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The sealing season and Norwegian seal investigations
off Newfoundland-Labrador in 1976

by

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Introduction

Norwegian seal investigations on the Front off Newfoundland-Labrador during the sealing season in 1976 were carried out on board the sealer "Kvitbjørn" of Tromsø, Captain Arvid Kristiansen.

As in previous seasons the research program included plotting of ice edges and seal distributions, tagging and sampling for age analyses and general biological studies. A special permit had been obtained to kill 500 breeding female harps and 800 moulting harps for collection of age samples. Funds had been made available to charter the ship for three days for tagging of pups. "Kvitbjørn" left Tromsø on 4 March and arrived at the edge of pack ice off Labrador on 13 March. Having filled her quotas and collected the age samples, she left the ice on 9 April after 25 days of hunting, and returned to Tromsø on 17 April after a trip of 45 days. I had participated as an observer in Canadian attempts to survey harp seals in the Gulf (of St. Lawrence) and on the Front, and was brought to the "Kvitbjørn" by a Canadian Fisheries Service helicopter on 15 March. I stayed on board until arrival in Tromsø.

Six Norwegian ships participated in the Newfoundland seal hunt in 1976, as compared to eight ships in 1975. All Norwegian ships filled their allotted quotas of 7444 harp seals, but two ships did not succeed in filling their quotas of hoods, so the total Norwegian catch stopped at 8518 or about 95% of the allocated quota of 9000 hooded seals. All Norwegian ships left the ice well in advance of the closing date, the first one had filled her quotas and left the ice on 1 April.

Weather and ice conditions

Northerly winds continued through the first five days of the hunting season, varying in strength from a moderate breeze on 15 March to a storm with snow on 17 and 18 March. From 21 March until "Kvitbjørn" left the ice on 9 April, winds changed from one day to the next. Directions were mostly from the north or the south with strengths from a light breeze on 31 March to a gale on 22 March, but with moderate breezes prevailing.

Visibility was reduced by four days of snow, three days of rain and seven days of fog. Temperatures were not recorded because the thermometers were out of repair. However, the weather was cold with temperatures below about -20°C during the first five days. For the rest of the season the weather was mild, mostly with temperatures just below freezing.

Some icebergs were grounded 30-40 nautical miles off the coast of Labrador, partly stopping the ice drift in a 15 mile wide belt southwards, whereas further east the ice drifted at a speed of 2-3 knots. Westerly winds had previously moved the ice towards the east, and on 13 March a shore lead along the Labrador coastline was about 20 miles wide. Spotting aircraft also found open water in the Strait of Belle Isle and around the northern tip of Newfoundland and around Belle Isle.

Vast floes and relatively thick ice were characteristics of the western parts of the pack-ice where harp seals were found breeding. Further east the pack-ice was more open and consisted of younger and thinner floes. This changed somewhat after 1 April when strips of old ice were found mixed with the young ice towards the eastern edge of the pack. On 13-14 March the ice extended about 120 miles to the east from Spotted Island. On 9 April when "Kvitbjørn" left the ice the edge of the pack was about 180 miles east of Roundhill Island. Ice edges observed from "Kvitbjørn" or reported by other ships or aircraft, are shown in Figures 1 and 2.

In spite of the wide extent of the ice pack and areas of large and unbroken floes, the ice-conditions were quite favourable for the sealers. Several ships had severe difficulties passing through the ice in some areas, but because seals were abundant, most of the ships managed to fill their quotas.

Harp seals

On 10 March the Canadian Fisheries Service reported the formation of a large breeding patch 48 miles east of Spotted Island. In

addition a small patch had been found some 50 miles northeast of Belle Isle. This indicated a normal formation of the breeding patches on the Front, with a large northern patch and a smaller southern patch. The main northern patch was observed 42 miles east of Roundhill Island on 11 March, having drifted no more than 5-6 miles in a day. About 70% of the females had then pupped. On 12 March the main patch was found about 50 miles east of Hawke Island, having drifted about 20 miles to the south in a day. In the following days the drift was slow, and on the agreed opening date, 15 March, the main patch was located about 45 miles northeast of Belle Isle. When the Norwegian ships left the harps to go looking for hooded seals on 18 March, the main patch was located 40 miles due east of Belle Isle, and had then drifted no more than 100 miles during the last 9 days. Newly formed the main patch covered an area of about 16 x 8 miles. After 25 March breeding harps and pups were found scattered in an area of about 60 x 40 miles between latitudes 51°N and 52°N and between longitudes 52°W and 53°W.

On the opening date 15 March five Norwegian and three Canadian ships had taken up positions within the main breeding patch. One Norwegian ship had not yet arrived because of late departure from a Canadian port where she had unloaded a cargo. The other Canadian ships were stuck in close pack-ice to the west and southwest of the patch. The Norwegian ships hunted whitecoats for four days and caught from 3000 to 4500 each. The fleet then moved southeastwards to look for hooded seals, and did not return to harp seals until the end of the month. At that time the pups had been weaned and were moulting. On 29 March when "Kvitbjørn" returned to the harps, about 10% of the pups on the ice had finished the moult and were classified as beaters ("svartunger"), while the remaining 90% were classified as ragged jackets in varying stages of moult ("lurv" and "svartunger").

In order to achieve a maximum profit from their quotas the ships hunted selectively for moulting beaters through the first days of April. The percentage of beaters increased every day, and some ships caught up to 1250 beaters in a single day. This hunt usually is pursued by killing and picking up single animals scattered on the ice. Not so the season of 1976. Single animals were passed by, only congregations of pups were taken and both killing and skinning were performed on the ice. All Norwegian ships but one had filled their harp seal quotas within the first five days of April.

Having finished the pup catch "Kvitbjørn" set course towards the west, and in the evening of 5 April found considerable

numbers of moulting harp seals (bedlamers and saddlers) at 51°10'N 53°43'W. The permitted 800 harps were killed and sampled on this and the following day. A small separate patch appeared to contain the normal age and sex distribution for moulting-patches in early April. Classified counts of 144 skins gave 32% male and 31% female bedlamers and 28% male and 8% female adults. Unfortunately the sexed age sample from this patch got mixed up. However, in the main patch the number of adult females was conspicuously high. Signs of recent pregnancies (large mammary glands and extended uteri) were found in all of the about 40 adult females which were examined. The find of 1-2 liters of deep sea prawns (Pandalus borealis) in about half of the 70 stomachs that were examined, suggests that the adult females could have joined the moulters because of an abundant food supply in the area.

Ships which had not acquired their quotas from pups, among them one Norwegian ship, gathered in this area the following days to fill their allocations from moulting seals.

The total Norwegian catch of harp seals amounts to 45483, including 2320 bedlamers and adults. These include the 800 one year old and older moulting seals taken on a scientific permit in addition to the quota and 429 breeding females taken on a permit within the quota for age sampling. Information supplied by the Canadian Marine and Fisheries Service indicate that Canadian ships on the Front caught 50248 pups and 2300 older harp seals and that landmen in the Gulf and on the Front took 40967 pups and 25904 older harps. If this is correct, the total catch of harp seals at Newfoundland in 1976 is close to 165 thousand comprising 134 thousand pups and 31 thousand one year old and older seals.

Hooded seals

In the evening of 18 March five Norwegian and two Canadian ships left the harp seal pups and coursed south and southeast to look for the hoods. A spotting aircraft reported a small herd of hooded seals around 50°44'N 52°40'W on 19 March and the ships found breeding hoods at 51°20'N 52°38'W, some 35 miles north of the reported position, on 20 March. Two of the ships proceeded towards the position given by the aircraft and found a continuous distribution of breeding hoods between the two positions. In this patch the pups had evidently been born from 15 to 18 March. Further east at 50°58'N 51°28'W another patch was found on 23 March where pupping probably had occurred around 20 March. Still another patch at 51°16'N 50°50'W was found on 25 March. Here pups must have been born around 15 March because all pups had been weaned and had started to go into the sea when the patch was discovered.

"Kvitbjørn" was the only ship hunting in this patch, and no more than 200 pups were taken. Remains from births were seen over large areas and a substantial number of pups must have been born here.

Other ships found a concentrated patch around 51°30'N 52°00'W on 25 March. Births probably had occurred from 23 to 25 March and some pups were still being born as late as 27 March. This was the largest concentrated patch to be found in 1976. It must be stressed, however, that all areas where hooded seals were hunted this season were part of a continuous large breeding area where dense concentrations occurred at intervals with scattered animals in between, and where pups had been born from about 15 March up towards the end of the month. All available information on the occurrence of hooded seals has been plotted in Figure 2.

The hooded seal hunt culminated on 4 April when four Norwegian ships filled the rest of their allocated quotas. Only three Canadian ships were actively hunting hoods this season. One of them stopped after a few days, while the other two continued as long as hooded seals could be found. The Canadian catches add up to 3227 hoods or 54% of the quota of 6000. According to data received from the Canadian Fisheries and Marine Service, pups made up 50% of this catch.

Two Norwegian ships were unable to fill their allocated quotas for hoods, but Norwegian catches this season total 8518 or 95% of the quota of 9000. Of this catch 4421 or 52% were pups. The combined Norwegian and Canadian catches of hooded seals in 1976 therefore add up to 6035 pups, 5710 adults, in total 11745 seals.

The catch taken by "Kvitbjørn" include 687 adults, and 438 or 64% of these were females. If this sex-composition is representative of the total catch, the kill of adult breeding females in 1976 can be estimated at about 3700.

It is difficult to assess the total number of hooded seal pups born at Newfoundland in 1976, particularly because pupping occurred over a much larger area than in 1975. It is my personal opinion, however, that approximately the same number of pups have been born on the Front each year through the last decade.

Polar bears

At least five polar bears were seen in harp seal breeding patches. However, relatively few seal pups had been wounded or killed by the bears. More than half of about 300 slain pups which were noted had been killed or wounded by one small bear, possibly a two-year-old animal. Three polar bears which disturbed and threatened

the sealers on the ice, were killed by Norwegian ships this season. Polar bears were not reported from the area where hooded seals were found breeding.

Tagging

"Kvitbjørn" was chartered for three days for tagging of seals. Two adult female hoods, three bluebacks and 300 harp seal pups were tagged. As usual "Dalton Jumbo Rototags" were applied to the interdigital web of the left hind flipper. Serial, numbers used in 1976 were D0243-D0548.

Sampling

A special permit had been issued to the Institute of Marine Research to kill for scientific purposes 500 breeding female harp seals within the Norwegian quota and 800 moulting harp seals in excess of the Norwegian quota. Age samples were collected from 429 females and 776 moulters, and reproductive organs were collected from 209 of the females. An additional age sample was collected from 687 hooded seals and reproductive organs were collected from 30 female hoods.

Acknowledgements

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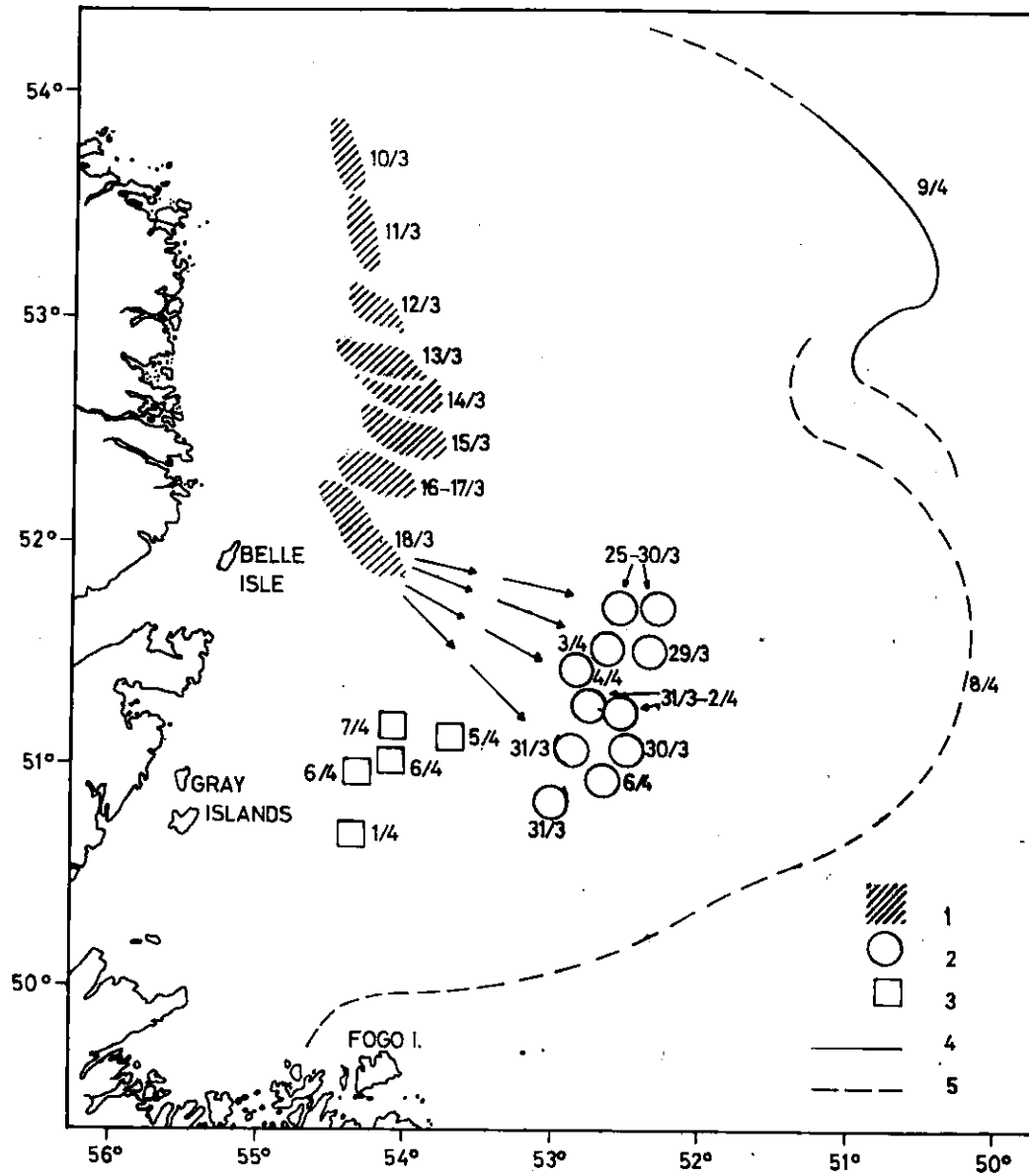


Fig. 1. Ice edges and the distribution of harp seals off Newfoundland-Labrador in March and April 1976.
1) Breeding patches. 2) Weaned (abandoned) pups.
3) Moulting lairs. 4) Observed ice edges.
5) Inferred ice edges.

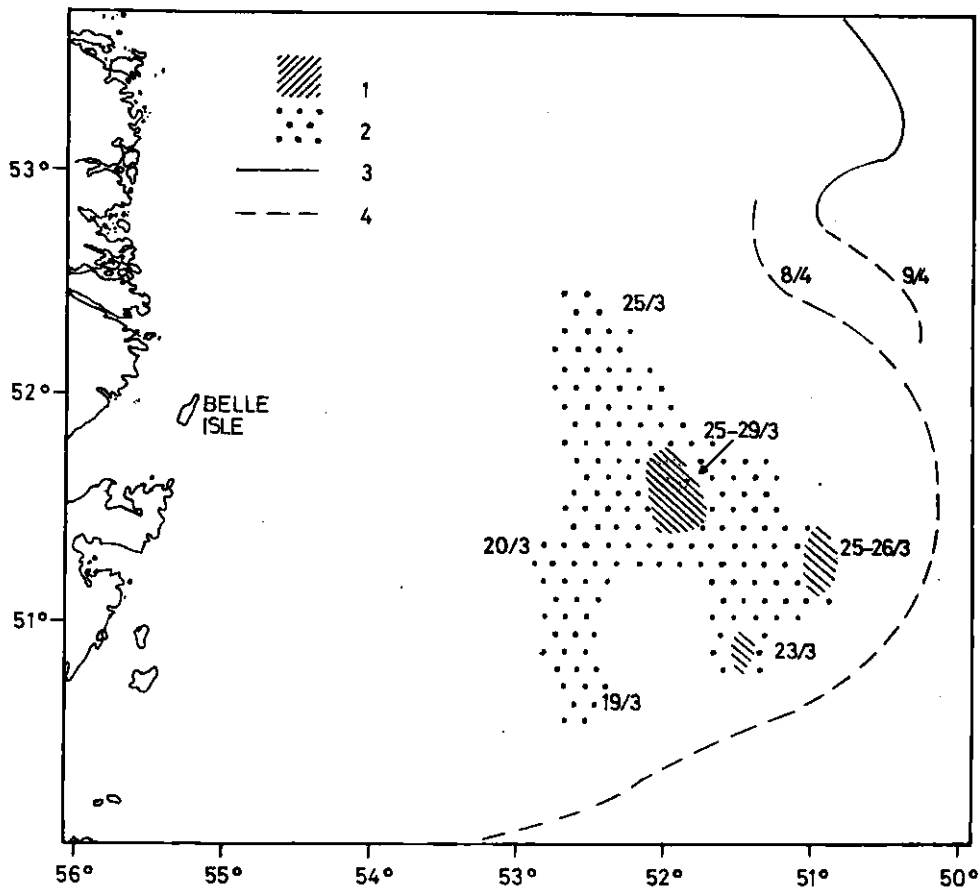


Fig.2. Ice edges and the distribution of hooded seals off Newfoundland-Labrador in March 1976.
1) Consultations of breeding seals. 2) Scattered breeding seals. 3) Observed ice edges.
4) Inferred ice edges.