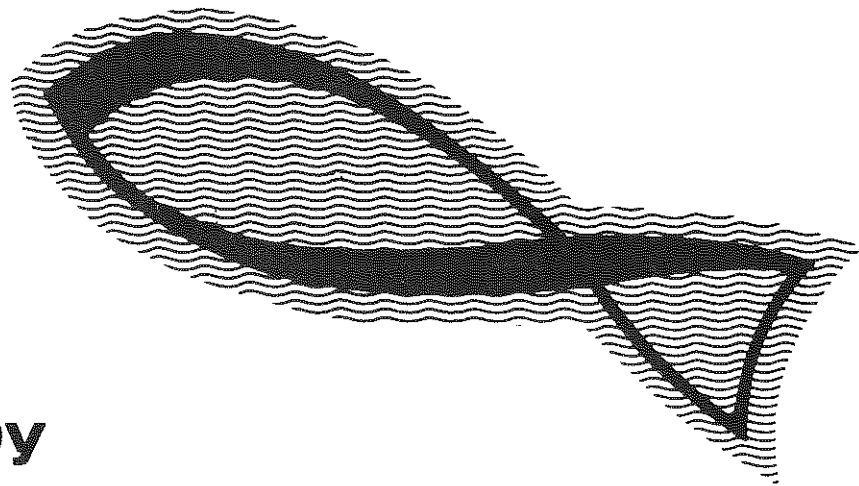




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**Recaptures of Irish Tagged
Salmon off Greenland**



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Recaptures of Irish Tagged Salmon off Greenland

Since tagging of smolts began in Ireland there have been sixteen distant water recaptures of adult salmon tagged as smolts or parr in Irish waters. Fifteen of these were recaptured from the Greenland fishery and one salmon was recovered from the Faroe Islands. The recaptures resulted from a number of salmon smolt and salmon parr tagging programmes. Some of these programmes were designed specifically to obtain information on the distant migrations of Irish salmon but other programmes were to study migrations and mortality in the home waters.

Information on recaptures has been published elsewhere (Piggins 1970, Went 1973). This leaflet brings together all the available information on recaptures of tagged Irish salmon in distant waters up to December 1975 and gives background information on the tagging programmes.

Table 1 lists the recaptures and gives information of the type of tag used, the date of the tagging and year of migration. Each recapture has a letter referring it to a tagging project. The details of each tagging project are outlined below.

Figure 1 shows the exact location of the recoveries at Greenland where this information was available.

Figure 2 shows the locations of the tagging sites and areas where tagged smolts were released.

Project A

This programme was carried out by Department personnel to obtain information on the distant water migrations of Irish salmon.

Location and date. The fish were tagged at the Electricity Supply Boards' salmon rearing station at Parteen, Co Limerick during December 1966 and February 1967.

Tags. Blue Neal tags were used on 5,000 fish.

Information on the fish. The fish ranged from 12 to 14 cm in fork length when they were tagged as one-year old parr. They are presumed to have migrated from the River Shannon as smolts in May 1967.

Recoveries from Greenland. One fish was recovered from Greenland (Table 1).

Recoveries from home waters. One fish was recovered in home waters from the River Shannon at Parteen. This was serial number 6526 which weighed 1.6 kg and measured 59.1 cm.

Project B.

This programme was carried out by the Salmon Research Trust to study the migrations of smolts of spring fish parentage. The work is reported in their Annual Reports for 1969 and 1970.

Location and date. The fish were tagged at the salmon rearing station at Treanlaur, Newport, Co Mayo, during April 1969.

Tags. Floy tags were used on 1,750 smolts of normal spring fish parentage.

Information on the fish. The smolts were reared at Treanlaur and 1,750 were selected for tagging from a total of 5,310 on a basis of size and condition. They had an average length of 17.7 cm on release. They migrated from the Burrishoole system in 1969.

Recoveries from Greenland. Details of the recaptures are shown in Table 1. Serial number SRT A 01012 was 17.6 cm on release and when recaptured on the 25th September it measured 69.0 cm and weighed 3.1 kg. Serial number SRT A 01200 was 16.5 cm on release and when recaptured on the 1st September 1970 it measured 92.0 cm and weighed 4.0 kg.

Recoveries from home waters. There were 16 recaptures as grilse in the Summer and Autumn of 1970 in the Burrishoole fishery. This represents a recapture rate of 0.13% for this group.

Project C.

This programme was undertaken by Department personnel to investigate a large autumn migration of natural salmon parr in the Kells Blackwater.

Location and date. The fish were tagged in November 1969 at Maudlin on the Kells Blackwater, a tributary of the River Boyne.

Tags. Floy tags were used on 917 fish.

Information on the fish. 14 salmon with a mean fork length of 13.3 cm (1.85 standard deviation).

Recoveries from Greenland. Six recoveries were returned from West Greenland (Table 1).

The lengths for each of these fish at the time of tagging were:-

IRL 69 00130	11.4 cm
IRL 69 00135	15.8 cm
IRL 69 00157	14.8 cm
IRL 69 00174	15.5 cm
IRL 69 00627	21.1 cm
IRL 69 00660	14.9 cm

It is interesting to note that fish from the lower end of the size range are represented in the recaptures. There is no significant difference between the sample mean and the original population mean. There was a 0.8% return from this tagging.

Recoveries from home waters. One fish was returned from the River Blackwater on the 19th April 1972.

Project D.

This programme was undertaken by Department personnel to obtain information on the area of exploitation of returning adult fish.

Location and date. The fish were tagged at the Electricity Supply Board's salmon rearing station at Carrigadrohid, Co Cork in January 1973.

Tags. Floy tags were used on 1,927 fish.

Information on the fish. The fish were 1+ year old pre-smolts. Their mean length was 13.7 cm (0.7 standard deviation). They were released 2 miles downstream of Inniscarra reservoir in May 1973.

Recoveries from Greenland. There were four recoveries from Greenland as shown in Table 1. One of these recaptures, IRL F2 01279, recaptured on the 5th August 1974, was 63 cm in length and weighed 2.1 kg gutted.

Recoveries from home waters. There were 19 recaptures in home waters from this group of fish, 17 from the Irish coast and one each from the east coast of Scotland and England. This represents a recovery rate of 1.2%.

Project E.

This tagging was part of an investigation carried out by Department personnel on the survival of smolts crossing Lough Ramor, which has a large pike population.

Location and date. The fish were captured and tagged on the River Blackwater, a tributary of the River Boyne, and transported upstream to the Murmod River near Virginia. The migrating fish had to cross the lake after being released during May 1973.

Tags. Floy tags were used on 483 smolts.

Information on the fish. The smolts were a mixed group of 1 year old and 2 year old fish, 90% of which were 1 year old with a mean length of 13.6 cm (0.4 standard deviation), and 10% were 2 year old with a mean length of 15.6 cm (0.7 standard deviation).

Recoveries from Greenland. Two of these fish were recovered from Greenland, one of which (IRL F2 03051) was 54 cm in length and weighed 3.1 kg.

Recoveries from home waters. One fish was caught off Burtonport in 1975 IRL F2 03233. No details are available concerning the fish.

Project F

This programme was carried out by Department personnel to investigate the exploitation of hatchery fish in home and distant waters.

Location and date. The fish were tagged at the Electricity Supply Boards' salmon rearing station at Parteen on the River Shannon in January 1970.

Tags. Yellow Neal tags were used on 1,750 fish.

Information on the fish. One tag was recovered off the Faroes by a Scottish team tagging adult salmon (Table 1).

Recoveries from home waters. Two fish were recovered from the River Shannon. Details are available for one of these, Serial number 5319 which weighed 3.6 kg and was 76.2 cm in length.

Discussion

During 1966 and 1967 there were 18,428 salmon smolts reported tagged in Ireland (Anon, 1973). Only one of these was recovered from the Greenland fishery. The situation has

changed dramatically, and since 1969 no fewer than fourteen recaptures have been reported. Various reasons for the increase in the number of tagged Irish salmon being reported from Greenland have been suggested. These include the increase in total catch of salmon at Greenland, changed conditions in the sea, better reporting of tags from Greenland and better tagging methods for smolts.

It is known that a large number of the smolts died after release in 1966 as a result of the tagging and that there was an increase in the catch at Greenland from 1,601 tons in 1967 to 2,689 tons in 1971. Neither the early mortalities due to tagging nor the large increase in catch explain the situation fully. Obviously some change has rendered salmon tagged in Irish waters more exploitable in the Greenland fishery since 1967. Went (1973) has suggested that changed conditions in the sea have favoured the migration of fish tagged in foreign countries to Irish waters. Changed conditions in the sea could also explain an increase in the number of tagged Irish salmon appearing in Greenland. The increase in returns however, also dates from the introduction of the Floy tag in 1969. Most of the Irish recoveries have been of fish tagged with Floy tags and some points arising from the tagging programmes should be discussed.

Programme C involved the use of Floy tags. The fish were tagged in the river Blackwater at Kells, after which they remained in the river or at least in the estuary until the following May. This was shown by scale samples returned from Greenland with the tags. Despite this long river period carrying a tag, nearly 1% of the fish were recovered. In programme D, 1,927 smolts were tagged using Floy tags. There were 19 recaptures in home waters as grilse and 4 from Greenland. During the same period 1,000 smolts were tagged using Neal tags. There were 7 recoveries from home waters but none from Greenland. Allowing for the greater number of Floy tags used, the Floy tag appears more efficient either from the point of view of survival or as being more visible to people handling large numbers of fish.

More experimental work needs to be done to evaluate the different tags and to obtain more information on the migration and areas of exploitation of the various salmon stocks, so that we can manage them more efficiently. The fishermen can help by returning tags with accurate information on the weight and place of recapture along with a sample of scales.

Table 1. Tagged Irish Smolts Recaptured as Adult off Greenland

Type of tag and Identification	River System	Date Tagged	Programme	Date of Recapture at Greenland	Year of Migration	Place of Recapture
Neal 5685	River Shannon	December 1966	A	November 1968	1967	Atangmik
Floy SRT A 01012	Burrishoole	April 1969	B	September 1970	1969	Arsuk
Floy SRT A 01200	Burrishoole	April 1969	B	September 1970	1969	North Isortog
Floy IRL 69 00130	River Boyne	November 1969	C	Autumn 1971	1970	West Greenland
Floy IRL 69 00135	River Boyne	November 1969	C	July 1974	1970	Disco Island
Floy IRL 69 00174	River Boyne	November 1969	C	Autumn 1971	1970	West Greenland
Floy IRL 69 00627	River Boyne	November 1969	C	September 1971	1970	West Greenland
Floy IRL 69 00660	River Boyne	November 1969	C	October 1972	1970	64°50'N, 52°10'W
Floy IRL 69 00157	River Boyne	November 1969	C	September 1971	1970	West Greenland
Floy IRL F2 01279	River Lee	January 1973	D	August 1974	1973	Frederikshaab
Floy IRL F2 00283	River Lee	January 1973	D	August 1974	1973	63°43'N, 51°28'W
Floy IRL F2 00809	River Lee	January 1973	D	July 1974	1973	62°25'N, 50°21'W
Floy IRL F2 00782	River Lee	January 1973	D	Autumn 1974	1973	Holsteinsborg
Floy IRL F2 003045	River Boyne	April 1973	E	August 1974	1973	62°30'N, 50°20'W
Floy IRL F2 03051	River Boyne	April 1973	E	August 1974	1973	60°28'N, 46°05'W
Neal IRL 5779	River Shannon	January 1970	F	March 1971	1970	Faroe Islands

Floy ESB 75 03702	River Shannon	February 1975		September 1976	1975	1A, 1B
Floy IRL 69 03831	River Boyne	April 75		September Sept 1976	1975?	63°57'N 51°30'W KARAJAT ID.
Floy ESB 75 05704	BARRIGADROBITID	'75		August 1976	1975	64°48'N 52°10'W
Floy ESB 75 02827	Shannon	Feb. 75		September 1976	1975	ATANGMIK
Floy IRL F2 02580	Boyne	Jan '77				SUKKARTOPPEN DISTIC West Greenland

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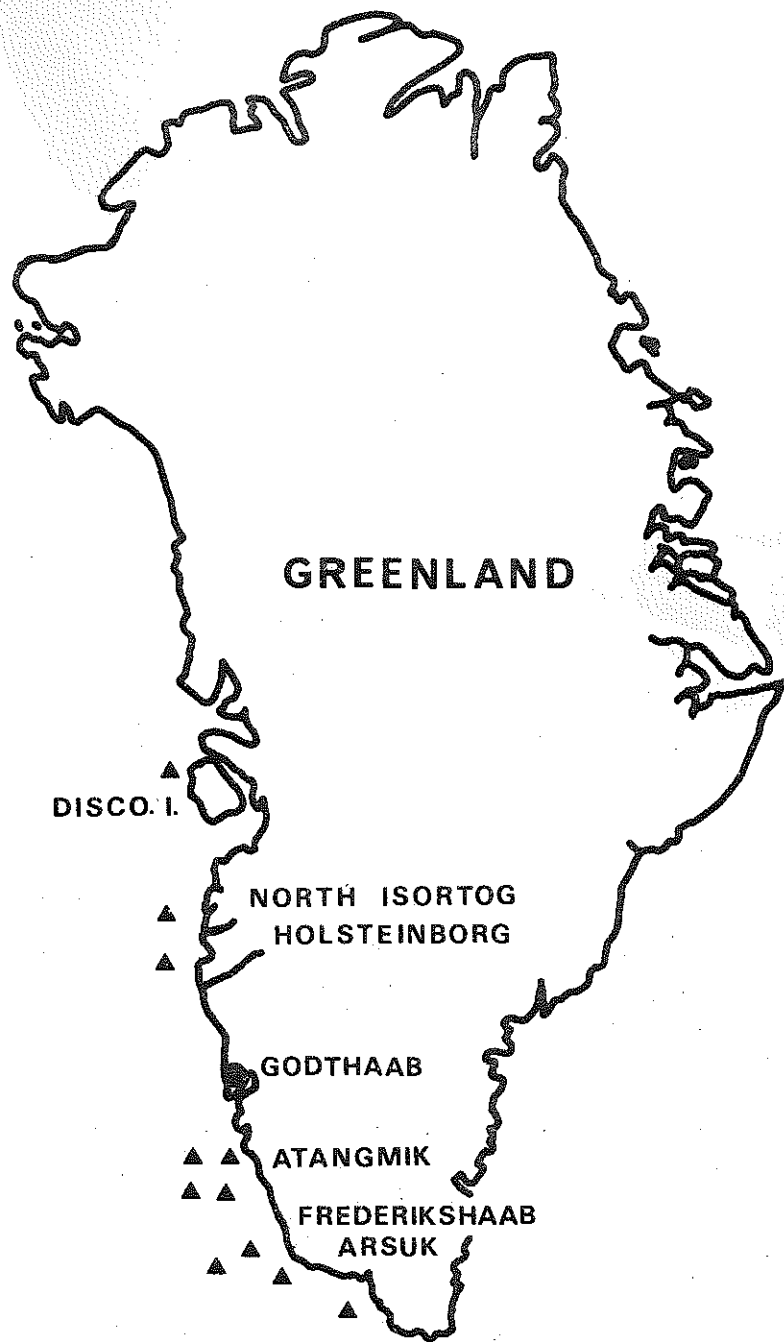


Fig.1. Locations of some Greenland recaptures of Irish tagged Salmon (▲)

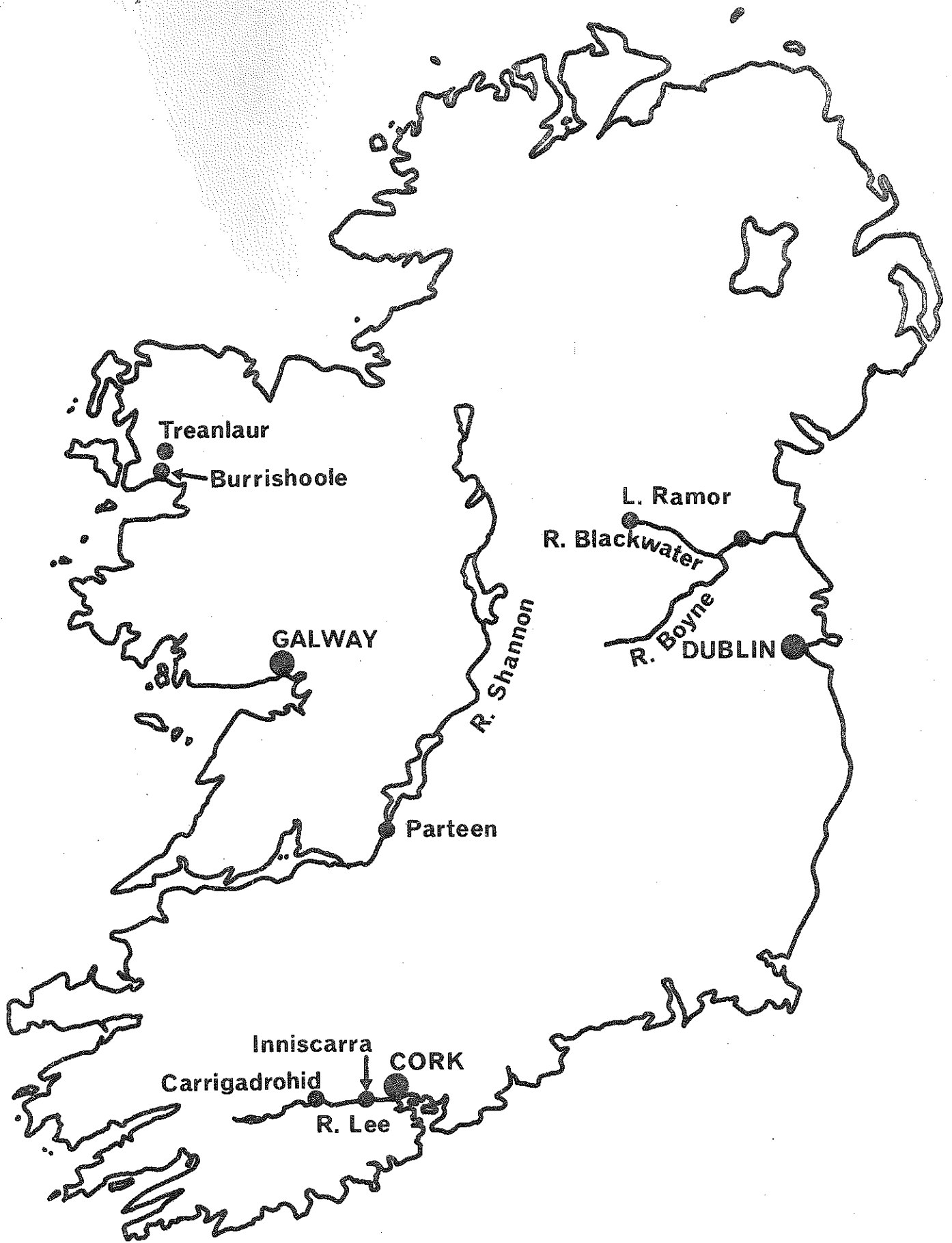


Fig.2. Showing tagging and release sites mentioned in the text