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International Commission for the Northwest Atlantic Fisheries

Serial No. 3624
(D.c. 11)

ICNAF Res.Doc. 75/120

ANNUAL MEETING - JUNE 1975

REPORT ON THE SEALING SEASON AND NORWEGIAN SEAL INVESTIGATIONS OFF NEWFOUNDLAND - LABRADOR IN 1975

By

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Introduction

As an observer and representative of the Institute of Marine Research I went to the Front off Newfoundland-Labrador on M/S Kvitungen to collect data and samples for biological studies of harp and hooded seals during the 1975 sealing season.

The research program included plotting of ice and seal distributions, sampling for age analysis and reproductive studies, collection of data on age, length and weight of adults and young seals, and tagging.

Kvitungen left Ålesund on 4 March, reached the pack-ice at 53°20'N 52°07'W on 14 March and left the ice on 5 April at 51°53'N 50°45'W to arrive at Tromsø on 14 April after a trip of 41 days. Her catch consisted of 7562 harp seal pups (no bedlamers or saddlers) and 1214 hooded seals. Eight Norwegian ships participated in the hunt and all of them filled their individual quotas and returned to Norway before the end of April, the first ship after a trip of only 31 days.

Weather- and ice-conditions

According to Canadian sealers, the weather had been extremely cold with temperatures down to -40°C, in the Newfoundland - Labrador area in late February and early March. The weather improved through March, however, and after the sealing season opened on 15 March, temperatures below -5°C were recorded on four days only. A minimum temperature of -10°C was measured on 15 March and maxima of +6°C were reached on 24 and 25 March. The average was +0.1°C compared to -3.8°C in March 1974. Westerly winds varied between a light breeze and a light gale, mostly between gentle and fresh breezes. In March sealing was hampered by gale and snow for one day only.

Kvitungen left the ice after the first five days in April, when temperatures ranged from -2°C to 0°C and the winds varied between light and strong breezes. According to information received from ships which stayed on, the weather changed after 5 April, with fog and rain and temperatures around +5°C.

When the Norwegian ships arrived at the ice-edge, approximately at $53^{o}20'N$ $52^{o}07'W$, the pack-ice reached about 130 (nautical) miles from the shore. Information supplied by Canadian enforcement officers indicated that the pack had drifted off from the coast at Hamilton Inlet in the north and at Funk Island in the south. Very little ice occured further north or further south. This situation did not change much during the season. Large floes in the western parts of the pack apparently were broken by heavy swells set up by a gale on 9-10 March. The ice-conditions therefore were good throughout the season and, taken together, weather and ice were exeptionally favourable from a sealer's point of view. Ice edges observed from Kvitungen or reported by other ships and aircraft, are shown in Figures 1 and 2.

Sealing operations and the distribution of seals

Harp seals

Harp seals on the Front traditionally form two separate breeding patches: a large northern patch of some 200 thousand pups and a smaller southern patch of about 50 thousand. In the southern patch the pups usually are born about two days earlier than in the northern.

A Canadian aircraft observed pupping harp seals about 30 miles east of Gannet Island on 8-9 March. The large numbers of seals suggested that this might be the northern patch. The southern patch was not found until 11 March when it was spotted about 24 miles east of Belle Isle with an extension of about 6 by 5 miles. On the same date the northern patch was observed

20 miles east of Square Island with an extension of 16 by 8 miles. The location and the drift of both patches are shown in Figure 1.

My own observations and information received from other ships and spotting aircraft, indicate that most of the pups in the northern patch were born on 10-11 March compared to 12 March in 1974, 10 March in 1973 and 8 March in 1972. Most births in the southern patch occured on 8 March as in 1974 and 1973.

Relatively dense consentrations of seals and an easily navigable ice made it possible for most of the ships to take from 3 to 6.5 thousand seals each during the first four days of the season, depending upon the number of whitecoats each ship wanted as part of its harp seal quota. The availability actually was so good as to permit the sealers to pick and choose. All Norwegian and two Canadian ships stopped taking whitecoats on 19 March and went in search for the hoods. On 23 and 24 March part of the Norwegian fleet returned to the harp seal patches to continue the pup catch and a few ships went south to look for bedlamers. On 27 March, however, all Norwegian ships operated in the area 30-80 miles east of Gray Islands. The pups were then moulting, and about 30% had lost the white fur. The ships hunted selectively, taking only the most valuable beaters. The Canadian ships returned to the harp seal patches on 29 March, after having taken their quota of hooded seals.

Canadian landsmen hunted bedlamers in the open pack-ice between Cape Freels and Funk Island and off Cape Bonavista. A few Norwegian ships went there, but returned again because the bedlamers were few and far between.

The beater catch continued until 5 April when rain and fog made the young seals take to the water. Catches decreased and several ships had to start looking for saddlers to complete their harp seal quota. However, Kvitungen left the ice on 5 April, and it was not possible to keep track of what happened later.

The total harp seal quota for ships of 120 000 was divided equally between Canada and Norway. As in previous years the Norwegian quota of 60000 was divided equally between the ships with 7500 to each. All ships caught their part, and the landings add up to 60161 harp seals. Of this number 51618 or 85,8% were pups and 8543 or 14,2% were bedlamers or saddlers. Also the Canadian ships had divided their share of the total quota between them, and apparently they all filled their individual quotas. If the composition of Canadian ships' catches is comparable to the Norwegian, the total take by ships on the Front, which may be slightly more than 120 000 harp seals, probably includes no more than one thousand adult females (6% of moulters through April; Benjaminsen and Øritsland, unpublished). The catch by Canadian landsmen is not known, but they may have reached their permitted catch of 30 000 harp seals.

Hooded seals

A spotting aircraft reported scattered families of hoods northwards from 51°18'N 52°52'W on 18 March. The seals were then found within a narrow strip stretched out about 20 miles in a north-south direction. The Norwegian fleet and two Canadian ships arrived in this area on 19 March. The seals were dispersed and the pups were estimated to be about four days old.

On 20 March two concentrations were localized within the area, one around 51°20'N 52°45'W and another some 15 miles further north. The density of seals increased some during this first day of the hunt, but the area did not increase. Most of the bluebacks caught on 20 March were newly born and their furs still had a yellow tinge. Births continued on 23 March when the Norwegian ships had reached their quota of 10 000.

The Canadian ships continued catching hooded seals up to 29 March, and they were then still taking newly born pups. Hooded seals hauled out and gave birth in areas where ships had hunted the day before. Substantial numbers of hooded seals were observed by Canadian ships at 51°25'N 52°55'W as late as 28 March. The pups here were no more than two days old.

Ice conditions did not change much during the 9 days the hooded seal hunt went on and strangely enough, at some locations within the general haul-out area the density of seals was greater after the ships had finished the hunt than it was before they started. The causes of this prolonged period of births remain hidden, but in 1973 and 1974 most births occurred during the few days from 15 to 17 March, even if newly born pups also were found later in the seasons in both years.

The total ships' quota of 15 000 hooded seals was allocated with 10000 to Norwegian and 5000 to Canadian ships. Norwegian ships competed for the national quota which was filled in three days, the ships reporting their catches to an inspector who stopped the hunt. This was the first season the reporting scheme was put to a test and it did work fairly well. The Norwegian catch reached a total of 10 226 hooded seals, of which 5072

(49.6%) were pups and 5154 (50.4%) were adults. Canadian ships are also assumed to have filled their national quota, and the total catch of hooded seals on the Front in 1975 therefore probably exceeds 15 thousand animals by a few hundred. If the composition of Canadian catches is comparable to the Norwegian, this means that about 4500 adult females were taken (60% of the adult catch, Øritsland and Benjaminsen, unpublished).

Polar bears

Few seals were found wounded or slain by polar bears, but all ships reported bears and from direct observations and tracks it is assumed that at least two bears were present in the harp seal patches and two more among the breeding hoods. One bear was killed by a Norwegian ship when it came too close to the sealers on the ice.

Tagging

By appointment Kvitungen was chartered for three days after the Norwegian hooded seal quota had been taken. On two of the days drizzle and rain made the seals shy and difficult to catch, but a total of 111 seals were tagged, including 38 harp seal pups, 65 hooded seal pups and 8 adult female hooded seals. Dalton's "Jumbo Rototags" with serial numbers from D0106 to D0217 were applied to the digital web of the left hind flipper (Tag No D216 was lost).

Sampling

An age sample was collected by sex and date from 622 breeding

hooded seals. The sex composition in this sample was 266 (43%) males and 356 (57%) females.
Reproductive organs were collected with the jaws from 48 adult hoods. Kvitungen did not take any moulting bedlamers or saddlers, so harp seals could not be sampled for age analysis.

A series of frozen and salted meat samples were collected for a product development project at the Hermetikkindustriens laboratorium (The Canning Laboratory), Stavanger.

Acknowledgements

I am grateful to the shipowners G.C.Rieber & Co. A/S, Bergen, for their assistance in aranging my trip, and I wish to extend my best thanks to captain Per Böe and his crew for their willing help in my work onboard the Kvitungen. Torger Øritsland translated the report.

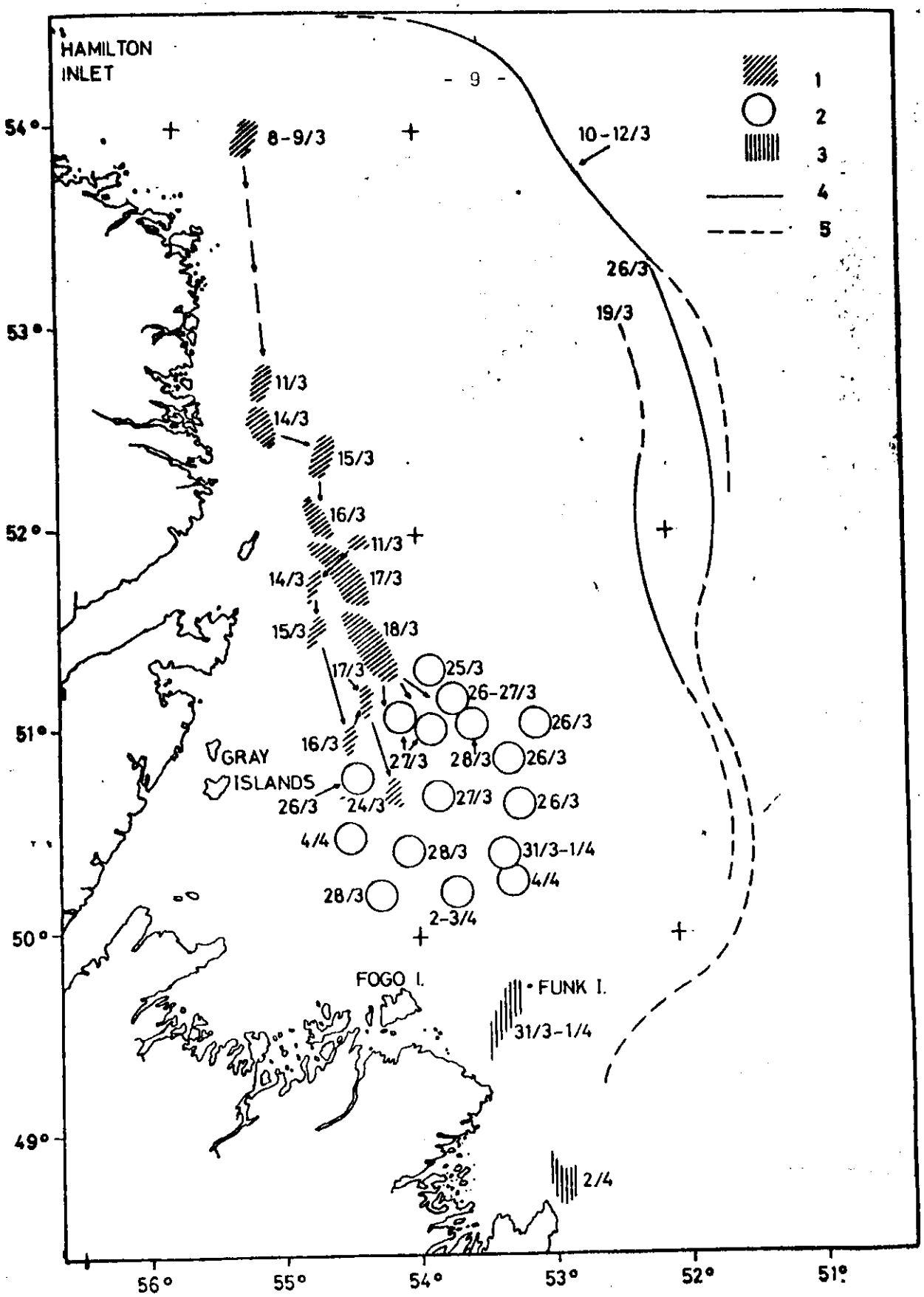

Figure 1. Ice edges and the distribution of harp seals off Newfoundland-Labrador in March and April 1975. 1) Breeding patches, 2) weaned (abandoned) pups, 3) moulting lairs, 4) observed ice edges, 5) inferred ice edges.

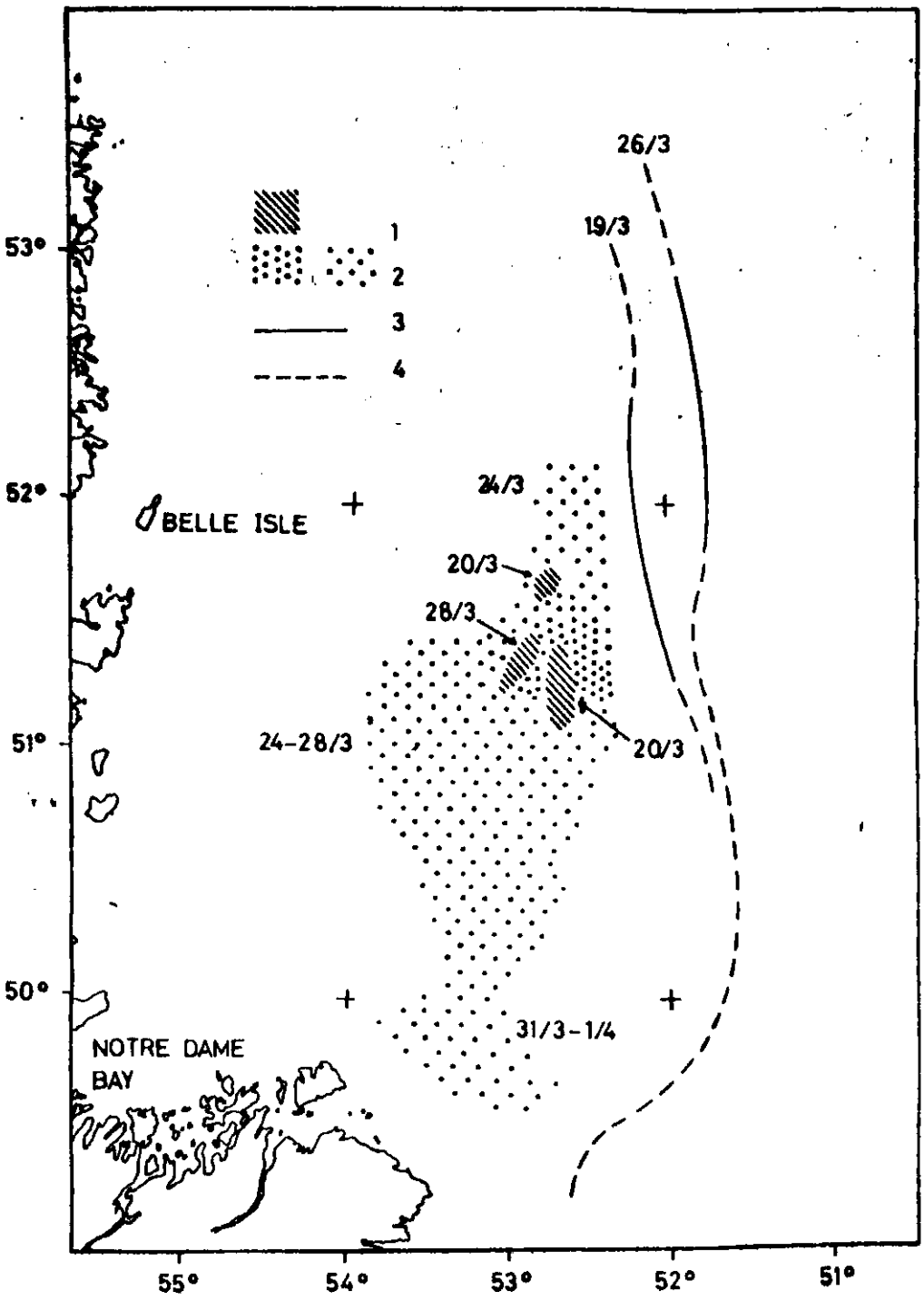

Figure 2. Ice edges and the distribution of hooded seals off Newfoundland-Labrador in March 1975.
1) Concentrations of breeding seals, 2) scattered breeding seals, 3) observed ice edges, 4) inferred ice edges.

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