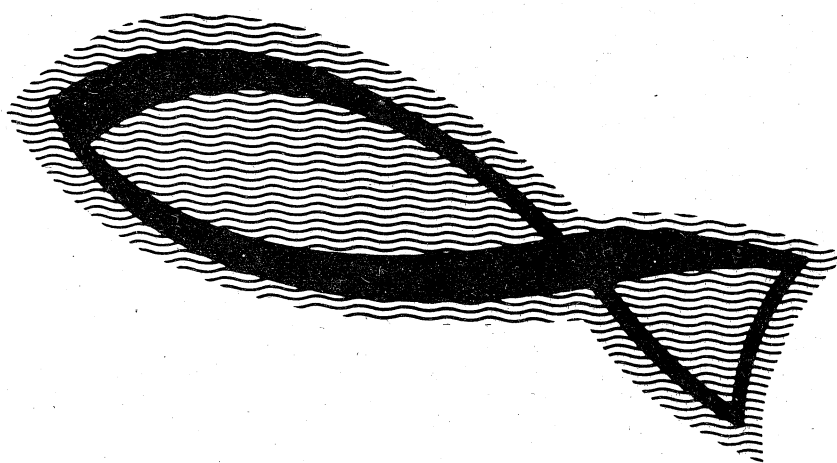




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**an roinn  
talmhaíochta  
agus iascaigh**

**Movement of salmon from the  
south coast of Ireland in  
1973-1974.**



**by**

**D. T. Mc Carthy.**

**DEPARTMENT OF AGRICULTURE AND FISHERIES  
FISHERIES DIVISION  
DUBLIN.1.**

Movement of salmon from the south coast of  
Ireland, 1973/1974

by

D T McCarthy

INTRODUCTION

In 1973 tagging investigations were started into the origin of the salmon stocks being exploited in the West Cork area ( $8^{\circ}0'W$  to  $10^{\circ}10'W$ ) along the south coast of Ireland. The vessels used varied from six metre open boats to twenty metre trawlers, the average length was 10.5 metres (1972 survey involving 276 boats). Fishing is carried on over the twenty four hours. Up to 1973 nets were 30 meshes deep: in that year nets of 60 and up to 90 meshes were introduced and during the 1974 season most boats fished nets of 60 meshes deep. The length of net varied from 400 metres to 1.6 km. Nets were shot at right angles to the coast in roughly a north-south direction, all vessels staying quite close to land, the furthest distance out being approximately 2 km from land. Most fish were caught in the bottom portion of the net during the hours of day-light but at night or in rough weather about half the catch were caught in the top portion of the net.

1973 Tagging

From the 19th of June to the 11th July 1973, 77 salmon were tagged and released in two areas. At Station 1 (5 km S.W. of Glandore Harbour  $9^{\circ}5'W$ ,  $51^{\circ}.35'N$ ) 48 fish were tagged; at Station 2 (3 km. east Crookhaven,  $9^{\circ}43'W$ ,  $51^{\circ}27'N$ ) 29 were tagged. Ten returns were received or a recapture rate of 13%, Five fish were recaptured in draft nets, three by rod and line and two by drift nets. The average number of days at liberty was 25 with a range from 1 to 49 days. The distribution of recaptures is shown in Fig. 1. Of the 7 recaptures made of fish

tagged at Station 1, 4 were caught in rivers to the east, (three in the Bandon River (64 km.) and one in the Lee (100 km)). Two fish were recaptured west of the tagging area one each in Bantry Bay (90 km) and the Kerry Blackwater (136 km), the remaining fish was recaptured 2 km. east of the release area. From Station 2, three recaptures were made, two from the west, (Kerry Blackwater 100 km) and Castlemaine harbour (176 km) the remaining recapture was made 93 km to the east, in the Bandon River. The mean length of tagged fish was 66.0 cm. and the average weight was 3.50 kg. Results of the 1973 programme were disappointing in that only 77 fish were tagged; this was due to the main run of fish being earlier than anticipated.

#### 1974 Tagging

In 1974, 370 fish were tagged and released at three tagging stations from 12th to the 25th June as follows:

<u>Station</u>	<u>Position</u>	<u>Number Tagged</u>
1	5 km east of Falley Head (8°54'W, 51°02'N)	131
2	South of Brow Head (9°45'W, 51°27'N)	91
3	South of Doonbeg Head (9°53'W, 51°36'N)	148

The majority of the fish were caught on the eastern side of the net indicating an east to west movement at the three tagging stations. Up to the end of November 1974, 50 recaptures were made, a recovery rate of 13.0%. Forty four or 88% of these recaptures were made in commercial engines, (23 by draft nets, 20 by drift nets and 1 by a bag net.) Four were recaptured by rod and line. The method of recaptures of the remaining two fish is not known. The mean number of days at liberty was 21, with a range of 1 to 75. The percentage frequency distribution of the various length groups of tagged fish is shown in Fig. 2. The mean length was 63.7 cm and the average weight 3.0 kg which is lower than the 1973 figure of 3.5 kg.

The weights of the tagged fish corresponds with the mean weights of the commercial fish landings for the two years in question.

Although it was noted during tagging that the majority of fish showed a strong directional trend from east to west, 28.5% of the recaptures, however, were caught east of the tagging area. The distribution of recaptures is shown in Fig. 3. From Station 1 the most easterly of the stations 18 fish were recaptured, and excluding the recapture from Ayr in Scotland, 9 were recaptured to the west and 8 were recaptured to the east of the tagging Station. From Station 2, 12 of the 17 recaptures were made west, 3 east of the tagging station, of the remaining two fish one was caught in a bag net in the Bushmills River in Co Antrim and the other by rod and line in the River Ribble in Lancashire. It is interesting that 6 of the 12 western recaptures were from the North Mayo and Donegal coast. There were 15 recaptures of fish tagged at Station 3, 10 west of the Station and 2 to the east, the remaining 3 fish were caught locally. Seven of the western recaptures were made in the adjoining inlet Kenmare Bay, by draft nets in the estuaries of the Kerry Blackwater and River Roughty.

The combined results of the 1974 tagging programme show that the Cork Blackwater, the rivers flowing into Kenmare Bay and the Shannon Estuary accounted for 20 out of a total of 50 recaptures. This is a significant proportion and shows the contribution these rivers make to the drift net fishery in the Cork area. Local recaptures from the Cork fishery district ( $8^{\circ}0'W - 10^{\circ}10'W$ ) numbered 10 out of 50. With regard to the six recaptures from the Shammon estuary approximately 270 km to the west, this would explain to some extent the relatively large number of fin clips in the catches made by drift nets in the vicinity of these tagging stations. Hatchery reared smolts from the Electricity Supply Board rearing stations on the lower Shannon and the River Lee are fin clipped before release. Their presence in the fishery is an indication of the contribution made by these rearing stations to the fishery. Long distance recaptures from the west, the north Mayo, Donegal and Antrim coasts as well as from Ayr in Scotland and the River Ribble in

Lanchashire show that the fishery is not wholly dependant on fish originating from local rivers. Further evidence of this is the occurence of two salmon bearing Scottish smolt tags caught in the fishery in 1974.

#### ACKNOWLEDGEMENTS

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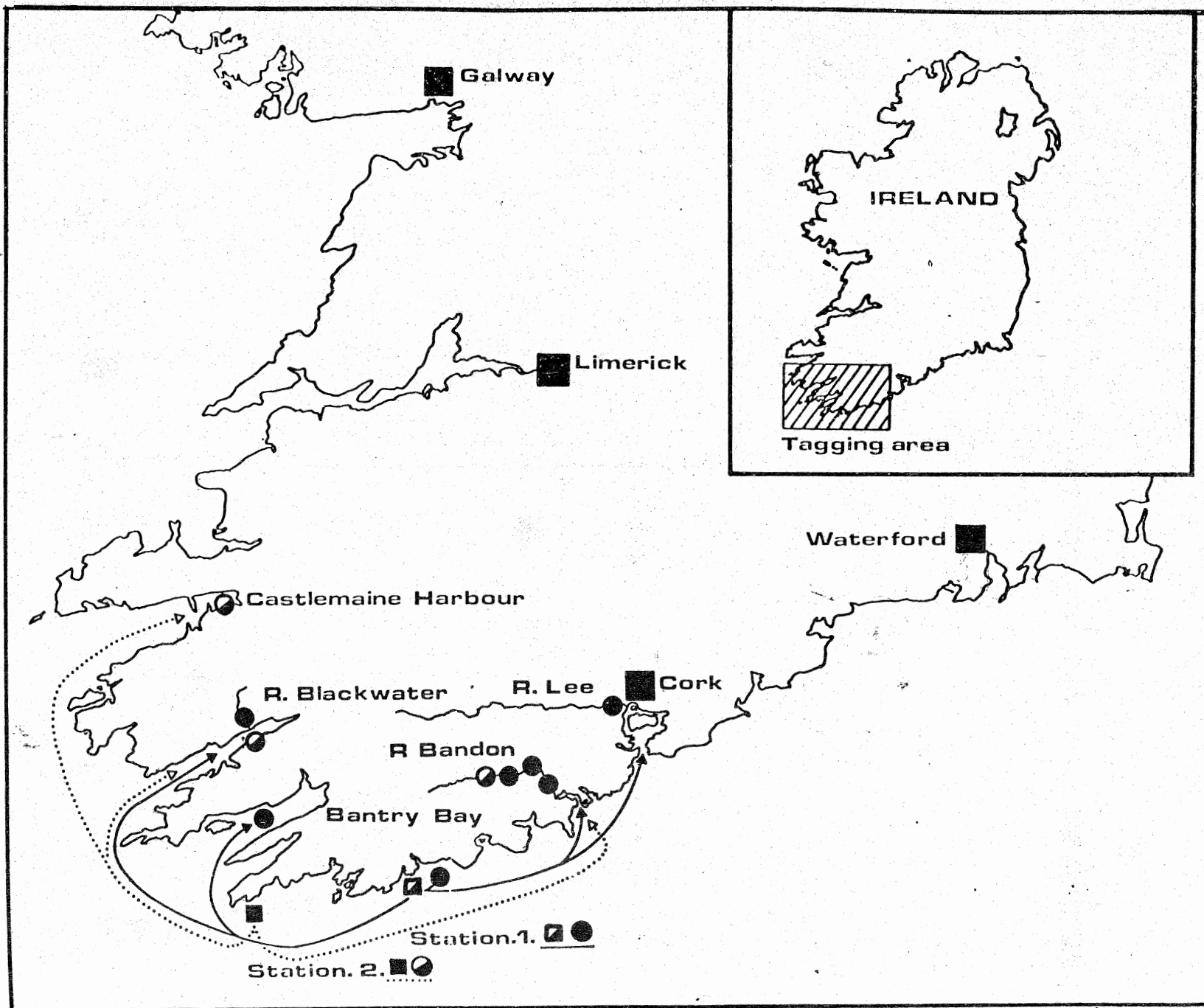


Fig. 1 Sketch map of the south west of Ireland showing movements of tagged salmon in 1973.

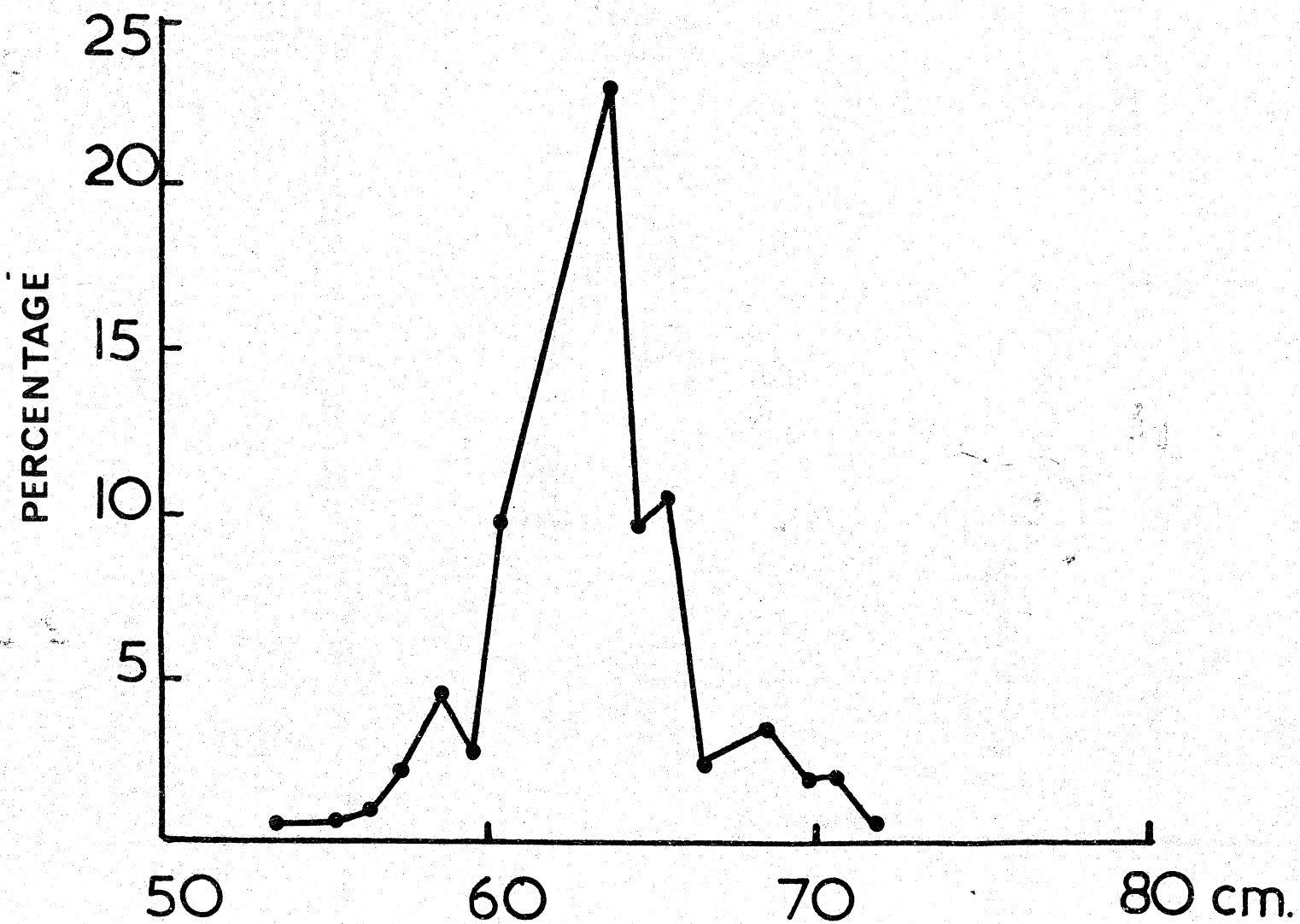


Fig 2 Length frequencies of 370 tagged salmon south coast 1974  
Mean length 63.7 cm. S.D. 2.9

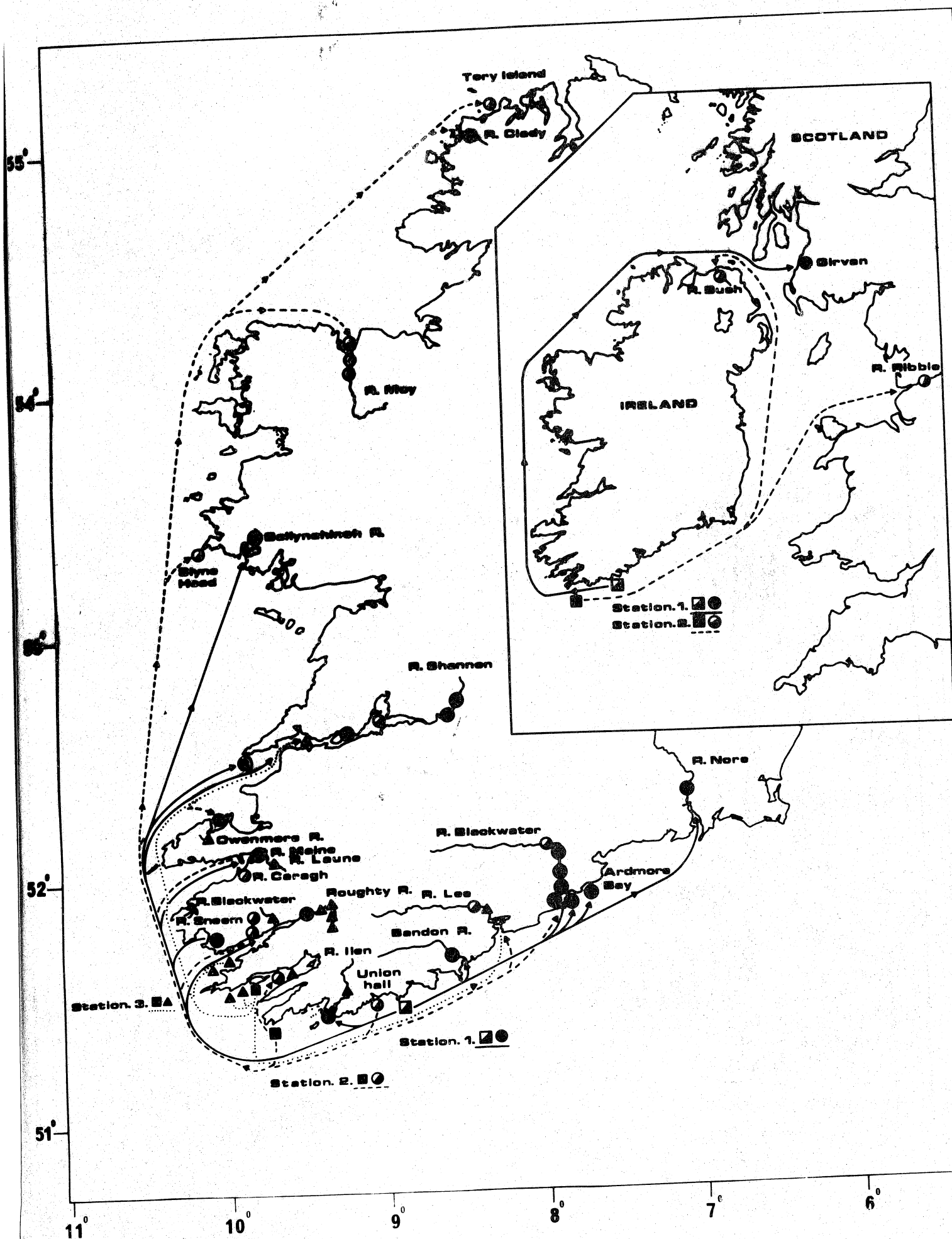


Fig 3: Sketch map of Ireland with inset of Scotland and England showing movements of tagged salmon in 1974.