International Council for the Exploration of the Sea

C. M. 1965
Whaling Committee
No. 152

A review of the Norwegian whaling and whale research in the North-East Atlantic Ocean in post-war years

by

Åge Jonsgård

Large whales

In 1946 whaling was resumed for fin whales (Balaenoptera physalus), sei whales (Balaenoptera borealis) and sperm whales (Physeter catodon) from three Norwegian west coast stations, Blomvåg, Steinshamn and Hestnes. In 1948 a new station, Skjelnan in Tromsø, North Norway, commenced whaling. A dwindling supply of whales forced closure of Blomvåg in 1955 and Hestnes in 1962. At the latter station operations had been on a curtailed basis since 1954. The two other stations have operated every season up to 1965, but catches from the remaining west coast station, Steinshamn, have declined noticeably since 1962.

During the period 1946-64, 4159 fin whales, 217 sei whales and 1122 sperm whales were reported caught at the shore stations (Table 1). In Norway, therefore, whaling for large whales depends primarely upon the stocks of fin whales, which for this reason have been studied more intensively than the stocks of sei whales and sperm whales.

During the winter of 1951 a biological research programme was formulated at the State Institute for Whale Research, and field work commenced in the same season. An inspector at each whaling station recorded general biological data on an especially designed form (Fig. 1) and in addition provided information on:

1. Place of capture.
2. Eighteen different body measurements.
3. Production of oil and meat from individual whales.
4. Stomach content.

Altogether 1164 fin whales have been examined with a varying degree of completeness (Table 2).

Ruud(1946) has analyzed statistical records collected prior to the last war which has been continued by Jonsgård (1958) for subsequent years. Material collected at the shore stations has formed the basis for a comparative study of the growth of fin whales exploited in waters of the northern and southern hemispheres (Jonsgård, 1952), and the production of oil and meat from individual whales (Jonsgård, 1956). A comprehensive study on the distribution, migration and food of the North Atlantic fin whale is ready for publication (Jonsgård).

Finally it should be mentioned that a whale-marking programme has been instigated in cooperation with the Icelandic Fisheries Research Institute. Marking began in Icelandic waters

in the 1965 season, and 13 fin and 6 sperm whales were reported successfully marked by the Icelanders.

Small whales

The modern Norwegian whaling for small whales commenced in the Möre area about 1930. To the end of the last world war almost all whaling took place in the fjords or close to the coast of Norway. The characteristic feature of this period was a steady increase in the number of vessels participating, and in the area utilized. Immediately after the war another geographic expansion took place, and the more seaworthy vessels set course westwards for Scotland, the Shetlands, the Faroes and Iceland, and northwards for the Barents Sea, Bear Island and Spitsbergen.

The small whalers have always been seasonal fishermen licensed for whaling. The highest number of licenses issued was 384 in 1949. Because of overexploitation of the stocks of minke whales (Balaenoptera acuto-rostrata) the number of licenses has been gradually reduced to 150 in 1965. For the same reason different regulations have been imposed. The whaling season is restricted to 6 months, March 15th - September 15th with a closure from July 1st - July 21st. The Barents Sea and the waters off Spitsbergen and Bear Island are closed to whaling operations from July 1st to March 15th the following year.

The whalers are required to record for each whale captured: location, length, sex, and length and sex of foetus if present.

Four species of whales have been reported caught in the period 1945-1964: minke whales, bottlenose whales (Hyperoodon ampullatus), killer whales (Orcinus orca) and pilot whales (Globicephala melaena) (Table 3). The minke whale constituted more than 90% of the total catch to the end of the 1958 season. Since then, however, it has declined slightly in importance and has been replaced by pilot whales and by bottlenose whales.

Biological research on the minke whale was conducted by the State Institute for Whale Research in the Lofoten area in the seasons 1943-45, and in Arctic waters in 1950. Marking of minke whales commenced in the Lofoten area in 1964. So far 15 whales have been marked.

The general life history of the minke whale was discussed by Jonsgård (1951), who later evaluated the condition of the stocks of minke whale (Jonsgård, 1962c). The distribution, migration, food and propagation of the bottlenose and the killer whale have been dealt with by Jonsgård and Øynes (1952). Three separate papers deal with the development of the small whale industry in Norway (Jonsgård, 1954, 1955b, 1962b). The participation, production and price conditions in this industry have been discussed by Holm (1962).

Miscellaneous studies

A study of the condition of the stocks of blue whales (Balaenoptera musculus) in the North Atlantic Ocean has been published (Jonsgård, 1955a). Speciation of dolphins in the waters between northern Norway and Bear Island has been dealt with by Jonsgård (1962a). The white-whale (Delphinapterus

leucas) fishery off Spitsbergen 1945-1960, including notes on the occurrence of this species, has been discussed by Lönö and Øynes (1960). Strandings on the Norwegian coast have been published on Sowerby's whale (Mesoplodon bidens) (Jonsgård and Höidal, 1957) and of white-sided dolphins (Lagenorhynchus acutus) (Jonsgård and Nordli, 1952), and incidental sightings of a Greenland right whale (Balaena mysticetus) off West-Spitsbergen and off Novaja Zemlja have been reported (Christiansen, 1962; Jonsgård, 1964). Termal regulations in fin whales have been studied by Leivestad and Kanwisher (1957). Exploratory whale marking have been carried out at Steinshamn (Ruud, Clarke and Jonsgård, 1953).

Norwegian post-war publications on whale research in the north-eastern North Atlantic Ocean

Christiansen, B. 1962 — Greenland right whale, and whales which sleep. Norsk Hvalfangttid. 51 (2): 55-56.

Holm, J.L., 1962 — Participation, production and price conditions in the small-whale fisheries 1938-1960. Ibid. 51(6): 225-249.

Jonsgård, Åge 1951 — Studies on the little piked whale or minke whale (Balaenoptera acuto-rostrata) Lacépède). Ibid 40(5):209-232.

" " 1952 — On the growth of the fin whale (Balaenoptera physalus) in different waters. Ibid. 41(2): 58-65.

" " 1954 — Om småhvalfangsten på norske-kysten og om vågehvalen. Fauna 7(2):49-63.

" " 1955a — The stocks of blue whales (Balaenoptera musculus) in the northern Atlantic Ocean and adjacent Arctic waters. Norsk Hvalfangsttid. 44 (9):297-311.

" " 1955b — Development of the modern Norwegian small whale industry. Ibid. 44 (12): 410-430.

" " 1956 — Production of oil and meat from North Atlantic fin whales (Balaenoptera physalus). Ibid. 45: 541-550.

" " 1958 — Taxation of fin whales (Balaenoptera physalus (L)) at land stations on the Norwegian West coast. Ibid. 47 (9): 433-439.

" " 1962a — On the species of dolphins found on the coast of northern Norway and in adjacent waters. Ibid. 51(1):1 - 12.

" " 1962b — Småhvalfangsten. Pp.223-234 in: Havet og våre fisker 2. J. W. Eides Forlag, Bergen.

Jonsgård, Åge 1962c Population studies on the minke whale Balaenoptera acuto-rostrata Lacépède. Pp 159-167 in: The exploitation of natural animal populations. Blackwell Scientific Publications, Oxford.

" " 1964 A right whale (Balaena sp.) in all probability a Greenland right whale (Balaena mysticetus) observed in the Barents Sea. Norsk Hvalfangsttid. 53 (11): 311-313.

" " and P. Höidal 1957 Strandings of Sowerby's whale (Mesoplodon bidens) on the West coast of Norway. Ibid. 46 (9): 507-512.

" " O. Nordli 1952 Concerning a catch of white-sided dolphins (Lagenorhynchus acutus) on the West coast of Norway. Ibid 41 (5): 229-232.

" " P. Øynes 1952 Om bottlenosen (Hyperoodon rostratus) og spekkhoggeren (Orcinus orca). Fauna 5 (1): 1-18.

Leivestad H. and J. Kanwisher 1957 Thermal regulations in whales. Norsk Hvalfangsttid. 46 (1): 1-5.

Lönö, O. and P. Øynes 1961 White whale fishery at Spitzbergen. Ibid. 50(7): 267-286.

Ruud, J. T. 1946 On the catch of large whales off the West coast of Norway, and the size of the stocks. Ibid. 35 (2): 35-40; (3): 58-64.

" " R. Clarke and Å Jonsgård 1953 Whale marking trials at Steinshamn, Norway. Ibid. 42 (8): 429-441.

---o---

Table 1. Fin, Sei and Sperm whales caught in postwar seasons at the shore stations in Norway.

	Blomvåg.				Steinshamn.				Hestnes.				Skjelnan.				All stations			
Year	Fin	Sei	Sperm	Total	Fin	Sei	Sperm	Total	Fin	Sei	Sperm	Total	Fin	Sei	Sperm	Total	Fin	Sei	Sperm	Total
1946	70	2		72	170	8	8	186	152	1	13	166					392	11	21	424
1947	68	6	9	83	113	4	5	122	104	2	2	108					285	12	16	313
1948	51	1	2	54	98	6	4	108	70	27	5	102	41	1	36	78	260	35	47	342
1949	36	1	6	43	74	2	11	87	94	3	3	100	138			138	342	6	20	368
1950	41	2	13	56	114	1	6	121	96		6	102	90		54	144	341	3	79	423
1951	27		3	30	137	11	7	155	87		3	90	70		63	133	321	11	76	408
1952	53	6	2	61	137	17	18	172	101	1		102	83		31	114	374	24	51	449
1953	49	9		58	100	33	10	143	66	6		72	60		34	94	275	48	44	367
1954	7			7	112	16	7	135	93	4	14	111	58		73	131	270	20	94	384
1955	27	1		28	88	9	20	117					95		24	119	210	10	44	264
1956					50	16	16	82	19		4	23	63		38	101	132	16	58	206
1957					92		10	102					47		20	67	139	0	30	169
1958					53	6	11	70					70		81	151	123	6	92	221
1959					98	4	2	104					82		31	113	180	4	33	217
1960					54	2	24	80	23			23	51		60	111	128	2	84	214
1961					119	6	11	136	3		4	7	40		73	113	162	6	88	256
1962					59	3	34	96	10			10	76		57	133	145	3	91	239
1963					21		39	60					21		68	89	42	0	107	149
1964					6		7	13					32		40	72	38	0	47	85
	429	28	35	492	1695	144	250	2089	918	44	54	1016	1117	1	783	1901	4159	217	1122	5498

Table 2. Fin whales examined at the shore stations in Norway.

	Shore stations.														
	Blomvåg			Steinshamn			Hestnes			Skjelnan			Total		
Season	♂	♀	All	♂	♀	All	♂	♀	All	♂	♀	All	♂	♀	All
1951	15	8	23	77	49	126	41	35	76	34	35	69	167	127	294
1952	22	11	33	68	59	127	38	44	82	39	44	83	167	158	325
1953	19	27	46	50	50	100	25	37	62	27	33	60	121	147	268
1956				12	8	20	13	5	18	15	17	32	40	30	70
1957				29	23	52							29	23	52
1961				50	45	95				12	11	23	62	56	118
1963				8	10	18				13	6	19	21	16	37
Total	56	46	102	294	244	538	117	121	238	140	146	286	607	557	1164

Table 3. The different species of small whales caught in each of the seasons 1945 - 1964.

	Minke		Bottlenose		Killer		Pilot		
Year	Number	%	Number	%	Number	%	Number	%	Total
1945	1778	97,5	22	1,2	12	o,7	12	0,7	1824
1946	1890	97,3	20	1,0	32	1,6	1	0,1	1943
1947	2572	94,7	108	4,0	29	1,1	7	0,3	2716
1948	3561	97,3	61	1,7	38	1,0	0	-	3660
1949	3928	93,8	221	5,3	34	o,8	4	0,1	4187
1950	1989	96,6	48	2,3	12	0,6	10	0,5	2059
1951	2750	96,2	77	2,7	24	0,8	8	0,3	2859
1952	3366	99,1	17	0,5	13	0,4	2	-	3398
1953	2433	97,6	49	2,0	9	0,4	1	-	2492
1954	3496	97,7	70	2,0	13	0,4	0	-	3579
1955	4328	96,4	124	2,8	26	0,6	13	0,2	4491
1956	3658	92,2	267	6,7	40	1,0	1	-	3966
1957	3642	92,6	163	4,1	48	1,2	80	2,0	3933
1958	4338	91,6	145	3,1	39	0,8	216	4,6	4738
1959	3090	88,9	94	2,7	69	2,0	224	6,4	3477
1960	3431	85,0	193	4,8	82	2,0	331	8,2	4037
1961	3238	86,8	87	2,3	111	3,0	294	7,9	3730
1962	3295	87,1	321	8,5	124	3,3	43	1,1	3783
1963	3228	88,3	267	7,3	90	2,5	71	1,9	3656
1964	2726	86,2	307	9,7	77	2,4	54	1,7	3164

Season:	Species:
Factory:	Sex:
Inspector:	Length:
Whale No:	Whale bone No:
Date of catch:	Date of flenching:
Ovaries/Testis:	Weight 1:
Examined:	" 2:
Preserved and marked:	Total:
	Weight c.l.g.:
Physical maturity:	
Condition:	
Diatoms:	
Parasites:	
Scarea:	
Mark:	
Information on females:	
Foetus, number:	Sex: Length:
Milk:	

Counting of Corpora lutea	Ovarium 1		Ovarium 2	
	Number	Mean diam	Number	Mean diam.
C. graviditatis				
C. ovulationis				
G. lactationis				
C. albicans				
Total C. lutea				

Follicles present: Total C. lutea

Diam. of biggest follicle:

Fig. 1 Form used for recording general biological data from North Atlantic fin whales..