VI.—REPORT OF CONFERENCE OF UNITED STATES COMMISSIONER WITH COMMISSIONERS OF RHODE ISLAND AND MASSACHUSETTS.

REPORT OF CONFERENCE HELD AT BOSTON, OCTOBER 5, 1871, WITH FISHERY COMMISSIONERS OF MASSACHUSETTS AND RHODE ISLAND.

There were present at the conference: Mr. Reed, of Providence, commissioner of Rhode Island; Mr. Lyman, of Boston, commissioner of Massachusetts; Mr. Powel, of Newport, a member of the Rhode Island legislature, and Mr. Baird, United States commissioner. Such portions of the discussion as have no special bearing on the subject in question have been omitted.

Mr. SAMUEL POWEL. I think the trappers of Rhode Island would agree to the close time; and Governor Stevens, I think, would consent to it.

Professor BAIRD. I think the traps have a positive influence; but I still think that the blue-fish are a great cause of the trouble. A decrease of the blue-fish would give the other fish an opportunity to increase; but the young blue-fish are as much more plenty than usual this year as the young scup; so that I think it is expedient to try the experiment of a close time. If the blue-fish were to run out again, I think it would not be so imperative to adopt any restrictive measures. We cannot regulate the blue-fish, but we can control the traps.

Mr. REED. I think scup feed more or less on the small crustaceas, perhaps slugs, and a species of leech. I think they would feed on the small muscle. I have seen little scup, when the water was clear, bumping their noses against the rocks, as though they were picking something off. Some say that the salmon do not feed while not in the salt water, but I think they do. I have seen them strike the dragon-fly with their tails when it was skimming over the water.

The blue-fish will attack almost anything as long as he can eat, even a piece of rag he will bite. I think the "slick" on the water so often seen is, in many cases, produced by the oily matter proceeding from fish that have been attacked by the blue-fish, they first swallowing as much as they can, and then vomiting it up, so as to eat again.

As to the scup, I think the blue-fish attack them throughout the season, especially the small scup. I think the blue-fish feed near the surface.

Professor BAIRD. I think, as a general rule, that the blue-fish swims at the surface in the day-time and at the bottom at night. We find rock-crabs, eels, and sand-launces in their stomachs. We have found scup in the stomachs of the blue-fish from the 15th of June to the 1st of October.

Mr. REED. Two years ago we had an unusual run of blue-fish late in the fall. In half an hour I caught thirty-five, averaging about a pound each. We used a hook smaller than usual for blue-fish. We have plenty of food for scup in our bay.

Professor BAIRD. That element need not be taken into account at all.

Mr. REED. We have had scup away up to the mouth of the Narragansett River. It is a very filthy river, too, because there are so many manufacturing establishments, and among others that of hair-cloth, the clippings of which are thrown into the water. There are large manufacturing towns all the way up, and every kind of refuse is thrown into the water. All the manufactories make their own gas, and they saw wood, and so it is with all the branches of the river. But scup have been caught right at the mouth of the Forestdale River, where they have thrown in tar.

Professor BAIRD. The sea pollution cannot enter into the question, except merely locally. The only thing that is injurious in this refuse is the carbolic acid and tar, and this is so small in amount as to have little influence. In fresh water it is a different thing, but in the salt water I do not think it need be considered.

Mr. REED. The print-works empty everything into a narrow passage twelve feet wide, that is about one-sixteenth of a mile from where the tide comes in. I have seen little fish, two inches long, feeding right at the mouth of the river. And I have dug clams there so dyed that they looked red in consequence of the madder thrown down there. Prior to the building of the print-works, I have been told, there were no oysters up there, but the year after it was started there was an unusual number of oysters set in that little bay.

Professor BAIRD. I have come lately to the conclusion that the prime cause of the variation in the supply of food-fishes on this coast is to be found in the blue-fish; but then I am also satisfied that the trapping and pounding, coming at the heels of the mischief done by the blue-fish, have intensified the evil; and that, if we mean to restore the fish, we must regulate one or the other. I think that if the fish have a chance to reach their spawning-ground they will multiply fast enough for both hooks and lines and traps. We must exterminate the blue-fish or regulate the trapping, or the evil will increase. I can see very positively the relationship of the shore-fishing to the establishment of the trap.

Mr. REED. I was told by a gentleman of Providence that he was present the very day the traps were set this spring, at a certain place, and he said they were filled within fifteen minutes with scup and other fish. He said the season was a fortnight ahead of them. The effect has been that young scup have been caught this year away up the Seekonk River, so plenty that you could scarcely throw in the hook without catching one.

They have not been so plenty as this for a long time. They are spawned in shallow water, in the inlets and bays. I do not believe any scup would deposit spawn outside as far as off Point Judith. I doubt whether fish an inch long would be found accompanying the schools of big fish.

Mr. POWEL. I saw some this spring ranging from two to four or five inches in length, and I took some up to Professor Blake; I think it was the 25th of April. They were caught in a trap below Newport.

Professor BAIRD. I think the scup might have spawned off the Carolinas in March, and some of these might come along up with the older scup. But my impression is, that the largest part of what are now called "dollar scup," are this year's brood.

In the middle of August it took five of the last year's scup to weigh a pound, and now four will weigh a pound. They will come back next year weighing about a pound each.

While there are a great many scup of this year's growth, there are also many last year's scup. Therefore I ascribe a part of this change at least to the diminution of the blue-fish. For five years blue-fish have been growing more scarce; last year about three-fourths of the usual take, and this year the catch has been much less than last.

Of squeteague there are a dozen this year where there was one five years ago. In 1863, I collected fishes at Wood's Hole, and I did not see a squeteague, and when I spoke with the fishermen there about it, they did not know the fish. Four years ago a few were caught there, and last year a great many. This year, at Menemsha Bight, one caught five thousand at a single haul.

Mr. REED. I understand that the increase of the squeteague has been in proportion to the decrease of blue-fish.

Professor BAIRD. I think the blue-fish are continuing to decrease, thus leaving a better chance for other fish.

But it is not so much a matter of importance whether the blue-fish eat the scup or other fish. We know that the waters swarm with little fish that prey largely upon the spawn of other fish, and very young fish. They are just as plenty now as they ever were, and no trapping can affect their supply. They are bound to have a heavy toll out of something. When scup have been most abundant, they have furnished to these little fish the larger portion of their sustenance; and when they cannot get young scup they will take anything, and perhaps they take 75 per cent. of all the spawn of everything that is laid in the waters.

There is a certain balance of fish, there being plenty to feed all these scavengers, and to feed mankind also. Now, if you bring in the blue-fish, they disturb this balance; they take scup, sea-bass, &c., that should be permitted to spawn. Consequently the absolute amount of spawn is decreased, and the little fish will still secure their part from that which remains. If there is but a little spawn in the water, it makes little difference to them; they will have their share out of what is left.

Then, having disturbed the balance to that extent, we come in with our traps and reduce the number of spawning fish and of spawn still further; and where the blue-fish destroy many, we destroy even more; and then the little fish must take the spawn of anything they can get. If you take in the traps fish that would otherwise furnish spawn to the little fish, then these little fish will take the spawn of other fish. Therefore, I think the traps should be regulated, but need not be prohibited.

I think that a "close time," especially during the spawning season, will give the relief that we require. I understand that, as a general rule, the spawning fish run almost always at night. All the trappers tell me that they catch the breeding fish at night. But in the summer season they catch the Spanish mackerel and other pelagic fish in the day-time. My suggestion to the trappers was, that they should close the traps from six o'clock Saturday night till Tuesday morning. I want three nights and two days.

Mr. REED. I suggested from sunset Saturday till Tuesday morning—three nights and two days.

Mr. POWELL. I think that from Friday night till Monday morning will satisfy them better, as Sunday intervening would prevent the disposal of the fish caught Saturday. That is what I wanted to do last winter.

[Mr. REED agreed to that time as being better.]

Professor BAIRD. If the trappers will not assent to that, I would favor a law prohibiting the whole business.

Mr. POWELL. Rhode Island has waked up to the necessity for regulating her fishing. The fish are gone to such an extent that, at a clambake of some New Hampshire people in Rhode Island, they brought their fish along with them.

Professor BAIRD. Massachusetts people say, "What is the use of trying to catch fish with the hook and line while the trappers at Saughkonet are allowed to take our fish?"

Mr. POWEL. I would like to ask Mr. Reed whether it was usual or unusual for the large and small fish to come in together. The fishermen say it was unusual.

Mr. REED. I cannot tell in regard to scup. I know the scup have decreased very much for the last five years, since I came there.

Mr. POWEL. This year we have had the young scup coming in almost in their former abundance.

Mr. REED. There is no bay so peculiarly situated as Providence Bay. It has three outlets, and the fishing-grounds are numerous. You can put a trap down in certain places where the tide flows backward and forward, in such a way that your trap would be as effectual in stopping and catching the fish as a dam run right straight across the tide. The fish cannot get up except when the traps are lifted. They have come constantly to these places, trying to get up, but it has been impossible.

Professor BAIRD. Then you think that, apart from the capture of the fish, the presence of the nets has kept them out?

Mr. REED. Yes, sir.

Mr. POWEL. Your argument would be that the two weeks' supply has been the cause of the greater abundance of young scup?

Mr. REED. Partly so. Squeteague have been very scarce, and I do not believe there were five thousand pounds of blue-fish caught in the whole bay. Squeteague were not as plenty as they were last year. In fact, almost all the fish in our bay have totally disappeared.

I suppose the scup had a free run of two weeks, and when they struck that water free from traps they spread themselves, and could choose any kind of temperature or any kind of bottom, whether sandy, or rocky, or mud. Thus we have an unusual variety in the bay. At Prudence Island there are very bold rocks, and it is a great place for catching scup and tautog.

Professor BAIRD. If the intermission from catching for two weeks was sufficient to create so great a supply, it shows what we may expect it we keep up that intermission through the season. If we have the intermission of three nights and two days in a week, throughout the season, instead of the incidental two weeks, we may hope to restore an ample supply to all our waters.

Mr. POWEL. There are three well-described kinds of scup on our coast; and very probably each has a different habitat. There is something different in them, because they come one after the other. They are described as three different growths, when we know they come from somewhere about the Florida capes, to begin with.

Professor BAIRD. Do they?

Mr. POWEL. They come from somewhere down south, and they turn in, as they come along, into the different estuaries. Where do they go; and why don't they all go into the first place?

Some gentlemen tell us that fish always return to the waters in which they were spawned. How do they know it? They know it in regard to

some fish, salmon, trout, &c. Then comes Mr. Agassiz, who tells us they are not pelagic fish; that they are born in fresh water, and we have no right to know that they ever absent themselves far from the fresh waters. But it is not so with the wandering fishes of the sea. Now, I have no theory on this subject, but I wish to call your attention to it.

Professor BAIRD. We have the fact that last year's scup are much more plenty than the experience of the past few years would lead us to suppose; and this year's scup are equally plenty. Now, what caused this state of things?

Mr. LYMAN. The scraps that I have picked up indicate that scup were here abundantly on the first arrival of the settlers in 1620. They were abundant, still, down to 1642, as mentioned by Roger Williams. Then there is a little gap. In 1642 they were abundant in all our borders. In 1659 the blue-fish were abundant about Nantucket, and Macy is very precise in this. There are seventeen years when the scup were abundant, as well as the blue-fish, in the same waters, and remained abundant until 1764. Then the blue-fish go away, disappear entirely, as far as regards Nantucket. Macy says they totally disappeared, and none whatever were caught in the seines. Now, we know that in 1790 the scup was unknown in Nantucket, because we have oral testimony collected by Professor Baird; and then, about 1794, the scup reappeared. There were thirty years, in round numbers, that the blue-fish disappeared, and then again became very abundant, and have continued so since, until about the year 1864, when everybody agrees that they fell off very much.

Now, the blue-fish, coming in 1830, have continued to the present time, though with decreasing abundance for a few years past. The blue-fish having diminished in 1764, it took thirty years for the scup to get back, and then they continued side by side without any diminution until recently, from 1830. At any rate, for twenty-five years the scup and blue-fish lived side by side in vast abundance.

What we know of nature does not indicate that the predatory fish that is going to clean out another kind of fish is going to take twenty-five years to do it; that is to say, when it does it, it is not to be done with a jump. I would illustrate it by saying that I find in testimony from different witnesses, independent of each other, that in 1841 and in 1856 there was an exceedingly cold snap coming on suddenly in the autumn, the consequence of which was that immense quantities of the bottom fish, tautog, rock, bass, &c., were killed throughout the waters of the southern shore, and drifted ashore; and the next year these species in many localities were almost extinct. But in three or four years the fish had returned to their normal abundance. There is an instance of a cause annihilating the local fish, and in three or four years there is a return. It is an illustration that in nature the supply does not take very long to recover itself.

Professor BAIRD. It is "nip and tuck" between the blue-fish and the scup. For instance, take the abundance of scup that existed twenty years ago, and no man would have said it was possible, by any agency, to make them scarce, because they thronged everywhere in Vineyard Sound and Buzzard's and Narragansett Bays. Suppose one scup produces a hundred thousand young—that was more than all the blue-fish could manage. They did all they could, but the scup were too many for them. But the blue-fish kept preying upon them, and we can imagine that year by year they finally cut down the supply to such a point

that, after all the little prowlers had got their share, then the blue-fish cut them "down by the run."

Mr. POWEL. And the very epidemic which has sometimes influenced the larger classes of families may also affect their pabulum too, and the consequence would be that the scup would have to tighten their sword-belts. I want you to bear in mind the magnificent run of scup that has burst upon us, on account of the opportunity to run into the waters freely for two weeks.

Mr. LYMAN. I think that it is non-proven that blue-fish feed on scup generally. Although scup have been taken out of blue-fish captured in pounds, still the universal testimony of the fishermen before the legislative committee was, that scup were never—some said rarely—found in blue fish. Therefore, I do not believe that the blue-fish follows the scup as its normal food. I do not think it is proven at all, and I don't think any mathematical theories, multiplying so many blue-fish, eating so many scup in a season, have anything in them.

But I do really think that there is evidence to show—to make us suspect very strongly—that the blue-fish and pounds have had something to do with it; and with the really insufficient evidence we have, my private opinion is, that two-thirds of the diminution should be charged to the pounds, and one-third to the blue-fish.

Professor BAIRD. It is very easy for the fishermen to say that they did not find scup in the blue-fish; because there were no scup at all to be caught.

Then, how do you know there were any blue-fish at Nantucket while the scup were absent there?

Mr. LYMAN. Macy tells you the month and the year, and says they were taken from June to September in great abundance; and he says that thirty would have filled a barrel.

Professor BAIRD. They may have been some other fish.

Mr. LYMAN. Neither are we certain that what Roger Williams calls bream was a scup, though I presume it was so. It may have been something else than the blue-fish.

Professor BAIRD. We all agree, I think, that fish are scarce, and that something should be done as an experiment for their restoration. I have made a draught, with a memorandum, in regard to this question of regulation, which I will read. It seemed to me that, as a preliminary to all legislation, the whole question of pounding and trapping should be under State control; that the State commissioners should be required to give licenses, and that it should be illegal to carry on the fishing in pounds without such a license.

[The draught of the law was then read, and afterward discussed.]

Mr. LYMAN agreed that the putting of the subject in the hands of the commissioners was a good thing. It will work well, if we can say to the trapping people, we protect as well as check you.

Mr. REED. I believe that we shall not repeat what we did last year. Failing in that undertaking the people have more liberal views. The trappers are very willing to concede, and the others also. I think that if the question were taken of traps or no traps, the traps would be killed; that is simply my opinion.

Mr. LYMAN. I think some such act, thrown into a strictly legal form, will be a good thing. The main features, I think, we may consider as agreed upon, and that the differences, if any, shall only be in putting it into form.

Professor BAIRD. Would Captain Atwood consent to the "close time?"

Mr. LYMAN. Yes, sir; he thinks you cannot lessen the sea-fish, but he

has no objection to the protection of fish that breed in the bays, nor to the "close time," if reasonable. But he does not think it proper nor feasible to cut off the bait from the cod-fishermen.

Professor BAIRD. Shall it be carried throughout the season, or only during the spawning season of the shore fish?

Mr. LYMAN. That is very important. I think it would lessen the opposition to the passage of the law if we give the traps a chance to catch herring and menhaden. These are needed for the Gloucester fishermen. I would rather put a limit on the beginning of the season than the end. Catching the herring early I do not think injures the fishing much.

Professor BAIRD. Supposing they did not catch quite as many fish for the first year, would they not catch enough more in future years to compensate them? And supposing this applies only to the south side of the cape, could not they supplement the loss from the "close time" by other means of catching? Ten years ago there was only a single trap for ten miles around Wood's Hole, and yet they managed to get all the bait they wanted.

Mr. LYMAN. The George's fishing has been growing up under the system of getting bait from weirs more particularly. Let us leave it so that the time shall be cut off at the beginning, and not the end of the season.

Professor BAIRD. But let the law run through the season?

Mr. LYMAN. I think so.

Professor BAIRD. There is this consideration to the advantage of this regulation, that there is much less probability that fish will be lost or wasted. The Messrs. Luce, of Menemsha, said that if fish were sent off only five days in the week, they would be better cared for, and they would get a better price for them, while there would be no difference to the consumer. I am quite sure the supply will be more equally distributed, less fish wasted, and as much money made by all parties.

Mr. POWEL. It will diminish opposition, to have the "close time" cease by the end of the scup-fishing, because Spanish mackerel and squeteague are not caught with hooks, and they come after the scup. I think I can get through such a law.

Mr. LYMAN. I think we had better cut it at both ends.

Mr. POWEL. I know the people of Rhode Island will accept it.

Mr. LYMAN. From the 10th of May to the 15th of June will give sufficient time for the scup.