

Migrations of Greenland Halibut *Reinhardtius hippoglossoides* (Walb.) from Iceland to Norway

by

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In the years 1971–1978 a total of 24,806 Greenland halibut were tagged in Icelandic waters off the northwest, north and east coasts.

It is obvious from these tagging experiments that the main migrations are between the spawning grounds west of Iceland and the feeding ground off the northwest, north and east coasts (Sigurðsson, 1979). Less important migrations along the Icelandic coast have also been quoted in the literature as well as occasional recaptures from the Faroe Islands, the Shetland Islands and the Barents Sea (Chumakov 1969, Nizovtsev 1974 and Sigurðsson 1979).

Table 1 gives 25 recaptures of Greenland halibut tagged in Icelandic waters in the years 1972–1977. Most of these recaptures or 20, came from the Norwegian coast (Fig. 1). Previously, two of these were wrongly recorded as recaptured far to the north of Iceland (Sigurðsson 1979, p. 24). One recapture is from Bear Island, while 4 (loc.cit.) are from the Faroes, the Shetland Islands and the Barents Sea.

The shortest distance between tagging and recapture localities shown in Table 1 may not be relevant as the Greenland halibut are not likely to choose the shortest route during their migration. Consequently, the estimate of the number of nautical miles migrated per day is presumably too low.

A Greenland halibut tagged east of Kolbeinsey (North Iceland) on July 17, 1973 was recaptured in the Barents Sea 130 days later having covered a distance of at least 1150 nautical miles, i. e. at a minimum speed of 8.8 nautical miles per day.

It is not surprising that the Greenland halibut migrate between the east coast of Iceland and the Faroe Islands as these are two adjacent areas and the environmental conditions along the north side of the ridge between Iceland and the Faroe Islands are fairly uniform. It has in fact been assumed that a single stock of Greenland halibut is dispersed over these areas. The catch of Greenland halibut at the Faroe Islands has been very limited ranging from 11 to 658

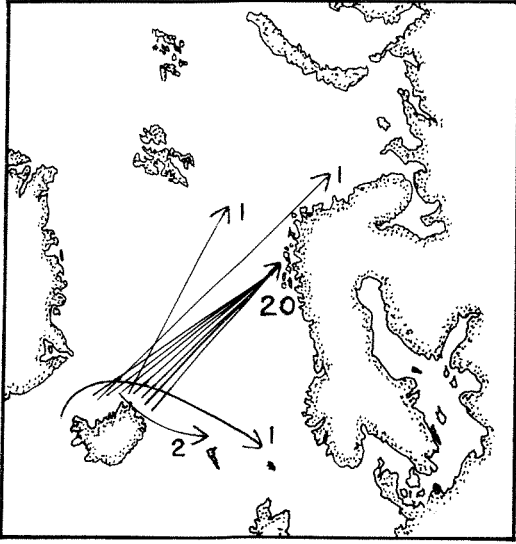


Fig. 1. The arrows connect the areas of taggings and recaptures of the Greenland halibut (Table 1). The numbers show how many recaptures have been quoted from the areas pointed to by the arrows.

metric tons only in the years 1971–1977 (Anon.). Therefore, many recaptures of Greenland halibut can not be expected from this area. In fact only two recaptures from the Icelandic tagging experiments have for certain been quoted from the Faroe Islands.

A single recapture coming from a distant area does not, of course, in itself imply any substantial migration. Hence, the above recaptures from the Shetland Islands, the Barents Sea and the Bear Island (Table 1 and Fig. 1) will not be discussed further.

From a rather limited area off the Norwegian coast (Fig. 1 and Table 1) 20 recaptures have been forwarded to the Marine Research Institute, Reykjavík. These represent 2.1% of all recaptures

from Icelandic tagging experiments up to and including the year 1979 (Table 2).

One Greenland halibut from a Norwegian tagging experiment off the east coast of Iceland on August 22, 1970 was recaptured on Tromsøflaket, North Norway on June 25, 1972 (J. Lahn-Johannessen and Carl J. Rörvik, pers. comm.). Thus 21 recaptures of Greenland halibut tagged in Icelandic waters have been taken in Norwegian waters.

Rather limited tagging experiments have been carried out off North Norway with no recaptures from Icelandic waters (J. Lahn-Johannessen and Carl J. Rörvik, pers. comm.). Hence no migrations are known to have taken place from Norway to Iceland, but as the tagging experiments have been limited and were carried out farther north than the area of recapture from the Icelandic tagging experiments, it is still an open question whether the Greenland halibut migrate back and forth or only one way between Iceland and Norway.

The migrations from Iceland to Norway are of great interest as they indicate that the general assumption that there are two different stocks of Greenland halibut, at Iceland and the Faroe Islands on the one hand, and at Norway and in the Barents Sea on the other, does not necessarily hold. At least some mixing of the two stocks seems to exist.

It will be seen (Table 2) that the Greenland halibut recaptured east of the Icelandic area had more frequently been tagged at the east coast than at the northwest and north coasts. Of the recaptures from the tagging experiments

TABLE 1
*Greenland halibut tagged in Icelandic waters
 and recaptured east of the Icelandic area.*

At tagging			At recapture		Days at liberty	Distance covered (nautical miles)	Nautical miles per day
Date	Position of tagging	Length (cm)	Date	Place of recapture			
July 9, 1972	67°25'N-15°14'W	68	Mar. 16, 1973	Faroe Islands	150	350	2.3
— 10, 1972	66°56'N-13°35'W	68	Oct. 10, 1974	69°27'N-15°52'E	822	660	0.8
— 9, 1973	66°35'N-25°10'W	88	Mar. 10, 1975	Shetland Islands	609	750	1.2
— 17, 1973	67°12'N-18°04'W	56	Nov. 24, 1973	Skolpen Bank, Barents Sea	130	1150	8.8
— 21, 1973	67°16'N-15°29'W	61	June 1, 1974	Faroe Islands	315	350	1.1
— 21, 1973	67°16'N-15°29'W	70	Apr. 29, 1975	69°30'N-15°00'E	647	700	1.1
June 25, 1975	65°25'N-11°22'W	69	July 3, 1976	69°25'N-15°40'E	373	660	1.8
— 25, 1975	65°25'N-11°22'W	70	Oct. 13, 1976	69°25'N-15°40'E	475	660	1.4
July 2, 1975	65°25'N-11°22'W	72	Aug. 23, 1976	NW of Bleik, Norway	417	660	1.6
— 2, 1975	65°25'N-11°22'W	65	Nov. 22, 1977	Off Bleik, Norway	873	660	0.8
— 5, 1975	66°23'N-12°40'W	61	— 21, 1977	68°35'N-13°00'E	869	660	0.8
— 6, 1975	66°23'N-12°40'W	70	June 15, 1977	69°11'N-14°45'E	709	660	0.9
— 6, 1975	66°23'N-12°40'W	68	Dec. 10, 1977	68°35'N-13°00'E	887	660	0.7
— 8, 1975	66°23'N-12°40'W	62	Apr. 20, 1979	69°02'N-13°50'E	1382	620	0.4
— 9, 1975	66°56'N-13°45'W	74	1976	Bleiks dupet, Norway		670	
— 14, 1975	66°56'N-13°45'W	71	Apr. 20, 1979	69°02'N-13°50'E	1376	610	0.4
— 14, 1975	66°56'N-13°45'W	70	May 2, 1979	NW of Bleik, Norway	1388	660	0.5
— 15, 1975	66°56'N-13°45'W	69	Nov. 15, 1976	Klakken, 13 n.m. NW of Bleik, Norway	488	670	1.4
— 16, 1975	66°56'N-13°45'W	74	July 7, 1977	69°13'N-14°47'E	721	670	0.9
— 16, 1975	66°56'N-13°45'W	69	Aug. 15, 1978	Bear Island	1125	750	0.7
June 16, 1977	67°23'N-18°16'W	75	Sept. 28, 1978	Hesteskoen off Bö, Vesterälen, Norway	469	720	1.5
— 18, 1977	67°13'N-16°44'W	72	— 26, 1978	Jenegga, Vesterälen, Norway	465	700	1.5
— 18, 1977	67°11'N-17°00'W	72	Aug. 26, 1979	69°07'N-14°07'E	799	700	0.9
— 20, 1977	67°18'N-14°56'W	69	May 7, 1979	69°07'N-14°10'E	686	650	0.9
— 20, 1977	67°18'N-14°56'W	70	1979	69°02'N-15°01'E		660	

at the east coast 12.4% had migrated farther east while the corresponding percentage from the tagging experiments off the north and northwest coasts was only 1.0%. This indicates that the migrations from Iceland to Norway are mainly from the east coast area.

It may be that an area extending from the east coast of Iceland to Norway via the north coast of the Faroe Islands is a mixing area for the stocks of Greenland halibut inhabiting the northern North-east Atlantic and the Barents Sea.

TABLE 2

Recaptures from the Icelandic tagging experiments of Greenland halibut in the years 1971–1978 east and west of 15°W.

	Number tagged	Recaptures from Norway			Recaptures east of the Icelandic area			Recaptures at Iceland			All recaptures	
		Number recaptured	% of tagged	% of recaptured	Number recaptured	% of tagged	% of recaptured	Number recaptured	% of tagged	% of recaptured	Number recaptured	% of tagged
Tagged east of 15°W	3,478	16	0.46	11.7	17	0.49	12.4	120	3.45	87.6	137	3.94
Tagged west of 15°W	21,328	4	0.02	0.5	8	0.04	1.0	805	3.77	99.0	813	3.81
Total	24,806	20	0.08	2.1	25	0.10	2.6	925	3.73	97.4	950	3.83

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