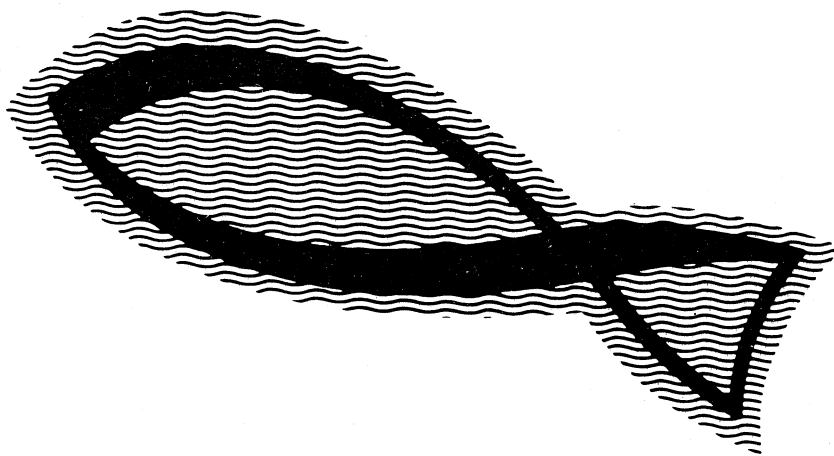




**Fishery Leaflet
Number 83
1977.**

**an ROINN
talmhaíochta
agus iascaigh**

**Movement of Salmon from
the South Coast in 1975**



by

D.T. Mc Carthy.

**DEPARTMENT OF AGRICULTURE AND FISHERIES
FISHERIES DIVISION
DUBLIN.2.**

Movement of Salmon from the South Coast of Ireland, 1975

with resume of the 1973-1975 results

by

D. T. McCarthy

INTRODUCTION

In 1973, tagging investigations commenced into the origin of the salmon stocks being exploited by drift nets along the south coast of Ireland ($8^{\circ}0'W - 10^{\circ}10'W$). The exploitation of these stocks commenced in 1968 with a catch of 1,500 fish and by 1975 the catch had increased to 90,400 (Table 1). The results of the 1973-1974 programme and a description of the fishing methods used have been published in Fishery Leaflet No. 67. Throughout the programme, fish were tagged using Lea's hydrostatic tags described by Went (1951). A marked difference in returns was observed in 1975 between salmon revived in sea water tanks and those released directly after tagging. In the former, a 14.8% recapture rate was recorded, compared with 6%, in the case of salmon released immediately after tagging.

From the 16th June to the 10th July, 1975, 315 fish were tagged and released at two stations as follows:-

<u>Station</u>	<u>Position</u>	<u>No Tagged</u>	<u>No Recaptured</u>
1	5 km. east of Galley Head ($8^{\circ}54'W, 51^{\circ}02'N$)	162	24
2	South of Doonbeg Head ($9^{\circ}53'W, 51^{\circ}36'N$)	153	9

As in 1973 and 1974 the majority of the salmon were caught on the eastern side of the net indicating an east to west movement from the two tagging stations. Up to December 1975, 33 recaptures were made, a recovery rate of 10.5%. This compares with a recovery rate of 13% both in 1973 and 1974. Twenty-four salmon were recaptured by commercial engines (13 by drift net, 10 by draft net and 1 in a stake net). Eight were recaptured by rod and line and the remaining salmon was recovered dead. The

mean number of days at liberty was 22 with a range of 1 to 96. The percentage frequency distribution of the various length groups of tagged salmon is shown in Fig. 1. The mean was 64.1 cm an increase of 4 mm over the 1974 mean length. Tagged salmon were not weighed. The mean weight however of the commercial catch for the months June and July, at station 1 increased from 3.0 kg. in 1974 to 3.25 kg in 1975.

The distribution of recaptures is shown in Fig. 2. Although there was a strong directional trend from east to west as in previous years, 38% of the recaptures were recorded east of the tagging stations, compared with 28.5% in 1974. From Station 1, the most easterly of the tagging stations, 24 recaptures were recorded, 22 from Irish coastal waters and rivers and 2 from the west coast of Scotland. Excluding the Scottish returns, 14 salmon were recaptured west of the tagging station and 8 to the east of it. The Shannon Estuary (4), rivers flowing into Kenmare Bay (3) and the Cork Blackwater, (3) accounted for 50% of the Irish recaptures at this station. This would indicate as in 1974 that these rivers are contributing a significant proportion of their stocks to the West Cork salmon fishery.

At station 2, 9 recaptures were recorded, one from the River Lune in Lancashire, and 8 from Irish waters. Four of these recaptures were caught locally in Bantry Bay, and of the remaining 4 recaptures, 2 were caught east of the tagging station, one in Waterford harbour and the other in the River Ilen and 2 to the west, one in the River Laune and the other in Ballinskelligs Bay. It is interesting to note that of the four salmon recaptured locally, only one managed to escape into fresh water, the other 3 salmon being recaptured by local drift nets.

As in previous years the majority of the recaptures were confined to the South of Ireland, from the River Shannon in the west to Waterford Harbour in the east. However unlike the 1974 recaptures, when 8 returns were recorded from the west, north-west and north coast, McCarthy (1975), no such recaptures were recorded in 1975.

In the three-year programme 1973-1975, a total of 762 salmon were tagged and released, 94 returns were recorded or a recapture rate of 12.3%. Of these 79 salmon were

recaptured in the southern zone defined above. This represents a major proportion of the returns and constitutes 85% of all recaptures. The River Shannon, rivers flowing into Kenmare Bay and the Cork Blackwater contributed 35.5% of all recaptures in the southern zone. This highlights once more the major contributions these systems are making to the Cork Drift-net Fishery. The distribution of the recaptures in the 1973-1975 period demonstrates that the limits of the migratory routes from the south coast fishery are confined for the majority of the salmon stocks to a defined area in the southern part of the country.

Finally, 7 of the 8 recaptures from the west and north-west coast in 1974 were tagged at the same stations Brow Head ($9^{\circ}45'W$ $51^{\circ}17'N$), 4 on 14/6/74 and 3 on 20/6/74.

ACKNOWLEDGEMENTS

I would like to thank Messrs. Paul Gleeson, Derek Carroll and James Carroll of the Laboratory staff, Fisheries Division, and the four skippers involved in the tagging programme, Donal and William Deasy, Union Hall, Frank Downey and Frank Gowan, Castletownbere without whose help and co-operation this programme would not have been possible.

REFERENCES

- McCarthy, D. T. (1975) Movement of salmon from the South Coast of Ireland in 1973-1974. Fishery Leaflet No. 67.
- Went, A. E. J. (1951) Movements of salmon around Ireland. Proc. Roy. Irish Acad. 54 B.8.

TABLE I

Salmon Landings, Cork Fishery District 1968-75

<u>Year</u>	<u>Number</u>	<u>Tonnes</u>
1968	1,500	4.5
1969	2,000	6.1
1970	2,300	6.9
1971	11,000	33.6
1972	36,000	110.25
1973	48,000	147.0
1974	56,445	169.3
1975	90,400	293.8

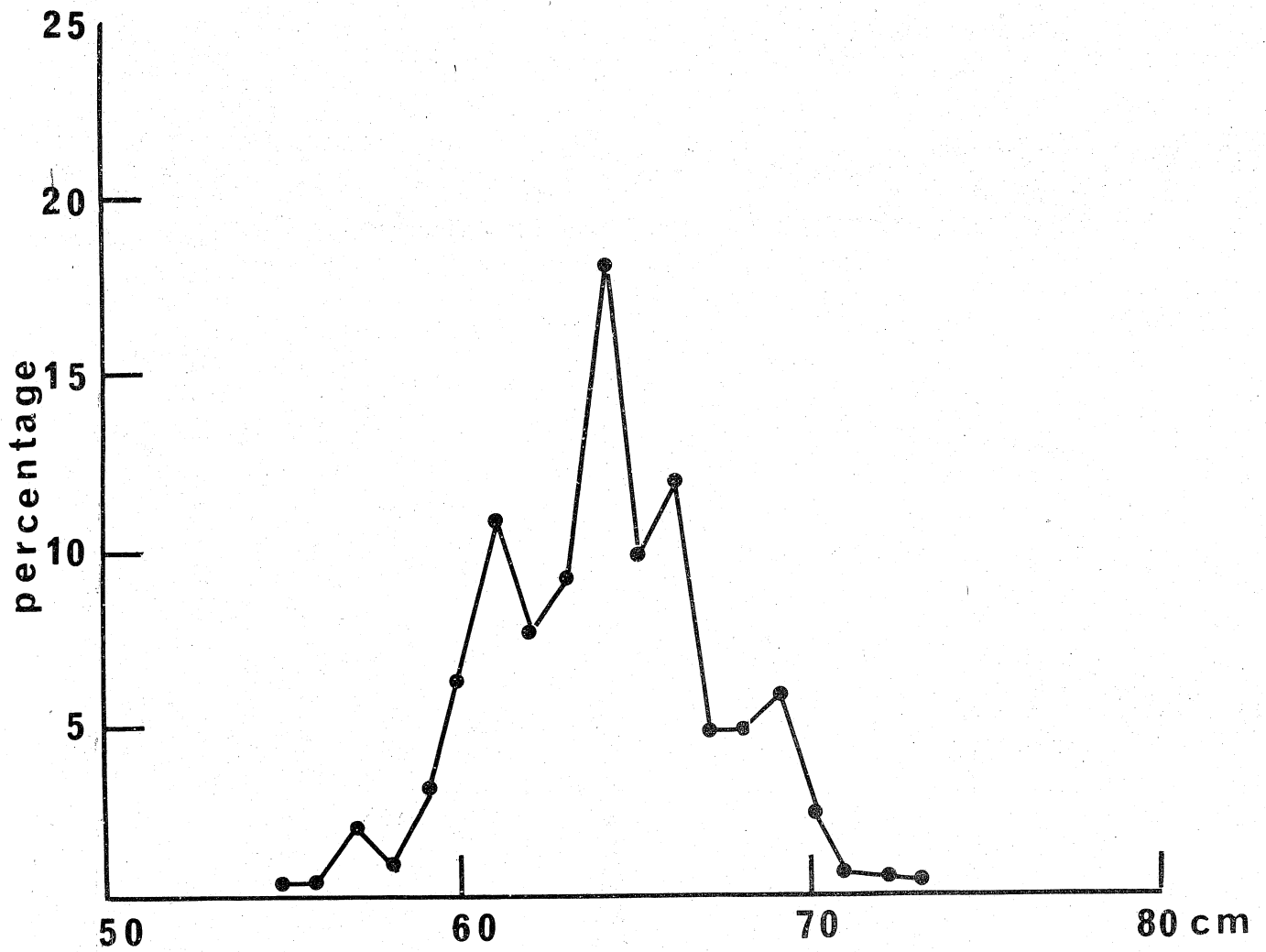


Fig. 1. Length frequencies of 315 tagged salmon south coast 1975.
Mean length 64.1 cm, S.D. 3.4

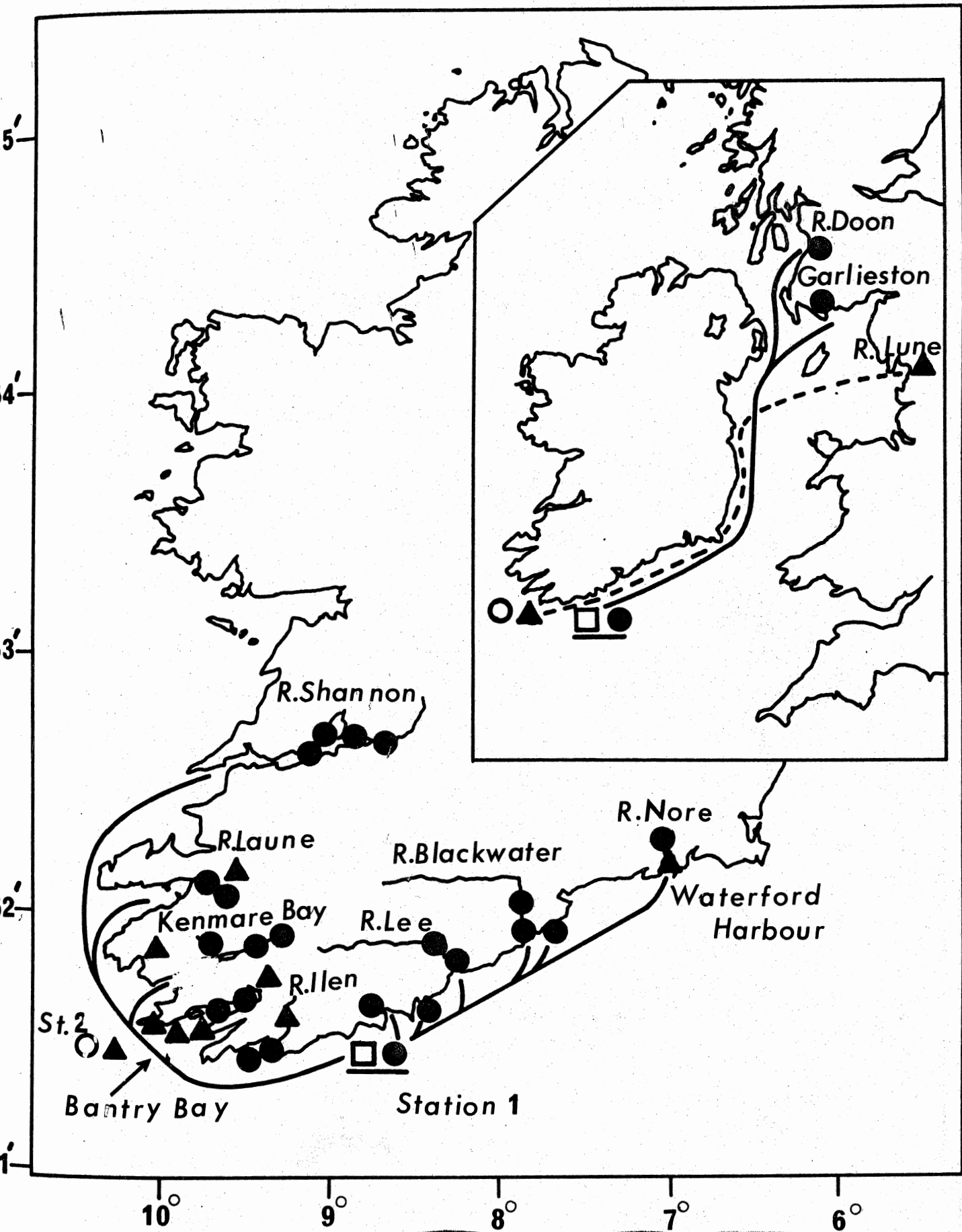


Fig. 2. Map of Ireland with inset of Scotland and England showing movements of tagged salmon 1975.