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Norwegian Report on Seal Research in 1977 and 1978

by

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A. Status of the Fisheries

Provisional catch and effort statistics for Norwegian sealing on the Front (Subareas 2 and 3) in 1977 and 1978 have been submitted to the ICNAF Secretariat and are summarized below:

	1977	1978
No. of ships	5	4
No. of men	91	75
Harp seal-pups	34 719	14 181
- 1 yr+	905	2 073
sum	35 624	16 254
Hooded seal-pups	4 292	5 024
- 1 yr+	1 758	1 291
sum	6 050	6 315
Total no. of seals	41 674	22 569
Blubber (tons)	815	480
Value (mill.kr.)	5.3	3.2

B. Special research studies

Seal research in 1977

Seal research aimed at stock assessments of North Atlantic harp and hooded seals was continued in 1977 by the Sea Mammal Section of the Institute of Marine Research, Bergen.

Sampling and charting of seal concentrations were carried out on a commercial sealer on the Front off Newfoundland-Labrador from 11 March to 12 April (Bergflødt, Ser.Pap.int.Commn NW. Atlant.Fish., 5135:1-9, 1977).

Harp seals

Age samples (canine teeth from lower jaws) were collected from 657 moulting harp seals at Newfoundland. The sample is being processed at the Institute of Marine Research, but data are not yet available (November 1978).

No seals were tagged by Norway in the Northwest Atlantic in 1977, but 8 recaptures were made of seals tagged at Newfoundland in previous years, one tagged in 1972 and seven tagged in 1976. Three of these were caught by Newfoundland landsmen in February, March and April, and the other five in West-Greenland in January, July, August and November.

The stochastic model for estimation of production, mortality and sustainable yield of northwest Atlantic harp seals was published (Lett and Benjaminsen, J.Fish.Res.Bd.Can., 34:1155-1187, 1977).

Hooded seals

Age samples collected on the Front at Newfoundland comprise about 1800. Data are not yet available (November, 1978). No seals were tagged at Newfoundland in 1977, but another hooded seal tagged at an age of about two years in the moulting lairs in the Denmark Strait in 1974, was killed in Notre Dame Bay, Newfoundland, on 25 April 1977. This is the fourth recapture from 100 tagged in the Denmark Strait in 1974. Three of these have been taken at Newfoundland and the fourth at Julianehåb in southern West-Greenland. So far this tagging experiment therefore has confirmed that hooded seals from Newfoundland moult in the Denmark Strait.

Seal physiology

A special project on seal physiology was initiated in 1977 and will be continued for another two or three years at the Institute of Zoophysiology, University of Oslo. Provisional results show that seals which lose blubber from starvation or physiological stress during breeding and moult, compensate for increased heat loss by a higher metabolism.

Seal research in 1978

No field work was carried out by the Institute of Marine Research at Newfoundland in 1978. However, age samples were collected by sealing inspectors on board three of the ships. The samples are being processed at the Institute of Marine Research together with age material collected in previous years. However, priority is given to material from the West Ice, and it cannot be stated when data for Newfoundland will become available.

No seals were tagged by Norway in the Northwest Atlantic in 1978.

Harp seals

Harp seal age-group frequencies from Norwegian samples collected on the Front up to and including 1976 were analyzed by Lett and Benjaminsen (1977). The following samples are now being sectioned for age determinations:

Coll. year	No. in sample		
	Males	Females	Sum
1977	388	269	657
1978	532	380	912
Total	920	649	1 569

Two harp seals tagged at Newfoundland in 1972 and four tagged in 1976 were recaptured in 1978. Five of these were taken at Newfoundland in February, March and April, and one was taken at Broughton Island, off the East coast of Baffin Island in late September. This is the first recovery of a Norwegian tag from Newfoundland on the western side of the Davis Strait.

Hooded seals

Age group frequencies in Norwegian samples of breeding hooded seals at Newfoundland up to and including 1972 were reported by Øritsland and Benjaminsen (Res.Bull.int.Commn NW.Atlant. Fish.,11:135-143, 1975). Data from further samples were made available to a cooperative Norwegian-Canadian analysis, but

this has not yet been finished and the data have not been published. Norwegian age samples of hooded seals from Newfoundland are listed below:

Coll. year	No. in sample		
	Males	Females	Sum
1973	163	199	362
1974	347	576	923
1975	268	361	629
1976	618	1 136	1 754
1977	405	568	973
1978	432	286	718
Total	2 233	3 126	5 359

Age frequencies are available for samples collected in 1973-1976 inclusive. The samples from 1977 and 1978 are now (November 1978) being sectioned in preparation for age determinations.

In 1978 no hooded seals tagged by Norway at Newfoundland were recaptured, nor were any hoods tagged elsewhere recovered at Newfoundland.