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

by

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In 1973 tagging investigations started into the origin of the salmon stocks being exploited in the West Cork area ($8^{\circ}30'W$ 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 most popular craft being half deckers in the nine to ten metre range. Fishing is carried on over the twenty four hours. Up to 1973 nets were 30 meshes deep, in that year nets of 60 to 90 meshes were introduced and during the 1974 season most boats were fishing nets of 60 meshes deep. The length of net varied from 300 metres to 1.6 km. Nets are shot at right angles to the coast in roughly a north-south direction, all vessels staying quite close to land. Fishing is mainly concentrated off the headlands. Most fish were caught in the bottom portion of the net during the hours of daylight but at night or in rough weather about half the catch were caught in the top portion of the net.

From the 19th of June to the 11th of July 1973, 77 salmon were

tagged and released in two areas. At Station 1 (5km S.W. of Glandore Harbour $9^{\circ}5'W$, $51^{\circ}.35^{\circ}N$) 48 fish were tagged; at Station 2 (3km. east of 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 from the Bandon River 64 km. and one from the Lee (100 km). Two fish were recaptured west of the tagging area one from Bantry Bay (90 km) and the Kerry Blackwater (136 km), the remaining fish was recaptured one mile east of the release area. From Station 2, three recaptures were made two from the west, (Kerry Blackwater 100 km) and from Castlemaine harbour (176 km) the remaining recapture was caught 93 km to the east in the estuary of 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.

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

<u>Station</u>	<u>Position</u>	<u>Number tagged</u>
1	5km east of Galley Head ($8^{\circ}54'W$, $51^{\circ}02'N$)	131
2	South of Brow Head ($9^{\circ}45'W$, $51^{\circ}27'N$)	91
3	South of Doonbeg Head ($9^{\circ}53'W$, $51^{\circ}36'N$)	148

All fish were caught on the eastern side of the net indicating

an east to west movement at the three tagging stations. The distribution of recaptures is shown in Fig 2. Up to the 9th of August 43 recaptures were made, a recovery rate of 11.6%. Twenty two fish were recaptured in draft nets, 17 in drift nets and 2 by rod and line; the method of recapture of 2 fish is not known. The mean number of days at liberty was 17, with a range of 1 to 37. The percentage frequency distribution of the various length groups of tagged fish is shown in Fig 3. 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, which is similar to mean weight landings for the two years in question. The bulk of the fish tagged were therefore, grilse.

Although there was a strong directional trend from east to west 27.5% of the fish were recaptured east of the tagging area's. From Station 1 the most easterly of the tagging stations 14 fish were recaptured, and excluding the recapture from Ayr in Scotland, 7 were recaptured from the west and 6 from the east.

From Station 2, 12 of the 15 recaptures were made to the west, the remaining 3 were caught to the east. It is interesting that 6 of these recaptures were from the North Mayo and Donegal coast. There were 14 recaptures of fish tagged at Station 3, 10 west of the Station and 2 to the east, the remaining two 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. Local recaptures from Kenmare Bay to the Bandon River numbered 17 out of a total of 43. A further 6 were recaptured from the Shannon estuary approximately 270 km to the west; which explains 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 Boards 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. Recaptures from Galway, the north Mayo and Donegal coasts as well as from Ayr in Scotland show that the fishery is not wholly dependent on fish originating from local rivers. Further evidence of this is the occurrence of two salmon bearing Scottish smolt tags caught in the fishery this year.

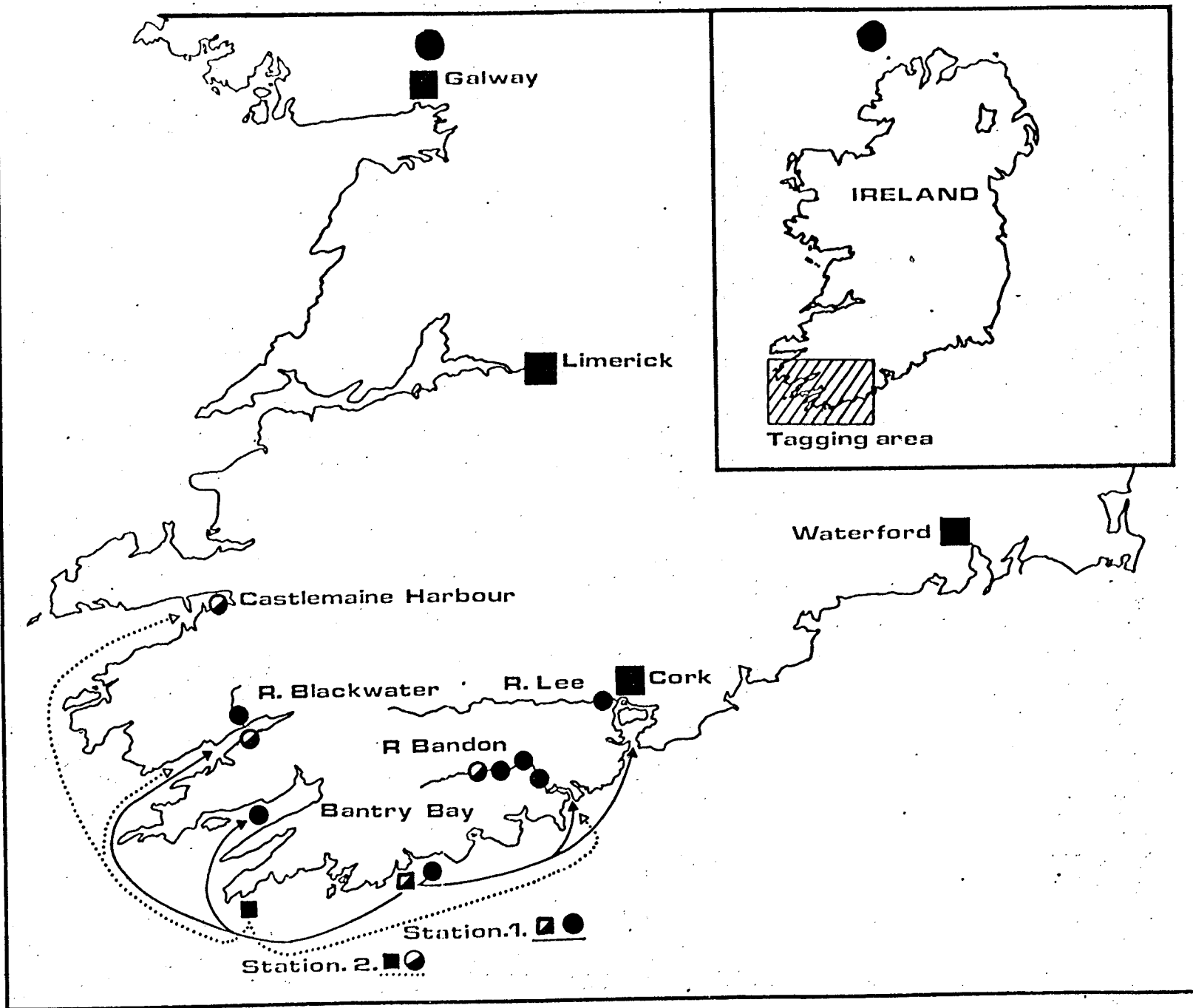


Fig. 1 Sketch map of the south west of Ireland showing movements of tagged salmon in 1973.

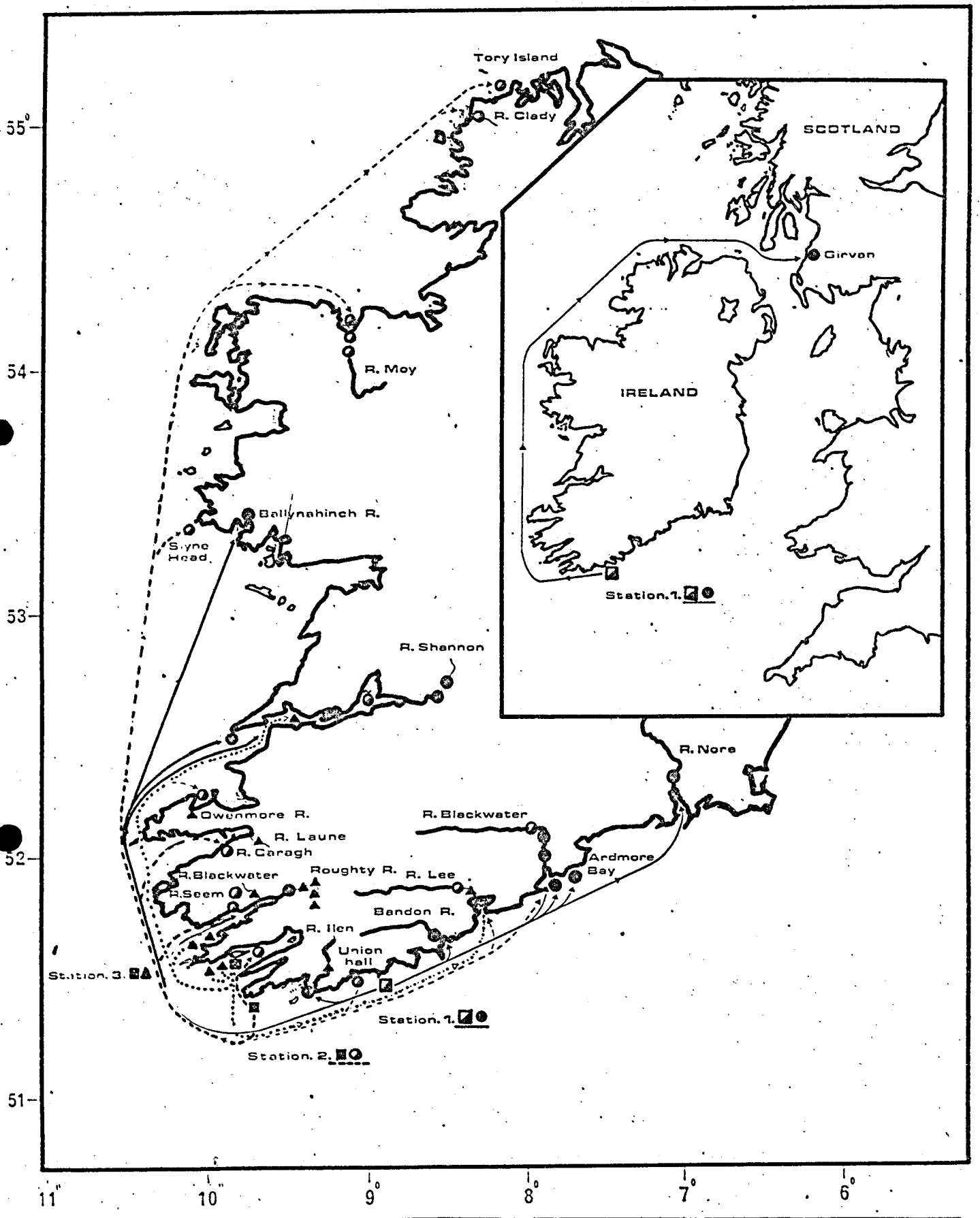


Fig. 2 Sketch map of Ireland with insert of Scotland showing movements of tagged salmon in 1974.

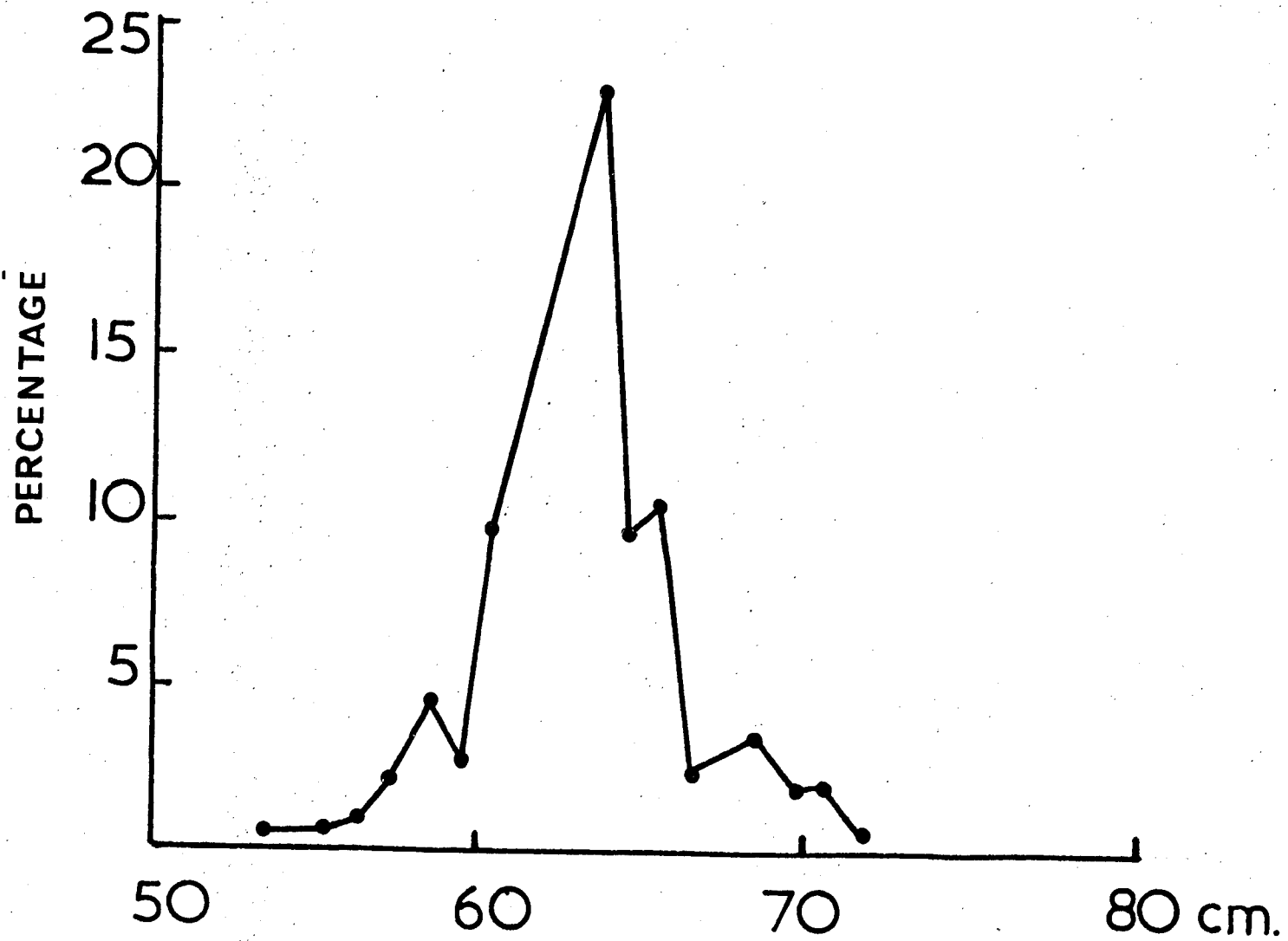


Fig 3 Length frequencies of 370 tagged salmon south coast 1974.
Mean length 63.7 cm. S.D. 2.9

Additional recaptures after preparation of paper

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Tagging Station	Date of release	Area recaptured	Date of recapture	Distance travelled	Number of days at liberty
1	18/6/74	Estuary of the River Blackwater	June	62 km	-
	25/6/74	Estuary of the River Blackwater	June	62 km	-
	20/6/74	Waterville Lake	16/8/74	144 km	57
2	14/6/74	River Ribble Lancashire, England	28/8/74	625 km	75
	14/6/74	Bushmills River Northern Ireland	5/7/74	647 km	21
3	14/6/74	Bantry Bay	24/7/74	Local recapture	36