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# QUESTIONS RELATING TO MACKEREL, USED AT YARMOUTH AND LUNENBERG, N.S., MAY AND JUNE, 1895, BY WM. WAKEHAM AND R. RATHBUN.

When do the mackerel first strike this part of the coast? (Has he any records).

Describe the different schools that come in, and the size and period of each.

How far north do the spring mackerel strike in? (Maitland, St. Mary's Bay, Digby).

How do they strike the shore? Broad on, from the north, or how? What direction do they move? What evidence is there to show that they do not also move north?

How about movements at Pubnico, Barrington and Shelburne?

How far off Yarmouth do they take mackerel with gill nets? In what direction are those mackerel moving?

If mackerel are taken on the gill net grounds off shore, do they not move directly on the shore, and why should one trap interfere with the catch of another?

Do mackerel of the first or second run

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ever spawn here?

Do any mackerel run here in the summer and fall sizes?

How about St. Mary's Bay?

How about Digby and other places in Bay Fundy?

Where are brush weirs located in this part of Nova Scotia? For what are they set?

Are traps set specially for any fish but mackerel? No.

Description and sizes of traps.

Where are they located and number between Maitland and Shelburne?

When did they begin to use traps?

On what part of the coast do the traps do best fishing?

History of trap fishing, when were there most. How has reduction come about, and are the few now in use preferable to the larger number? Why?

What was used before traps?

History, sizes, mesh, etc., of seines?

How many were in use?

Where were seines used?

Did they make as good catches as traps?

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Why were they given up?

History of gill netting, when did they begin? What has been number at different times in past; and at present?

Description of gill nets.

Seasons.

Places where used.

Comparative quality of catch.

When was mackerel fishery first taken up in this region; what has been its general history? Has anything been published on the subject?

When did they begin to ship mackerel fresh? What did they do before that?

Can we obtain statistics of mackerel fishery here in Yarmouth?

Can we rely upon the reports of the Boston Fish Bureau?

What is salmon season in traps?

How many are taken here every spring?

What sizes do they run?

What is done with them?

To what river do they belong?

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Isn't there a large waste of small fish in the traps? Cod, pollock, etc. Could these not be thrown overboard in pursing the trap?

In all of this region are the poles to the traps always set in stones, or do they have soft bottom in places where they drive them?

What depth water should there be in the bowl at low tide.

Do they purse the traps early enough each season to know they are catching the first mackerel?

At what time are the traps taken up between Maitland and Shelburne?

If left in later than the mackerel season, for what purpose?

Are any mackerel gibbed or salted now in this region?

What has been the relative catch of mackerel during the past few years?

What causes yearly fluctuations in catch of mackerel?

Are mackerel as abundant as ever?

Does purse seining have any effect upon

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their abundance here? Or does it interfere with their fishery in any way?

Why isn't the Yarmouth Bar trap set on a point instead of in a cove?

What are the shipping ports for Boston? What territory is tributary to each?

At what places in Bay Fundy do spring mackerel occur?

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Capt. A. B. Crosby, Yarmouth Bar, Yarmouth, N.S. May 25, 1895. Interviewed by Wm. Wakeham and R. Rathbun (long hand) Visited the trap at this place as it was being pursed about low tide this afternoon (3:30 P.M.)

Very small catch just covering the bottom of a dory, consisting of the following:

4 large salmon, the largest 2 feet 10 inches long. Also one small salmon 9 inches long. Dr. Wakeham thought it must have been one that left the rivers last year.

4 mackerel, each about 15 inches long. Young Pollock, ) Gaspereau ( Relatively abundant. ) Young cod, many of the deep red variety (rock cod.) 2 smelt. Lump fish, quite a number. They grow of pretty good size here. Squid, a number. They are very abundant about here now, but nothing is done with them.

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The Gaspereau are sold as bait, and are among the most common of the catch now.

Capt. Crosby owns the outer island here terminating in Cape Fourchu. Uses it for pasturage for sheep of which he has many. He also runs the trap in the cove, which belongs to several stock holders, Mr. J.N. Gardner being one of them. Capt. Crosby has run this trap only about 3 years.

This trap consists of a leader, a heart and a bowl, all set by means of stakes or poles. The bottom is hard and the poles are run into holes in stones, which latter are placed upon the bottom. Cannot drive into the bottom here. A wire connects the poles of the leaders. The netting is hung from the wire and not from the poles. Their leader is 180 fathoms long.

Could not give us size of heart and bowl, but the latter is smaller than the former, and he thinks is over 50 feet diameter. There are 30 poles around the bowl, which are joined together by a slab line running from pole to

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pole at the top. They are held inwards by a webbing of ropes, running across from pole to pole. The poles are then held the other way by a number of anchors, with ropes. The same sort of a webbing connects the poles of the heart. He has only one heart, some have two. Where the leader comes up to the heart, there may be an opening, into the heart on both sides. It used to be so here. Now they have closed the opening on the south side, having the leader joined to that side of the heart. They therefore have an opening on the north side only, 42 feet wide. The mackerel come entirely from the north.

The heart joins the bowl directly without a tunnel, but having an opening, which can be closed by a door when they are pursing (lifting). They have a pursing tackle, by which the bowl is first drawn upon one side and gradually under-run, until the fish are cornered on the other side.

The pursing is done at or about low tide, at which time the webbing across the tops of the heart and bowl are far above the heads of the men. The boat enters by the regular

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openings into the heart and bowl.

The bottom is all hard where traps are set between Yarmouth Bay and Maitland, and the poles are set and supported in the same way at all places. No brush weirs within these limits.

The leader mesh has 2 and 3 inch extension measure. Heart and bowl 2 inch. This is smaller than necessary for mackerel, but is required for herring, and, in fact, they go upon the principle that the only way is to hold everything, and bring everything ashore. It is economy of time; they cannot pick the material over at the net, and a larger mesh would gill too many fish. The smaller mesh prevents gilling, but it results in killing everything that enters the trap.

Crosby's net they start to put in about middle of April, and it takes until about middle of May to finish. They, therefore, do not purse until about the latter date.

Mackerel fishing is over early in July, when the nets from here to Maitland are taken up and not replaced until next spring. Some of these traps (not Crosby's) may be taken up

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into St. Mary's Bay, and set there later in the year for mackerel (see further on).

Farther east they may leave traps in later than end of mackerel season, in order to catch fish for bait, but they do not do that about here.

#### Dates of first catch of Crosby's net.

1886. May 14, first pursing, took 120 mackerel.

- 1887. May 17, first pursing, took 3 mackerel, 3 salmon, 2 bbls. herring.
- 1889. May 11, first pursing, took 7 mackerel, 4 salmon.
- 1890. May 16, took first mackerel (14), and 4 salmon.
- 1891. May 15, took first mackerel.
- 1892. May 16, first pursing, took 26 mackerel, 8 salmon, and 5 bbls. herring.
- 1893. May 15, first pursing; May 16, took first mackerel.
- 1894. May 12, first pursing; May 16 took first mackerel (11).

1895. May 15, first pursing, and took following catch: 10 very large mackerel, about 18 inches long, 3 shad, 1 bbl. of gaspereau and herring.

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General plan of Croshy's net. Jaaw it only from the shore, O. 12 skitch made Mr. Crosby. ete, ale not accurate, Mouth only on n. side.

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It will be noticed from the above notes that the first appearance of the mackerel is not precisely determinable. On the first pursing they frequently took some, and might they not have taken them still earlier if they had pursed earlier? They expect the mackerel every year at just about the same time, and aim to have their nets ready then.

All the mackerel enter the traps from Yarmouth Bar to Maitland from the north. That is all the schools that occur here during their fishing season.

The date when the first run begins is explained above. This run consists of their largest fish, generally all large (except toward end), 16 to 18 inches, etc. This run may cease about this date, and it may continue 3 or 4 days or a week longer. Toward end of run there may be some small ones mixed in.

There is then generally a few days gap in the fishery, followed by a second run of smaller fish. Once in awhile there are a few large individuals at the beginning, but they soon play out. The fish are rather a mixed lot of small grade, averaging probably about 11 inches.

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This run continues until about July 1.

May have a few tinkers after July 1, continuing not over 10 or 12 days.

Sometimes a few mackerel during the summer, after the above dates, but rarely, although they may dribble along.

There are no mackerel between Yarmouth Bay and Maitland in the fall.

From August 1 to 10, mackerel ought to appear in St. Mary's Bay, and they hang on there until the middle of September. Nets may be taken up there from this region, but not Crosby's.

Never saw any spawn running from mackerel about here, but the large mackerel have spawn in them. Can say nothing about condition of the second run, or smaller grade.

All mackerel caught between Pubnico and Maitland are shipped fresh, round, in ice to Boston, via Yarmouth. They are not gibbed. Once in a while an unusual catch is taken on a warm day, more than they can handle safely round, and they may gib some.

The number of large mackerel packed in a barrel is from 60 to 70. Of small mackerel

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about 140 to 150.

Last year (1894) there were very few mackerel of any kind along this shore. In 1893 large catches were made. This year the fishing is considered very good.

Crosby's net, however, hasn't taken much compared with other nets. He lays this in part to the number of lobster pots around which he considers pollutes the waters. Moreover, only the headland traps do well with mackerel, and his trap is set in a cove.

Crosby's net was first put in 14 years ago. The second year it was set was its best year. It was about the same time they had in the most traps, which amounted to 11 at the extreme, between Yarmouth Bar and Maitland. This caused too much crowding, and seemed to cut off the mackerel, more or less. About 10 years ago they began to reduce the number, which has gradually gone on until year before last they got down to the present number, 4.

This reduction was accomplished (mainly at least) by consolidation of interests, and the traps are now owned on shares.

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The nets have done better since the reduction. Crosby thinks the mackerel trim the shore in moving south; that they do not come directly in to the shore from outside. Therefore, many nets cut them off, which would not be the case (so much) if they approached the shore all along.

There are 50 or 60 gill nets fishing this year off Yarmouth Bar, to a distance of  $3\frac{1}{2}$  miles off shore. Some are nearer shore, but the outer nets are making the best catches. The gill nets have not done much this year.

(This statement regarding gill nets should be considered in connection with the movements of mackerel in respect to traps).

Gilled fish bring the same price as trap fish, but the former do not preserve so well.

Knows of only 1 brush weir in St. Mary's Bay.

Purse seiners do not come in here. They go farther east.

So far as he knows no traps have ever been set in the spring north of Maitland. They generally understand that spring mackerel

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cannot be caught north of there, but he does not know on what this is based. Supposes they have never observed them north.

Before traps were introduced here, they used to seine mackerel. They come close into the rocks where they could readily be seined onto the shore. He has observed them in one place right under

the breakwater near his trap. They do not seine now. Gave up some years ago. Does not know when.

All the mackerel in the spring from Maitland down move south. Some contend that they are following bait. There was lots of red feed in the water when they were setting their traps this year. Saw it inside of the bowl. There were also lots of birds present which live on such feed.

With east winds they get no mackerel. West winds bring them on shore. The east wind is off the land here, and it fires the water, which the west wind does not.

The traps are often more or less torn down by storms.

Cost of a trap between \$4,000 and \$5,000.

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They keep renewing worn parts all the time. The netting lasts from 3 to 5 years.

Never heard of their getting mackerel in the spring in St. Mary's Bay.

The mackerel from this coast all goes to Boston. From Shelburne to Maitland by way of Yarmouth. From Lockport to Halifax by way of Halifax.

We split 3 of the mackerel taken in this trap, 2 males and 1 female. They were all unripe, with large spermaries and ovaries. None of the eggs were of full size and transparent. The spermaries would give off some milt by forcing and injuring the walls. It would evidently be sometime before these individuals would ripen, long enough, we might conjecture, to allow them to reach the Gulf of St. Lawrence.

The evidence so far tends to show that the large mackerel do not spawn in this region. About the smaller run which follows we can learn nothing.