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Title

Smelt Tagging in the Miramichi Region, 1944-45

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SMELT TAGGING IN THE MIRAMICHI REGIONS.

1944 - 45

The smelt tagging this season was designed primarily to see what variation there is in the ability of the present day commercial smelt gear (1 $\frac{1}{2}$ inch mesh usually as purchased for box nets) to catch and hold smelt of different sizes.

The live fish were accordingly graded into the 3 size classes used commercially now-a-days, medium (4 to 5 $\frac{1}{2}$ inches), no. 1 (5 $\frac{1}{2}$ to 7 inches) and extra (over 7 inches), before tagging. A different tag design was used for each grade.

Equal numbers, namely 500, of each grade were to be tagged and released at each location as near simultaneously as possible. However, in practice it was neither possible to hold 1500 smelt until they were all tagged so they could be all released at once, nor to obtain 500 of each grade at a time.

METHODS.

As in the 1943-44 tagging, the tags were stamped out of scarlet coloured sheet celluloid, notched according to the desired design and bent into the flattened U shaped tag used last season. The actual tagging was done as described last year.

The tagging pung was covered with another thickness of canvas to give added warmth. This season due to the great depth of snow much difficulty was experienced in getting about even over the main roads, and on reaching a point opposite the desired tagging location on the ice the pung had to be detached from the car and towed behind a horse and sled for sometimes up to 5 miles.

The fish were placed in tubs of water (sometimes in a net bag suspended through a hole in the ice) as they came from the commercial nets. A small tub of fish and 3 pails of water were placed in the tagging pung and the fish graded, each size into a separate pail. For accuracy in grading a small measuring board showing only the 3 sizes was clamped onto the inside top edge of the tub next the grader. The fish could be quickly held against this and the size grade determined. When one of the pails became full of graded fish, grading stopped and the contents of all three pails were tagged and released some distance from the nearest nets. This releasing of the fish as soon as possible was necessary to keep them in good condition. Holding them for any length of time in tubs in which slush is forming is difficult and necessitates constant water changing. Keeping them in net bags suspended through the ice is alright as long as they remain untagged. When tagged, however, and confined in a small netting bag the tags very frequently catch on the strands of the netting and come off.

If all sizes had been equally abundant in the water the desired numbers of each grade could have been readily tagged at each location. However, this was not the case and while the medium and no. 1 grade were about equally numerous the extra were very scarce. In some cases when the desired quota of the first two grades had been tagged only 1 to 3 dozen of extra had been tagged and culling the extra out of the remaining live fish in the containers added few more. Since the tagging of a 1000 fish used up most of a day all other nets nearby were hauled and no more live fish were available that day. To cull out the full 500 extra would require a number of days in most localities this year and this would not be "releasing them all at once".

The attached sheet of tag designs shows the various designs used during the 1943 - 44 and 1944 - 45 seasons, the numbers corresponding to each design, the locality where each was put on and the size of the fish on which each was placed.

SMELT TAGGING, MIRANICHI

1943 - 44 Ungraded as to size.

Tagged at:

#1 French Fort Cove



#6 Rockhead

#2 Eel River



#7 Grand Dune

#3 Bay Du Vin River



#8 Baie Ste. Anne

#4 Horse Shoe Shoal



Centre
#9 Bay Du Vin Bay

#5 Neguac



#10 Bay Island

1944 - 45 Graded as to size.

#11
Medium



#17
Medium

#12
No. 1 Oak Point



#18
No. 1 Bay Du Vin Bay

#13
Extra



#19
Extra

#14
Medium



#20
Medium

#15
No. 1 Tabusintac



#21
No. 1 Back
Bay Du Vin Island

#16
Extra



#22
Extra

SMELT TAGGING IN THE MIRAMICHI REGION.

1944-45

RESULTS.

In a great many instances the date of recapture has been vague, e.g. reported as caught during "last half of Jan." or "during the month of February". In such cases these recaptures have been recorded as being spread evenly over the weeks involved.

Table I shows the various taggings and the recaptures in each case. It is seen that the recaptures of certain grades tagged in various places exhibited widely varying returns, 29.9% to 82%. Even the taggings of all sizes in any one place varied considerably, 39.8% to 75.5%, while the total percentage recaptured, 58.1% from the whole season's tagging was somewhat lower than that obtained in the previous season from tagging done about the same time, 74%.

Table II shows the recaptures according to grades from the combined taggings. Unfortunately the number of extra grade smelt tagged, 316, is in no way comparable to the 1858 and 1783 no.1 and medium tagged. Considering only the two smaller grades it is seen that about 53% of the medium were retaken and 66% of the no. 1. Since these two grades were tagged in approximately equal numbers under the same conditions it seems logical to assume that the difference in the percentage recaptured is due to the gear being unable to catch and hold the medium grade as well as it does the no. 1 grade.

TABLE I

1944-45 SMELT TAGGING, MIRAMICHI.

Tag No.	Grade of Smelt tagged	No. of Smelt Tagged	Recaptures to June 15/45	Percentage
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(Tagged off Oak Point, Jan. 12 and 13)

11	Medium	500	273	54.6
12	No. 1	500	362	72.4
13	Extra	53	39	73.6
		<u>1053</u>	<u>674</u>	<u>64.3</u>

(Tagged in Tabusintac Lagoon, Jan. 19 and 20)

14	Extra	14	6	42.9
15	No. 1	500	410	82.0
16	Medium	503	353	70.4
		<u>1017</u>	<u>769</u>	<u>75.5</u>

(Tagged outer central Baie du Vin, Jan. 24)

17	Medium	462	127	29.9
18	No. 1	422	192	45.5
19	Extra	198	97	48.5
		<u>1046</u>	<u>416</u>	<u>39.8</u>

(Tagged off north side Baie du Vin island, Jan. 29)

20	Medium	354	198	55.9
21	No. 1	436	256	58.7
22	Extra	51	22	43.2
		<u>841</u>	<u>476</u>	<u>56.6</u>

TABLE II

1944-45 SMELT TAGGING, MIRAMICHI.

	No. Smelt Tagged	No. Recaptures to June 15/45	Percentage Recaptured
Extra	316	164	52. %
No. 1	1858	1220	65.7%
Medium	1783	951	53.3%
	<u>3957</u>	<u>2335</u>	<u>58.1%</u>

THE TAGGINGS.

OAK POINT WHARF. - The smelt for this tagging were secured from A. J. Ross who had nets set both above and below the wharf and about on a line with the outer end of it.

On Jan. 12/45 (weather quite reasonable) 500 medium were tagged with no. 11, 350 no. 1 with tag #12 and 38 extra with tag no. 13. On Jan. 13/45 150 more no. 1 were secured and only 15 more extra though the catch from all this man's nets was culled. This made a total tagged at this point in 2 days of, --

53 Extra, tag #13
500 No. 1, tag #12
500 Medium, tag #11.

Only 2 tagged fish were retaken in all Ross's nets the 2nd. day.

TABUSINTAC, lagoon, SW end, $\frac{1}{2}$ mile inside entrance. - The smelt in this case were bought from E. G. Stymiest who lives in Tabusintac and drives down the river and out over the lagoon 5-6 miles when hauling his gear.

On Jan. 19/45 (weather cold and windy enough to blow snow dust over the ice to a depth of about 3 feet) 425 medium, 360 no. 1 and 10 extra were tagged. On the 20th., a day even slightly worse if anything, 78 more medium were tagged, 140 no. 1 but only 4 more extra, though all the available live fish from neighbouring nets were culled.

The nets in this lagoon were quite numerous and the best we could do was to release the fish midway between a number of nets. This spot was located over the main channel and about 75-85-yards from the nearest net.

The two day's tagging at this location yielded a total of, --

14 Extra, tag #14
500 No. 1, tag #15
503 Medium, tag #16

Three medium were recaptured the second day and liberated for the 2nd. time with their first tagged recapture being recorded as 3 tags returned.

CUTER, CENTRE OF BAYE DU VIN. - Here the fish were obtained from J. N. Williston, Wiramichi, and liberated approximately in the same place as the fish tagged with tag #9 in the 1943-44 season.

On Jan. 24/45 250 medium, 200 no. 1 and 50 extra were tagged at this location. The weather was so severe that after hauling all their nets the fishermen without shelter would not wait for us long so we had to knock off and come in. The second day, Jan. 25/45, the same thing occurred with 176 more medium being tagged, 222 no. 1 and 148 extra. The greater

proportion of extra secured the 2nd. day was again due to culling the whole catch and to better advantage than at either of the two previous locations.

At this location the 2 day's tagging made a total of, -

196 Extra, tag #19
422 No. 1, tag #18
426 Medium, tag #17

NORTH OF BAIE DU VIN ISLAND. - A much higher percentage of extra grade smelt had been reported from this region so in order to increase the total of extra smelt tagged, a fourth tagging, instead of just the original 3 planned, was carried out. However, the "quality" (better "quality" smelt on the Miramichi means a higher proportion of larger fish) turned out to be no better than at the 3rd. tagging location.

Only one day's tagging, Jan. 29/45, was obtained at this location and the following fish were tagged, -

51 Extra, tag #22
436 No. 1, tag #21
354 Medium, tag #20

For several days previous to this a strong SE wind had blown and during the night of the 28th. -- 29th. such a swell came in through the Portage-Fox Island channel that the ice as far into the Bay as well up towards the head of Baie du Vin Island broke up and went out on the ebb tide.

Because of this when we arrived on the morning of the 29th. all the fishermen in this region were busy either getting their nets ashore as fast as they could, or standing on shore looking out over open water where their nets had been the evening before. Between 50 and 75 nets were lost.

Why the fishermen do not have buoys on the free ends of the numerous lines used to hold the nets in place I do not know. Most of the ice cakes broke up into small cakes before moving very far and the pickets and lines coming free from the ice allowed the nets to sink to the bottom. Every net has at least 4 lines, each 50-75 feet long attached to it. The greater length of these lines, when the nets are set, lies coiled on the ice beside a picket. If these coils were just left loose on the ice beside the pickets with buoys on the free ends, the rope would trail out in the water as the nets sink and the buoys would mark the spot. Nets carried along distances from shore before being dropped would of course be lost.

Three row boats were in use that day vainly searching the drifting cakes for gear. If buoys marked the location of the sunken gear much of it could be saved.

This whole thing was discussed with a number of fishermen. None of them could voice any argument against the buoy idea and they admitted nothing would be lost by doing it, yet none of them have done it in years gone by nor did any of them say they would try it. If someone could only recover one net through using a buoy, the idea would spread.