesh is as delicate as any, and he will live in any of our rivers. It will pay to cultivate this fish. There are three hundred spawners in the ponds at the Anamosa hatching-house, which promise well.

THE PICKEREL.

I am not in harmony with a prejudice against the common pike or pickerel, which is gaining ground.

The pike is dainty food for lovers of gastronomy. His eager and game in the presence of the angler's bait. To take him from his home in the still waters among the lilies and sedges puts the angler's nerve and skill to the severest test. His vesture is not as bright as that of the trout or sunfish. He is a handsome fish in subdued colors. Conscious that he is natural monarch of the tide, he puts on no airs. Except in certain coteries in the United States he is esteemed. When the pike became scarce in the British Isles, during the reign of Edward I, that ruler fixed the price of the pike higher than that of the salmon, and ten times higher than turbot or cod. The pike is sought after and regarded with favor in Continental Europe, with but little dissent. The fish commissioners of Canada are as solicitous for his preservation as they are for the salmon and white fish. But in the United States some very reputable gentlemen have issued an edict against the pike, and they have found many willing to join with them in their wish to exterminate him. With all due respect to these enemies of the pike, I cannot but express the opinion that they are seeking to exterminate one of the best fishes in our streams. His

voracity, his diligence in getting a living is the chief objection made to him. Though the pike's hunger is never appeased, he grows in proportion to his great feeding ability, and far exceeds bass and trout in this respect. His industry does not detract from the delicate brown that can be given his savory flesh in the frying pan.

I notice that the persons that depreciate him in their opinions worship him with their stomachs. I have yet to find a pike going begging in the market place.

The growth of other valuable food fish is not retarded by the presence of the pike. This is proven beyond question by the fact that a quarter of a century ago, when the waters of the State were alive with pike, the bass, croppie, and sunfish, and the sucker, and the sheeps head, the natural prey of the pike, were equally numerous.

An endeavor to get back of this fact will fail. The waging of a war against the pike seems wasteful and foolish to me, and ought not to be encouraged.

Prof. Baird has pregnantly said, "the people of the United States may yet see the day they will be glad to get a pickerel."

During the incumbency of my predecessor pike were seined out of the shallows of the rivers in the spawning season and left to rot on the shores. I regret that any person of intelligence should, by any radical stress of opinion, deem it good to destroy the pike in such a spendthrift manner.

The destruction of other kinds of fish in our rivers because they are not suited to the palate of man is another foolishness. Fish that are not the food of man are invariably the food of other fishes, and thus play an important part in the economy of nature.

I do not hesitate to lay it down as one of the fundamental truths that whenever a scientist issues an edict for the total destruction of a fish as toothsome and plentiful a breeder as the pike, he is making a serious mistake, and the people will ultimately condemn him for it.

BASS.

The sustained and ineffectual effort to replenish the waters with foreign varieties has served to develop the fact that there are no fish more worthy of cultivation than our native fish, and that the black bass which has inhabited our waters for centuries has no superior as a food fish. Iowa black bass are wanted everywhere. There has grown to be an urgent demand for them to stock streams in the far west, and in the east as well. The bass has been condemned as a

nuisance on the same ground that the pickerel is denounced, his enormous appetite. But the black bass grows in favor with those who familiarize themselves with him, and he cannot be too carefully guarded.

TROUT.

The trout is regaining the supremacy in the spring branches of the State which he held at an early day. The following letter speaks the fact with strong emphasis:

MANCHESTER, IOWA, August 15, 1885.

A. W. ALDRICH, *State Fish Commissioner*:

DEAR SIR—In regard to the trout streams in this county the undersigned would respectfully represent that the stream three miles east of here known as Spring branch was stocked with trout about seven years ago. Since that it has been re-stocked twice and has been fished constantly, a good deal of the time unlawfully with snare and seine; for the last two seasons hardly a day but what there has been from one to thirty fishing along its banks, and all catching trout more or less. Trout have been taken from said stream this summer that weighed nearly two pounds, and we think that there is no better trout stream anywhere.

In regard to the Spring stream in northern part of the county we think all said in regard to Spring branch would apply to that, and there are several other streams in the country that could be properly stocked.

We think seasons should be closed from October first until April first, and that every constable be made a State officer for the enforcement of the game law. We would also respectfully add that the State appropriation is entirely too small for the purpose intended.

Sincerely yours,

A. S. BLAIR.
J. F. JOHNSON.
E. R. CONGAR.
W. E. BROWN.
M. BECHLER.
ED. P. SEEDS.
H. C. HABERLE.
M. F. LEROY.
H. C. JACKSON.
H. A. GRANGER.
A. L. BEARDSLEE.
THOS. TOOGOOD.
ADOLPH WOLFF.
C. H. BARRITT.
S. A. STEADMAN.

SHOULD BE KEPT A YEAR.

The Fish Commissioners in several States, notably in Minnesota and Illinois, concede it is error to plant fry before they are a year old. Prof. Baird announces himself in accord with this opinion. The planting of fry in strange waters to be preyed upon by predaceous native fish is but little better than casting grasshoppers into a trout pond; satisfying to the trout but fatal to the insect.

The fry, heretofore have been planted as soon as the food-sac was absorbed, and sometimes before. They have often been placed in the rivers and lakes in mid-winter by cutting holes in the ice.

My personal observation has led me to believe this a sheer waste, and I would recommend that no fish be planted in Iowa waters until they are a year old, and the State ponds at Anamosa should be reconstructed and enlarged so that they can be preserved until they attain sufficient age.

FISH WAYS.

The plan of building mill-dams now in vogue in Iowa makes these structures a barrier to the passage of fish to the sources of the rivers in the spawning season. Without the introduction of fish ways into the dams the fish crop is cut off in a large amount. Mill-owners have been bitter opponents to the introduction of fish ways. But I think they should see the injustice of the opposition they interpose, and give the Fish Commissioner their sympathy and support.

So much has been said on the value of fish ways, that it is needless for me to enlarge upon it. Legislation in other States has been successfully directed to the subject, and the Iowa legislature should give it careful attention.

APPROPRIATIONS NEEDED.

An appropriation of three hundred dollars should be made for the construction of a new masonry reservoir for the waters of the spring, which supplies the troughs of the hatching-house and the ponds out side. The masonry in the reservoir now enclosing the spring does not penetrate the earth to a sufficient depth to prevent surface water from the adjacent hills from seeping under it and mingling with the waters of the spring. By a subterranean channel which my predecessor spent an hundred dollars in a fruitless effort to discover, snow water, particles of soil and decayed leaves are carried through the

spring and into the hatching troughs, resulting in the destruction of the eggs being ripened there.

During the month of July, 1885, I succeeded in locating the mouth of this hidden stream from the hills, on the east side of the spring, and am satisfied it can be diverted and the spring protected from it by sinking the reservoir walls three feet lower, and introducing a drainage pipe to convey the surface water to the creek, which runs through the valley.

It would be better to have the reservoir open instead of closely covered as it is now. In other States the springs supplying water for fish culture are left uncovered, so that refuse matter may be removed.

An appropriation of two hundred dollars should be made for the repairs of hatching-house building. The cement floor of the aquarium and the sills on the foundation walls should be renewed. The exterior of the building needs repainting to save it from the elements.

An appropriation of six hundred dollars should be made for the enlargement, rearrangement and protection of the ponds, excepting those devoted to carp culture. At present there are four ponds lying in a cluster just west of the hatching-house and used as trout preserves. These ponds occupy an area of 24x75 feet. As a matter of prudence and economy it is necessary that this area should be increased to 40x100 feet and divided into six or eight ponds, that young fish can be kept separate from fish that are mature and predatory. As the ponds are now arranged the main surrounding walls are loosely built of cobble stones with shabby wooden division walls between the several ponds.

If the fry of any fish are placed in one of these ponds they find their way through the apertures between the cobble stones and the ends of the wooden divisions, and thus get into waters inhabited by the larger fish and are promptly eaten up. The sieve-like condition of these ponds and their small capacity make it impossible to preserve young fish for any considerable length of time. Unless the fry can be given safe storage it is folly to attempt to carry out the idea of keeping them until they are a year old before planting them in the lakes and rivers of the State. Hence, I suggest the cobble stone walls and the doubtful wooden ones be taken away and solid and closely matched plank walls be substituted, and be made high and strong enough to withstand the frequent floods which invade the narrow valley in which the State property is located.

Heavy rains or water-spouts inundate the valley every year, wrecking everything that stands in its road.

On the night of September 23, 1884, a storm passed through here flooding the ponds and sweeping about 40,000 young carp into a torrent which carried them into the Wapsipinicon river, where they were not lost to the State, though they were lost to the Commission.

And in the reconstruction of these ponds a new feature should be added: a spawning race. There are a number of spawning trout in the pools, which, if properly handled, can be made to produce a great number of eggs, and will become a source of wealth to the State. The change recommended will consume about 12,000 feet of pine planking, and not require a greater expenditure than that named.

No part of the appropriation will be needed for the carp pond. They require but few repairs other than what can be done by the superintendent of the hatching-house.

IMPROVEMENTS MADE.

Since my appointment to the office of Fish Commissioner in 1884, I have expended every dollar that could be spared from the regular requirements of the Commission to the permanent improvement of the State property.

An addition was made to the hatching-house in 1884 for office purposes, to save the out-go for rent.

The cost of transporting fish eggs and fry, fish feed and miscellaneous merchandise to and from the hatching-house, has always been a heavy item of expense. To economize in this direction, I bought in the spring of 1884, a horse and two wagons, and a sleigh at a cost of \$316 50. The horse is a fine animal, weighing 1400, that can be sold at any time for what he cost. One of the vehicles is a light express wagon, and the other a lumber wagon for rough work, hauling rock, fuel, etc.

No doubt can be entertained of the prudence of this investment. The money saved to the State by reason of it will soon pay for this whole freighting outfit.

The flume, connecting the hatching-house and the ponds, was rebuilt in 1884, and a third carp pond was constructed in 1885.

ONE HATCHING HOUSE ENOUGH.

As a measure of economy I would suggest that one of the two hatching-houses in the State be discontinued.

Fish eggs cannot be procured in quantities to keep two hatching-houses properly stocked. Either hatching-house has facilities for hatching more eggs than are supplied to any three of the States in the Union for fish culture. To continue the two hatching-houses is an unwarranted extravagance.

The question resolves itself down to this: Which of the two shall be continued?

As the State rents the hatching-house at Spirit Lake at an annual cost of three hundred dollars, and own the Anamosa hatching-house property and twenty acres of land, where there has been a large amount of money expended in works of improvement, the logical answer to this question is simple: If the State contemplates a continuance of the experimental work in fish culture, it should do it at as little expense as possible, and economy will dictate that the rented hatching-house at Spirit Lake be done away with and the operations of the Commission be carried on in the hatching-house owned by the State at Anamosa.

In addition to this it would seem wisdom to improve the State property at Anamosa, and make it attractive as a public resort. Its location is picturesque, and with a small outlay it can be made one of the most beautiful spots in Iowa.

CHANGES NEEDED IN THE LAW.

Demands are made by the people all over the State for amendments to the fish-laws, making them more stringent and effective.

In this connection I would recommend that there be enactments changing the laws as follows: To forbid the use of spear or gaff in any lake, river or stream between the first day of November and the thirty-first of May next, following. To provide for the building and maintenance of fish-ways in mill-dams at public expense, and the same be under the supervision of the boards of supervisors in the several counties. Then forbid the use of all kinds of seines, nets, traps or any device for the destruction of fish in rivers, lakes, bayous, etc., and to provide that these devices shall be destroyed when unlawfully used. To forbid the use of dynamite or any other explosive or poisonous substance in the waters. To forbid the shooting of fish. To make the penalties for all violations of the fish laws more severe and surer of accomplishments. To provide for the compensation of attorneys employed in behalf of the State in prosecutions instituted against violators of the fish laws.

EXPLANATORY.

Owing to the failure of the Assistant Fish Commissioner, Mr. Mosher, to forward his report to me, my report has been considerably delayed, and I am unable to give a complete balance sheet of expenses for this same reason.

FISH EGGS RECEIVED 1884-85.

45,000 brook trout from W. L. Gilbert, Plymouth Rock, Massachusetts.
 2,000 English trout, W. L. Gilbert, Plymouth Rock, Massachusetts.
 30,000 salmon trout, Prof. Baird, Northville, Michigan.
 1,000,000 white fish, Prof. Baird, Northville, Michigan.
 10,000 brook trout, Prof. Baird, Northville, Michigan.
 5,000 California trout, Prof. Baird, Northville, Michigan.
 20,000 lock-leven trout from Scotland, through Prof. Baird.
 50,000 land-locked salmon eggs, Prof. Baird, Grandlake stream, Maine.

The eggs from Northville and Grandlake stream were handled by Prof. Clark at the former hatchery, and Hon. Chas. Atkins at the latter, under the direction of Prof. Baird. I am indebted to all these gentlemen for courteous promptness in my behalf.

On my return from a trip for carp, spring of 1885, I brought home twenty fan-tail gold-fish and thirty golden ides, for purposes of experiment.

FISH DISTRIBUTED DURING 1884-85 ASIDE FROM GERMAN CARP.

35,000 brook trout, Winneshiek county.
 8,000 brook trout, Delaware county.
 2,000 English trout, Delaware county.
 10,000 brook trout, Jones county.
 2,000 lock-leven trout, Medium lake, Emmet county.
 18,000 lock-leven trout, West Okoboji lake, Dickinson county.
 1,000,000 white fish, distributed in Northern Iowa lake by my assistant.

Early in December, 1884, Prof. Baird made a shipment of carp to the Illinois Fish Commissioner, of which I received 1,500. The carp left Washington in good order, but were chilled in transit through the carelessness of the express company, and lost.

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Major George Brenning	Centralia.

INDIANA—

Calvin Fletcher	Spencer, Owen County.
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IOWA—

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

KANSAS—

W. S. Gile	Venango.
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A. H. Goble	Catlettsburg.
J. H. Mallory	Bowling Green.

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Henry O. Stanley	Dixfield.

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Second district—William M. Sweeney, M. D.	Red Wing.
Third district—Robert Ormsby Sweeney, President	St. Paul.

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J. G. W. Steedman, chairman	St. Louis.
Dr. J. S. Logan	St. Joseph.

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R. R. Livingston	Plattsmouth.
William S. May	Fremont.
B. E. B. Kennedy	Omaha.

NEVADA—

Hon. Hubb. G. Parker	Carson City.
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Luther Hayes	South Milton.
Elliott B. Hodge	Plymouth.

NEW JERSEY—

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William Wright	Newark.
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Henry Douglass, Superintendent	Sandusky.

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C. J. Huske	Columbia.

TENNESSEE—

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W. W. McDowell	Memphis.
H. H. Sneed	Chattanooga.
Edward D. Hicks	Nashville.

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Herbert Brainerd.....St. Albans.

VIRGINIA—

Col. Marshall McDonald.....Berryville.

WASHINGTON TERRITORY—

Albert B. Stream.....North Cove.

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E. W. Bennett.....Warm Springs.

P. J. Downs.....Evanston.

T. W. Guinn.....Lander.

CARP DISTRIBUTION FOR 1884.

A. W. ALDRICH, FISH COMMISSIONER.

NAME OF APPLICANT.	POST-OFFICE ADDRESS.	COUNTY.
S. W. Woods.....	Unionville.....	Appanoose.
G. W. Athy.....	Uma.....	Appanoose.
F. M. Swank.....	Unionville.....	Appanoose.
Conrad Sunderman.....	Waukon.....	Allamakee.
H. G. Gratton.....	Waukon.....	Allamakee.
Levi Colvin.....	Colvin.....	Boone.
L. Alford.....	Waterloo.....	Black Hawk.
C. F. Bean.....	Marathon.....	Buena Vista.
J. M. Terry.....	Terry.....	Benton.
Jabez Bowers.....	Watkins.....	Benton.
Mathais Steffes.....	Roselle.....	Carroll.
C. Gitchell.....	Meriden.....	Cherokee.
Joachim Baade.....	Farmersburg.....	Clayton.
Fred K. Arnold.....	Farmersburg.....	Clayton.
A. T. Spittler.....	Mechanicsville.....	Cedar.
A. Brackett.....	Atlantic.....	Cass.
A. H. Brown.....	Murray.....	Clark.
Wm. Pdauk.....	Bloomfield.....	Davis.
Jacob Arney.....	Pulaski.....	Davis.
Christian Brennerman.....	Stiles.....	Davis.
H. S. Goddard.....	Troy.....	Davis.
Jas. S. Blough.....	Pulaski.....	Davis.
J. W. Dunshee.....	Troy.....	Davis.
Chas. Stockham.....	Stetesville.....	Davis.
B. F. Gleason.....	Delhi.....	Delaware.
Wm. Cook.....	Manchester.....	Delaware.
Wilson Hacus.....	Manchester.....	Delaware.
J. L. Kemp.....	Spirit Lake.....	Dickinson.
A. V. Newport.....	Ferry.....	Dallas.
Benj Ishram.....	West Union.....	Fayette.
Sam Wells.....	West Union.....	Fayette.
Hobson Bros.....	West Union.....	Fayette.
D. S. Woods.....	Monteith.....	Guthrie.
David Jordan.....	Monteith.....	Guthrie.
Noah Johnson.....	Mt. Pleasant.....	Henry.
E. H. Linn.....	Winfield.....	Henry.
W. E. Cole.....	Mt. Pleasant.....	Henry.
Horace L. Farr.....	Mt. Pleasant.....	Henry.
Thompson Watkins.....	New London.....	Henry.
Charlie T. Watkins.....	New London.....	Henry.
A. M. Cornwell.....	New London.....	Henry.
A. Brink.....	New London.....	Henry.
Jno. F. Lech.....	Mt. Pleasant.....	Henry.
O. S. Templar.....	Jewel Junction.....	Hamilton.
Amana Society.....	Amana.....	Iowa.
W. H. Hall.....	Valeria.....	Jasper.
M. M. Bostwick.....	Iowa City.....	Johnson.
Samuel S. Hess.....	Iowa City.....	Johnson.
A. W. Pratt.....	Iowa City.....	Johnson.
Herman A. Street.....	Iowa City.....	Johnson.
M. R. McCracklin.....	Fairfield.....	Jefferson.
Waltus Collins.....	Salina.....	Jefferson.
J. S. Wagner.....	Libertyville.....	Jefferson.
M. M. West.....	County Line.....	Jefferson.

CARP DISTRIBUTION—CONTINUED.

NAME OF APPLICANT.	P. O. ADDRESS.	COUNTY.
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Marion Belknap	Anamosa	Jones.
Jos. A. Weiss	Amber	Jones.
John M. Runnals	Olin	Jones.
James Lester	Anamosa	Jones.
H. W. Churchill	Keswick	Keokuk.
C. D. Scott	Chariton	Lucas.
Jonathan Pulley	Chariton	Lucas.
H. G. Curtis	Chariton	Lucas.
S. O. McKinley	Russell	Lucas.
C. S. Bennett	Cedar Rapids	Linn.
R. B. Campbell	Marion	Linn.
Wm. Cook	Marion	Linn.
C. P. Emerson	Cedar Rapids	Linn.
J. T. Gritman	Springville	Linn.
E. T. Bedell	Springville	Linn.
Roderick Kenmouth	Melrose	Monroe.
S. A. Smith	Albia	Monroe.
Frank Hickenlooper	Selection	Monroe.
Wm. Weise	Mapleton	Monona.
W. J. Upton	New Sharon	Mahaska.
John Sanford	Osage	Mitchell.
J. Dalrymple	Osage	Mitchell.
J. B. Stratton	Red Oak	Montgomery.
John Hampel	Grant	Montgomery.
Wm. L. Leonard	Winterset	Madison.
H. S. Howell	Booneville	Madison.
Mrs. H. J. Manaugh	New York	Wayne.
Amos A. Clark	New York	Wayne.
D. M. Clark	New York	Wayne.
C. H. Clark	New York	Wayne.
Thomas Beal	Corydon	Wayne.
Broughton Bracewell	Allerton	Wayne.
O. J. Allen	Allerton	Wayne.
Chas. H. Caldwell	Lewisburg	Wayne.
Sam. H. Moore	Humeston	Wayne.
J. H. Davidson	New York	Wayne.
J. H. Cornell	Correctionville	Woodbury.
George Tyler	Decorah	Winneshiek.
A. L. Brockera	Alnsworth	Washington.
Benj. Eicher	Noble	Warren.
Jas. A. Hyde	Indianola	Warren.
A. Freeman	Lacona	Warren.
E. B. Pritchett	Milo	Warren.
Harlan Mills	Indianola	Warren.
D. W. Maytag	Laurel	Marshall.
John I. Taylor	West Liberty	Muscatine.
J. W. Towner	Towner's Lake	Polk.
Wm. A. Thrall	Grinnell	Poweshiek.
F. S. Burkhard	Shenandoah	Page.
J. B. Black	College Springs	Page.
H. M. Pugsley	Redding	Ringgold.
John Scott	Kellerton	Ringgold.
M. R. Hoffman	Redding	Ringgold.

CARP DISTRIBUTION—CONTINUED.

NAME OF APPLICANT.	POSTOFFICE ADDRESS.	COUNTY.
D. C. Tidrick	Mt. Ayr	Ringgold.
Jetro J. Griffith	Redding	Ringgold.
Abel Olsen	Roland	Story.
T. Henryson	Story City	Story.
Col. John Scott	Nevada	Story.
A. G. Moore	Bedford	Taylor.
John W. Wood	Bedford	Taylor.
F. L. Blakemore	Platteville	Taylor.
J. V. Hoakinson	Spaulding	Union.
J. H. Morton	Keosauqua	Van Buren.
W. H. Morrison	Leando	Van Buren.
Mr. Frank Goode	Farmington	Van Buren.
John Dill	Birmingham	Van Buren.
O. Menge	Agency	Wapello.
L. F. Newell	Agency	Wapello.

List of applicants that received carp through the U. S. Fish Commissioner by express from Des Moines, November 19, 1884.

NAMES OF APPLICANTS.	P. O. ADDRESS.	COUNTY.
Jno. S. Crist.....	Weldon.....	Decatur.
Andrew Butcher.....	Weldon.....	Decatur.
Henry Buser.....	Burlington.....	Des Moines.
S. C. Main.....	Richfield.....	Fayette.
Frank Hobson.....	West Union.....	Fayette.
Legge & Conrad.....	Miles.....	Jackson.
Allan Heaton.....	Big Mound.....	Lee.
Abr. Lisey.....	Dover.....	Lee.
A. G. Williams.....	Chester Center.....	Poweshiek.
W. J. Meek.....	Doud's Station.....	Van Buren.
Smith Ball.....	Fairfield.....	Jefferson.
R. M. Brigham.....	Spirit Lake.....	Dickenson.
Elgin K. Bruce.....	Thornburg.....	Keokuk.
W. J. Gaston.....	Haysville.....	Keokuk.
C. M. Stenbarger.....	Marshalltown.....	Marshall.
J. W. Whitlock.....	Newbern.....	Marion.
John Archer.....	Shenandoah.....	Page.
J. D. Paden.....	Essex.....	Page.
J. A. Wood.....	Clarinda.....	Page.
Henry Otto.....	Clarinda.....	Page.
Dr. J. R. Standley.....	Platteville.....	Taylor.
J. O. Jones.....	Mt. Ayr.....	Ringgold.
Joseph Fellows.....	Milo.....	Warren.
E. M. Laberten.....	Indianola.....	Warren.
J. L. Remington.....	Cambria.....	Wayne.
H. B. Gaston.....	Cambria.....	Wayne.

List of applicants for carp that were distributed December 1, 1884, by A. W. Aldrich, State Fish Commissioner :

APPANOOSE COUNTY.

S. W. Woods.....Unionville.
G. W. Athy.....Uma.
F. M. Swank.....Unionville.

ALLAMAKEE COUNTY.

Conrad Sunderman.....Waukon.
H. G. Gratton.....Waukon.

BOONE COUNTY.

Levi Colvin.....Colvin.

BLACK HAWK COUNTY.

L. Alford.....Waterloo.

BUENA VISTA COUNTY.

C. F. Bean.....Marathan.

BENTON COUNTY.

J. M. Terry.....Terry.
Jabez Bowers.....Watkins.

CARROLL COUNTY.

Mathias Steffer.....Roselle.

CHEROKEE COUNTY.

C. Gitchell.....Meriden.

CLAYTON COUNTY.

Joachim Baade.....Farmersburg.
Frederick Arnold.....Farmersburg.

CEDAR COUNTY.

A. T. Spilter.....Mechanicsville.

CASS COUNTY.

A. Brackett.....Atlantic.

CLARKE COUNTY.

A. H. Browns.....Murray.

DAVIS COUNTY.

William Plank.....	Bloomfield.
Jacob Arney.....	Pulaski.
Christ. Brennerman.....	Stiles.
H. S. Goddard.....	Troy.
James S. Blough.....	Pulaski.
J. W. Dunshee.....	Troy.
Charles Stockham.....	Stetesville.

DELAWARE COUNTY.

B. F. Gleason.....	Delhi.
William Cook.....	Manchester.
Wilson H. Acres.....	Manchester.

DALLAS COUNTY.

A. V. Newport.....	Perry.
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FAYETTE COUNTY.

Ben. Ishram.....	West Union.
Sam. Wells.....	West Union.
Hobson Bros.....	West Union.

GUTHRIE COUNTY.

D. S. Woods.....	Monteith.
David Jordan.....	Monteith.

HENRY COUNTY.

Noah Johnson.....	Mt. Pleasant.
R. H. Linn.....	Winfield.
W. R. Cole.....	Mt. Pleasant.
Horace L. Farr.....	Mt. Pleasant.
Thompson Watkins.....	New London.
Charley T. Watkins.....	New London.
A. M. Cromwell.....	New London.
A. Brink.....	New London.
John F. Luch.....	Mt. Pleasant.

HAMILTON COUNTY.

O. S. Templar.....	Jewel Junction.
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IOWA COUNTY.

Amana Society.....	Amana.
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JASPER COUNTY.

W. H. Hall.....	Valeria.
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JOHNSON COUNTY.

M. M. Bostwick.....	Iowa City.
Samuel S. Hess.....	Iowa City.
A. W. Pratt.....	Iowa City.
Herman A. Straub.....	Iowa City.

JEFFERSON COUNTY.

M. R. McCracklin.....	Fairfield.
Walter Collins.....	Salina.
J. S. Wagner.....	Libertyville.
M. M. West.....	County Line.

JONES COUNTY.

George S. Hickox.....	Anamosa.
Marion Belknap.....	Anamosa.
James A. Weiss.....	Amber.
John R. Rummell.....	Olin.
James Lester.....	Anamosa.

KEOKUK COUNTY.

W. W. Churchill.....	Keswick.
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LUCAS COUNTY.

C. D. Scott.....	Chariton.
Jonathan Pulley.....	Chariton.
H. G. Curtis.....	Chariton.
S. O. McKinley.....	Russell.

LINN COUNTY.

C. S. Bennett.....	Cedar Rapids.
R. B. Campbell.....	Marion.
Wm. Cook.....	Marion.
C. P. Emerson.....	Cedar Rapids.
J. T. Gritman.....	Springville.
E. T. Bedell.....	Springville.

MONROE COUNTY.

Roderick Kurmouth.....	Melrose.
S. A. Smith.....	Selection.
Frank Hickenlooper.....	Selection.

MONONA COUNTY.

Wm. Weisse.....	Mapleton.
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MAHASKA COUNTY.

W. J. Upton.....	New Sharon.
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MITCHELL COUNTY.

John SanfordOsage.
J. Dalrymple.Osage.

MONTGOMERY COUNTY.

J. B. StrattonRed Oak.
John Hampel.....Grant.

MADISON COUNTY.

Wm. L. Leonard.....Winterset.
H. S. Howell.....Booneville.

MARSHALL COUNTY.

D. W. Maytag.....Laurel.

MUSCATINE COUNTY.

John S. TaylorWest Liberty.

POLK COUNTY.

J. W. Towner.....Towner's Lake.

POWESHIEK COUNTY.

Wm. A. ThrallGrinnell.

PAGE COUNTY.

F. S. Burkhart.....Shenandoah.
J. B. Black.....College Springs.

RINGGOLD COUNTY.

H. M. Pagsley.....Bedding.
John ScottKellerton.
M. P. Hoffman.....Bedding.
D. C. Tedrick.....Mt. Ayr.
Jetro J. Griffith.....Bedding.

SCOTT COUNTY.

Abel Oelson.....Roland.
T. Henryson.....Story City.

TAYLOR COUNTY.

R. G. MooreBedford.
John W. WoodBedford.
F. L. Blakemore.....Platterville.

UNION COUNTY.

J. V. Hoakinson.....Spaulding.

VAN BUREN COUNTY.

J. H. Morton.....Keosauqua.
W. H. Morrison.....Leando.
Frank Good.....Farmington.
John Dill.....Birmingham.

WAPELLO COUNTY.

O. Menge.....Agency.
L. F. Newell.....Agency.

WAYNE COUNTY.

Mrs. H. J. Marraugh.....New York.
Amos A. Clark.....New York.
D. M. Clark.....New York.
C. H. Clark.....New York.
Thomas Beal.....Corydon.
Broughton Bracewell.....Allerton.
O. G. Allen.....Allerton.
C. H. Caldwell.....Lewisburg.
Samuel H. Moore.....Humeston.
J. H. Davidson.....New York.

WOODBURY COUNTY.

J. H. Cornell.....Correctionville.

WINNESHIEK COUNTY.

George Tyler.....Decorah.

WASHINGTON COUNTY.

E. L. Brockway.....Ainsworth.
Benjamin Eicher.....Noble.

WARREN COUNTY.

James A. Hyde.....Indianola.
A. Freeman.....Lacona.
E. B. Pritchett.....Milo.
Harlon Mills.....Indianola.

List of applicants for carp on file in the office of State Fish Commission and U. S. Fish Commission to be distributed this fall, 1885:

ADAIR COUNTY.

S. M. Jacobs.....Fontanelle.

APPANOOSE COUNTY.

Robert White.....Unionville.
Thomas Atkinson.....Udell.
Edwin Lowry.....Griffinsville.

ALLAMAKEE COUNTY.

J. H. Steele.....New Albin.
C. Peeper.....Waukon.
William Dalton.....Waukon.

BOONE COUNTY.

A. J. Campbell.....Centerville.
Robert White.....Centerville.
J. C. Campbell.....Centerville.

BENTON COUNTY.

J. Brecht.....Watkins.
G. Abraham.....Watkins.
Thomas Wolfe.....Watkins.
W. Brock.....Vinton.
H. E. Colcord.....Vinton.
F. G. DeHaven.....Norway.
John Davis.....Norway.
H. R. Terry.....Terry.
F. B. Tamblin.....Fairfax.
W. P. Watson.....Vinton.

BREMER COUNTY.

Nathan Bent.....Sumner.

BUCHANAN COUNTY.

P. J. Freeman.....Independence.
Hon. W. McGuire.....Independence.
Jonn Snyder.....Independence.
C. G. House.....Independence.
B. F. Barclay.....Independence.
O. Maddison.....Independence.

CARROLL COUNTY.

D. P. Allen.....Derham.

CHEROKEE COUNTY.

Alford Day.....Meriden.
C. Gitchell.....Meriden.

CASS COUNTY.

T. B. Crear.....Atlantic.

CLAYTON.

D. C. Beck.....Elkport.
A. J. Masters.....Elkport.
David Leighty.....Elkport.
A. C. Teede & Co.....Elkport.
L. Eggerth.....Elkport.
E. Eggerth.....Elkport.
F. Eggerth.....Elkport.
G. S. Masters.....Elkport.

CRAWFORD.

M. Bostwick.....Dow City.

CLINTON.

R. W. Damon.....Calamus.
Daniel Couroe.....Bryant.
Ludwig Honighansen.....Wheatland.
Geo. Fry.....Wheatland.
Louis Schreiber.....Wheatland.
John Honighansen.....Wheatland.
H. Keeting.....Wheatland.
F. H. Richards.....Calamus.
E. F. Owen.....Calamus.
W. H. Ferren.....Calamus.
H. L. Barnes.....Calamus.
Wm. V. Cruson.....Calamus.
W. A. Huntington.....Calamus.
E. S. Randall.....Calamus.

DAVIS.

Steckel & Overton	Bloomfield.
Tom Davis.....	Bloomfield.
Alex. Burns.....	Pulaski.
J. E. Conner.....	Pulaski.
J. M. Donahoe.....	Ash Grove.
David Sigler.....	Ash Grove.

DELAWARE.

J. S. Johnson.....	Manchester.
Max Beeler.....	Manchester.
H. L. Rann.....	Manchester.
A. L. Beardslee.....	Manchester.
H. C. Harbeck.....	Manchester.

DUBUQUE.

Louis Miller.....	Farley.
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DES MOINES.

H. Hellmouth.....	Burlington.
G. E. Kemper.....	Burlington.

DECATUR.

J. C. Jamison.....	Weldon.
James M. Little.....	Lamoni.
L. J. Jamison.....	Weldon.

FAYETTE.

Robert White.....	West Union.
F. A. Helbig.....	Fayette.
Fred Hottpuher.....	Fayette.
Hobson Bros.....	West Union.

HENRY.

Mrs. S. J. Young.....	Wayne.
Jno. Luch.....	Mt. Pleasant.
John Rukgaler.....	Mt. Pleasant.
Will Kitch.....	Mt. Pleasant.

HAMILTON.

A. L. McCarthy.....	Blairsburg.
D. R. Fisher.....	
C. McCarty.....	
M. F. Powers.....	
Thomas Londerbach.....	
A. L. Fowler.....	
Robert Correnthers.....	
R. J. McVicker.....	

HARDIN.

C. A. Smith.....	Iowa Falls.
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HUMBOLDT.

Elmer E. Smith.....	Benwick.
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HARRISON COUNTY.

E. Dougall.....	Dunlap.
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IOWA COUNTY.

John Leonard.....	Amama.
G. Price.....	Amama.

JASPER COUNTY.

Emanuel Swihart.....	Newton.
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JOHNSON COUNTY.

J. Von Steiner.....	North Liberty.
W. Hanthory.....	Sanforth.
A. W. Pratt.....	Iowa City.
M. Bostwick.....	Iowa City.

JEFFERSON COUNTY.

E. W. Warner.....	Libertyville.
Sam H. Shipler.....	Libertyville.

JONES COUNTY.

A. Wagner.....	Anamosa.
Chas. Wagoner.....	Anamosa.
H. H. Pratt.....	Anamosa.

JACKSON COUNTY.

E. C. McClelland.....	Preston.
Justus Legg.....	Miles.
Charles Seiber.....	Preston.
E. B. Legg.....	Clinton.
D. C. Kellogg.....	Preston.
Chas. Geehler.....	Preston.

LUCAS COUNTY.

E. C. Post.....	Russell.
John Dickson.....	Russell.
Eickenburg & Co.....	Chariton.
W. Ellis.....	Vilisca.
G. J. Stafford.....	Chariton.
W. Harvey.....	Chariton.
Vick Calvin.....	Chariton.
D. Eissenburg.....	Chariton.
F. W. Smith.....	Chariton.
S. L. Bestow.....	Chariton.

LEE COUNTY.

Andy Hill.....	Keokuk.
G. W. Cordey.....	Ft. Madison.
H. J. Kirskamp.....	Ft. Madison.
J. Townsend.....	Ft. Madison.
F. W. Caster.....	Montrose.
Amos Henkle.....	Warren.
Aug. Hoffmeister.....	Ft. Madison.
John Grain.....	West Point.
Henry Alter.....	West Point.

LINN COUNTY.

Marshall Swayne.....	Marion.
F. A. Helbig.....	Lafayette.
Mary W. Anderson.....	Cedar Rapids.
J. W. Rae.....	Fairfax.
B. F. Tamblin.....	Fairfax.
Fred Hattpuher.....	Lafayette.

MARSHALL COUNTY.

J. M. Rhoads.....	Rhodes.
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MONONA COUNTY.

Ferdinand C. Ross.....	Onawa.
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MONROE COUNTY.

Albert A. Mason.....	Albia.
R. E. Robinson.....	Selection.

MONTGOMERY COUNTY.

Jno. Wade.....	Villisca.
Jno. B. McIntyre.....	Villisca.
M. W. Ellis.....	Villisca.
D. J. Burleson.....	Villisca.
E. C. Gibbs.....	Villisca.
H. D. Dolson.....	Villisca.
S. S. Fryer.....	Villisca.

PAGE COUNTY.

David Crooks.....	Hepburn.
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PALO ALTO COUNTY.

L. P. Stillman.....	Emmetsburgh.
James S. Scott.....	Emmetsburgh.
H. C. Shadholt.....	Emmetsburgh.
John Jensorld, Jr.....	Emmetsburgh.
F. M. Harrison.....	Emmetsburgh.
H. E. Harrison.....	Emmetsburgh.
W. M. Harrison.....	Emmetsburgh.
H. Hodgland.....	Emmetsburgh.
Joel Campbell.....	Emmetsburgh.
C. E. Caborn.....	Emmetsburgh.
J. B. Anderson.....	Emmetsburgh.

POLK COUNTY.

John O. Conner.....	Des Moines.
J. H. Nicholson.....	Des Moines.
Albert Leigh.....	Des Moines.
John Collard.....	Des Moines.

RINGGOLD COUNTY.

J. C. Anderson.....	Eugene.
J. Long.....	Eugene.
John Stevenson.....	Eugene.

SAC COUNTY.

Hiram B. Smith.....	Odebolt.
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SCOTT COUNTY.

H. W. Schmidt.....	Davenport.
Theo. Shuett.....	Davenport.
Wilhelm Koburg.....	Amity.

STORY COUNTY.

Abel Olson.....	Roland.
J. W. Evenson.....	Roland.

TAYLOR COUNTY.

Henry Baum.....Lenox.

UNION COUNTY.

J. M. Joseph.....Creston.

VAN BUREN COUNTY.

Ben. Forbis.....Leando.
Whiting A. Fellows.....Leando.
E. C. Holland.....Milton.

WAPELLO COUNTY.

J. F. DeHaven.....Blakesburg.
Herman Surn.....Blakesburg.
A. Trussell.....Blakesburg.
M. H. Springer.....Eddyville.
J. L. Myrick.....Eddyville.
W. H. Gray.....Eddyville.
W. H. Day.....Blakesburg.

WARREN COUNTY.

Joseph Fellows.....Milo.

WASHINGTON COUNTY.

Jacob Dillon.....Brighton

WOODBURY COUNTY.

C. E. Greener.....Correctionville.
L. H. Dressyer.....Correctionville.
A. W. Hatfield.....Rock Branch.
Charles Groiner.....Correctionville.
John Frasier.....Correctionville.
D. H. Talbot.....Sioux City.

WAYNE COUNTY.

Nelson Longham.....Warsaw.
Martin Krouse.....Harvard.
Jacob Ault.....Humeston.
Amanda Park.....Promise City.
Daniel Kloppenstein.....Corydon.
B. Hickman.....Promise City.
M. E. Ferren.....Promise City.
H. S. Corbit.....Bethlehem.
James S. Alexander.....Promise City.

WINNESHIEK COUNTY.

Peter Folstad.....Hesper.

STATEMENT OF EXPENSES OF IOWA FISH COMMISSION,

B. F. Shaw, Commissioner.

DATE.	Number.	IN WHOSE FAVOR.	ON WHAT ACCOUNT.	AMOUNT.
1883.				
July	887	G. F. Slocum.....	Labor and team for July	\$ 60.00
July	888	L. Kauffman.....	Fish feed.....	1.50
July	889	Durr & Rupee.....	Lumber and paint.....	14.57
July	890	Mrs. H. K. Cone.....	Copying.....	10.00
		Requisition, July 31, 1883, for.....		\$ 76.07
September	1	S. A. Pope.....	Wire Doors.....	2.00
September	27	U. S. Ex.....	Expenses.....	5.25
September	29	Dussell & Gill.....	Copying book.....	2.80
September	30	H. Burritt.....	Labor on road and livery.....	4.50
September	30	B. F. Shaw.....	Cash expenses.....	17.43
September	30	L. Kauffman.....	Fish feed for August and September.....	3.00
September	30	G. F. Slocum.....	Labor.....	118.14
September	30	W. Vanness.....	Labor.....	12.75
September	30	Dwight Sigworth.....	Labor.....	6.00
		Requisition, October 2, 1883, for.....		\$ 196.87
October	25	L. E. Holcomb.....	Taking fish eggs.....	17.00
October	27	B. Heidhart.....	Cans, pans, labor, etc.....	4.70
October	29	902 Marquette Waterworks.....	Water.....	6.00
October	30	903 M. A. Volk.....	Board of three men.....	68.82
October	30	904 Tug Angler.....	Assistance taking eggs.....	6.00
October	30	905 Tug Marquette.....	Assistance taking eggs.....	7.00
October	30	906 Tug Rose.....	Assistance taking eggs.....	7.00
October	30	907 Harger & Johnson.....	Shipping boxes, etc.....	8.50

STATEMENT OF EXPENSES—CONTINUED.

DATE.	Number.	IN WHOSE FAVOR.	ON WHAT ACCOUNT.	AMOUNT.
1883.				
October	30	908 Cudworth & Osborn	Hardware and labor	\$ 15.04
October	30	909 H. Burritt	Livery	6.00
October	30	910 J. S. Perfect	Fish feed	3.00
October	30	911 A. Winstone	Work on ponds	1.50
October	30	912 Carter & Son	Canton flannel	1.95
October	30	913 Anamosa Journal	Printing	2.00
October	30	914 Durr & Rugee	Lumber	1.52
October	30	915 Anamosa Eureka	Printing	2.50
October	30	916 M. P. Sigworth	Paints, oils, &c.	4.83
October	30	917 G. F. Slocum	Labor from October 1st to November 15th	80.75
October	30	918 B. F. Shaw	Cash expenses	73.07
October	30	919 O. Shaw	Copying	4.00
October	30	920 D. D. Chandler	Fish feed, November 15th	3.75
		Requisition November 15, 1883, for		\$ 314.93
December	22	921 Simon Marog	Cutting wood	1.25
December	22	922 S. A. Pope	Making tank, &c.	5.00
December	15	923 Geo. Prior	Taking fish eggs	10.00
December	15	924 James Prior	Taking fish eggs	28.00
December	18	925 M. A. Volk	Board of men	27.70
December	18	926 Cudworth & Osborn	Hardware	4.30
December	18	927 H. Burritt	Livery	4.50
December	31	928 D. D. Chandler	Fish feed from November 15th	3.75
1884.				
January	15	929 M. Peet	Hickory wood	5.00
January	15	930 G. F. Slocum	Labor	104.00
January	15	931 F. F. Frost	Lumber	6.39
January	15	932 American Express Co.	Express	5.45
January	15	933 Mrs. H. B. Cone	Writing in office	3.00
January	15	934 Mrs. G. F. Slocum	Labor	8.50
January	15	935 W. L. Gilbert	100,000 trout eggs	100.00
January	15	936 B. F. Shaw	Cash expenses	116.49
		Requisition for January 15, 1884.		\$ 433.33
January	15	937 D. Haicks	Carp feed	1.00
January	15	938 American Express Co	Express	4.60
January	15	939 James Holt	Labor	1.00
February	8	940 American Express Co	Express	10.15
March	1	941 G. F. Slocum	Labor	78.00
March	1	942 Mrs. G. F. Slocum	Labor	3.50
February	25	943 S. A. Pope	Can Bottoms	.50
February	9	944 American Express Co	Express	3.05
March	4	945 Cudworth & Olson	Fish cans and labor	28.12
February	5	946 W. M. Skinner	Lamp and book	3.00
January	24	947 H. Burritt	Teams	7.50
February	23	948 J. S. Perfect	Brooms, etc	.75
March	1	949 M. P. Sigworth	Stationery	2.15
February	6	950 F. T. Frost	Lumber	27.65
March	1	951 D. D. Chandler	Fish feed	5.00
March	1	952 B. F. Shaw	Cash expenses	28.55
March	1	953 Jones County	One year rent office	18.00
March	1	954 Asa Smith	Livery	2.50
		Requisition for March 1, 1884.		\$ 225.32
March	31	955 G. F. Slocum	Labor	\$ 58.00
March	19	956 Griswold Brothers	Repairing cans	1.25
March	15	957 D. D. Chandler	Fish feed	3.75
March	15	958 M. Peet	Hickory wood	5.00
March	31	959 Shaw & Dutton	Sundries	1.20
December	23	960 E. Booth & Son	Printing	.75
April	1	961 W. A. Cunningham	Ice	4.20
March	3	962 J. S. Perfect	Fish feed	.65
April	6	963 H. Burritt	Livery	3.00
April	15	964 M. P. Sigworth	Stationery	1.10
April	15	965 A. Heitchen	Wire	19.94
April	15	966 G. F. Slocum	Labor	25.00

REPORT OF STATE FISH COMMISSION.

[A 8

1885.]

REPORT OF STATE FISH COMMISSION.

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STATEMENT OF EXPENSE—CONTINUED.

DATE.	Number.	IN WHOSE FAVOR.	ON WHAT ACCOUNT.	AMOUNT.
1884.				
April	15	967 Bettie Shaw.....	Services attending to mails 5 years.....	\$ 25.00
April	15	968 B. F. Shaw.....	Cash expenses.....	86.93
		Requisition for April 15, 1884, for.....		\$ 236.77
April	21	969 G. F. Slocum.....	Lumber, etc.....	36.65
		Requisition for April 21, 1884, for.....		\$ 36.65
April	23	2 G. F. Slocum.....	Labor.....	13.32
April	30	3 B. F. Shaw.....	Services.....	34.65
		Requisition for April 30, 1884, for.....		\$ 47.97
		Total expenses.....		\$ 1537.91

A. W. ALDRICH, COMMISSIONER.

May	8	4 A. E. Martin.....	Horse and wagon.....	\$ 270.00
May	5	5 A. W. Aldrich.....	Cash expenses.....	52.94
May	17	6 Pitcher & McKay.....	Harness.....	28.00
May	26	7 W. F. White.....	Printing.....	9.50
May	31	8 W. S. Barker.....	Labor, April 23 to May 31.....	58.32
May	31	9 C. C. Barker.....	Labor on ponds.....	4.50
		Requisition for June 2, 1884, for.....		\$ 423.26
June	18	10 A. W. Aldrich.....	Cash expenses.....	28.48
June	23	11 W. S. Barker.....	Labor, from May 31 to June 23.....	24.50

June	30	12 Leo Kauffman.....		2.50
		Requisition July 7, 1884, for.....		\$ 55.48
July	14	13 A. W. Aldrich.....	Cash expenses.....	27.34
July	31	14 S. A. D. Byerly.....	Labor, June 24 to July 31.....	55.50
July	31	15 Leo Kauffman.....	Fish for July.....	2.50
July	31	16 J. A. Scott.....	Hardware.....	12.45
July	31	17 W. S. Barker.....	Error on voucher No. 11.....	10.00
July	31	18 W. L. Burnell.....	Work on flumes three days.....	6.00
		Requisition August 4, 1884, for.....		\$ 113.79
April	29	19 S. S. Gard.....	Lumber for office.....	123.28
September	1	20 S. A. D. Byerly.....	Labor, August 1 to September 1.....	45.00
April	23	21 C. H. Lull.....	Fixtures for hatch house and office.....	20.40
May	3	22 J. G. McGuire.....	Fixtures for hatch house and office.....	5.50
August	5	23 A. W. Aldrich.....	Cash expenses.....	21.20
		Requisition September 2, 1884, for.....		\$ 215.38
September	19	24 Foxall & Barnes.....	Office furniture.....	17.00
September	30	25 Leo Kauffman.....	Fish feed, August and September.....	5.00
September	30	26 S. A. D. Byerly.....	Labor for September.....	45.00
September	30	27 A. W. Aldrich.....	Cash expenses.....	47.85
September	30	28 Cudworth & Osborn.....	Hardware.....	12.00
September	30	29 C. H. Monger.....	Printing and paper.....	7.00
		Requisition September 30, 1884, for.....		\$ 138.55
October	31	30 Durr & Ruger.....	Coal for State house.....	27.98
October	31	31 A. S. Atkinson.....	Blacksmithing.....	10.30
October	31	32 Perry M. Beam.....	Corn for horse.....	8.75
October	31	33 Chas. Wagoner.....	Hay and work with team.....	15.00
October	31	34 S. A. D. Byerly.....	Labor for October.....	45.00
October	31	35 Leo Kauffman.....	Fish feed for October.....	2.50
October	31	36 A. W. Aldrich.....	Cash expenses.....	25.55
		Requisition October 31, 1884, for.....		\$ 184.48

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REPORT OF STATE FISH COMMISSION.

[A 8

1885.]

REPORT OF STATE FISH COMMISSION.

55

STATEMENT OF EXPENSES—CONTINUED.

DATE.	Number.	IN WHOSE FAVOR.	ON WHAT ACCOUNT.	AMOUNT.
1884.				
December	1	37 Cudworth & Osborn.....	Hardware, &c.	\$ 50.75
December	1	38 A. W. Aldrich.....	Cash expenses	70.51
December	1	39 Leo Kauffman.....	Fish feed in November.....	2.50
December	1	40 S. A. D. Byerly.....	Labor and cash expenses.....	54.89
		Requisition December 1, 1884, for.....		\$ 178 65
December	31	41 S. A. Pope.....	Work on hatch house.....	5.00
December	31	42 A. W. Aldrich.....	Cash expenses.....	75.36
December	31	43 Klenze & Brown.....	Merchandise.....	5.37
December	31	44 J. A. Scott.....	Hardware.....	6.10
December	31	45 H. Burritt.....	Livery and stabling.....	9.10
December	31	46 M. F. Sullivan.....	Feed for horse and fish.....	20.05
December	31	47 J. G. McGuire.....	Merchandise.....	8.50
December	31	48 C. E. Wagoner.....	Labor.....	22.50
December	31	49 J. F. Aldrich.....	Labor.....	22.50
		Requisition December 31, 1884, for.....		\$ 174.48
1885.				
January	31	51 Hakes & Waters.....	Feed for horse and fish.....	21.87
January	31	52 Leo Kauffman.....	Fish feed from December to January	5.00
January	31	53 A. W. Aldrich.....	Cash expenses.....	78.13
January	31	54 J. F. Aldrich.....	Labor from December 31st to January 31st.....	45.00
		Requisition January 31, 1885, for.....		\$ 150.00
February	28	55 C. H. Monger.....	Printing and letter heads.....	16.75
February	28	56 J. F. Aldrich.....	Labor for February.....	45.00
February	28	57 A. W. Aldrich.....	Cash expenses.....	33.39
		Requisition February 28, 1885, for.....		\$ 95.14
March	31	58 H. Burritt.....	Livery and feed.....	4.45
March	31	59 S. A. D. Byerly.....	Labor, February 28 to March 31.....	45.00
March	31	60 A. S. Atkinson.....	Horse shoeing and repairing.....	10.35
March	31	61 Leo Kauffman.....	Fish feed for February and March	5.00
March	31	62 American Express Co.....	Expressage on fish eggs.....	10.25
March	31	63 Miller & Fisher.....	Fish seine.....	26.35
March	31	64 Pitcher & McKay.....	Fixing house and hatching house.....	8.50
March	31	65 W. L. Gilbert.....	Fish eggs.....	12.60
March	31	66 A. W. Aldrich.....	Cash expenses.....	24.25
		Requisition March 31, 1885, for.....		\$ 146.75
April	30	67 S. A. D. Byerly.....	Labor March 30 to April 30.....	45.00
April	30	68 American Express Co.....	Expressage on fish eggs.....	2.40
April	30	69 Leo Kauffman.....	Fish feed in April.....	2.50
April	30	70 A. W. Aldrich.....	Cash expenses.....	119.00
		Requisition April 30, 1885, for.....		\$ 168.90
May	3	71 Durr & Rugee.....	Coal for hatching house.....	12.60
May	3	72 H. B. Burritt.....	Livery and feed.....	4.55
May	3	73 Huggins & Griffith.....	One one-horse wagon.....	41.50
May	3	74 S. A. D. Byerly.....	Labor April 30 to May 31.....	45.00
May	3	75 A. W. Aldrich.....	Cash expenses.....	47.75
May	3	76 Pitcher & McKay.....	Traces, harness and collar.....	7.50
May	3	77 Cudworth & Osborn.....	Fixtures for hatching house.....	9.20
May	3	78 C. H. Monger.....	Printing and stationery.....	9.50
		Requisition for May 31, 1885.....		\$ 177.80
June	30	79 A. W. Aldrich.....	Cash expenses.....	42.90
June	30	80 M. F. Sullivan.....	Horse and fish feed.....	32.80

STATEMENT OF EXPENSES—CONTINUED.

DATE.	Number.	IN WHOSE FAVOR.	ON WHAT ACCOUNT.	AMOUNT.
1884.				
June	30	S. A. B. Byersly.....	One-half month's labor.....	\$ 22.50
June	30	Arthur Iosta.....	One-half month's labor.....	22.50
June	30	Leo Kaufman.....	Fish feed.....	5.00
		Requisition June 30, 1885, for.....		\$ 125.70
		Total, A. W. Aldrich.....		\$ 2,293.46
		Total, B. F. Shaw.....		\$ 1,537.91
		Total.....		\$ 3,831.37

RECAPITULATIONS OF AMOUNTS DRAWN FROM THE STATE TREASURY.

B. F. Shaw, Commissioner.

July 31, 1883	\$ 76.07
October 2, 1883.....	166.87
November 15, 1883.....	314.93
January 15, 1884.....	433.33
March 1, 1884.....	225.32
April 15, 1884	236.77
April 28, 1884.....	36.65
April 30, 1884.....	47.97
Total.....	\$ 1,537.91

A. W. Aldrich, Commissioner.

June 2, 1884.....	\$ 423.26
July 7, 1884.....	55.48
August 4, 1884.....	113.79
September 2, 1884.....	215.33
September 30, 1884.....	133.85
October 31, 1884.....	134.48
December 1, 1884.....	173.65
December 31, 1884.....	174.48
January 31, 1885.....	150.00
February 23, 1885.....	95.14
March 31, 1885.....	146.75
April 30, 1885.....	163.90
May 31, 1885.....	177.60
June 30, 1885.....	125.70
Total.....	\$ 2,293.46

Duplicate itemized bills are filed and can be found in the office of the Auditor of State, and of the State Fish Commissioner.

The original receipts for money paid out are on file in the office of the Fish Commissioner, and duplicates of same in the office of the Auditor of State.

All bills are audited and allowed by executive council before the money is drawn from the State treasury.

ANAMOSA, IOWA, August 26, 1885.

A. W. Aldrich, being duly sworn, on oath says that the foregoing accounts of the Fish Commissioner with the State of Iowa are true, as he verily believes.

A. W. ALDRICH,
State Fish Commissioner.

Subscribed to and sworn to before me by A. W. Aldrich, this 26th day of August, A. D. 1885.

J. H. CHAPMAN,
Clerk District Court, Jones County, Iowa.

REPORT OF ASSISTANT FISH COMMISSIONER.

SPIRIT LAKE, IOWA.

In accordance with the usual custom, please find below the report of the work at the fish hatching establishment at this place.

The work under the circumstances has been very successful—more so than ever before; and could the facilities be properly developed, the benefit accruing to the State would soon be felt to the satisfaction of the people of the State.

The unprecedented success in hatching fish here fully establishes the above statements. With an unlimited supply of pure water which never fails, the work is practically without an equal anywhere. The ponds never freeze in the coldest weather, or barely skim over for a short time. For carp raising there is no better place. Could this house have had some breeding carp, there could have been enough raised to supply the whole State this season; but as I could not get them, that part (and a very important one, too,) of this industry has lain idle.

After various trials, I have succeeded in raising black bass, but, owing to the state of matters here, I have not been able to raise enough for distribution. Should the next Legislature see fit to allow this place to be fully developed, there is no doubt but that this place could be made to supply the State with these splendid game fish.

The supply of water is unlimited; ponds can be made at a very small cost, where fish can be kept the year round. Situated as this place is, and with the facilities which it has, [it ought to be better developed, and should it be done there is no doubt but that it would amply pay for the investment.

The State ought to have the fish and game laws better protected, and I would suggest that the law be made so as to have fish and game wardens, as is now being done in various States. Give these wardens ample powers and reasonable remuneration—enough so that good men would accept the place, and see that the laws are enforced.

There have already been quite a number of prosecutions by the

Commissioner, but to make the law effective would be more than one man could do, besides the Commission has other work to do. Since the last protective fish law passed, so far as the lakes here are concerned, it has done a great deal of good; not stopping it entirely, but it *has* stopped the ruthless slaughter and sale as has heretofore been practiced. To the railroads for the favors the Commission has received, it owes a debt of gratitude, for they have invariably been free to do all in their power to assist us.

This place has been visited by hundreds of people this season, and to keep up the interest a few small improvements ought to be made, such as fencing and painting, etc., etc., to make the grounds and buildings inviting, from the fact that the State intends to keep it up, it ought to make it a source of pride, which can be done at very small cost.

I have been notified by Mr. Mills, of Okoboji lakes, that several white fish have been caught there weighing several pounds each, this season, showing that the plant is beginning to speak for itself.

There are hundreds of applications for carp, which cannot be filled without resource to the United States Fish Commission. This is all needless, for Iowa can raise her own carp if proper steps are taken.

The United States Commission has been very kind, and lends us all the assistance it can, Prof. Baird being always willing to do any thing in his power to assist us.

As the report of the State Fish Commission is (I understand) quite voluminous, this is necessarily short, and I will only say that if we have an opportunity to develop our resources, we can do a good deal for the State. I would ask for an especial appropriation of a few hundred dollars at this place; it would be no experiment, but only develop what we have.

Below I submit current expense account, which covers the full amount of expenses from date of last entry in the report of 1883.

The various items are on the vouchers on file in the Auditor's office, at Des Moines, subject to examination by any one wishing so to do.

All of which is respectfully submitted for your consideration.

Respectfully,

A. A. MOSHER,
Assistant Commissioner.

SPIRIT LAKE, IOWA, August 1, 1882.

STATEMENT OF EXPENSES OF IOWA FISH COMMISSION.

A. A. Mosher, Assistant Commissioner.

DATE.	Number.	IN WHOSE FAVOR.	ON WHEAT ACCOUNT.	AMOUNT.
1883.				
August	1	L. E. Holcomb	Team and work	12.00
August	1	A. A. Mosher	Cash expenses	7.00
August	1	Ole Byronson	Employee	62.00
September	4	Eber Palmer	Pump	13.00
September	4	Ole Byronson	Employee	25.00
September	4	W. W. Stowe	Can, etc	7.45
September	4	F. W. Barron	Lumber	25.00
September	4	A. A. Mosher	Cash expenses	8.75
October	1	Ole Byronson	Employee	25.00
November	14	Reta J. Holcomb	Picking eggs	3.00
November	14	Edith J. Mosher	Picking eggs	4.00
November	14	E. C. Rankin	Turpentine, etc	5.80
November	14	Ole Byronson	Employee	25.00
November	14	A. A. Mosher	Cash for lumber and coal	10.00
December	18	Ole Byronson	Employee	37.50
December	20	A. A. Mosher	Cash expenses	24.75
1884.				
January	16	Ole Byronson	Employee	25.00
February	16	Barrow & Dodge	Coal and lumber	36.28
November	9	H. Chick	Work with team	12.00
February	16	Ole Byronson	Employee	25.00
February	16	A. A. Mosher	Office rent	40.00
May	5	Ole Byronson	Employee	62.50
May	5	H. Chick	Team work	15.00
June	1	Ole Byronson	Employee	25.00
June	1	Barrow & Dodge	Lumber	30.39
June	1	J. O. & W. E. Stewart	Printing and stationery	4.50

STATEMENT OF EXPENSES—CONTINUED.

DATE.	Number.	IN WHOSE FAVOR.	ON WHAT ACCOUNT.	AMOUNT.
June	1	53 A. A. Mosher.....	Cash paid for man.....	47.00
July	1	54 Ole Byorensen.....	Employe.....	25.00
August	1	55 Ole Byorensen.....	Employe.....	25.00
October	1	56 A. A. Mosher.....	Cash paid coal, etc.....	28.00
October	1	57 W. W. Stowe.....	Hardware.....	6.56
October	1	58 Ole Byorensen.....	Employe.....	50.00
December	13	59 A. A. Mosher.....	Cash expenses.....	31.00
December	13	60 Ole Byorensen.....	Employe.....	50.00
December	13	61 A. H. Smith.....	Work with team.....	12.00
December	13	62 A. A. Mosher.....	Board, employe.....	48.00
1885				
January	1	63 Ole Byorensen.....	Employe.....	25.00
March	3	64 Ole Byorensen.....	Employe.....	50.00
March	3	65 A. A. Mosher.....	Cash expenses.....	10.45
March	3	66 Barrow & Dodge.....	Lumber.....	13.48
March	3	67 W. W. Stowe.....	Hardware, etc.....	5.49
March	3	68 A. A. Mosher.....	Cash expenses.....	31.00
April	31	69 Ole Byorensen.....	Employe.....	50.00
April	31	70 A. A. Mosher.....	Cash expenses.....	35.89
April	31	71 W. W. Stowe.....	Cans, etc.....	13.10
		Total.....		\$ 1,112.89

I hereby certify the above account is true, as shown by the vouchers on file in the Auditor's office at Des Moines.

SPIRIT LAKE, IOWA.

A. A. MOSHER, *Assistant Commissioner.*

REPORT

OF THE

JOINT COMMITTEE

OF THE

TWENTY-FIRST GENERAL ASSEMBLY

OF THE

STATE OF IOWA,

APPOINTED TO VISIT THE

State Hatching Houses

LOCATED AT

ANAMOSA AND SPIRIT LAKE.

PRINTED BY ORDER OF THE GENERAL ASSEMBLY.

DES MOINES:
GEO. E. ROBERTS, STATE PRINTER.
1886.