

XXV.—STATISTICS OF NORWEGIAN FISHERIES IN 1880.*

By BOYE STROM.

TABLE I.—Number of fishermen engaged in the cod, fat-herring, and mackerel fisheries in 1880.

Districts.	Cod fisheries.	Fat-herring fisheries.	Mackerel fisheries.
Smaalenene			193
Akershus			102
Buskerud			
Jarlsberg and Laurvig			852
Bratsberg			30
Nedre			286
Lister and Mandal			1, 149
Stavanger	2, 350	295	1, 080
South Bergenhus	3, 937	1, 710	47
North Bergenhus	1, 944	3, 182	
Romsdal	15, 418	5, 972	
South Trondhjem	2, 561	5, 086	
North Trondhjem	1, 347	1, 480	
Nordland	83, 387	13, 475	
Tromsø	1, 930	3, 160	
Finmark	17, 567	230	
Total	80, 441	35, 130	3, 719

TABLE II.—Result of the entire coast fisheries in 1880.

Districts.	Cod fisheries.	Fat-herring fisheries.	Sprat and other small-herring fisheries.	Spring-herring fisheries.	Mackerel fisheries.
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Smaalenene			6, 743		8, 174
Akershus			2, 466		1, 975
Buskerud					
Jarlsberg and Laurvig			1, 402		38, 070
Bratsberg					1, 447
Nedre					7, 528
Lister and Mandal			7, 526		79, 494
Stavanger	35, 168	3, 885	18, 823	178, 059	58, 057
South Bergenhus	39, 206	12, 001	82, 356	12, 677	813
North Bergenhus	18, 878	70, 043	10, 195	1, 372	
Romsdal	629, 897	128, 902	3, 521	38, 592	
South Trondhjem	75, 072	161, 498	214		
North Trondhjem	11, 632	86, 577	1, 608		
Nordland	1, 812, 758	1, 024, 082	3, 457		
Tromsø	17, 067	90, 198	32		
Finmark	720, 848	5, 028			
Total	3, 360, 526	1, 534, 054	138, 343	230, 700	186, 558

* "Tabeller vedkommende Norges Fiskerier i Aaret 1880." Christiania, 1882. Translated from the Danish by HERMAN JACOBSON.

TABLE II.—*Result of the entire coast fisheries in 1880—Continued.*

Districts.	Summer fisheries for cod, ling, &c.	Salmon and sea-trout fisheries.	Lobster fisheries.	Oyster fisheries.	Total.
	Dollars.	Dollars.	Dollars.	Dollars.	Dollars.
Smaalenene		1,452	5,146		21,515
Akershus			27	11	4,479
Buskerud		2,080	13	18	2,106
Jarlsberg and Laurvig		3,638	14,808	693	58,631
Bratsberg		481	3,457		5,886
Nedenshus	281	4,315	9,423	128	21,673
Lister and Mandal	3,070	24,380	18,484	5	124,868
Stavanger	1,846	16,849	38,332		350,969
South Bergenhus	10,267	6,750	12,408	55	180,409
North Bergenhus	6,697	4,818	4,040	214	117,157
Romsdal	10,263	11,269	2,237	54	824,825
South Trondhjem	9,916	18,972		155	265,827
North Trondhjem	16,348	4,274		129	70,568
Nordland	55,105	838		51	2,896,351
Tromsøe	53,044	910			161,251
Finmark	211,344	1,370			939,190
Total	388,150	102,403	108,455	1,500	6,051,293

TABLE III.—*Details of the cod fisheries in 1880, showing the number of fishermen and boats.*

Districts.	Total number of fishermen.	Fishermen fishing with—					
		Nets only.	Night-lines only.	Lines only.	Both nets and night-lines.	Both nets and lines.	Both night-lines and lines.
Stavanger	2,350	100	800		250		1,200
South Bergenhus	3,937	30	5	3,112			650
North Bergenhus	1,944	54		540			1,350
Romsdal	15,418	5,257	749	3,538	17	2,274	2,288
South Trondhjem	2,561	1,243		1,128		190	
North Trondhjem	1,347	944	10	15	203		175
Nordland	33,387	10,733	11,563	2,829	1,599		663
Tromsøe	1,930	102	459				1,349
Finmark	17,507	1,346	3,279	5,646	1,025	54	5,933
Total	80,441	25,809	16,865	10,806	3,094	2,518	12,258

Districts.	Total number of boats.	Boats equipped with—					
		Nets only.	Night-lines only.	Lines only.	Both nets and night-lines.	Both nets and lines.	Both night-lines and lines.
Stavanger	620	25	200		95		300
South Bergenhus	1,425	6	1	1,103			272
North Bergenhus	374	9		140			225
Romsdal	2,540	699	155	561	3	350	533
South Trondhjem	505	216		263		26	
North Trondhjem	329	224	5	7	47		46
Nordland	7,128	2,817	2,843	905	282		221
Tromsøe	669	17	133				515
Finmark	4,885	143	1,296	1,270	298	12	1,776
Total	18,475	4,150	4,633	4,309	725	388	3,063

TABLE IV.—Quantity of codfish caught in 1880.

Districts.	Total number of fish caught.	Caught with—			Liver.	Roe.	Number of fish-heads sold.
		Nete.	Night-lines.	Lines.			
Stavanger	437,800	28,000	385,000	25,000	<i>Barrels.</i> 1,572	<i>Barrels.</i> 706	.....
South Bergenhus	591,500	8,000	72,000	512,000	760	792	212,000
North Bergenhus	234,000	51,600	73,000	110,000	271	363	.....
Romsdal	0,500,000	5,560,000	1,152,000	2,839,000	20,392	13,942	6,455,000
South Trondhjem	1,100,000	849,000	.....	311,000	2,686	2,141	444,000
North Trondhjem	215,400	152,000	46,000	17,000	439	233	.....
Nordland	32,098,700	17,454,000	12,831,000	1,814,000	83,158	42,248	20,982,300
Tromsøe	348,800	30,000	292,000	27,000	807	144	.....
Finmark	23,626,000	862,000	9,138,000	13,626,000	56,541	291	17,485,000
Total	68,272,800	25,003,000	23,989,000	19,281,000	106,626	60,800	45,578,300

TABLE V.—Financial result of the winter and spring cod fisheries in 1880, and the average prices paid at the different fishing stations.

Districts.	Value of the different products.				
	Total value.	Fish without liver and roe.	Liver.	Roe.	Fish-heads sold.
Stavanger	\$35,168 03	\$25,410 69	\$7,541 25	\$2,216 09	.....
South Bergenhus	39,205 72	31,323 84	2,732 53	4,581 19	\$508 16
North Bergenhus	18,877 65	15,744 46	1,444 25	1,688 94	.....
Romsdal	629,897 55	415,264 03	127,637 14	68,305 16	18,690 32
South Trondhjem	75,071 62	49,982 00	12,057 26	11,216 07	910 29
North Trondhjem	11,031 74	8,638 44	1,869 39	1,124 00	.....
Nordland	1,812,758 16	1,209,761 38	347,865 61	222,837 98	32,203 19
Tromsøe	17,067 31	13,877 04	2,665 39	624 97	.....
Finmark	720,848 18	533,090 32	170,006 34	1,659 04	10,712 48
Total	3,300,525 96	2,303,093 10	674,618 98	313,633 44	67,180 44

Districts.	Average prices.				Calculated price per 100 fish with liver, roe, and heads.
	Per 100 cod.	Per barrel of liver.	Per barrel of roe.	Per 100 fish-heads.	
Stavanger	\$5 79	\$4 80	\$3 14	.....	\$8 04
South Bergenhus	5 28	3 59	5 79	\$0 27	6 62
North Bergenhus	6 73	5 33	4 06	.....	8 07
Romsdal	4 34	6 27	4 90	29	6 59
South Trondhjem	4 31	4 82	5 25	21	6 49
North Trondhjem	4 02	4 29	4 82	.....	5 41
Nordland	8 78	4 18	5 28	10	5 65
Tromsøe	8 97	3 10	4 34	.....	4 88
Finmark	2 25	3 00	3 56	11	3 06
Average	8 38	4 05	5 15	10	4 98

TABLE VI.—Showing the number of fishermen and boats engaged in the fat-herring fisheries in 1880, and the prices paid.

NUMBER OF FISHERMEN, BOATS, &c.

Districts.	Fishermen.	Men fishing with nets.	Men fishing with seines.	Net-boats.	Seines.
Stavanger.....	295	140	155	45	13
South Bergenhus.....	1,710	134	1,576	50	125
North Bergenhus.....	3,182	376	2,806	188	176
Romsdal.....	5,012	3,295	2,616	1,559	167
South Trondhjem.....	5,686	2,800	2,826	1,068	181
North Trondhjem.....	1,480	985	495	465	85
Nordland.....	13,475	6,800	6,675	2,100	501
Tromsøe.....	8,160	2,520	640	845	57
Finmark.....	230	160	80	63	1
Total.....	35,130	17,261	17,809	6,443	1,258

RESULT OF THE FISHERIES—QUANTITIES AND PRICES.

Districts.	Total quantity caught.	Caught with nets.	Caught with seines.	Total product.	Average price per barrel.
	<i>Barrels.</i>	<i>Barrels.</i>	<i>Barrels.</i>		
Stavanger.....	1,060	400	660	\$3,835 08	\$3 62
South Bergenhus.....	2,255	80	2,175	12,901 52	5 74
North Bergenhus.....	15,380	400	14,980	70,942 81	4 64
Romsdal.....	34,928	13,080	21,848	128,092 15	3 70
South Trondhjem.....	35,671	6,250	29,421	161,497 67	4 50
North Trondhjem.....	10,000	4,710	5,290	36,576 04	3 43
Nordland.....	372,250	108,800	263,450	1,024,081 60	2 76
Tromsøe.....	42,670	14,030	28,640	90,198 08	2 14
Finmark.....	3,000	1,150	1,850	5,628 00	1 88
Total.....	517,874	148,900	368,974	1,534,633 75	2 97

TABLE VII.—Details of the mackerel fisheries in 1880.

Districts.	Total number of fishermen.	Fishermen using drift-nets.	Boats having drift-nets.	Total number of fish caught.	Fish caught with drift-nets.	Total value of the fish caught.	Average price per 100 fish.
Smaalenene.....	193	193	50	202,500	202,500	\$8,174 00	\$4 02
Akershus.....	102			45,400		1,974 62	4 34
Jarlsberg and Laurvig.....	852	844	220	1,213,200	1,206,200	38,060 63	3 14
Bratsberg.....	30	30	10	54,000	54,000	1,447 20	2 68
Nedreus.....	266	231	83	185,000	173,800	7,527 58	4 07
Lister and Mandal.....	1,149	1,104	311	2,121,094	2,121,194	70,494 45	3 21
Stavanger.....	1,080	1,060	260	1,847,400	1,846,400	58,057 10	3 14
South Bergenhus.....	47	15	5	25,200	23,290	813 38	3 22
Total.....	3,719	3,477	908	5,743,884	5,627,384	186,558 26	3 24

TABLE VIII.—*Details of the sprat and other small-herring fisheries in 1880.*

Districts.	Quantity of fish caught.	Total value of the fisheries.	Average price per barrel.
	<i>Barrels.</i>		
Smaalenene	8,780	\$6,742 88	\$0 78
Akershus	644	2,465 60	3 83
Buskierud			
Jarlsberg and Laurvig	985	1,402 17	1 42
Bratsberg			
Nedenes			
Lister and Mandal	13,208	7,525 97	56
Stavanger	22,770	18,822 08	83
South Bergenhus	90,730	82,356 40	91
North Bergenhus	9,770	10,195 25	1 05
Romsdal	2,491	3,520 44	1 42
South Trondhjem	300	214 40	72
North Trondhjem	400	1,608 00	4 02
Nordland	2,700	3,457 20	1 29
Tromsøe	30	32 16	1 07
Total	152,898	138,343 45	91

TABLE IX.—*Details of the lobster fisheries in 1880.*

Districts.	Number of lobsters caught.	Product of the lobster fisheries.	Average price per 100 lobsters.
Smaalenene	56,000	\$5,145 00	\$9 19
Akershus	200	26 80	13 40
Buskierud	150	13 40	8 92
Jarlsberg and Laurvig	136,320	14,828 44	10 88
Bratsberg	43,000	3,457 20	8 04
Nedenes	126,982	9,423 14	7 42
Lister and Mandal	169,934	18,484 22	9 73
Stavanger	416,201	38,332 30	9 22
South Bergenhus	163,927	12,467 00	7 61
North Bergenhus	45,076	4,039 56	8 84
Romsdal	27,246	2,230 72	8 23
Total	1,205,616	108,455 28	9 00

TABLE X.—*Details of the salmon and sea-trout fisheries in 1880.*

Districts.	Quantity of salmon and sea-trout caught.	Product of the salmon and sea-trout fisheries.	Average price per barrel.
	<i>Barrels.</i>		
Smaalenene	573	\$1,451 48	\$2 52
Akershus			
Buskierud	950	2,079 68	2 20
Jarlsberg and Laurvig	1,400	3,038 10	2 61
Bratsberg	200	482 40	2 41
Nedenes	1,755	4,314 80	2 47
Lister and Mandal	10,050	24,380 22	2 44
Stavanger	8,446	16,840 42	1 98
South Bergenhus	4,475	6,755 74	1 50
North Bergenhus	2,650	4,818 37	1 82
Romsdal	9,370	11,269 13	1 21
South Trondhjem	12,162	18,071 08	1 55
North Trondhjem	2,247	4,273 52	1 90
Nordland	723	838 03	1 15
Tromsøe	820	919 39	1 10
Finmark	1,258	1,370 01	1 10
Total	57,085	102,403 27	1 80

TABLE XI.—*Details of the oyster fisheries in 1880.*

Districts.	Quantity of oysters.	Product of the oyster fisheries.	Average price per barrel.
	<i>Barrels.</i>		
Akershus	1	\$10 72	\$10 72
Boskerud	2	13 40	6 70
Jarlsberg and Laurvig	55	692 51	12 60
Nedenæs	14	125 96	9 00
Lister and Mandal	1	5 36	5 36
South Bergenhus	9	55 21	6 16
North Bergenhus	22	213 86	9 73
Romsdal	10	53 60	5 36
South Trondhjem	24	155 44	6 49
North Trondhjem	20	128 64	6 43
Nordland	6	51 45	8 58
Total	161	1,506 15	9 14

*REPORT ON THE MACKEREL FISHERIES NEAR ULEHOLMENE, AT
TJÖMÖE, IN THE DISTRICT OF JARLSBERG AND LAURVIG.*

Number of fishermen	599
Number of boats	155
Number of fish caught	775,000
Total value of the fish at the fishing station	\$24,924

Of the boats, 21 had a crew of 3 men each, and 134 of 4 men each, and each boat had 40 drift-nets. It is stated that one-tenth of the fish caught was consumed in the district, and the remainder sold at other places in Norway.

Besides the above-mentioned boats and crews, about 130 vessels, with a crew of 2 men each, were engaged in buying up fish. Of the mackerel caught in this district, the greater portion was sent to Christiania, and the remainder to Drammen, Tönsberg, Horten, Moss, and Frederikstad. The fisheries were carried on from 1 to 2 [Norwegian or Danish?] miles south of Lillefærder, and began May 23 and closed on July 21. The best fisheries lasted from June 12 to July 4, but throughout the entire fishing season they were subject to great changes, owing to calms or stormy weather. When the net fisheries come to a close, all the boats leave the Uleholmene and return to their homes. No further data can therefore be furnished as regards the fisheries carried on after the close of the fishing season proper, because only pilots while on service catch some fish for their own use. No one was fined for selling liquor or beer without a license, no life was lost, no one was injured, and no one was arrested.

*THE HERRING FISHERIES AT THE LOFTODEN ISLANDS AND IN THE
DISTRICT OF VESTERAALEN.*

Under date of February 15, 1881, the superintendent made a report on these fisheries, from which the following extracts are given:

The appearance of the herring was first noticed at Sortland, where in the Sör Fiord, the inner arm of the Høgne Fiord, there were caught dur-

ing the latter half of July 150 barrels of small herring, which sold at 3 or 4 crowns [80 cents to \$1.07] per barrel. Later in the season, during August, the herring made their appearance near the west and south coast of Langøe, near Hasseløe, and in the West Fiord, where near Flakstad 400 barrels of herring were caught. In the beginning of October the herring again made their appearance near Sortland, large numbers being noticed in the Siger Fiord and near Hindøe, where a large number of net and seine fishermen gathered. No very important catches, however, were made, partly because the herring here, as in other places, kept at a great depth for a long time, so that even the net fishermen but rarely reached them, partly because the weather grew very cold, and the fiord was covered with ice and snow to such a degree as to hinder the fisheries at the very time when the prospects of the seine fisheries grew brighter, and several seines had already been cast. The yield of the Sortland herring-fisheries was estimated at 3,000 barrels, principally "merchants'" and "medium" herring, which found ready buyers on the various merchant-vessels which had come to Sortland, at prices ranging from 17 to 20 crowns [\$4.55 to \$5.36] per barrel.

About the same time of the fisheries in the Siger Fiord, the herring also made their appearance near Öksnæs and in most of the fiords on the west coast of Langøe. Herring fisheries were carried on in the Rygge Fiord, the Barkestad Sound, the Langøe Sound, the Börøe Fiord, the Auen Fiord, the Skiel Fiord, as well as in the Sandset Bay, and the Godviks Bay, where the herring, although as a rule keeping in the depths, occasionally came near the shore, probably chased by cuttle-fish and cod. At the very beginning of the fisheries there was occasion to use the seines; and, on October 5, thirty-six hauls were made with seines near Öksnæs, many of them yielding a considerable number of fish. The majority of these fish, however, were lost, owing to the nature of the bottom. On November 9 the fisheries at Öksnæs came to a close, as the great mass of herring, though still near, continually kept at a great depth, and were but rarely caught even with nets; and as the rich fisheries which had begun in the Eids Fiord attracted the fishermen to that locality. The result of the Öksnæs fisheries is calculated at 10,000 barrels of salt herring. The fish were almost exclusively large merchants' herring, selling for from 17 to 21 crowns [\$4.55 to \$5.62] per barrel for net herring, and from 18 to 24 crowns [\$4.82 to \$6.43] for seine herring. The last remnants of seine herring fell in price to $5\frac{1}{2}$ or 6 crowns [\$1.47 to \$1.60] per barrel, principally because there were but few buyers. Forty seines, 200 boats with nets, and about 1,000 men are said to have been engaged in these fisheries. The Eids Fiord, however, was again to become the principal place for these fisheries; and this time with a result which is certainly unique in the history of the Norwegian fisheries. Toward the middle of August large masses of herring were noticed in the Vesteråls Fiord, the arm of the sea between Langøe and

Hasseløe, whence the Eids Fiord runs farther inland. This news very soon brought together a very considerable number of net-using fishermen, not only from the neighborhood but also from more distant parts of Norway, who, for about 8 weeks, carried on net fisheries with varying, but on the whole encouraging, results in the outermost portion of the Eids Fiord, off Kvalsøe, and in the Vesteraals Fiord. The yield of these fisheries was all the more profitable, as the prices were kept up by the comparatively large number of merchant-vessels which had come to the Eids Fiord, and rose in the same proportion as the hope that the herring would go farther up the fiord—thus enabling the fishermen to use seines—vanished day by day.

From 13 crowns [\$3.48] per barrel the price at the end of August rose to 18, 20, and 22 crowns [\$4.82, \$5.36, and \$5.89], and at these prices all the net-fish were sold in the outer part of the fiord. There are no absolutely reliable data as to the entire quantity of fish caught in nets, but the information which has thus far been obtained from experienced captains of merchant-vessels, who were on the spot from the beginning of the fisheries waiting for cargoes, gives reason to believe that the quantity of net-fish brought into the market from this period of the fisheries may be estimated at about 30,000 barrels, besides the considerable quantity of fish for home consumption, as scarcely any of the fishermen using nets, who reside in the district, sold any fish before they had amply supplied their own needs.

In September the great mass of herring was noticed on the landside of Kvalsøe, all through the deep waters of the fiord; and during that month, as well as during the first half of October, there were good and sometimes excellent net-fisheries exclusively in these waters. Some nights in October each boat caught from 10 to 15 barrels of herring, and as it is estimated that at this time there were in these waters about 1,000 net-boats, it is evident that the net-fisheries constituted an essential portion of the entire fisheries, although we have not even approximately correct estimates as to the quantity of fish caught. The number of fishermen was, as has been stated, so large that it was impossible for the insufficient number of superintendents, who were not not all appointed till the middle of October, to gather all the necessary information, especially as the fisheries were carried on in an entirely free manner and without any regard to much-needed regulations. In spite of the great quantity of fish, the net fishermen obtained high prices. Up to the week between the 24th and 30th of October, when the seine fisheries began, the price of a barrel of net herring was 24 crowns [\$6.43]. In that week the price fell to $4\frac{1}{2}$ crowns [\$1.20]; but although it was as low as 4 crowns [\$1.07], and perhaps less, tolerably good net-fisheries were carried on by a gradually decreasing number of fishermen until the middle of December.

Although, as has been stated, it is impossible to state even approx-

imately the result or the value of the net-fisheries, either as a whole or the average per boat, it can be stated with absolute certainty that they have yielded a very good, and in some cases even an exceedingly good, income to all persons engaged in them. As an instance of this it may be mentioned that a crew, consisting of three men, caught fish to the value of 12,000 crowns [\$3,216], while individual fishermen repeatedly brought home fish to the value of from 400 to 800 crowns [\$107.20 to \$214.40] and more. The largest quantity of fish was certainly caught by fishermen from outside the district, but their experience and skill as well as their apparatus and boats were superior to those of the district fishermen, who unless they had imitated the example set them by the foreign fishermen would scarcely have caught as much as they did. During the entire period of their presence in the Eids Fiord the herring showed a tendency to stay in deep water. It has thus been observed that the herring, which generally when pursued by their enemies come to the surface, have during these fisheries endeavored to avoid the threatening dangers of every kind by going down to the bottom and remaining there. People think that this has been the cause why they remained in the fiord so long, instead of being, as formerly, chased out again by their pursuers, the cuttle-fish, after having stayed only a short while. The cuttle-fish when chasing herring is supposed to rise toward the surface, and by going down to the bottom and staying there quietly the herring would escape this enemy. Whatever may be the cause of this fact, it exercised a considerable influence on the net-fisheries until the arrival of the foreign fishermen. Carried on only by the inhabitants of the district, who, according to their long-established custom, sought the herring only near the surface, and whose net-rope was seldom more than 30 fathoms long, the fisheries would yield an unequal quantity of fish per boat; for the boats would fish close to each other, just according to their coming across a greater or smaller school of herring which had separated from the great mass of herring and had gone nearer the surface. It therefore happened frequently that one boat hauled in its net full of fish, while another boat not far from it hauled it in almost empty. But although people supposed that the great mass of herring remained near the bottom, no one thought of arranging their apparatus in such a manner as to reach the fish. The foreign net-fishermen took hold of the matter in an entirely different manner. Furnished with sufficiently long net-ropes, they searched for the herring toward the bottom, experimenting and letting the net down lower and lower, until at a depth of from 80 to 100 fathoms they found the great mass of herring and henceforth continued to make rich hauls. The district fishermen immediately began to improve their apparatus, and to imitate the example set them by the foreigners, and the result was that they too began to catch large numbers of fish.

While the net-fishermen for weeks had good and steady fishing, the

patience of the large number of seine fishermen was sorely tried. Already in August most of the seine fishermen had arrived, and were lying in different parts of the fiord, especially near Kvalsøe and Sildpold. At the end of August it is estimated that their number was about 100 sets; and their number increased from day to day, so that finally there were 200 in all. Some of them again left the Eids Fiord when the news came by telegraph that there were excellent fisheries near Salten, and some took part in the Øksnæs fisheries, but the majority returned to the Eids Fiord, still hoping that there would be good seine-fishing. On October 15 the herring at last made their appearance in considerable numbers farther out at sea, and partly came near the coast, so that some were caught; but the seine fisheries did not begin in good earnest till the week between October 24 and 30. The quantity caught during that period was estimated at 100,000 barrels; and later in the season the seines were in use every day, not one of them lying idle.

In the beginning the seine fisheries were carried on in a hitherto unknown manner. When about the middle of October large numbers of herring began to make their appearance out at sea, without however coming near the coast, a sort of despair took possession of the fishermen who had waited for the fish so long, and they attempted either to catch the fish out at sea or to drive them towards the coast. They formed themselves into sets, bound many seines together (it is stated as many as twenty), and cast them in the middle of the fiord; and, with several hundred fathoms of ropes, and by means of sail-boats, the entire long chain of seines, with the herring contained in them, was towed towards the shore. Often the contents were lost on the way, but sometimes the fishermen succeeded in securing a number of fish in this manner. This unusual and difficult method, however, soon became unnecessary, as shortly after the herring came to places where they could be caught in the usual manner.

We have no exact data as regards the total yield of the seine fisheries, but as far as they go they are presumed to be approximately correct. On November 6 the quantity of herring caught was estimated at 50,000 barrels, in addition to which about 125,000 barrels were supposed to be in the seines. On November 28 the quantity caught was estimated at 110,000 barrels, and the quantity still remaining in the seines at 100,000 barrels. The great fisheries (properly so called) thereupon came to a close; but although both on November 7 and on December 7 the storm broke some large seines, causing a loss each time of from twelve to twenty thousand barrels of fish, the above-mentioned quantity need not be estimated any lower, as there was some fishing all during November. The superintendents, therefore, estimate the total yield of the seine fisheries in round figures at 200,000 barrels of fresh fish, or 300,000 barrels of salted fish; if these figures are approximately

correct, the Eids Fiord fisheries with nets and seines must have yielded about 400,000 barrels of salted fish.

Although there were many merchant-vessels on the spot when the great seine-fisheries began, the price immediately fell to 10 crowns [\$2.68] per barrel. Soon fish were sold at 9 or 10 crowns, and later the price varied from 8 to 5 crowns [\$2.14 to \$1.34], at which latter price all the fish were sold which had not been taken from the seines after the end of November. The quality of the fish was good throughout, as the fish caught were nearly exclusively merchants' herring and medium herring; but as many of them remained in the seines for a long time, partly because at times there were few buyers, and partly owing to the short days and the frequent high winds and snow-storms, the value of many of these fish was certainly diminished.

In spite of the rich yield of the seine fisheries, the income of the fishermen is stated to have been comparatively small. The share falling to each fisherman is stated by the superintendents to have been about 200 crowns [\$53.60], to earn which sum most of the fishermen had to remain in the Eids Fiord about three months, under circumstances which caused the price of all the necessities of life to be very high. The manner of forming themselves into sets made the earnings of the fishermen about the same for each.

Already in the beginning of August there were about 100 merchant-vessels in different parts of the fiord, and this number increased from day to day, owing to the rich net-fisheries and the expectation of good seine-fisheries. From the time the seine-fisheries began, it is estimated that the number of vessels was from 200 to 300, among them many steamers. The short working-days, which were still further shortened by frequent storms, made it almost impossible to prepare properly the entire vast quantity of herring, and people therefore in many cases confined themselves to salting the herring without cleaning them. There was no lack of workmen to prepare the herring. The majority of them came not only from the neighboring districts of Sortland, Hadsel, and Øksnæs, but also from the entire group of the Loføden Islands; and the good wages which were paid for preparing herring, therefore, though in a different degree, benefited the entire district. With the net-fisheries, the preparing of the herring has certainly tended to improve the economical condition of the district very considerably. Previous to the Eids Fiord fisheries people were generally very poor, and without these fisheries there is reason to suppose that many of them would have had to suffer during the coming winter.

The steamers also frequently brought working-people of both sexes from distant parts of Norway. . All in all from 8,000 to 10,000 strangers are supposed to have congregated on the shores of the Eids Fiord. No life was lost during these fisheries.

*REPORT FROM THE TROMSØE DISTRICT ON THE PARTICIPATION OF THE
POPULATION IN THE FISHERIES IN THE ARCTIC OCEAN.*

Under date of January 26, 1882, the governor of the district made a report, from which we take the following data :

In 1880 this district equipped in all 21 vessels, with a tonnage of 743 tons, and manned by 169 persons. One of these, with a tonnage of 35 tons and a crew of 10 men, belonged to Stavanger, while the others belonged to Tromsøe. Three of the vessels made two voyages each, the first to the banks to engage in shark fishing. Eleven of the expeditions were principally fitted out for cod fishing, and but few other fish were caught.

The total result of these fisheries was as follows :

	Crowns.	Dollars.
66 walruscs, at 48 crowns [\$12.86] apiece	3, 168	849 02
3, 380 seals, at 12 crowns [\$3.21] apiece	40, 560	10, 870 08
490 whitefish, at 80 crowns [\$21.44] apiece	39, 200	10, 505 60
17 bears, at 36 crowns [\$9.64] apiece	612	164 02
379 reindeer, at 12 crowns [\$3.21] apiece	4, 548	1, 218 86
990 pounds eider-down, 48 crowns [\$12.80] per 36 pounds (vog)	1, 320	353 76
240, 200 fresh fish, at 8 crowns [\$2.14] per 100	10, 216	5, 149 80
280 barrels cod livers, at 13 crowns [\$3.48] per barrel	3, 640	975 52
461 barrels shark livers, at 14 crowns [\$3.75] per barrel	6, 454	1, 729 67
10 barrels whale fat, at 10 crowns [\$2.68] per barrel	100	26 80
Total	118, 818	81, 843 22

*REPORTS ON THE FISHERIES IN THE DISTRICT OF FINMARK, THE PAR-
TICIPATION OF THE POPULATION IN THESE FISHERIES, THE FIS-
HERIES IN THE ARCTIC OCEAN, AND THE RESULT OF THESE FISHERIES.*

1. THE WINTER AND SPRING COD FISHERIES.

Under date of November 30, 1880, the governor of the district made the following report :

The winter fisheries (from new year's to the beginning of the caplin fisheries) have during the present year been very insignificant. In most of the districts they were a complete failure, and in none of them were the fisheries of any importance.

The following are the statistics of these fisheries :

	Number.
Fishermen	1, 930
Fish caught	304, 500
Barrels of liver	684
Barrels of roe	166

Total value of the fisheries, 44,698 crowns [\$11,979.06]. The number of persons who lost their lives during the winter fisheries was 3.

The caplin were this year first noticed near Vardøe and Berlevaag

on March 1, and a few days later they showed themselves near Havningsberg, Baadsfiord, Gamvik, and Mehavn. About the middle of the month they came near the coast along its entire extent from Vardöe to the district of Kjelvik, and also at Ingöe in the district of Maasöe. At the other stations of the Maasöe district the caplin were not noticed till the end of the month. Further west there were no caplin fisheries during this year. Near Kiberg the fish made their appearance during the last of April, while in Varanger Fiord, with the exception of some of the outer stations, where they already came in the beginning of April, and Vadsöe, where they were noticed during the first days of March, they did not make their appearance till the middle of May. At all the stations the caplin stayed till some time after the middle of May, when they left all the stations on the coast about the same time. At some stations in the South Varanger Fiord they remained, however, till the first of June. Large masses of fish first came near the coast at Berlevaag in the beginning of March, about the middle of the same month at Mehavn and Gamvik, and about the end of the month at Ingöe. In the beginning of April the schools of codfish came near the coast at Rolfsöe, Hjelmsöe, and Havningsberg, and during the second half of April large masses of them came near the land along the entire coast from Maasöe to Kramvik. In Varanger Fiord the cod were noticed near Great Ekkeröe during the first of May, but at the other stations in this fiord not till a fortnight later; nor did they remain any longer than the end of the month. At that time the great mass of fish also disappeared from the other stations in East Finmark, while in West Finmark they had disappeared somewhat earlier.

The richest fisheries—and they were exceedingly rich—occurred during the last ten days in April and the first ten days in May. On April 20, only a little more than a million and a half had been caught, while by May 9 the number of fish caught amounted to 17,000,000. The following table will show the quantity of fish caught and the number of boats engaged in the fisheries at the more important fishing-stations:

Stations.	April 9.		April 16.		April 22.		April 29.		May 6.	
	1,000 fish.	Boats.	1,000 fish.	Boats.	1,000 fish.	Boats.	1,000 fish.	Boats.	1,000 fish.	Boats.
Ingöe.....	45	180	55	105	136	240	730	345	1,300	352
Hjelmsöe.....	80	150	80	200	150	210	700	300	1,500	280
Kjelsvåg.....	30	125	65	170	400	200	1,000	870	1,600	373
Mehavn.....	74	84	278	151	610	200	1,500	327	2,360	300
Gamvik.....	90	78	140	136	260	104	710	185	1,050	180
Berlevaag.....	400	180	560	250	940	200	1,350	200	1,800	200
Syfte Fiord.....	7	32	77	64	160	70	270	98	800	116
Vardöe.....	35	106	48	184	182	264	1,500	315	1,900	348

The number of fishermen who lost their lives during these fisheries was fifty-seven. No change was noticed in the method of carrying on these fisheries. The sanitary condition of the fishermen was very good.

At Gjøsvær alone there was some sickness among the fishermen during the first days of May, but it did not assume the character of an epidemic, and as early as the middle of May the sanitary condition was reported as good.

The fishermen, fishing-boats, and merchant-vessels were counted on May 8, and on that day the number of fishermen was 15,447 (among them 861 from Sweden, Finland, and Russia). The number of boats was 4,320 (with 76 from Russia). One hundred and six persons on board merchant-vessels also carried on fisheries. For the sake of comparison we give the following figures from previous years:

Years.	Number of fishermen.	Number of boats.
1876.....	10,703	3,320
1877.....	10,537	3,226
1878.....	16,429	4,644
1879.....	17,325	4,902

As regards the apparatus employed the report states the following: On the day when the count was taken 329 men with 73 boats were exclusively engaged in net fisheries, 4,345 men with 1,349 boats in night-line fisheries, 5,265 men with 1,243 boats in deep-bait fisheries, while 5,508 men with 1,655 boats used both night-lines and deep-bait. One hundred and seven men with 29 boats also used nets. These net-fisheries were carried on principally at several places in the South Varanger Fiord. In the district of Hasvik, at Sværholt, and in Varanger Fiord proper, no deep-bait fisheries were going on. It also appears that the inhabitants of the district engaged in net fisheries only to a very limited extent, the apparatus which was principally used being the night-line. The fishermen who came from the district of Nordland, as well as those from the southern portion of the Tromsøe district, mostly carried on deep-bait fisheries.

The number of vessels engaged in these fisheries and their tonnage was as follows:

Years.	Vessels.	Tonnage.
1876.....	286	12,021
1877.....	257	12,436
1878.....	260	12,880
1879.....	317	14,022
1880.....	314	15,463

During the latter year the vessels were manned by 1,644 men.

Good order seems to have been preserved during these fisheries. The total number of fines imposed was only forty-five, six of which were for selling liquor without a license, and twenty-one for violations of the fishery law.

The price of the raw product varied between 6 and 11 crowns [from \$1.60 to \$2.94] per barrel. Exceptionally, especially during one week in the middle of May, the price fell to 5 and even to 4 crowns [\$1.34 and \$1.07], and at Gjøsvær, even as low as 3 crowns [80 cents], but only a small quantity of fish was sold at these low prices, which were caused by the circumstance that the merchant-vessels all had their full cargo. The price of liver varied between 10 and 12 crowns [\$2.68 to \$3.21] per barrel, except at Mehavn and Berlevaag, where the price ranged from 12½ to 14 crowns [\$3.35 to \$3.75], and at Sand Fiord, where it went as low as 9 crowns [\$2.41]. For some days the same price was also paid at Kjeivik; and at Ingøe liver sold at 8 crowns [\$2.14] per barrel.

The following were the results of the cod fisheries in the district of Finmark, in 1880:

	Number.
Fish caught	23, 020, 000
Barrels of liver	50, 541
Barrels of roe	291

Total value, 2,689,732 crowns [\$720,848.17].

The efficiency of the various apparatus employed will appear from the following figures:

	Number.
Caught with nets	862, 000
Caught with lines	7, 808, 000
Caught with trawls	11, 969, 000

Besides these, 2,987,000 fish are stated to have been caught with lines and trawls, without specifying how many were caught with each of these apparatus. Two hundred and nineteen thousand fish are stated to have been used for home consumption.

The number of fish caught during previous years was as follows:

Years.	Number.
1875	19, 750, 000
1876	5, 250, 000
1877	17, 750, 000
1878	12, 000, 000
1879	19, 330, 000

As far as known, the cod fisheries have in no previous year yielded as large quantities of fish as in 1880.

Besides cod there were caught during the winter and spring fisheries, 257,000 haddock, 99,000 pounds of halibut, and flounders to the

value of 3,500 crowns [\$938]. The number of fish-heads sold was 17,485,000, at prices ranging from 24 ore to 1 crown [from 6 to 26 cents, about] per 100.

The financial results of these fisheries during previous years were as follows:

Years.	Crowns.	Dollars.
1875.....	3,340,000	895,120
1876.....	1,072,000	287,396
1877.....	3,675,000	984,900
1878.....	2,069,000	554,482
1879.....	2,668,000	714,488

As has already been stated, the number of fishermen engaged in these fisheries in 1880 was 15,447; the average earnings of every man, therefore, amounted to 175 crowns [\$46.90].

Of the total quantity of fish caught the following quantities were prepared in different ways:

	Number.
Whole stock-fish.....	9,592,500
Split stock-fish.....	515,000
Klip-fish.....	13,200,500

In West Finmark one barrel of liver generally held 525 livers, while in East Finmark the number was 380. The quantity of liver contained in the fish was, therefore, less during this year than during the previous year, as in 1879 475 livers went to a barrel in West Finmark and 340 in East Finmark. The fish did not weigh as heavy as in 1879, 120 codfish making but 120 pounds of whole stock-fish and 180 pounds of klip-fish. At some of the fishing stations 120 codfish made only 103 pounds of whole stock-fish.

The quality of codliver oil prepared for medicinal use was 4,090 barrels.

2. OTHER FISHERIES.

Under date of May 27, 1881, the governor of the district of Finmark made the following report:

A.—*Summer and autumn fisheries for pollock, cod, &c.*

Value of the fresh fish, 459,432 crowns [\$123,127.77].

Split stock-fish, 517,428 pounds; valued at 57,482 crowns [\$15,405.17].

Dried pollock, 805,500 pounds; valued at 35,410 crowns [\$9,489.88].

Other fish; value, 92,230 crowns [\$24,717.64].

Number of barrels of liver, 13,874; which was valued at 149,155 crowns [\$39,973.54].

Total value, 793,709 crowns [\$212,714].

The total number of men engaged in these fisheries was 9,655, of whom 5,119 were foreigners.

The average earnings of each man were 82 crowns [\$21.97], against 104 crowns [\$27.87] in 1872.

Eight men lost their lives during the fisheries.

B.—*Fat-herring fisheries.*

In 1880 these fisheries were carried on only in the Porsanger Fiord. The number of men engaged was 230, with 83 boats. Of these, 150 men with 63 boats used nets and 80 men with 20 boats used seines. The total quantity of herring caught was 3,000 barrels, of which 1,850 barrels were caught with seines. The average price paid was 7 crowns [\$1.88] per barrel, the total income from these fisheries amounting to 21,000 crowns [\$5,628]. The number of merchant-vessels engaged in these fisheries was 8, with a tonnage of 240 tons and a crew of 27 men.

C.—*Shark fisheries.*

Number of boats, 25; of fishermen, 96.

Number of vessels, 19; tonnage, 407 tons; crews numbering 97.

Number of barrels of liver obtained, 2,531; valued at 34,045 crowns [\$9,124].

The average share of each boat-owner was 72 crowns [\$19.30] and of each fisherman 55 crowns [\$14.74] at Lebesby, 88 crowns [\$23.58] at Hammerfest, and 156 crowns [\$41.80] at Vadsøe and Vardøe.

At Vardøe and Hasvik these fisheries were carried on during the months of June, July, and August at a distance of from 1 to 2 miles [5 to 10 English miles] from the coast; and at Tanen during June and July at the same distance. Near Hammerfest and Alten these fisheries were engaged in on the banks off the coast, as also near Spitzbergen, from June till September. One man lost his life during these fisheries.

D.—*Walrus, seal, and other fisheries in the arctic regions.*

Number of vessels, 13, with tonnage of 416; number of fishermen, 125.

Total value, 84,796 crowns [\$22,725.33].

Number of walruses caught, 256; of seals, 5,004; of bears, 38; of reindeer, 100. Quantity of eider-down obtained, 300 pounds.

One vessel from Vardøe carried on cod fisheries in the Arctic Ocean and caught 30,000 cod, the share of each fisherman being 294 crowns [\$78.79].

E.—*Whale fisheries.*

Number of whales caught or driven ashore, 164, with a total value of 233,110 crowns [\$62,473.48].

Total result of the Finmark fisheries in 1880 (in round figures).

	Amount.
Winter and spring fisheries.....	\$721, 188
Summer and autumn fisheries.....	212, 792
Fat-herring fisheries.....	5, 628
Shark fisheries.....	9, 112
Polar-Sea fisheries.....	22, 780
Whale fisheries.....	62, 444
Total.....	1, 033, 944

Report on the herring fisheries near Iceland in 1880.

1. The governor of the district of Lister and Mandal, under date of May 23, 1881, reports as follows:

Two Mandal merchants sent to Iceland 2 sets of seines, with 32 fishermen, who caught 16,000 barrels of herring, with an average value of 8 crowns [\$2.14] per barrel of fresh herring. The Mandal fishermen fished exclusively in the Seydis Fiord, and to aid them hired a number of Iceland fishermen. These Iceland fishermen got their board and 5 crowns [\$1.34] per day. The Mandal merchants had the herring salted on the spot and brought them home to Mandal, with the exception of 1,200 barrels, which were sold in Iceland.

2. From the Stavanger district we have the following report:

From Stavanger there were in 1880 sent to Iceland 3 sets of seines, with 90 men, who caught 22,000 barrels of fresh herring, at an average value of 8 crowns [\$2.14] per barrel. These fish were caught principally in the Eski Fiord and the Nord Fiord.

From Haugesund in 1880 there were sent to Iceland 12 sets of seines (67 seines in all), with 285 fishermen, who caught 27,657 barrels of fresh herring.

From Skudesnæs 22 men, with 1 set of seines, went to Iceland and caught 2,800 barrels of herring.

3. From the district of South Bergenhus we have the following report:

From Sveen 3 vessels, with 16 men and 1 set of seines, went to Iceland in 1880 and caught 1,950 barrels of fresh herring. The earnings of each man were 400 crowns [\$107.20], and the net income of the company which had fitted out these vessels was 25,000 crowns [\$6,700]. These fisheries were exclusively carried on in the Mjoe Fiord, on the east coast of Iceland.

From Stordoe there were sent to Iceland 2 vessels, with a capacity of 1,000 and 500 barrels, respectively, with 1 set of seines and a crew of 14 men. These vessels caught 1,800 barrels of herring, with a total value of 14,400 crowns [\$3,859.20]. These fisheries were carried on during the latter part of July and during August, and principally in the Oya Fiord, on the north coast of Iceland. Later in the season two other vessels, with 1 set of seines, were dispatched to Iceland from Stordoe, but we have no information as to their success.

From Sund there was sent only 1 set of seines, consisting of 3 seines and 2 large and 3 small boats, and a crew of 20 persons, who caught 3,500 barrels of herring, valued at 28,000 crowns [\$7,504], the share of each man being 320 crowns [\$85.76].

4. From Bergen we have the following report by the committee of the Bergen Exchange:

As far as known three expeditions were dispatched to Iceland from Bergen in 1880, with 4 sets of seines in all. The total quantity of herring caught amounted to about 19,950 barrels.

5. From Aalesund we have the following report:

One set of seines, with 11 men, was dispatched to Iceland, and caught 2,812 barrels of herring, at an average value of 8 crowns [\$2.14] per barrel. These fisheries were principally carried on in the Öya Fiord, on the north coast of Iceland.