V.—THE LOFFODEN FISHERY IN 1880.*

By Lieut. NIELS JUEL.

The following report concerning the Loffoden fishery in 1880 was prepared for His Majesty the King, by Niels Juel, first lieutenant in the navy, chief inspector of that fishery:

The work of inspection continued from January 16 to April 14, over the region from Loffoden to Guldvigen. The force consisted of 8 officers, 1 inferior officer, 2 mates, 3 foremen, 21 seamen, and 1 cook. Its distribution is shown in the annexed Table I. The time of its arrival at Loffoden was as follows: January 16, the chief inspector and 2 men. January 18, 1 officer and 4 men. January 25, 3 officers and 20 men. February 1, 7 officers and all the men. February 3, the entire inspection force.

Since, at the close of the month of January this year, fewer boats than usual had arrived, only 1,800 against 3,100 in 1879, and 2,200 in 1878, no serious detriment followed from the small inspecting force at the beginning of the fishery. The inspecting party was not ordered to meet earlier simply because of the scantiness of the appropriation. It will at the same time be unfortunate if such an arrangement be established as a rule; the fact that there was no further injury to the preservation of order or the service in general this year was simply because of the circumstance that from the 20th of January to the end of the month there were only three days in which the weather allowed the fishermen to cross West Fjord. Because of the steamer's schedule, the chief inspector, together with the officers and men, departed on the 13th of April, with the exception of one officer, who remained at stations in Flakstad until the inspection closed at midnight on the 14th. The officers were employed on the average seventy-eight days, and the men eighty-six, or, if the traveling-days be excluded, seventy-nine days. The pay of the inspecting force amounted to 140 crowns ($37.52) daily. The average combined pay of the officers was 624 crowns ($167.23), and of the crew 185 crowns ($49.58).

* *Fra Opsynschefen ved Lofotfiskeriet. Lofotfiskeriet*, 1880. *Kristiania. Trykt hos Chr. Schibsted.* Translated by TARLETON H. BEAN.

NOTE.—It will be observed that the totals in some of the statistical tables cannot be obtained by adding their component parts. Whether this is due to omissions of minor details or to typographical errors cannot now be determined, and the original is reproduced without change.—TR.

TABLE I.—*Distribution of the inspecting force.*

Sign of the district.	Inspection district.	Fishing stations.	Extent in sea-miles.	Maximum fleet.			Officers' assistants.		Inspecting officer.	Surgeon.
				Vessels.	Boats.	Men.	Mates.	Sailors.		
B & C.	Skroven	Skroven, Gudbrandsö, Vikan, Bretteenæs, Guldvig, Skjoldvær.	2	70	700	3,600	.....	2	H. Kjelsberg	A. J. Sand (ward).
E, F, & S.	Svolvær	Östnæsfjord	2	*110	*700	*3,900	.....	2	Th. Wisløff	E. Rode, from March 20.
.....	.....	Svolvær, Osan	.....	.....	.....	.....	.....	.....	.....	.....
H & I.	Vaagene	Kirkevaag, Kabelvaag, Storvaagen	½	100	950	5,200	1	2	J. Vinnem	Chr. Eger (infirmary).
K, L, & M.	Hopen	Molnosen, Örsvaag, Örsnæs, Hopen, Kalle	½	90	720	3,800	1	2	M. Kjelsberg	
N.	Henningsvær	Guldvigen, Festvaag, Sanöen, Henningsvær	½	150	1,100	6,200	1	2	J. Tönseth	U. F. M. Poppe (ward).
P, G, & T.	Stamsund	Valberg, Skokkelvigöerne	1½	130	1,050	5,700	.....	3	H. Olsen	
		Hartvaagen, Svarholt, Stamsund, Æsöen, Upper and Lower Stene.	.....	.....	.....	.....	.....	.....	.....	H. Kjelsberg (ward).
U.	Ure	Ure	½	30	300	1,600	.....	.....	H. Jacobsen † (subordinate officer).	
V & W.	Balstad	Sandsund, Mortsund, Brandsholmene, Moholmene, Baarsund, Balstad, Kræmmervigen.	1	40	400	2,200	1	2	A. Öiestad	D. F. Schunmacher (district infirmary).
X, Y, Z, Æ, Ø, & II.	Sörvaagen	Stromsö, Nufsfjord, Inner and Outer Næsland, Sund, Havnö, Olenilsö, Reine, Moskenæs, Sörvaagen, Bogen, Tind, Aa, Evenstad.	3½	80	750	4,200	.....	2	J. J. Rokkonæss	H. Ommundsen (ward).
	"Lunnen"	Storvaagen, Östnæsfjord	.....	.....	.....	.....	1	2	.....	
	Svolvær	As servants to the chief inspector and judge, and assistants to the officer and manager.	.....	.....	.....	.....	.....	2	.....	
			.....	800	6,670	36,400	5	21		

*Not including Östnæsfjord. †In Östnæsfjord, from March 18 to 25.

In the report of last year, pages 5 to 9, as well as in the estimate for 1881, I set forth strongly the necessity of an increased appropriation, partly because the inspection force is at present inadequate for the greatly increased labor of late years, partly because the wages are too low, absolutely as well as relatively to the requirements which ought to be found in the personnel of the inspection, and in part because many expenses, such as hoisting signals, placing beacons, lodging for the men, together with printing the report, amounted to not a little. I cannot sufficiently insist upon it that the claim which has been made for an increased appropriation has not been called forth by a desire to make the inspection more absolutely effective, but it is based upon the necessity of taking such measures as will prevent its retrograding as an institution, and it is doing this now, because the increased number of people and the exigencies of the times demand a larger force as well as increased capability and activity in it. From Table II it will be seen that while the proportion between the inspecting force and the total number of fishermen, mariners, and other tradesmen was, from 1861 to 1862, as 1 to 500, it was in 1880 as 1 to 840.

Under the last two heads are given the cost of the inspection, which has always been set forth as so considerable, deducting what was paid into the treasury in the shape of fines or for telegrams. Herefrom it will be seen that this has been from .82 to 1.33 crowns (22 cents to 36 cents) for each adult male who has been present during the fishing. If one compares the expenses of the inspection with the other expenses during the fishery he will find out that last year the loss of implements was 83 times as great as the cost of inspection; the cost of bait was 10 times as great as the cost of inspection; the wear and tear of skin-clothing was 10 times as great as the cost of inspection; the wear and tear of bed-clothing was twice as great as the cost of inspection.

If we remember that the inspection, whose operations include vessels in Loffoden, together with the mercantile class in many parts of the country, never costs one-half as much as the wear and tear of the fishermen's bed-clothing may be estimated at, the sum of 23,000 crowns ($6,164) seems insignificant. In comparison with the duties its cost was nearly the same as the import duties upon the sugar and coffee which were consumed during the fishing, and a couple of thousand crowns ($536) less than the duties upon fish imported.

Some have thought that the inspecting party might facilitate its work by associating with it a voluntary inspection by the people similar to that established at Söndmöre by a law of June 6, 1878. The chief duty of this inspection shall, according to law, consist in "seeking by injunction and warning to prevent as far as possible" violation of law at sea. How far the public morals will be improved hereby is, however, doubtful, for it is not through ignorance or lack of warning that offenses are committed at sea, but because the fisherman knows that it is extremely difficult to get full proof of them. Even if information to the police be

made a duty of citizenship it still lacks the great essential to its promised utility, namely, the ability to procure conclusive proof; for this as a rule can be brought by the injured party alone, and often not by him, a thing of which the police records can furnish abundant examples. I cannot see that an inspection by the people, that is to say, organized in the manner proposed, can make any change in the existing state of things, because there is now just as little want of injunction and warning as of announcements. On the contrary, the result of it will probably be that when either a single trade or people from a particular district are present in a large majority in most of the stations they will tyrannize over those more weakly represented. So far as I have learned, the plan is based upon an opinion of certain people, but I think that where such is found it involves the idea of self-management, while in the legal method is found no trace of such an idea beyond the formal condition that there shall be a choice.

The inspection imposed in all 152 fines. The nature of the offenses is set forth in the annexed table III, which also contains a statement of the fines imposed by the inspection during the last five years. The number of fines this year is somewhat smaller than that of last year. The diminution occurs especially in transgressions of section 10, which is because of the fact that the fines were all imposed for individual infractions of one portion of that section; also in transgressions of section 11, which is for the reason that there was only one fishing-sea, and its limits were better known than last year when this division first took place.

The matter of making arrests (page 13 in the report for 1879) and of authority for sending vagrants to a house of correction (same report, pages 74 and 75) will probably be decided in the course of the year.

TABLE III.

Offenses.	Number of fines received or imposed.				
	1876.	1877.	1878.	1879.	1880.
Fines, total	334	*197	188	182	152
These consisted of:					
For disturbing the peace, § 6	17	24	36	25	32
For breaking the harbor regulations, § 7	.....	3	5	1	4
For fishing without boat-marks, § 9	9	2	6	2	3
For fishing too early or too late, § 10	213	104	55	99	65
For setting in unlawful waters, § 11	10	25	35	25	8
For sabbath breaking, § 12	.....	1	.....	.....	.....
For throwing out ballast, § 13	.....	.....	1	.....	1
For sailing in spite of warning, § 15	1	1	.....	.....	.....
For improper clearance, § 16	16	7	19	11	8
For sailing on a holiday, § 19	8	3	15	2	1
For improper treatment of rescued gear	2	.....	3	1	1
For violation of health regulations	31	2	.....	4	1
For unlawful sale of whisky	13	16	3	6	16
For unlawful sale of beer and wine	12	1	5	3	11
For unlawful sale of other articles	2	2	5	3	1
Fines received by amicable arrangement in private matters.	18	20	20	20	13
Private matters otherwise treated, which are on the record.	162	252	257	428	368

* Includes for shooting eider duck, 6.

The fines amounted to 2,224 crowns ($596.03), of which 1,126 ($301.77) fell to the state treasury, 549 ($147.13) to various local treasuries, and 549 ($147.13) to the inspecting force as their share.

By amicable adjustment in private affairs were received 13 fines, amounting in all to 144 crowns ($32.59), of which 66 ($17.69) went to the poor-fund, 2 ($0.54) to the reading-room in Stamsund, and 76 ($20.37) to the projected reading-room in Henningsvær.

The inspecting force investigated and put on the register 188 private cases concerning fishery business exclusively and also 180 other private disputes.

Law Candidate Marcus Hegge Parelius, an attorney of the superior court, acted as judge extraordinary. The number of cases for this year and the four immediately preceding it is stated in table IV below:

TABLE IV.

Cases.	Cases managed by the judges.				
	1876.	1877.	1878.	1879.	1880.
Total	33	28	29	35	49
Of these were:					
Examinations	16	19	15	21	18
Police cases	15	4	9	5	17
Declarations	.....	1	2	3	3
Protests	.....	2	.....	1	2
Executions	2	.....	.....	.....	2
Tax cases	.....	1	2	3	2
Private disputes	.....	1	1	2	5
Number of cases relating to:					
Theft	12	11	10	9	13
Fraud	.....	1	1	4	.....
Concealing goods found	2	1	2	3	.....
Chapter 18 of criminal laws	.....	2	1	.....	.....
Other crimes	2	4	1	5	5

Of the five examinations included under "other offenses," four related to assault and one to opening letters. Of the examinations, 9 were decided and the rest closed. Of the police cases, three were adjudged and the rest settled after the fine was agreed upon. Two police cases were transferred for treatment outside the inspection district, since the parties concerned left before the judge found time to dispose of the cases. Of the cases before the special court, four were decided and one was settled after legal adjustment. Eleven public cases announced for the associate judge were sent to the superior court because time did not allow their treatment during the fishing season. Of these, seven related to theft and four to fraud. Of eight old cases which were sent from the superior court for continuation, time allowed the disposal of only one.

From the above it will be seen that the judge has disposed of more than one-half as many cases as the average of the four preceding years, four times as many as the average from 1872 to 1875 (see report for 1879, page 14), also nearly one-half as many as the two judges combined from 1860 to 1871. Eighteen examinations and two police cases, for lack of

time to dispose of them during the fishing, were sent over to the common court, to which, for the same reason, a not inconsiderable number of special-court cases were referred. The management of the examinations by the common court will cost much more to the public treasury than by the associate judge; the chief inspector for two years has proposed to act on the budget, and during the fishing this year applied for it. On account of these increased expenses for the criminal fund the superior magistrate in the district of Nordland, so far as I know, has undertaken to obtain, through the department of justice, the necessary judicial assistance during the fishery. If such help can be had in this way it will be unnecessary to apply for any associate judge until the fishing begins. In the contrary event I cannot sufficiently emphasize the necessity of appointing such a one as soon as the number of cases demands it, although there is no license.

A. J. Sand, director of inspection in the district of Skroven and Östnæsfjord, brought, as physicians, O. Ch. Chr. Eger, district physician in Vaagen and the rest of the districts of Svolvær, Vaagen, and Hopen, U. F. M. Poppe, of the medical corps of Henningsvær district, Medical Candidate H. Kjlesberg of the Ure and Stamsund districts, D. F. Schumacher, district physician in Buksnæs in the district of Balstad, and H. Ommundsen, district physician of Flakstad and its dependencies. From March 20 Medical Candidate E. Rode took charge for a week of the medical inspection in Svolvær district, and later of Hopen district also. From February 23 Ch. A. Sellæg, district physician in Ofoten, took charge of the medical inspection in Værö and Röst.

The table below shows the number of sick treated in the different medical districts:

Medical district.	Sick treated.		
	Total.	Of those are—	
		In the infirmary.	Dead.
Skroven	294	18	3
Svolvær	53	1	.....
Vaagene	856	127	9
Henningsvær	1,732	85	7
Steno	414	80	6
Balstad	355	52	5
Flakstad	392	13	1
Grand total	4,096	376	31

The number of patients in proportion to the fishermen, seamen, and other tradesmen present was larger than in any of the four preceding years, namely, 13.5 per cent. The number of cases of diarrhœa, chills and fever was greater than usual. The cases of chills may possibly in part be attributed to the want of proper house-room, since, on account of the overcrowding in many places, it was necessary to house the incoming fishermen in lofts and cow-houses (even pig-pens and summer cow-pens were not refused). The diarrhœa indeed had its origin partly

in the same condition, partly also in the want of suitable drinking-water. Of exanthematous typhus 2 cases occurred, and of typhoid fever 77, of which 8 ended fatally. There were 54 cases of inflammation of the lungs, with 5 deaths. The other causes of death were: Incarcerated hernia, 4; paralysis of the brain, 3; inflammation of the brain, 2; acute diarrhœa, 2; dropsy, 2; epidemic cerebro-spinal-meningitis, 1; rheumatic fever, 1; twisting of the gut, 1; senile inflammation, 1; and gangrene 1.

The table following shows the number of cases of nervous fever and lung-inflammation treated at the Loffoden fishery since 1860. Through the generosity of the medical office the returns are now complete for the whole time, and they are here given entire.

Year.	Totals.			Year.	Totals.		
	Nervous fever.	Inflammation of the lungs.	Deaths.		Nervous fever.	Inflammation of the lungs.	Deaths.
1860	21	19	13	1872	23	12	4
1861	12	20	23	1873†	54	18	10
1862	16	31	15	1874‡	146	17	13
1863	122	57	23	1875	56	18	.....
1864	102	34	15	1876	28	140	46
1865	83	19	9	1877	6	38	9
1866	26	16	13	1878	8	51	17
1867*	59	33	19	1879	55	38	15
1868	106	24	14	1880	72	54	31
1869	88	11	17				
1870	69	28	4	Average	.....	.....	15.9
1871	47	14	9				

* 3 cases of variola. † 6 cases of exanthemata. ‡ 1 case of exanthema.

Thus disease has claimed an average of 16 yearly, or 68.7 in 100,000, while the sea and accidents have taken off 25½, or 110 in 100,000. Of deaths there have occurred also during the Loffoden fishery through disease 1 for about every 1,500 of the population, through shipwreck 1 for every 900 men. Judging from statistics also, we must be prepared next year for a greater number of cases of nervous fever.

Venereal disease has increased, not only in the number of cases, but also in proportion to the fishing population. The inspection seeks in this matter, as far as possible, by controlling it, to prevent the spread of the plague, and next year it will also institute legal proceedings against any one who, being known to have this disease, communicates it to another.

The prevailing diseases have been:

Catarrh of the air-passages	481
Other acute catarrhal affections	216
Diarrhœa	450
Cardalgia and chronic gastritis	346
Swollen fingers	289
Wounds (*vulnera*)	226
Eye diseases	208
Simple fever	182
Chronic rheumatism	148

Nervous disorders	143
Boils, abscesses	139
Bruises and sprains	131
Senile inflammation	74
Total	3,033

Or three-fourths of all the sick treated.

Table V below shows the proportion, for the last five years, which the prevailing diseases have borne to the size of the fishing population. On the average there have been treated yearly:

For cardalgia and chronic gastritis, 12 in every 1,000 men.

For catarrh, 18 in every 1,000 men.

For diarrhœa, 10 in every 1,000 men.

For swollen fingers, 9 in every 1,000 men.

For wounds (*vulnera*), 6 in every 1,000 men.

For chronic rheumatism, 6 in every 1,000 men.

The difference has been greatest in the cases treated for catarrh of the air-passages, namely, from 6 to 16 in 1,000. The number of swollen fingers was smallest in 1878, which was due in part to the fact that the number of line-fishermen was smaller that year than in the others, but when compared with the two preceding years it must of course be attributed principally to the attention paid to the need of speedy treatment of the cuts which produce the inflammation; and when 1878 is compared with the two following years, it appears as if the so-called wound-varnish, whose distribution was opposed by all the doctors, has played an important part in securing the low number of this and a part of the following year. If we compare the number of swollen fingers with the number of line-fishermen, who are most afflicted by them, we shall see that there were, in 1876, 29 cases to every 1,000 line-fishermen; in 1877, 26 cases to every 1,000 line-fishermen; in 1878, 20 cases to every 1,000 line-fishermen; in 1879, 23 cases to every 1,000 line-fishermen; and in 1880, 28 cases to every 1,000 line-fishermen.

I think, therefore, that the attention not only of the fishermen, but also of the chemists, should be urgently directed to this important matter, since the wound-dressing which the royal apothecary, Ditten, distributed gratis in 1878 and part of 1879 was not entirely satisfactory.

TABLE V.

Prevailing diseases.	1876.	1877.	1878.	1879.	1880.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Cardalgia and chronic gastritis	1.2	1.0	1.3	1.5	1.1
Bronchial catarrh	1.6	0.6	0.9	1.2	1.5
Other catarrhal affections	0.7	0.6	0.6	0.5	0.7
Inflammation of the lungs	0.6	0.2	0.2	0.1	0.2
Diarrhœa	0.6	0.6	1.6	1.0	1.4
Eye disease	0.4	0.6	0.6	0.7	0.7
Nervous disease	0.5	0.4	0.7	0.7	0.5
Swollen finger	1.1	1.0	0.6	0.7	0.9
Chronic rheumatism	0.6	0.9	0.6	0.5	0.5
Wounds (*vulnera*)	0.5	0.5	0.6	0.5	0.7
Senile inflammation	.....	0.2	0.5	0.2	0.2
Treated in all	12.2	11.0	12.0	12.8	13.5

Cases of sickness each month.

Medical district.	Cases treated.				
	January.	February.	March.	April.	Total.
Skroven	13	120	131	30	294
Svolvær	.....	.....	53	.....	53
Vaagene	24	247	413	172	856
Henningsvær	155	685	748	144	1,732
Stene	14	148	201	51	414
Balstad	27	133	142	53	355
Flakstad	28	83	163	118	392
Værø and Röst	.....	.....	.....	.....	44
Total	261	1,416	1,851	568	4,140
	4,096				

Værø and Röst do not belong to the inspection district. As will be seen, the physician in Svolvær, during the single week of his practice there, had more patients than the doctor at Værø and Röst in the space of seven to eight weeks. Under ordinary circumstances the medical attendance during the Loffoden fishery is sufficient, except in Vaagen, during the East Loffoden fishing, when it will be desirable to have two physicians present from the middle of February to the close of March. (See report for 1879, page 16.) The table below shows the number of sick treated in the hospitals. In the middle of March these were inspected by the director of the civil medical department:

Hospital.	Hospital patients.				
	January.	February.	March.	April.	Total.
Skroven	.....	9	8	1	18
Kabelvaag	.....	.....	.....	.....	128
Henningsvær	6	36	39	4	85
Stene	.....	26	43	11	80
Gravdal	3	13	25	11	52
Reine	.....	4	7	2	13
Total	.....	.....	.....	.....	376

Altogether 9.2 per cent., or one-eleventh, of the sick were placed in the hospital.

For the remaining details of this subject I venture to present the annexed Table VI, which contains a statement of the cases of sickness treated by the doctors. This, as well as the two preceding tables, was kindly prepared by the medical office:

TABLE VI.—*Summary of the cases treated by the physicians during the Loffoden fishery*, 1880.

	Total.	
	Treated.	Died.
Exanthem, typhus	2	
Typhoid fever	77	8
Cerebro-spinal meningitis, epidemic	1	1
Simple fever	182	
Chicken pox	5	
Scarlet fever	1	
Erysipelas	1	
Diphtheritic inflammation of throat	4	
Kusma	22	
Bronchial catarrh	487	
Other acute catarrhal affections	221	
Inflammation of lungs	54	5
Pleurisy	31	
Chronic bronchitis, asthma	33	
Spitting of blood	6	
Consumption	9	
Heart disease, palpitation	12	
Ague	1	
Rheumatic fever	47	1
Chronic rheumatism	148	
Muscular rheumatism, contracted at sea	15	
Sting (stitch?)	72	
Acute diarrhœa	450	2
Other acute affections of the digestive apparatus	56	1
Cardalgia, chronic gastritis	348	
Scurvy	1	
Brain fever	2	2
Nervous disorders	144	3
Mental diseases	3	
Dropsy, *Morbus Brighti*	5	2
Disease of urinary organs	14	
Skin disease	92	
Worms	4	
Syphilis	5	
Gonorrhœa, urethritis	28	
Epididymitis, orchitis	21	
Wounds (*vulnera*)	233	
Fractures and luxations	13	
Bruises and sprains	134	
Senile inflammation, *vakrom*	74	1
Disease of bones and joints	66	
Lymfangit, phlebitis	5	
Swollen fingers	297	
Boils, abscesses, ulcers	139	
Furuncles, carbuncles	57	1
Gangrene	1	
Burns	19	
Frostbites	36	
Eye diseases	213	
Ear diseases	75	
Nasal affections, epistaxis	11	
Tumors	10	4
Rupture	25	
Diseases not indicated	116	
Other affections	12	
Total	4,140	31
Teeth extracted	116	
Number of hospital cases	376	

The county council of Nordland last year placed at the disposal of the superior magistrate of that district the necessary funds for improving the management of the water supply, and the county also will hereafter pay interest on the money borrowed from the medical fund (18,800 crowns—$5,038.40—in 1878). Moreover, I think it proper to call attention to the sums which are supplied from the medical fund for the expenses of the council incurred for vaccination, midwifery, and treatment of mental disorders.

For extraordinary clerical service during the fishery, were present O. S. Revers and L. A. Meek, assistant diocesan clergymen.

S. Nilssen, parish clerk of Melö, taught school forty-four days in Stamsund. The number of pupils was upwards of 60, most of them from Stegen and Lenvig. The course of study was the same as last year. The school-day, as a rule, was four hours. In Henningsvær school was established also, but the attendance was small. Since education is not compulsory, the patronage depends largely on the interest which the teachers can awaken in the school. On account of the not inconsiderable number of boys who are present during the Loffoden fishery, without taking any direct part in it, I think that a modification of the system of instruction for the fishing season is worthy of closer consideration. The time of these boys, to be sure, is partly occupied in baiting lines, cleaning, and cooking; but still a portion of them remain in idleness. The matter must, however, rest until we learn their number, and I shall undertake an enumeration next year.

There are chapels now in Svolvær, Vaagen, Hopen, and Stamsund, whilst in Ure one is being constructed. Churches are found in Kirkevaag, Henningsvær, Valberg, Stene, Gravdal, and Moskenæs. The following table gives the expenses of the chapels, the contributions by which they are erected, and also their debt:

Place.	Chapels.			
	Cost.	Contribution—		Debt.
		From the state.	Private.	
	Crowns.	*Crowns.*	*Crowns.*	*Crowns.*
Svolvær	4,400	2,500	1,900	.....
Vaagene	2,000	.....	2,000	.....
Hopen	2,500	.....	2,500	650
Stamsund	9,200	2,000	6,100	1,100
Ure	3,200	.....	800	2,407

As a building fund for proposed chapels was collected: In Skroven, 1,700 crowns ($455.60); in Balstad, 140 crowns ($37.52); and in Nufsfjord, 300 crowns ($80.40).

There is at present one reading room (in Stamsund). One is being built in Ure, and in Henningsvær 1,200 crowns ($321.60) have been collected for a prospective reading room.

Libraries are to be found in Henningsvær, Stamsund, and Svolvær. In the last two places, however, the number of books is yet very small. In 1878 the county council of Nordland granted to each hospital 50 crowns ($13.40) from the medical fund for the purchase of books. In 1879 the grant was extended also to the wards in Loffoden. It is very desirable to repeat this grant for many years to come, in which case, however, I think it is proper to advise that the purchase of books be

made according to a fixed plan, such as that established by direction of the diocese.

From the foregoing it would seem evident that there is a want of houses of worship in the larger places as well as in those more remote which are destitute of churches, since there are at present only five built and three projected. As the financial condition of the common people at present is discouraging, partly on account of low prices last year in Loffoden, and in part because of the unsuccessful herring fishery, and as we cannot expect to find among fishermen who move quickly from one place to another the same social spirit as in a settled community, there exists a state of financial depression in nearly all the churches. Here is, therefore, a proper object of public assistance. The want is greatest in Skroven, where as many as 3,000 people can often be assembled, and where all divine service hitherto has of necessity been held in the open air. Next in want is Nufsfjord, whose annual complement is nearly 400 men, and from which the distances to church are both long and troublesome. In this connection I think it proper to add that it will certainly be most prudent to make the contribution from the state contingent upon public control over the use of the chapels, which has not been the case hitherto.

Libraries have come to be appreciated of late, and their utility is incontestable. That they have not become general is principally because only a few places have taken the initiative in this matter. Not only should money be collected, but building should be entered upon, and the house once finished should be, during its use in the fishing-season, cared for by heating, lighting, and cleaning it as well as by providing newspapers and books. The fisherman, because of his occupation, cannot easily furnish anything except money. At the same time it certainly is essential that these libraries be subject to a wise control, for they may easily degenerate and become an injury instead of a source of use and comfort. I find this matter of such importance both for the fishermen and the public that I believe I should call attention to it, since the idea is a sound one, though it will hardly be initiated by the fisherman himself, and since unity in action will accomplish the end more quickly and surely.

The telegraph corps consisted of 23 operators, divided among 9 fixed and 3 field stations. On account of the fishing, the force at Lödingen station was augmented during the fishing-season by 2 operators. Of the 9 fixed stations the following 5 are open throughout the year: Svolvær, Vaagen, Henningsvær, Balstad, and Sörvaagen. Of the remaining stations the field station in Stene is closed on the 14th of April, and the stations in Skroven, Hopen, Ure, and Reine close April 30 after the service ends. Stamsund station is kept in operation later. During the fishing the Digermul field station is moved to Vaterfjord (Östnæsfjord) on March 15, and on the 30th from there to Stene, where it is opened on the 2d of April.

Table VII shows the number of telegrams sent and received at the above-named 12 stations between January 1 and April 30. The statement is a summary kindly communicated by J. B. Lie, inspector in the district of Tromsö:

TABLE VII.

Stations.	Distance in Norwegian miles.	Number of telegrams dispatched from January 1 to April 30.									
		January.		February.		March.		April.		Total.	
		Sent.	Received.	Sent.	Received.	Sent.	Received.	Sent.	Received.	1880.	1879.
Digermulen	0	18	17	20	24	138	116	93	62	488	147
Skroven	3	30	28	342	103	874	541	245	185	2,438	2,087
Svolvær		351	266	708	448	1,594	1,084	641	487	5,579	4,316
Vaagen		327	212	961	539	1,600	1,080	819	539	6,167	6,032
Hopen		74	46	475	181	477	352	188	120	1,913	2,011
Henningsvær		271	197	776	474	1,050	949	559	371	4,647	5,626
Stamsund	1½	184	109	700	374	1,112	1,096	320	284	4,179	3,530
Ure		25	13	95	76	239	243	84	70	845	651
Balstad		236	144	345	188	614	425	378	278	2,608	2,259
Sund	1½	21	25	126	97	302	203	267	200	1,301	1,132
Reine	1	35	16	95	83	215	218	198	173	1,033	1,011
Sörvaagen	½	55	58	218	116	265	197	247	185	1,341	1,398
		1,627	1,131	4,861	2,793	8,570	6,564	4,039	2,954	32,539	30,200
		2,758		7,654		15,134		6,993		+ 2,339	

For comparison the number of telegrams dispatched during the fishing-season in the last three years is appended:

Month.	Number of telegrams.		
	1878.	1879.	1880.
January	3,472	2,710	2,758
February	7,893	5,463	7,654
March	11,703	13,244	15,134
April	7,132	8,795	6,993
Total	30,200	30,212	32,539

The number of telegrams exceeds that of last year by 2,300. The increase is marked at stations in East Loffoden, and, as to time, during the month of March.

In my report for 1878, as well as in that of 1879, I stated that the number of lines was too small for the amount of correspondence, a view which was shared by the telegraph department, which therefore in both of these years solicited Parliament for the necessary license to establish a new wire between Ure and Henningsvær, but in vain. I must therefore this year again emphasize the necessity of this line, for under existing circumstances the detention of messages, which is essentially due to the want of a sufficient number of wires, is frequently highly perceptible and has occasioned considerable loss of both time and money.

At any rate the number of lines is far from adequate to the amount of correspondence, a condition which should in justice be secured for a business so important to the country.

The table following shows the number of telegrams sent and received annually from 1870:

Year.	Telegrams.			Permanent stations.	
	Sent.	Received.	Total.	Number.	Open all the year.
1870	10,000	7,800	17,800	8	2
1871	10,300	7,500	17,800	.....	.....
1872	11,600	7,600	19,200	.....	.....
1873	12,800	9,000	21,800	.....	.....
1874	14,800	10,900	25,700	.....	.....
1875	17,700	12,400	30,100	.....	.....
1876	22,100	16,600	38,700	.....	.....
1877	26,200	18,600	44,800	.....	.....
1878	24,200	17,500	41,700	9	5

From January 16 to April 14, 90 days, Loffoden has been called at by 114 line steamers besides local vessels. Of these there were—

Northward bound.

Packets *en route* from—

Bergen to Hammerfest	4
Bergen to Vadsö	2
Hamburg to Vadsö	7
Kristiania to Tromsö	14
Total	27

Private vessels between—

Bergen and Tromsö	10
Bergen and Vardö	4
Bergen and Vesteraalen	9
Bergen and Loffoden	2
Kristiania and Vardö	1
Loffoden and Vardö	3
Total	29

Southward bound.

Packets between—

Hammerfest and Bergen	3
Hammerfest and Hamburg	5
Vadsö and Hamburg	7
Tromsö and Kristiania	13
Total	28

Private vessels between—

Tromsö and Bergen	11
Vardö and Bergen	3
Vesteraalen and Bergen	10
Loffoden and Bergen	2
Vardö and Kristiania	1
Vardö and Loffoden	3
Total	30

Of the 27 north-bound packets 14 were delayed from one-half day to three days, as follows: 5 times, one-half day; 4 times, one day; 1 time, one and one-half days; 3 times, two and one-half days; and 1 time, three days.

In January occurred 4 detentions; in February, 6, and in the first half of March, 4.

Of the 19 packets, which in this space of time called at Loffoden, going north, 14 also were detained, or, if we overlook delays of a half day, 9 (one-half). The cause of these detentions was stated to be storms and fog. But since, at the season mentioned, one can never calculate on continuous good and clear weather, or on moonlight, the real reason must be sought for in the routes, which are established for speed; besides, I think that to make the service adequate it will be necessary to put one more vessel in commission. This will cause the steamship company concerned, or the state, an increased outlay. The results of the delays of the packets are felt at present not only in the principal route, but also in its numerous branches in the fjords and out to the sea-islands; and if we take into consideration the inconveniences which are associated with a sojourn at the calling-stations, where there may often be a want of accommodation, and where one must often keep a constant lookout because he cannot tell when the delayed steamer may arrive, as also the waste of time each delay causes, the saving or the occasional speed one may reach by a forced route will hardly counterbalance the indirect tax which this, through the above-named conditions, puts upon the population of Nordland and Tromsö. I must therefore this year also emphasize the universal, and, according to my judgment, rightful desire for a more regular steamer service.

The matter of the pay of country postmasters, according to information obtained, will be adjusted by the marine and mail department of the Royal Norwegian Government at the beginning of the fiscal year.

In 1879, 4 beacons were erected and 20 moorings for vessels were placed within the inspection district.

Up to and including 1875 were found in the inspection district 8 light-houses, 7 beacons, and 407 moorings; in 1876 were established 5 beacons; in 1877, 6 beacons, 22 moorings; in 1878, 11 beacons, 12 moorings; in 1879, 4 beacons, 20 moorings. Total at end of 1879, 8 light-houses, 33 beacons, and 461 moorings on a coast stretch of 14 (Norwegian) miles.

When the work proposed by the chief inspector this year is accomplished, and this will probably require a couple of years, the number of beacons and moorings may be considered sufficient. The proposed fixing of rings I have not been able in many places to recommend, since, in the case where a vessel lies moored for a long time, bow and stern, and this forms the majority as a rule, I regard it a matter of vital importance for a vessel to establish the mooring in a convenient place ashore, especially as this work can be accomplished with ease and with moderate expense. With two rings, a drill, and a hammer, a mooring may be placed in one hour, or at the most two hours, and I should regard it a wise precaution if the insurance companies require that these articles form a part of every vessel's outfit.

Last year Gloppen light (Sörvaagen) was changed from the sixth to the third class. Thereby Balstad light has become less important as a range light for West Fjord, and since it will also be more useful as a guiding light to Balstad, the light-house board has taken into consideration the question of its removal.

The appropriation of 27,900 crowns ($7,477.20) for inspection during the fiscal year will probably be spent. At the same time, of this amount will be returned to the public treasury: Fines, 1,126 crowns ($301.77); for telegrams, 3,200 crowns ($857.60).

The appropriation of 1,200 crowns ($321.60) for extraordinary expenses of inspection in Rast Sound was not used.

The implements saved and not required during the fishing are preserved in Svolvær and Sund. The disbursements amounted to 656.26 crowns ($167.57), exclusive of the pay of the inspecting force, and the receipts were 1,195.75 crowns ($320.46), of which 935.45 crowns ($250.70) arose from auction sales of implements saved over from last year.

The correspondence-record of the chief inspector shows, for the term, 1,610 outgoing and 870 incoming issues, including telegrams. The office work, which is done exclusively by the chief of inspection, is thus considerable. Besides, the chief inspector is accountant as well as writer of responses which are made in fishery matters to the Government, as well as to private individuals, (partly also in affairs which lie outside of the domain of the Loffoden fishery), involving much labor.

As I pass on to the report of the fishing itself and its progress, I may remark that the statistical data are repeated in most cases for the last 5 years, in order that the administration, scientists, legislators, fishermen, and merchants may have the summary needed; for a report which deals exclusively with a single year's fishing, and which is published a long while after the end of the fishery, will be valuable only historically. Although I have labored towards this end for the space of 5 years, the report will not, until 1881, take the form which I think it ought to have in order to be useful. I have, for instance, in prosecuting this work during the year, been able to dispose of the months of October, November, and December only.

The arrival of the fishermen was delayed by stormy weather in the

last third of January and the beginning of February. On the first of February, consequently, not more than one-third of the fleet was present. The majority arrived between the 8th and the 14th, at which latter date not quite two-thirds had come out. At the close of the following week the fleet was assembled. Those which arrived late were partly deep-water fishermen, partly fishermen from neighboring districts, who went to Loffoden for the sake of the Östnæsfjord fishing, and partly fishermen who had previously carried on winter fishing in home waters.

The Finmark fishermen, as usual, begun to clear at the end of March; however, because of the fear of low prices, fewer than common were destined at first for Finmark waters. The cessation of the fishing in Östnæsfjord before Easter, and in East Loffoden immediately after, soon gave an opportunity for a general break-up in the first 8 days of April, after which time scarcely a single foreigner was fishing east of Balstad. Westward, nearly 1,000 boats were engaged.

Table VIII shows the number of boats which were present in the different inspection districts at the close of each week. For the weeks ending February 14 and March 20 there is given besides a special statement for the different methods, wherefrom it will be seen that nine-tenths of the line fishermen had come in the middle of February, against only a little over seven-tenths of the net fishermen; whereas the opposite proportion existed last year. Of the deep-water fishermen, as usual, only a little more than one-half had arrived.

Moving (shifting berth) during the fishery occurred to a greater extent in the latter half of February from East to West Loffoden, where, however, some were obliged to sail as far west as Reine for want of house room in the remaining stations; in the first half of March, also, they moved from Ure, Stamsund, Henningsvær, and a part of Hopen, to the more easterly stations and to Östnæsfjord.

TABLE VIII.

Week ending—	Rafsund.	Östnæsfjord.	Skroven.	Svolvær.	Vaagene.	Hopen.	Henningsvær.	Stamsund.	Ure.	Balstad.	Reine.	Sörvaagen.	Total.
January 17	8	.....	.....	.....	.....	120	.....	70	.....	112	.....	.....	900
January 24	.....	.....	40	25	25	160	400	160	.....	120	150	120	1,200
January 31	.....	.....	50	35	120	250	530	200	60	260	165	130	1,800
February 7	.....	.....	110	40	280	300	650	350	70	.....	170	.....	2,360
February 14	.....	115	315	225	690	590	1,000	500	125	380	230	275	4,445
Netters	.....	15	115	63	360	220	410	330	25	40	70	35	1,683
Liners	.....	100	94	127	80	270	400	130	100	340	160	240	2,041
Deep water	.....	.....	106	35	250	100	190	40	.....	.....	.....	.....	721
February 21	.....	90	430	380	830	680	1,040	670	170	340	560		5,190
February 28	.....	30	440	300	860	.....	1,050	780	190	.....	580		5,250
March 6	.....	.....	170	110	620	670	1,100	1,050	300	400	450	400	5,270
March 13	.....	150	300	550	800	720	1,070	900	220	380	640		5,730
March 20	.....	400	700	700	950	460	770	600	160	360	650		5,750
Netters	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,209
Liners	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,358
Deep water	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,183
March 27	.....	.....	600	620	950	520	810	400	170	350	650		5,070
April 3	.....	.....	350	300	900	500	750	450	150	.....	.....		4,410
April 10	.....	.....	100	20	200	90	450	100	80	340	720		2,100
April 14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,100
						100					1,000		

Table IX states the number of boats present at the close of each half-month during the last 5 years. In the table also is given the time of the Easter holiday, from which it will appear that it has had less to do with the departure of the fishermen than persons generally are disposed to think it has.

TABLE IX.

Time.	Number of boats present.				
	1876.	1877.	1878.	1879.	1880.
Middle of January	.....	600	300	700	900
Beginning of February	2,000	1,800	2,200	3,100	1,800
Middle of February	3,800	3,200	3,000	4,200	4,450
Beginning of March	4,700	3,800	4,100	5,000	5,250
Middle of March	4,910	4,570	4,700	5,280	5,750
End of March	3,100	4,400	4,700	4,800	4,400
End of first week in April	1,700	4,000	3,000	3,100	2,100
First day of Easter	April 16.	April 1.	April 21.	April 13.	March 28.

Table X is a statement of the number of sailors engaged up to March 16, their nativity and distribution with regard to the different kinds of gear, also the number of servants. As usual, the majority of the night-line fishermen in East Loffoden became day-line fishermen in March; just as many of the deep-bait men employed lines after their arrival at Loffoden.

TABLE X.

District.	Net.				Trawl-line.			Deep bait (hand-line).			Total number.			
									Boats.					
	Men.	Boatmen.	Boats.	Net boats having lines.	Men.	Boatmen.	Boats.	Men.	With lines.	Without lines.	Fishermen.	Boatmen.	Boats.	Servants.
Stavanger County: Soggendal, Haugesund	5	1	1	.....	3	1	1	3	.....	1	11	3	3	.....
S. Bergenhus County: Sund	.....	.....	.....	.....	.....	.....	.....	2	1	.....	2	1	1	.....
N. Bergenhus County: Bergen, Davigen, Selö	.....	.....	.....	.....	16	4	4	2	.....	1	18	5	5	.....
Romsdal County: Aalesund, Örekong, Molde, Eid, Gryten, Christiansund	.....	.....	.....	.....	7	2	2	25	1	8	32	11	11	1
S. Trondhjem County: Trondhjem, Örkedalen, Hitteren, Hevne, Stadsbygden, Rissen, Örlandet, Bjugn, Aasfjord, Björnör	596	169	110	1	18	5	5	727	11	209	1,341	334	335	145
N. Trondhjem County: Lervigen, Stördalen, Værdalen, Stenkjær, Ytteröen, Inderöen, Sparbu, Stod, Beitstaden, Namsos, Foxnæs, Fladanger, Nærö, Kolvereid, Lekö	399	65	65	.....	35	9	9	440	5	148	874	227	227	79
S. Helgeland Bailiwick: Bindalen, Brönö, Velfjorden, Vegö, Alstahaug, Stamnæs, Herö, Tjötö, Vefsen	2,247	378	390	59	1,485	329	332	908	18	314	4,640	1,039	1,054	1,072
N. Helgeland Bailiwick: Mo, Hemnæs, Næsne, Dönnæs Lurö, Lödö, Melö	2,063	333	337	.....	140	31	31	259	8	81	2,462	453	457	670
Salten Bailiwick: Gildeskall, Beieren, Saltdalen, Bodö City, Bodö Parish, Skjerstad, Folden, Kjerringö, Stegen, Hammerö, Lödingen, Tysfjorden, Ofoten	3,475	569	619	62	2,386	545	598	387	49	90	6,248	1,253	1,356	602
Lofoten and Vesteraalen Bailiwick: Hadsel, Sortland, Bö, Dverberg, Flakstad, Buksnæs, Borge, Balberg, Vaagen, Gimsö	1,688	274	396	127	2,691	844	977	112	17	26	5,491	1,161	1,416	1,649
Nordland County: Kvædfjord, Ibestad, Trondenæs, Sand, Tranö, Dyrö, Maalselven, Lenvig, Hillesö, Berg, Balsfjorden	9,473	1,554	1,742	248	7,702	1,749	1,938	1,666	92	511	18,841	3,906	4,283	3,993
Tromsö County: Malangen, Tromsö Sound, Tromsö, Lyngen, Karlsö, Skjervö	2,975	480	486	3	2,502	585	592	618	109	85	6,095	1,259	1,272	196
Finmark County: Hammerfest Parish, Tanen, Vardö	.....	.....	.....	.....	9	3	3	9	2	2	18	7	7	.....

RECAPITULATION.

Stavanger District	5	1	1	.....	3	1	1	3	.....	1	11	3	3	.....
S. Bergenhus District	.....	.....	.....	.....	.....	.....	.....	2	1	.....	2	1	1	.....
N. Bergenhus District	.....	.....	.....	.....	16	4	4	2	.....	1	18	5	5	.....

Romsdal District					7	2	2	25	1	8	32	11	11	1
S. Trondhjem District	506	109	110	1	18	5	5	727	11	209	1,341	334	335	145
N. Trondhjem District	309	65	65		35	9	9	440	5	148	874	227	227	70
Nordland District	9,473	1,554	1,742	248	7,702	1,749	1,938	1,666	92	517	18,841	3,906	4,285	3,903
Tromsö District	2,975	480	468	3	2,502	585	592	618	109	85	6,095	1,250	1,272	196
Finmark District					9	3	3	9	2	2	18	7	7	
Total	13,443	2,209	2,404	252	10,292	2,353	2,554	3,492	221	965	27,232	5,753	6,144	4,414

The total number of fishermen was 27,232, representing 5,753 crews, which is the largest force recorded in Loffoden. Compared with last year the increase is 1,676 men, or 471 crews; and, as compared with 1872, when the fleet was the smallest, 10,459 men, representing 2,107 crews, or 58 per cent.

Table XI gives the number of fishermen from the different parishes for the last five years, as well as the relative proportions in the parishes.

TABLE XI.

Year.	Number of native fishermen.													
	South Trondhjem District.		North Trondhjem District.		South Helgeland Parish.		North Helgeland Parish.		Salten Parish.		Loffoden and Vesteraalen Parish.		Tromsö District.	
	Men.	Per cent.	Men.	Per cent.	Men.	Per cent.	Men.	Per cent.	Men.	Per cent.	Men.	Per cent.	Men.	Per cent.
1876	577	3	360	2	3,586	17	2,104	10	5,213	24	4,438	21	5,007	24
1877	619	....	390	....	3,747	18	2,126	....	5,110	....	4,464	....	4,778	22
1878	785	....	421	....	4,045	....	2,440	11	5,470	....	4,391	19	5,197	23
1879	1,200	5	601	.	4,330	17	2,062	10	6,023	....	4,708	....	5,807	....
1880	1,341	....	874	3	4,640	..	2,462	9	6,248	23	5,491	20	6,095	22
Increase in 5 years	764	132	514	143	1,054	29	358	17	1,035	20	1,053	24	1,090	22
Increase over last year.	141	....	273	....	310	....	200	....	225	....	693	..	228	....

The mass of the Loffoden fishermen (23 per cent.) are from Salten and from Senjen and Tromsö, 22 per cent. Next come Loffoden and Vesteraalen with 20 per cent., South Helgeland with 17 per cent., North Helgeland with 9 per cent., and, finally, the two Trondhjem counties with 8 per cent. jointly. This proportion has been kept comparatively unchanged of late years. In the beginning of the sixties, on the contrary, 14 to 16 per cent. of the Loffoden fleet was from Northern Helgeland, and only 15 to 17 per cent. from Loffoden and Vesteraalen. The increase, so far as Loffoden and Vesteraalen are concerned, is caused partly by a larger ratio of hired men in Flakstad and Buksnæs, partly by a considerably increased fishing fleet from Hadsel. The decrease from North Helgeland is due chiefly to Næsne and Rödö, whose fleets now carry on fishing from home stations to a greater extent than formerly.

For five years the increase of fishing at Loffoden has been greatest from the Trondhjem counties, reaching 132 and 143 per cent.; next from South Helgeland, 29 per cent. From the remaining bailiwicks the growth has been about 20 per cent.

In Table XII are named the districts from which the Loffoden fleet has been increased by over 50 men or diminished by more than 15 since last year. It will be seen that there has been a gain in nearly 74 per cent. of the districts.

TABLE XII.

Parish.	From 1879. Men.	
	Increase.	Decrease.
Statsbygden	67	
Nærö	92	
Kolvereid	59	
Lekö	51	
Brönö	156	
Alstahoug	53	
Mo		33
Næsne		85
Lurö		47
Hadsel		
Sortland	85	
Bukønæs	90	
Vaagen	202	
Bodö	267	
Folden		89
Hammerö	56	
Lödingen	65	
Kvædfjord	70	
Ibestad	69	
Trondenæs	107	
Sand		93
Lenvig	50	
Balsfjorden		76
Lyngen		32
	110	
Total	1,649	405

Table XIII states the relations of the different modes of fishing during the last five years. Compared with last year, net-fishing has diminished and line-fishing increased, a result of the poorer net-fishery last year.

TABLE XIII.

Year.	Percentage of fishermen.		
	Netters.	Trawl-line fishermen.	Deep-bait men (hand-lines).
1876	43	45	12
1877	50	41	9
1878	58	32	10
1879	56	33	11
1880	49	38	13

Table XIV shows the ratio for the different districts. In five years the number of netters has varied as follows:

In South Helgeland, between 41 and 55 per cent., or 14 per cent.

In North Helgeland, between 77 and 89 per cent., or 12 per cent.

In Salten, between 51 and 63 per cent., or 12 per cent.

In Loffoden and Vesteraalen, between 20 and 44 per cent., or 24 per cent.

In Senjen and Tromsö, between 44 and 57 per cent., or 13 per cent.

In the first two years of the five-year period this method increased, and in the last two it fell off. By next year it will probably increase

somewhat again. The great difference between Loffoden and Vesteraalen districts, their proportion being double that of the others, is owing to the fact that net-fishing gradually decreased from 65 per cent. in 1862 to 9 per cent. in 1870. Later, in 1874, it advanced to 33 per cent., but in the following year it again fell off to 22 per cent.

TABLE XIV.—*Percentage of the population.*

Year.	MODE OF FISHING.																				
	South Trondhjem.			North Trondhjem.			South. Helgeland.			North Helgeland.			Salten.			Loffoden and Vesteraalen.			Senjen and Tromsö.		
	Net-fishermen.	Line.	Trawl.	Net.	Line.	Trawl.	Net.	Line.	Trawl.	Net.	Line.	Trawl.	Net.	Line.	Trawl.	Net.	Line.	Trawl.	Net.	Line.	Trawl.
1862..	20	...	80	33	1	67	78	7	15	89	5	6	65	27	8	46	51	3	65	31	4
1870..	17	6	77	21	5	74	38	39	23	69	18	13	83	63	4	9	90	1	37	58	5
1876..	45	5	50	50	1	49	41	38	21	77	8	15	51	44	5	20	79	....	44	44	12
1877..	49	...	51	....	7	43	47	36	17	83	6	11	59	37	4	25	74	....	51	43	6
1878..	52	1	47	57	5	38	52	32	16	88	3	9	63	32	5	44	55.5	0.5	57	32	11
1879..	46	2	52	58	4	....	55	30	15	89	4	7	61	....	7	38	61	1	54	38	8
1880..	44.5	1	54.5	46	...	50	48	32	20	84	5.5	10.5	56	38	6	31	67	2	49	41	10

Table XV, following, shows the changes in the use of the various methods during the last twenty-one years.

In all Loffoden net-fishing has varied between 34 and 66 per cent., or 32 per cent.; line-fishing has varied between 21 and 55 per cent., or 34 per cent.; deep-bait fishing has varied from 8 to 14 per cent., or 6 per cent.

The variation in net-fishing was as follows: In South Helgeland from 38 to 79 per cent., or 41 per cent.; in North Helgeland from 69 to 90 per cent., or 21 per cent.; in Salten from 33 to 65 per cent., or 32 per cent.; in Loffoden and Vesteraalen from 9 to 49 per cent., or 40 per cent.; in Senjen and Tromsö from 33 to 65 per cent., or 32 per cent.

The variation in trawl-line fishing was: In South Helgeland from 4 to 43 per cent., or 39 per cent.; in North Helgeland from 3 to 19 per cent., or 16 per cent.; in Salten from 25 to 63 per cent., or 38 per cent.; in Loffoden and Vesteraalen from 49 to 90 per cent., or 41 per cent.; in Senjen and Tromsö from 29 to 60 per cent., or 31 per cent.

Deep-bait fishing with hand lines has varied: In South Helgeland between 13 and 24 per cent., or 11 per cent.; in North Helgeland between 3 and 15 per cent., or 12 per cent.; in Salten between 3 and 12 per cent., or 9 per cent.; in Loffoden and Vesteraalen between ½ and 4 per cent., or 3½ per cent.; in Senjen and Tromsö between 4 and 14 per cent., or 10 per cent.

A regularity in this change from one method to another, which promises to become permanent, has been observed only in the two Trondhjem counties, where net-fishing has gradually replaced deep-bait fishing, and in South Helgeland, where trawl-line fishing has, by degrees, increased while net-fishing has fallen off.

TABLE XV.—*Percentage of fishermen.*

	Variation between the modes of fishing from 1860 to 1880.					
	Netters.		Trawl-line fishermen.		Deep-bait fishermen.	
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.
Combined Loffoden fishermen	66	34	55	21	14	8
South Trondhjem District	53	12	6	0	80	47
North Trondhjem District	58	20	7	0	74	38
South Helgeland Bailiwick	79	38	43	4	24	13
North Helgeland Bailiwick	90	69	19	3	15	3
Salten	65	33	63	25	12	3
Loffoden and Vesteraalen	49	9	90	49	4	0.5
Senjen and Tromsö	65	33	60	29	14	4

Table XVI shows the increase or diminution since last year (marked with the sign —) in the number using the different methods. With the exception of a slight increase in the Trondhjem counties, the number of net-fishermen has everywhere decreased; the number of line and deep-bait fishermen (hand-liners), on the contrary, has increased.

TABLE XVI.—*Number of men.*

District.	Increase or decrease in methods since last year.		
	Net.	Trawl-line.	Deep bait.
South Trondhjem County	48	— 6	99
North Trondhjem County	48	10	215
South Helgeland Bailiwick	—118	190	238
North Helgeland Bailiwick	—305	37	68
Salten Bailiwick	—197	450	—28
Loffoden and Vesteraalen Bailiwick	—141	768	66
Senjen and Tromsö Bailiwick	—202	284	146
Total	—867	1,733	837

In the last column of Table X is stated the number of hired men employed in the different districts. Table XVII gives the number in the various counties and bailiwicks for the last three years. In South Trondhjem County, and in Loffoden and Vesteraalen Bailiwick, the number was increased by 700 and 9 per cent., respectively; in Senjen and Tromsö Bailiwick it was diminished by 14 per cent.; the remaining places were unchanged.

TABLE XVII.

District.	Hired men.		
	1878.	1879.	1880.
South Trondhjem County	5	18	145
North Trondhjem County	57	84	79
South Helgeland Bailiwick	897	1,027	1,072
North Helgeland Bailiwick	573	668	670
Salten Bailiwick	453	594	602
Loffoden and Vesteraalen Bailiwick	1,182	1,511	1,649
Senjen and Tromsö Bailiwick	140	229	196
Total	3,307	4,131	4,413

Table XVIII gives the number of hired men for the last three years in the districts which have more than 100. The increase has been greatest in Buksnæs and Vegö, whose population almost exclusively fishes from Balstad (Buksnæs). The increase from Tjötö is due to the fleet therefrom fishing at Henningsvær.

TABLE XVIII.

District.	Number of hired men.		
	1878.	1879.	1880.
Stadsbygden	2	17	105
Vegö	112	136	180
Alstahaug	234	143	130
Stamnæs		121	112
Herö	76	106	116
Tjötö	265	314	334
Vefsen	134	137	117
Hemnæs	154	145	182
Næsne	280	299	267
Gildeskaal	104	116	134
Skjærstad	63	108	142
Flakstad	272	437	430
Buksnæs	469	588	691
Vaagen	209	236	241
Hadsel	171	153	176
Total	2,545	3,056	3,357

Table XIX shows the number of fishermen engaged at the different stations up to March 16, and their division according to the various modes of fishing. In Brettesnæs there were very few. In Kabelvaag there were 360 men less than last year, probably from the want of accommodations beyond Branden.

In most other places the fleet was larger than last year, especially in Henningsvær, which had 511 men more; in Stamsund, which had 312 men more; in Svolvær, which had 237 men more.

All the stations had a full fleet; consequently, during the shiftings, they became crowded.

TABLE XIX.

From what district.	Net.				Trawl-line.			Deep bait.			Total number.			
								Boats.						
	Men.	Crews.	Boats.	Net boats furnished with lines.	Men.	Crews.	Boats.	Men.	With lines.	Without lines.	Fishermen.	Crews.	Boats.	Number of hired men.
Eastward of Henningsvær:														
Brettesnæs, Skroven, Østnæsfjorden, Svolvær, Kabelvaag, Storvaagen, Ørsvaag, Ørsnæs, and Hopen	5,863	943	975	12	4,170	1,024	1,150	2,333	216	596	12,375	2,779	2,937	1,017
Henningsvær	2,496	423	423	...	1,947	411	411	788	2	241	5,231	1,077	1,077	950
Øerne to Ure:														
Øerne, Stamsund, Stene, and Ure	3,555	575	630	34	1,258	271	302	355	3	122	5,168	971	1,057	844
Brandsholmene to Rufsfjord:														
Brandsholmene, Balstad, and Rufsjord	502	79	136	54	1,741	370	376	12	...	4	2,255	453	516	813
Sund to Loffoden Point:														
Sund, Reine, Moskenæs, Sörvaagen, Aa	1,032	189	240	152	1,167	282	315	4	...	2	2,203	473	557	791
Westward of Henningsvær	5,089	843	....	145	4,166	923	.	371	3	128	9,626	1,897	.....	2,448
Total in Loffoden	18,448	2,209	2,404	252	10,292	2,358	2,554	3,492	221	965	27,232	5,753	6,144	4,414

In Table XX is stated the relation between the number of fishermen and the catch for the different groups of stations in the last five years.

TABLE XX.

Region.	Relation between the number of fishermen and the catch.									
	1876.		1877.		1878.		1879.		1880.	
	Fishermen.	Fish.	Fishermen.	Fish.	Fishermen.	Fish.	Fishermen.	Fish.	Fishermen.	Fish.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Raftsundet	4	3	5	3	.....	.....	.....	.....	.....	.....
Brettesnæs-Hopen	52.5	46	46	44	52	42	47.5	34	45.5	52
Henningsvær	18	15.5	18	18	18	22	18.5	21	19.2	16.6
Øerne-Ure	8	11	12	15	12	16.4	18	18	19	12.4
Brandsholmene-Nufsfjord	9.5	...	8	10	8	9.8	8	13	8.3	9
Næsland-Lofotodden	8	13.5	10	9	10	9.8	8	14	8	10
Eastward of Henningsvær	56.5	49	51	47	52	42	47.5	34	45.5	52
Westward of Henningsvær	25.5	35.5	30	34	30	36	34	45	35.3	31.4

Eighteen hundred and eighty was the only year for five years in which the catch eastward of Henningsvær was proportionately larger than the registered population. Previous to that there was a marked difference between East Loffoden and West Loffoden fishing. There has been no such decided distinction of late years.

In 1876 the principal fishing was from Skroven eastward, and from Sund westward; in 1877, from Stamsund eastward; in 1878, from

Vaagene to Ure; in 1879, from Henningsvær westward, and partly in Skroven; in 1880, from Hopen eastward, and to some extent westward also.

The reason that the catch in East Loffoden is proportionally so large is, that nearly 500 boats, which had been engaged at stations farther west, participated here during ten to twelve days. The shares have, on the contrary, averaged larger from Balstad westward. The proportion between the number of fishermen and the catch has for five years given the following average:

Region.	Fishermen.	Fish.
	Pr. cent.	*Pr. cent.*
Brettesnæs-Hopen	48.7	41.6
Henningsvær	18.3	18.6
Gerne-Ure	13.8	14.6
Brandsholmene-Nufsfjord	8.4	10.6
Næsland-Lofotodden	8.8	11.3
Raftsund	1.8	1.2

Thus it appears that fishing has been comparatively better the farther west we go. The considerable number of small boats which from fear of the sea lie in East Loffoden has naturally contributed to the relatively light catch here. Moving during the fishery (shifting berth) has also had its influence in this number, not sufficient, however, to destroy the proportion entirely, especially westward of Urebjerg, since the shifting to or from this station is inconsiderable. It is evident that the table gives a correct expression of the proportion, because wherever there is, during one year, any great disproportion between the number of fishermen and the catch, this shows itself in the size of the fleet present there the next year. The same holds good also with regard to the choice of implements. Statistics prove, on the contrary, that in both respects it is impracticable to base judicious plans for the coming year's fishing upon the results of the foregoing year.

In last year's report, page 55, I directed attention to the comparatively good catch westward of Urebjerg from and during the year 1871, and I stated, as a proof of the profitable industry here, that hired help, in spite of the larger expenses of fitting out, had shown a considerable increase. This year the force in the region from Brandsholmene to Balstad is increased by 207 men, of which 85 was an addition to the number of hired men, and in the Flakstad stations there is a gain of 222 and 18 men respectively. Although the catch has been proportionally smaller this year than in most preceding years, I think I am justified in drawing the attention of fishermen to the more uniform annual fishery in these stations than in most of those lying farther to the eastward.

Table XXI shows the distribution of the fishermen in the different stations by districts. Of the large force of 6,100 men from Senjen and Tromsö this year, 73 remained west of Urebjerg, 9 of these west of Sund.

The increased frequenting of these stations has been perceptibly noticed from Salten and especially from Folden and Gildeskaal. The fleet from Örlandet, Stadsbygden, Melö, and part of Alstadhoug continue, as usual, almost exclusively in Henningsvær; the fleet from Vegö, in Balstad; that from Belfjorden and Veieren, west of Sund; and the force from Tjötö and Gildeskaal, partly in Henningsvær, partly in Flakstad stations. Of the fishermen south of Brönö only 26 remained westward of Urebjerg.

TABLE XXI.—*Statement of the distribution of fishermen from the different districts at the various stations.*

District.	Brettesnæs.	Skroven.	Östnæsfjorden.	Svolvær.	Kabelvaag.	Storvaagen.	Örsvaag.	Örsnæs.	Hopen.	Henningsvær.	Skokkelvigoerne.	Stamsund.	Stene.	Ure.	Sandsund.	Balstad.	Nufsfjord.	Sund.	Reine.	Moskenæs.	Sörvaagen.	Aa.	Total.
Soggendal																							3
Haugesund																							8
Sund																							2
Bergen																							5
Davigen																							5
Selö																							8
Aalesund																							8
Örskoug																							3
Molde																							3
Eid																							3
Gryten																							3
Christianssund																							12
Throndhjem																							29
Orkedalen																							3
Hitteren																							33
Hevne																							3
Stadsbygden																							403
Rissen																							10
Örlandet																							389
Bjugn																							203
Aafjord																							203
Björnör																							65
Lexvigen																							52
Stördalen																							11
Værdalen																							2
Stenkjær																							3
Ytteröen																							37
Inderöen																							12
Sparboen																							6
Stod																							3
Beitstaden																							20
Namsos																							19
Fosnæs																							12
Fladanger																							23
Nærø																							226
Kolvereid																							127
Lekö																							321
Bindalen																							302
Brönö																							866
Velfjorden																							111
Vegö																							496
Alstahaug																							433
Stamnæs																							469
Herö																							587
Tjötö																							905
Vessen																							471
Mo																							201
Ranen																							4
Hemnæs																							505
Næsne																							926
Donnæs																							07
Lurö																							284
Rödö																							224
Melö																							251
Gildeskaal																							591

TABLE XXI.—*Statement of the distribution of fishermen, &c.*—Continued.

District	Brettesnæs.	Skroven.	Östnæsfjorden.	Svolvær.	Kabelvaag.	Storvaagen.	Ørsvaag.	Öranæs.	Hopen.	Henningsvær.	Skokkelvigoerne.	Stamsund.	Stene.	Ure.	Sandsund.	Balstad.	Nusfjord.	Sund.	Reine.	Muskenæs.	Sörvaagen.	Aa.	Total.
Beieren																							160
Saltdalen																							407
Bodö																							490
Bodö Landsogn																							2
Skjerstad																							765
Folden																							642
Kjerringö																							29
Stegen																							760
Hammerö																							611
Lödingen																							719
Tysfjorden																							274
Ofoten																							798
Hadsel																							1,080
Sortland																							322
Bö																							24
Dverberg																							32
Flakstad																							928
Buksnæs																							1,586
Borge																							203
Valberg																							25
Vaagen																							1,290
Gimsö																							10
Kvædfjord																							500
Ibestad																							1,585
Throndenæs																							1,081
Sand																							162
Tranö																							492
Dyrö																							132
Maalselven																							42
Lenvig																							634
Hilleso																							8
Berg																							46
Balsfjorden																							212
Malangen																							105
Tromsösundet																							100
Tromsö																							182
Lyngen																							487
Karlsö																							99
Skjervö																							48
Hammerfest Lake																							5
Tunen																							3
Vardö																							10
Total																							27,232

Table XXII gives the number of vessels present in the different inspection districts at the end of each week. Lodging vessels, vessels laid up, and passenger vessels are not included in this enumeration, but only merchantmen. After March 16, 27 vessels arrived, 7 of them at Hopen and 17 at Sörvaagen inspection district.

TABLE XXII.—*Number of merchant vessels present.*

Week ending—	Ostmaafjord.	Skroven.	Svolvær.	Vaagene.	Hopen.	Henningsvær.	Stamsund.	Ure.	Balstad.	Reine.	Sørvaagen.	Total.
January 24	.....	7	3	.....	3	17	1	.....	.....	.....	.....	31
January 31	.....	9	6	2	6	28	9	.....	.....	.....	.....	60
February 7	.....	8	10	9	14	32	19	1	2	2	.....	97
February 14	3	17	41	54	84	145	85	7	15	4	.....	455
February 21	.....	22	50	73	77	135	87	12	18	10	.....	484
February 28	1	21	51	80	73	138	97	16	24	36	.....	537
March 6	.....	10	21	60	58	152	126	26	40	25	25	543
March 13	22	13	70	61	69	122	115	23	40	52	.....	587
March 20	62	46	101	100	75	77	65	13	22	51	.....	612
March 27	.....	70	111	.....	90	68	44	7	27	50	.....	467
April 3	.....	32	65	70	75	90	56	11	29	60	.....	488
April 10	.....	22	18	30	37	50	32	7	25	82	.....	303

Table XXIII shows the number of merchant vessels present for each half month during the last five years. From this it will be seen that the majority of the vessels came out earlier this year than usual, and also that they left earlier than last year, since only half of them remained at the close of the first week in April.

TABLE XXIII.—*Number of merchant vessels present.*

Date.	1876.	1877.	1878.	1879.	1880.
Middle of January	.....	.....	.....	15	60
Beginning of February	80	120	80	140	455
Middle of February	300	340	240	280	537
Beginning of March	370	450	530	560	500
Middle of March	460	550	630	600	500
End of March	360	530	610	600	300
End of first week in April	.....	500	530	480	.....

Table XXIV contains a statement of the number of merchant vessels and passenger vessels (Bygdefarere) present in Loffoden March 16, also their home port, rig, draft, and complement of men. In the last column is given the number of lodging vessels and vessels laid up. Of these last, 33 were from Loffoden and Vesteraalen, of which number three or four have been previously included among the passenger vessels, and the rest among the merchantmen. The total number of vessels here March 16 was 676, with a combined tonnage of 350,000 tons and a force of 2,932 men, including the captains, this being the largest number of vessels known to have been assembled in Loffoden.

TABLE XXIV.—*Number of vessels present March 16.*

Town or bailiwick.	Steamers.	Schooners or galeas.	Sloops.	Yachts.	Square-rigged galeas or coasters. Merchant.	Passenger.	Smacks.	Total of vessels. Number.	Crew.	Total tonnage.	Average of— Crew per vessel.	Draft in tons.	Lodging or storage vessels.
Farsund		1						1	6	850	6.0	850	....
Stavanger		5		4				9	50	7,200	5.5	800	....
Haugesund		2		6			1	9	48	6,290	5.3	699	....
Bergen	2	7	6	93	1		1	110	580	66,010	5.3	600	....
Florö				3			1	4	18	1,730	4.5	433	....
Aalesund		3	2	18	2		2	27	133	14,320	4.9	530	....
Molde		2	3	7				12	59	7,150	4.9	596	....
Kristiansund		6	2	43	5		5	61	282	27,870	4.6	457	....
Trondhjem		3	1	21	52		2	79	400	41,010	5.0	519	2
Levanger					1			1	7	600	7.0	600	....
Stenkjær					6			6	32	3,650	5.3	608	....
Namsos				2	4			6	25	2,720	4.1	453	1
Bodö		2		7	2		1	12	52	6,100	4.8	508	....
Tromsö				1				1	4	300	4.0	300	....
Total from towns	2	31	14	205	73		13	338	1,690	185,800	5.0	550	3
Söndhordland				20				20	100	11,180	5.0	599	....
Hardanger			1	12				13	65	6,660	5.0	512	....
Romsdalen			1					1	7	900	7.0	900	....
Nordmöre				1				1	4	400	4.0	400	....
Fosen			1	18	6		2	27	114	11,170	4.0	399	2
Inderöen					2			2	12	1,350	6.0	675	....
Namdalen		3	1	4	8		3	19	96	9,550	5.0	503	....
Helgeland		2	1	37	9	32*	9	90	311	45,980	3.5	511	4
Salten		4	3	50	7	8	5	77	328	34,340	4.3	446	....
Lofoten and Vesteraalen				5	5	2†	1	13	53	9,050	4.0	696	33
Senjen and Tromsö		5	2	15	4		6	32	146	14,530	4.4	440	1
Total from country, excluding towns.		14	10	162	41	42	26	295	1,236	145,110	4.2	489	40
Grand total	2	45	24	367	114	42	39	633	2,932	330,910	4.6	521	43

* Three of which traded. † Both traded.

Table XXV states the number of merchant vessels fitted out since 1860 from the towns and country districts most interested in the Loffoden fishery. The number of coasting vessels at the close of 1876, according to official statistics, was as follows: from Bergen 59, from towns in Romsdal District 71, and from Trondhjem 27; but the majority of the merchant vessels fitted out in the towns belonged in country districts. The total number of coasters in Romsdal District was 169, of which 102, or 60 per cent., were in Loffoden this year; 67 per cent. of the coasters in Nordland District and 33 per cent. of those in the district of Tromsö were in Loffoden.

TABLE XXV.

Year.	NUMBER OF MERCHANT-VESSELS FITTED OUT IN—															
	Towns.									Bailiwicks.						
	Bergen.	Aalesund.	Molde.	Kristiansund.	Trondhjem.	Namsos.	Bodö.	Hardanger.	Romsdalen.	Orlandet and Foson.	Stördalen and Verdalen, Inderöen.	Namdalen.	North and South Helgeland.	S ten.	Lofoten and Vesteralen.	Senjen and Tromsö.
1860	30	7	4	29	130	...	...	...	...	16	33	26	45	63	38	16
1861	22	4	3	24	117	...	...	...	...	17	12	22	48	68	31	11
1862	23	3	...	26	94	...	...	...	...	6	17	23	45	69	24	12
1863	28	5	2	31	92	...	...	...	...	13	7	25	44	68	35	13
1864	25	...	1	32	83	...	...	...	...	15	1	19	48	73	24	14
1865	27	...	...	29	86	...	...	...	...	12	4	25	...	81	33	14
1866	15	1	...	24	77	...	4	...	...	18	3	24	...	79	19	14
1867	16	5	...	22	66	...	15	...	...	15	...	16	40	80	32	11
1868	26	3	1	24	75	2	18	...	...	25	1	23	57	87	26	14
1869	21	9	...	28	76	3	8	...	...	13	5	9	33	78	25	13
1870	24	8	...	24	64	...	10	...	...	10	7	5	41	68	30	13
1871	33	6	...	37	95	...	12	1	...	15	9	16	63	76	26	13
1872	31	2	1	38	59	...	19	...	...	11	1	17	30	55	30	13
1873	30	5	...	29	61	...	13	...	...	15	2	22	43	63	29	13
1874	45	12	3	27	57	1	6	...	1	13	...	19	51	70	32	13
1875	73	10	...	36	84	4	6	2	2	21	3	16	52	58	29	13
1876	61	16	4	46	65	...	15	6	5	14	...	...	75	63	31	13
1877	91	41	8	60	69	...	...	13	4	17	2	25	...	66	29	13
1878	115	34	6	63	64	5	14	17	3	33	5	15	62	85	32	13
1879	109	38	6	50	55	6	15	19	2	33	10	25	63	68	38	13
1880	110	27	12	61	79	6	12	13	1	27	12	19	58	69	11	13

Table XXVI gives the proportion between the fleets from towns and country districts since 1860. While the great majority of the merchant vessels up to 1876 were fitted out in country districts, the reverse has been the case of late years.

TABLE XXVI.—*Number of vessels.*

Year.	Merchantmen.			Passenger vessels (Dagfeldarere).
	From towns.	From country.	Total.	
1860	200	237	437	64
1861	170	208	378	66
1862	140	106	345	58
1863	158	205	363	48
1864	146	204	350	50
1865	148	226	374	49
1866	121	218	339	34
1867	126	227	353	34
1868	151	262	413	32
1869	145	200	345	32
1870	130	195	325	26
1871	186	241	427	36
1872	158	170	328	33
1873	141	211	352	37
1874	156	214	370	34
1875	215	207	422	31
1876	211	245	456	36
1877	292	265	557	40
1878	329	302	631	37
1879	311	304	615	42
1880	338	*253	591	...

* Loffoden not included.

Table XXVII*a* shows the distribution of vessels at the different stations on the 16th of March.

TABLE XXVII *a*.—*Number of vessels present March* 16.

Fishing-station.	Steamers.	Schooners or galeas.	Sloops.	Yachts.	Merchant yachts	Passenger yachts.	Smacks.	Lodging vessels or vessels laid up.	Number.
Östnæsfjorden	1	1	1	32	3	.....	1	.....	39
Svolvær	1	12	1	42	24	2	.....	4	76
Skroven	.....	5	3	6	3	.....	2	2	21
Kabelvaag	.....	4	.....	18	3	.....	.....	.....	25
Storvaagen	.....	4	.....	26	8	4	5	2	49
Gravvaag	.....	1	1	12	3	4	1	1	23
Grasnæs	.....	.....	1	6	3	.....	1	1	12
Hopen	.....	3	2	24	5	.....	1	1	36
Henningsvær	.....	10	4	78	20	14	6	15	147
Skokkelvigöerne	.....	.....	.....	1	.....	.....	.....	.....	1
Stamsund	.....	5	3	43	14	2	7	2	76
Stene	.....	4	2	9	8	1	4	2	30
Ure	.....	3	1	13	4	.....	1	.....	22
Balstad	.....	1	1	26	5	7*	3	4	47
Nufsfjord	.....	1	2	9	4	1	1	.....	18
Lund	.....	.....	.....	8	3	.....	2	1	14
Reine	.....	1	2	8	3	3	2	1	20
Sörvaagen	.....	.....	.....	6	1	4	2	7	20
Total	2	45	24	367	114	42	39	43	676

* Five of these traded.

The table below (XXVII *b*) shows the number of lodging vessels, or vessels laid up, and also their tonnage.

TABLE XXVII *b*.—*Lodging vessels, or vessels laid up, March* 16.

Fishing-stations.	Steamers.	Sloops.	Yachts.	Passenger vessels.	Smacks.	Number.	Total tonnage.
Svolvær	.....	.....	.....	.....	4	4	.....
Skroven	.....	.....	1	.....	1	2	650
Storvaagen	.....	.....	.....	2	.....	2	1,100
Gravvaag	.....	.....	1	.....	.....	1	250
Grasnæs	.....	.....	.....	1	.....	1	600
Hopen	.....	.....	.....	1	.....	1	450
Henningsvær	2	5	.....	6	2	15	8,030
Stamsund	.....	.....	.....	2	.....	2	1,600
Stene	.....	.....	.....	2	.....	2	1,000
Balstad	.....	.....	.....	4	.....	4	2,400
Lund	.....	.....	.....	1	.....	1	600
Reine	.....	.....	.....	.....	1	1	300
Sörvaagen	.....	2	.....	3	2	7	2,500
Total	2	7	2	22	10	43	19,480

Table XXVIII states the percentage of merchant vessels present in the groups of stations named below during the last five years.

TABLE XXVIII.—*Merchant vessels present March 16.*

Region.	1876.	1877.	1878.	1879.	1880.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
Raftsundet	3	5			44
Brettesnæs—Hopen	54	45	51	42	29
Henningsvær	16	18	22	29	21
Øerne—Ure	10	18	16	16	9
Brandsholmene—Nutsfjord	7	7	6	7	6
Næsland—Lofotodden	10	7	4	6	
Eastward of Henningsvær	57	50	51	42	44
Westward of Henningsvær	27	32	26	29	26
Number present in Ostnæsfjord	12	9	1		39
Number present in Raftsundet	15	7			

Table XXIX shows the number of vessels that traded during the fishery. The places whose vessels have not traded are omitted from the table. These are: Farsund, Stavanger, Florö, and Nordmöre, with a total of 15 vessels. One column shows how many vessels have traded, and the individual vessels which have dealt in two or more of the articles mentioned in the table are reckoned under each of these. Deducting the three passenger vessels from Helgeland and two from Lofoten and Vesteraalen, which have engaged in trading, 119 vessels or 20 per cent. of the 591 merchant vessels carried with them trading goods. Including the 30 merchant vessels from Loffoden, which were laid up, and which are omitted this year, the proportion becomes 19 per cent. In 1878 the number was 114, or 15 per cent.; last year 148, or 24 per cent. Of the vessels from Trondhjem 48 per cent. traded, and of those from Helgeland 29 per cent.

TABLE XXIX.—*Number of trading vessels.*

Home port.	Total number of merchant vessels.	NUMBER WHICH TRADED.								
		General trading.	Trading goods.							
			Dry goods.	Groceries.	General retail goods.	Grain and flour.	Chandler's wares.	Bait.	Wooden ware.	
Hangesund	9	1						1		
Söndhordland	20	2				2				
Hardanger	13	1				1				
Bergen	110	17				12		6		
Aalesund	27	5						5		
Molde	12	1				1				
Romsdalen	1	1				1				
Kristiansund	61	2					2			
Trondhjem	79	38	10	15	19	6	2	3		
Örlandet and Fosen	27	4		1						
Stenkjer	6	2			2	2				
Levanger	1	1	1			1				
Trondhjemstjorden	2	1			1					1
Namsos	6	2		1						1
Namdalen	19	2	1			1		1		2
Helgeland	58	20	7	6	6	3	2			
Bodö	12	1		1				1		
Salten	69	8	3	4	1	1	1	1		
Loffoden and Vesteraalen	11	9	2	2	5	2	1	1		
Senjen and Tromsö	32	5	2	2	2			1		
Tromsö	1	1								4
Total		124	26	32	36	33	8	20		

Table XXX gives the number of "other" outside industries attracted to Loffoden by the fishing.

TABLE XXX.—*Other outside industries represented March 27.*

Trade.	Skroven.	Svolvær.	Vaagene.	Hopen.	Henningsvær.	Stamsund.	Steine.	Ure.	Balstad.	Sörvaagen.	Total.
Merchants	20	19	62	2	26	20	3	3	4	3	162
Watchmakers§	2	1	7	2	9	4	2	.....	4	6	37
Gold and silver smiths§	1	.....	5	.....	2	.....	.....	.....	1	.....	9
Other mechanics	5	2	19	2	8	14	1	1	3	9	64
Photographers	1	1	3	1	5	2	.....	.....	2	2	17
Laborers	18	10	10	.....	65‡	13	1	2	6	.....	125
Splitters	8	8	21	4	13	2	.....	2	.....	.....	58
Wholesale buyers	28	45	80	39	110	42	20	6	18	22	410
Eating-house keepers	1	5	20†	.....	1	5	.....	.....	.....	.....	32
Musicians	.....	.....	8	.....	.....	1	.....	.....	.....	.....	9
Panorama exhibitors	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Acrobats, &c.	.....	.....	7	.....	7	1	.....	.....	.....	.....	15
Without regular work	2	4*	20	1	4	.....	.....	.....	.....	.....	31
Total	86	95	262	51	250	104	27	14	38	42	969

*Two of whom were women.
†Fifteen of whom were women.
‡Chiefly Hovedtrædere, p. 79.
§Most of whom traded also.

For comparison with preceding years is appended, in Table XXXI, the number of "other" outside trades for the last five years. The number of dealers, including watchmakers, most of whom sell watches, was diminished by 32. The number of wholesalers was increased by 55, and of mechanics by 22. The number of photographers increased from 6 in 1876 to 17.

TABLE XXXI.

Trade.	Other outside industries.				
	1876.	1877.	1878.	1879.	1880.
Merchants	113	147	169	202	162
Watchmakers	35	53	39	29	37
Gold and silver smiths				9	9
Other mechanics				42	64
Photographers			6	12	17
Laborers	22	34	66	108	115
Splitters	21	37	61	75	58
Wholesale buyers	29	105	*317	305	410
Eating-house keepers	5	8	28	42	32
Musicians	.....	12	10	18	9
Exhibitors of panoramas, &c.	.....	.....	.....	6	15
Without regular work	.....	.....	18	31	31
Total	225	396	728	939	959

*Herein are included those who belong in Loffoden.

Table XXXII shows the kinds of wares used in trade. As will be seen, only one man dealt in general retail goods, and 26 handled dry goods exclusively. The remainder, for the most part, sold chandler's wares and ready-made clothing, in connection, though to a small extent, with dry goods. All of the watchmakers and, so far as I know, about 15 of the dry-goods dealers had district licenses. Twelve such new licenses were issued this year—1 in Skroven, 8 in Vaagen, 1 in Hen-

ningsvær, and 2 in Balstad; 5 of these were granted to residents. The number of dealers this year was:

Residents	58
Inc mers	162
From vessels	124
Watchmakers	30
Goldsmiths	9
Total	383

or 1 for every 80 men who were present during the fishery.

TABLE XXXII.—*Number of incoming tradesmen.*

Kind of trade.	Skroven.	Svolvær.	Vaagene.	Hopen.	Henningsvær.	Stansund.	Stene.	Ure.	Balstad.	Sörvaagen.	Total.
General retail goods	1										1
Chandler's wares			6		1				2		9
Dry goods		6	16			3			1		26
Ready-made clothing		7	22	1	2	4	3		1		40
Chandler's wares and clothing	10				4	2		3		3	22
Dry goods and clothing	8	5		1	14						28
Groceries and clothing						1					1
Ironware			3								3
Tinware			2		1	1					4
Watches and clocks			7		4	4					15
Books	1	1	6			4					12
Woodenware						1					1
Total	20	19	62	2	26	20	3	3	4	3	162

Table XXXIII states the number of persons who were entitled to sell spirituous liquors. The number is about the same as last year, that is, one for every 460 men present during the fishery.

TABLE XXXIII.

License.	Skroven.	Svolvær.	Vagen.	Hopen.	Henningsvær.	Stansund.	Ure.	Balstad.	Lund.	Sörvaagen.	Total.
Whisky:											
Wholesale and retail	2		1			1	1				5
Retail		1		1							2
Wholesale		1			1	1				2	5
Total	2	2	1	1	1	2	1			2	12
Wine:											
Wholesale and retail	2		4	1	2	5		1	1	5	21
Retail											
Wholesale		1	1			1		1			4
Total	2	1	5	1	2	6		2	1	5	25
Beer:											
Wholesale and retail	2	1	7	1	2	5		1	1	5	25
Retail			1			1					2
Wholesale		1				1		1			3
Total	2	2	8	1	2	7		2	1	5	30
Total number of dealers, 1882	6	5	14	3	5	15	1	4	2	12	67
Total number of dealers, 1879	6	3	14	3	8	10	3	2	4	12	65

Table XXXIV gives the number of days, Sundays and holidays included, from January 16 to April 14, wherein the weather, either wholly or in part, prevented the fishermen from setting or hauling their implements. Altogether, in East Loffoden during 43 per cent., and in West Loffoden during 48 per cent. of the fishing season the weather was such as to interfere with the business. This year, also, most of the unfavorable days occurred in periods, for instance, from January 20 to February 5, from March 4 to 14, and from March 30 to April 4.

TABLE XXXIV.

Month.	Detained by weather between January 16 and April 14.			
	East Loffoden.		West Loffoden.	
	Whole day.	Part of day.	Whole day.	Part of day.
January	8	2	10	
February	5	7	9	6
March	5	7	6	7
April	3	2	3	3
Total	21	18	28	15

Table XXXV gives the number of days of detention in port, because of bad weather, in the different inspection districts:

TABLE XXXV.—*Days of detention in port on account of weather from January 16 to April 14.*

Inspection district.	January.		February.		March.		April.		Total.	
	Wholly.	Partly.	Wholly.	Partly.	Wholly.	Partly.	Wholly.	Partly.	Wholly.	Partly.
Skroven	9	1	5	7	5	7	....	5	19	20
Svolvær	6	4	4	6	2	9	2	3	14	22
Vaagene	7	3	5	7	5	7	3	2	20	19
Hopen	9	1	5	7	6	6	3	2	23	16
Henningsvær	8	2	4	8	6	8	2	3	20	21
Stamsund	10	.....	6	7	7	7	2	3	25	17
Ure	10	.....	8	4	5	9	3	3	26	16
Balstad	10	.....	11	6	7	8	4	2	32	16
Lund	9	1	10	5	6	5	4	2	29	13
Sörvaagen	9	1	9	5	4	8	4	2	26	16

The report for 1878 and for 1879 contains a similar table, and I venture to repeat this year also what I have previously mentioned with reference to this subject, since certain persons still seek to maintain the opinion that the fishermen should be prohibited from going to sea unless the weather allows all of them to use their implements. The essential hindrances to the enforcing of such a general provision in practice are, first, that "sea-weather" may be differently construed by different persons, and, second, that fishermen not only from different stations but also from different inspection districts, where there may be permanent

differences in the stations, often have their implements placed in the same waters. It will frequently happen, therefore, that while one fisherman, who lives in a certain place, is legally entitled to haul his gear, another one who has his gear in the same waters may be forbidden to do so, because he lives at a different station. It is especially during the so-called partial sea-weather that so many different conditions, such as size of boat and crew, ability of the men, and their acquaintance with the water, distance of the gear from shore, situation of the place, currents, direction of the wind, condition of the fishery, &c., are to be considered in deciding to what extent the implements can be used, that the question can be settled only by the boatmen themselves.

Table XXXVI shows the average number of entire and partial storm-bound days since 1875. This year the weather has been nearly like the average of the last five years, and somewhat better than the average of the last four. On the other hand, the rough weather which occurred at the close of January and the beginning of February, during certain days, was unusually severe. The water, especially, was very high.

TABLE XXXVI.—*Average number of storm-bound days, partial and entire, from January 16 to April 14.*

Year.	January.	February.	March.	April.	Total.
1875	4.5	8	7.5	3	23
1876	5.5	11.5	8	9	34
1877	12	16.5	12.5	6.5	47.5
1878	8	15.5	13.5	3	40
1879	7	14.5	17	6.5	45
1880	10	13	12.5	5.5	41
Average number	7.8	13.2	11.8	5.6	38.4
Average per cent	49	46.5	38.1	40	43.1

Altogether 15 boats and one vessel were lost, in which six men perished while 71 were saved. The cause of the loss of the vessel at Henningsvær was dead calm combined with swell and current. The vessel was crushed, but the crew, consisting of five men, was saved. By other accidents three men were lost—one in Kabelvaag by a chance shot, one in Stamsund while trying in a state of intoxication to cross a foot-bridge, and one in Balstad through the sinking of his overloaded boat. Of those who perished by shipwreck at sea, five lived in Stamsund, and one in Moskenæs. The fishing season just closed has been the most fortunate since 1860 with regard to loss of human life at sea. The number of shipwrecks, on the other hand, was nearly as large as in 1876 and 1878, when 43 and 10 men were lost, respectively, and at the same time considerably larger than in 1875, when 17 men were lost. Table XXXVII states the time, place, cause, &c. (of loss), since 1875. This is based upon a form employed by pastor Eilert Sundt, in his time, and

according to which the explanations of shipwrecks occurring of late years are recorded. In these six years 95 persons were lost by shipwreck, 21 by other accidents, and 282 were rescued; so that 75 per cent. of the shipwrecked were saved.

TABLE XXXVII.

Year.	Total.	Month.					Place.												
		January.	February.	March.	April.	Undetermined.	Raftsundet.	Brettesnæs.	Ostnæsfjorden.	Svolvær.	Skroven.	Vaagene.	Hopen.	Henningsvær.	Stamsund.	Ure.	Balstad.	Nusfjord.	Sund.	Reine.	Sörvaagen.
1875	9	1	3	3	2	..	..	..	..	1	..	2	1	2	..	..	3	..	..	..	..
1876	16	2	7	3	4	..	..	..	..	1	3	..	2	2	2	1	..	1	2	1	1
1877	7	3	..	2	2	..	..	2	..	..	..	..	..	..	2	..	3	..	..	..	..
1878	14	2	4	8	..	..	..	..	..	..	..	1	5	5	1	..	..	..	1	..	1
1879	22	5	4	5	2	6	..	1	1	..	2	3	2	3	3	..	5	1	1	..	..
1880	15	..	4	10	1	..	..	..	..	1	1	4	2	3	3	..	..	..	..	..	1
Total	83	..	..	..	..	..	..	3	1	3	6	10	12	15	11	1	11	2	4	1	3

Year.	Occasion.			Accountability.			Number wrecked.		Lost.		
	During the fishing.	On the voyage.	Other cases.	Unavoidable.	Avoidable.	Undetermined.	Saved.	Lost.	Lost by other causes.	Total.	Proportion to 100,000.
1875	..	..	..	..	..	..	..	..	..	..	..
1876	6	3	..	..	..	..	21	17	..	17	93
1877	13	3	..	2	..	..	40	43	4	47	221
1878	5	1	1	2	..	..	22	5	4	9	42
1879	12	2	..	6	8	..	58	10	3	13	57
1880	17	4	1	9	11	2	75	14	7	21	70
Total	11	4	..	1	6	8	66	6	3	9	29
	64	17	2	20	25	10	282	95	21	116	....

Table XXXVIII shows the mode in which the shipwreck took place, the cause so far as this has been ascertained, and the size of the boat. Of the 51 shipwrecks which have occurred in the last three years, 21, or 41 per cent., were caused by wind storms; 15 or 30 per cent., by heavy sea, and 9, or 18 per cent., by collision. Nearly the half (25) might have been avoided. Sixteen of these, or 64 per cent., were due to carelessness; 7, or 28 per cent., to rashness. Shipwreck occurred most frequently among line-boats, between four and five out of every 1,000 boats, which is a natural result of the business. Among net and deep-sea boats, there are two or three shipwrecks to every 1,000 boats.

TABLE XXXVIII.—*Loss of boats.*

Year.	Mode.								Cause assigned.							
	Total.	Filled or capsized by a sea.	Sailing in a gale.	Collision.	Run aground.	Sunk.	Overloading.	Other modes or unknown.	Total.	Carelessness.	Rashness.	Light ballast.	Bad equipment.	Drunkenness.	Ignorance.	Other causes.
1878	14	5	5	3	...	1	...	...	8	4	2	1	1	...	...	...
1879	22	7	7	3	1	1	2	1	11	8	3	...	...	...	...	...
1880	15	3	9	3	...	...	...	...	6	4	2	...	...	...	...	...
Total	51	15	21	9	1	2	2	1	25	16	7	1	1	...	...	...
Per cent*	....	30	41	18	2	4	4	2	50	64	28	4	4	...	...	...

Year.	Size of boat.							
	10-oared boats.	½-fenterrumming.	8-oared boats.	¼-fjerderumming.	Trerumming.	Kjeks.	Yawls.	List boats.	Unknown.
1878	5	...	7	...	12	...	...	...	...
1879	4	...	11	5	1	...	1	...	...
1880	8	...	3	...	4	...	...	...	...
Total	17	...	21	5	7	...	1	...	...
Per cent†	1250	...	4	30	230	...	1	...	...

* Of 1,000 boats, 3.2.

† Of 100,000 boats.

Table XXXIX shows the temperature of the air at Svolvær in degrees Celsius.

TABLE XXXIX.

Week ending—	Temperature of air.				Water temperature.		
	Average.		During the week.		Bottom.		
	Noon.	Lowest temperature.	Maximum.	Minimum.	Surface.	Five fathoms.	Ten fathoms.
January 24	—1.4	—4.4	2.8	—6.7	...	...	...
31	2.6	0.0	5.5	—3.9	3.2	3.5	...
February 7	1.5	—1.1	3.3	—4.4	...	3.6	...
14	1.4	—3.4	4.4	—6.7	2.4	...	1.6
21	—1.7	—4.6	1.7	—6.7	1.6	...	2.1
28	—0.6	—4.5	3.3	—8.9	1.2	...	1.1
March 6	—1.4	—6.5	3.3	—7.8	1.0	...	1.6
13	1.5	—3.0	4.4	—5.0	1.5	...	2.2
20	2.6	0.5	.....	—3.9	2.0	...	2.7
27	3.6	—0.6	6.7	.....	2.0	...	2.1
April 3	1.1	—5.6	.....	—0.4	1.8	...	1.7
10	5.0	—0.6	8.3	—4.4	1.7	...	...
Average to April 14	1.3	—2.8	.....	.....	2.0	...	2.2

For comparison with the preceding years is here given the mean temperature at midday for each half month since 1877.

TABLE XL.

Time.	Air temperature at noon.			
	1877.	1878.	1879.	1880.
January 19 to 31	2.5	0.3	— 0.3	0.9
February 1 to 14	— 0.6	—0.9	— 5.0	1.4
February 15 to end	— 1.1	—0.2	0.4	—1.3
March 1 to 15	0.6	—0.3	0.9	0.1
March 16 to 31	0.9	2.2	2.5	3.3
April 1 to 14	2.1	4.8	3.8	2.7
Mean temperature	0.6	1.2	0.5	1.3
Mean low temperature	— 3.9	—3.0	— 4.0	—2.8
Maximum cold	—11.1	—9.4	—11.7	—8.9

Thus the mean temperature has been nearly the same as in 1878, whereas it has been one-half degree higher than in 1877, and nearly one degree higher than last year. The greatest cold, as in 1877, occurred in the latter half of February. While the severest cold in 1878 and 1879 was in the first half of this month, the temperature during the corresponding period this year was 2.0 degrees higher than in 1877; 2.3 degrees higher than in 1878; and 6.4 degrees higher than in 1879.

Comparing the air temperature with the fishing we find that the best catch was in the month of February: In 1877, during the third and fourth weeks* (the coldest); in 1878, during the second and fourth weeks (the coldest); in 1879, during the first and fourth weeks (the coldest and the warmest, especially the latter); in 1880, during the third and fourth weeks (the coldest).

Thus in these four years the best fishing in February has occurred in the last eight days of the month, which probably is simply a plain result of the time. The best fishing has occurred during the greatest cold. The air temperature, either at the time of the best fishing or during the days immediately preceding, appears, however, to have had no influence on the result of the fishery.

As a continuation of, and a necessary addition to, the observations of water temperature secured by the inspector during the winter of 1879, the telegraph inspector in Tromsö district, J. B. Lie, continued these at Lödingen, at depths of 30 and 100 fathoms, from May to December, both inclusive; 36 series of observations were taken at depths of 30, 36, and 100 fathoms. These are here given entire, since they are unique and of general interest. The inspector has kindly promised to have these observations continued this year at Lödingen and Sörvaagen.

*Not a calendar week, but a space of 7 days.

TABLE XLI.—*Observations made by direction of J. B. Lie, telegraph inspector in Tromsö District.*

	Date.	Wind. Air at 2 p. m.	Direction.	Force.	Weather.	Water temperature. 30 fathoms. Surface.	10 fathoms.	20 fathoms.	30 fathoms.	100 fathoms. Surface.	10 fathoms.	20 fathoms.	30 fathoms.	40 fathoms.	50 fathoms.	70 fathoms.	100 fathoms.	Remarks.
May	1	2.7	SW.	2	10	3.2	3.3	3.5	4.0									
	3	5.4	S.	1	1					3.3	3.0	3.5	4.8	5.3	6.0	6.4	6.5	Southerly current.
	5	1.2	SW.	2	10	3.2	3.2	3.4	3.6									Snow.
	7	−0.5			1					3.0	2.9	3.0	3.1	3.8	4.9	6.0	6.4	
	10	7.4			8	3.5	3.0	3.0	3.4									
	12	6.1			2					3.5	3.0	3.0	3.4	4.1	5.8	6.3	6.4	
	14	1.9	W.	2	10	3.3	3.0	3.0	3.4									Sleet.
Average		3.5				3.3	3.17	3.22	3.6	3.27	2.97	3.17	3.77	4.40	5.57	6.23	6.43	
	16	4.7	NE.	2	1					3.7	3.6	3.1	3.1	4.0	5.5	6.2	6.4	
	19	6.5	ESE.	2	10	5.2	4.6	3.9	3.4									
	21	7.0	SW.	3	5					4.8	4.1	3.8	3.7	4.9	5.9	6.4	6.5	
	23	9.8	NE.	2	0	6.1	5.1	4.9	4.8									
	25	8.0	WSW.	3	8					5.1	4.8	4.0	4.5	5.7	6.0	6.3	6.4	
	27	8.1		0	10	6.0	5.2	4.4	4.6									Northerly current.
	29	8.8	NE.	3	10					6.2	5.7	4.4	4.8	5.3	5.5	6.0	6.4	Storm on 31st
Average		7.6				5.77	4.97	4.40	4.20	4.95	4.55	3.82	4.02	4.97	5.72	6.25	6.42	
June	3	11.1	NE.	2	0	6.9	6.0	4.7	5.6									
	5	14.6	NNE.							6.6	5.5	5.0	5.5	5.8	6.0	6.2	6.4	
	7	10.8	SN.			7.2	5.3	5.0	5.2									
	9	8.1			10					6.5	5.8	5.0	5.0	5.2	5.6	6.0	6.2	
	11	7.0		3		5.5	5.4	5.2	5.1									
	14	3.1	NW.	2						6.0	6.0	5.3	5.0	5.0	5.3	5.8	6.2	Fog and rain.
	16	7.6	NE.		8	6.3	6.3	5.8	5.5									Snow squalls.
	18	7.3		3	10					6.4	6.4	5.8	5.0	5.2	5.8	6.0	6.2	
	24	10.0			8	6.5	6.4	5.8	5.6									
	26	19.0		0	7					9.0	7.2	6.0	5.4	5.6	6.0	6.4	6.5	
	30	13.5	SW.	2	3	8.2	6.7	5.9	5.7									
Average		10.2				6.8	6.0	5.4	5.5	6.9	6.2	5.4	5.2	5.4	5.7	6.1	6.3	

TABLE XLII.

	Date.	Air.	Wind. Direction.	Force.	Weather.	Temperature of water. 30 fathoms. Surface.	10 fathoms.	20 fathoms.	Bottom.	100 fathoms. Surface.	10 fathoms.	20 fathoms.	30 fathoms.	40 fathoms.	50 fathoms.	70 fathoms.	Bottom.	Remarks.
July	2	21.6		0	1					9.8	8.2	6.0	5.8	6.0	6.2	6.4	6.5	
	7	19.2		0	0	13.0	10.5	7.0	6.0									
	9	14.6	NNE.	3	1					12.0	11.8	8.0	5.9					
	11	10.8	NW.	2	3					8.7	8.0	6.2	5.7	5.8	6.0	6.2	6.5	
	14	10.4	SSW.	2	6	8.5	7.9	5.8	7.6									
	16	12.2	NE.	2	10					9.8	9.2	7.3	5.9	5.7			6.6	
	18	17.6	NE.	2	1	10.0	9.2	6.4	6.0									
	22	21.0		0	1					13.0	9.5	7.0	5.8	5.9		6.3		
	24	23.6		0	10	11.9	9.1	5.9	6.0									
	26	15.8	S.	1	6					12.8	9.0		5.7		6.1		6.5	
	28	23.1		0	0	12.6	9.4	7.0	6.0									
	30	23.7		0	0					14.0	10.5		6.0	6.0	6.2	6.4	6.6	
Average										11.4	9.5	6.9	5.8	5.8	6.1	6.3	6.5	

TABLE XLII—Continued.

	Date.	Air.	Wind. Direction.	Wind. Force.	Weather.	Temperature of water. 30 fathoms. Surface.	30 fathoms. 10 fathoms.	30 fathoms. 20 fathoms.	30 fathoms. Bottom.	100 fathoms. Surface.	100 fathoms. 10 fathoms.	100 fathoms. 20 fathoms.	100 fathoms. 30 fathoms.	100 fathoms. 40 fathoms.	100 fathoms. 50 fathoms.	100 fathoms. 70 fathoms.	100 fathoms. Bottom.	Remarks.
August	1	26.7	.....	0	4	14.5	10.0	6.9	6.5	.....	.....	.....	.....	.....	.....	.....	.....	
	11	10.7	NE.	2	2	.....	.....	.....	.....	14.5	12.5	8.0	6.0	6.0	6.0	6.2	6.5	
	13	18.4	.....	1	0	14.0	.....	7.3	6.3	.....	.....	.....	.....	.....	.....	.....	.....	
	15	19.3	.....	0	1	.....	.....	.....	.....	14.8	9.5	7.7	6.1	.....	.....	6.3	.....	
	17	23.7	.....	0	0	13.2	10.5	7.8	6.2	.....	.....	.....	.....	.....	.....	.....	.....	
	19	16.8	NE.	2	2	.....	.....	.....	.....	13.5	10.0	7.2	6.3	.....	6.1	6.2	.....	
	23	14.4	WSW.	1	10	12.0	10.0	7.2	6.4	.....	.....	.....	.....	.....	.....	.....	.....	
	26	12.0	W.	3	7	.....	.....	.....	.....	9.3	9.2	8.5	.....	.....	6.0	..	6.4	
	28	14.0	NE.	1	2	10.8	10.2	9.5	7.1	.....	.....	.....	.....	.....	.....	.....	.....	
	30	12 0	NNE.	4	9	.....	.....	.....	.....	11.2	11.2	9.3	7.2	.....	.....	6.1	6.5	
Average		.....	.....	.....	.....	.....	.....	.....	.....	12.6	10.5	8.2	6.2	6.0	6.0	6.2	6.5	
Sept	1	12.0	NE.	2	2	11.3	11.0	9.2	10	.....	.....	.....	.....	.....	.....	.....	.....	
	4	8.4	NE.	2	10	.....	.....	.....	.....	10.5	10.2	10.0	7.6	6.2	6.0	6.2	6.4	Rain.
	6	10.2	WSW.	3–4	8	10.8	10.8	10.0	8.5	.....	.....	.....	.....	.....	.....	.....	.....	
	8	11.4	NE.	2	1	.....	.....	.....	.....	10.9	20.9	10.8	9.2	7.5	6.7	6.0	.....	
	10	10.6	SW.	4	10	10.7	10.7	10.8	10.0	.....	.....	.....	.....	.....	.....	.....	.....	Rain.
	23	12.1	NNE.	1	1	.....	.....	.....	.....	10.4	10.4	10.5	10.6	10.8	10.2	8.9	6.2	
	25	10.2	SW.	4	10	10.3	10.3	10.4	10.5	.....	.....	.....	.....	.....	.....	.....	.....	
	30	11.2	.....	1–2	5	.....	.....	.....	.....	10.9	10.8	10.7	10.8	10.6	10.6	9.9	6.2	
Average		.....	.....	.....	.....	.....	.....	.....	.....	10.8	10.6	10.5	9.5	8.8	8.4	7.7	6.3	
October	2	12.2	NE.	1	0	10.8	10.9	11.0	10.8	.....	.....	.....	.....	.....	.....	.....	.....	
	4	13.4	SE.	1	5	.....	.....	.....	.....	10.0	10.0	10.6	10.7	10.6	10.6	9.2	6.2	
	6	8.8	S.	1	10	9.7	10.0	10.0	10.6	.....	.....	.....	.....	.....	.....	.....	.....	
	23	1.0	E.	1	8	.....	.....	.....	.....	8.6	8.9	9.0	9.0	9.7	9.8	6.9	6.3	
	25	0.6	NE.	1	0	8.7	8.8	9.0	8.9	.....	.....	.....	.....	.....	.....	.....	.....	
	29	4.0	S.	5	10	8.0	8.5	8.6	8.5	.....	.....	.....	.....	.....	.....	.....	.....	Rain.
Average		.....	.....	.....	.....	.....	.....	.....	.....	9.3	9.4	9.8	9.8	10.1	10.2	8.0	6.2	
Nov	3	–1.4	N.	1	2	8.0	8.0	8.2	8.0	.....	.....	.....	.....	.....	.....	.....	.....	
	6	1.0	.....	2	10	.....	.....	.....	.....	8.0	8.0	8.2	8.2	8.2	8.4	7.0	6.3	
	8	–0.9	NNE.	1	6	8.0	7.8	8.0	7.8	.....	.....	.....	.....	.....	.....	.....	.....	
	10	–0.2	.....	3	5	.....	.....	.....	.....	7.3	7.5	7.7	7.8	8.0	7.0	7.0	6.4	
	12	4.0	NW.	2	8	6.8	7.0	7.4	7.3	.....	.....	.....	.....	.....	.....	.....	.....	
	26	2.9	W.	2	10	.....	.....	.....	.....	5.5	6.7	6.8	7.0	7.1	7.2	7.3	6.5	
	28	4.0	ESE.	1	7	5.4	5.8	6.0	6.3	.....	.....	.....	.....	.....	.....	.....	.....	
Average		.....	.....	.....	.....	.....	.....	.....	.....	3.9	7.1	7.6	7.7	7.8	7.5	7.1	6.4	
Dec	3	–5.1	ESE.	1	7	.....	.....	.....	.....	6.0	6.0	6.2	6.3	7.0	7.0	6.6	6.3	
	10	–3.4	.....	0	8	5.0	5.2	5.2	5.4	.....	.....	.....	.....	.....	.....	.....	.....	
January	18	–3.4	NW.	1	1	..	.....	.....	.....	4.0	4.8	5.1	5.5	5.7	5.8	6.5	6.3	
	5	–0.1	SW.	2	9	.....	..	.....	.....	3.8	3.8	4.0	4.4	4.9	5.3	6.4	6.4	

NOTE.—The observations at 30 fathoms were made a cable's length from Lödingen light, those at 100 fathoms in the middle of the fjord. All the observations were taken in the afternoon.

Table XLIII shows the mean temperature of the water for each half month, also the mean temperature of the air at 2 o'clock p. m., which last was kindly communicated by Dean B. Kokk from daily observations made by him in Lödingen. All the temperatures are given in degrees of Celsius. From the observations it will be seen: First, that the summer heat has had little influence on the water temperature at depths greater than 40 fathoms and none at all at depths of more than 50 fathoms, at which depth the water has been uniformly 6 degrees if we except the slight deviations occasionally produced by the sinking of the surface water cooled during winter, bearing in mind, also, that three

months, from the close of April to the end of July, elapse before the water recovers from the effects of the winter temperature. At the bottom, in 100 fathoms, the temperature has been constantly about 6.4. It is further evident from this table that the water has not begun to grow cool before October, and also that the cooling has not occurred gradually, but has been rather uniform throughout until the middle of December, also that a somewhat shorter time is required to effect the normal winter condition—the coldest water at the surface and a gradually increasing temperature towards the bottom—than is required in summer to produce the opposite condition—the warmest water at the surface and a decreasing temperature downward. After the middle of December the decrease of temperature has been slower. The water has been warmest from the middle of September to the beginning of October; the temperature during this time has been uniformly between 10 and 11 degrees from the surface down to a depth of 70 fathoms. The fact that the temperature of the stratum of water lying between 30 and 70 fathoms increased so considerably in the space of three weeks can only, so far as the uppermost portion is concerned, be ascribed to the direct influence of the warm water lying above it, if we admit that its greater saltness makes it a better conductor of heat; but may certainly be explained more readily by an afflux of warm water, probably from the shallow places in Ofotfjord.

TABLE XLIII.

	Mean temperature of air (2 p. m.).	MEAN TEMPERATURE OF WATER.											
		30 fathoms.				100 fathoms.							
		Surface.	10 fathoms.	20 fathoms.	Bottom.	Surface.	10 fathoms.	20 fathoms.	30 fathoms.	40 fathoms.	50 fathoms.	70 fathoms.	Bottom.
May:													
First half	2.7	3.3	3.2	3.2	3.6	3.3	3.0	3.2	3.8	4.4	5.6	6.2	6.4
Second half	8.5	5.8	5.0	4.4	4.3	5.0	4.6	3.8	4.0	5.0	5.7		
June:													
First half	9.3	6.5	5.6	5.0	5.2	6.4	5.8	5.1	5.2	5.3	5.6	6.0	6.3
Second half	11.5	7.0	6.5	5.8	5.6	7.7	6.8	5.9	.....	5.4	5.8	6.2	
July:													
First half	15.4	10.7	9.2	6.8	5.9	10.2	9.3	6.7	5.8	5.9	6.1	6.3	6.5
Second half	18.7	11.5	.....	6.4	6.0	12.4	9.5	7.1	....	.....			6.6
August:													
First half	19.4	14.2	10.0	7.1	6.4	14.7	11.0	7.8	6.0	6.0	6.0	6.2	6.5
Second half	15.1	12.0	10.2	8.2	6.6	11.3	10.1	8.3	6.6	.....	6.0	6.1	6.5
September:													
First half	11.6	10.9	10.8	10.0	8.5	10.7	10.5	10.4	8.4	6.8	6.3	6.1	6.5
Second half	11.2	10.3	10.3	10.4	10.5	10.6	10.6	10.6	10.7	10.7	10.4	9.4	6.2
October:													
First half	6.8	10.2	10.4	10.5	10.7	10.0	10.0	10.6	10.7	10.6	10.6	9.2	6.2
Second half	1.6	8.3	8.6	8.8	8.7	8.6	8.9	9.0	9.0	9.7	9.8	6.9	6.3
November:													
First half	−1.5	7.6	7.6	7.9	7.7	7.6	7.7	7.8	8.0	8.1	7.7	7.0	6.3
Second half	0.6	5.4	5.8	6.0	6.3	5.5	6.7	6.8	7.0	7.1	7.2	7.3	6.5
December:													
First half	−2.4	5.0	5.2	5.2	5.4	6.0	6.0	6.2	6.3	7.0	7.0	6.6	6.3
Second half	1.6	.....	.....	.....	.....	4.0	4.8	5.1	5.5	5.7	5.8	6.5	6.3
January:													
First half	0.8	.....	.....	.....	.....	3.8	3.8	4.0	4.4	4.9	5.3	6.4	6.4

The temperature of the water has been taken daily at the surface and at depths of 5 and 10 fathoms. The results are set forth in Table XXXIX. The lowest temperature at the bottom and surface was 0.5 (in the beginning of March). The difference between the lowest weekly mean temperature at 10 fathoms last year and this year was only 0.2 at the surface and nothing at the bottom. The highest temperatures were 3.5 and 4.0 (beginning of February). Regular observations at greater depths, 30 and 80 fathoms, were not taken, for want of time. In all 38 series of observations were taken in 30 fathoms, and 40 at greater depths, against 63 and 58 last year. The same instruments were used in taking the observations as last year, namely, 2 Negretti and Zambra thermometers, which were kindly lent to the inspection party by the Meteorological Institute. The same instruments were used by Inspector Lie also. As the division into degrees is not very fine, an error in reading of ¼ degree is, of course, not rare. There appear, however, to be no more serious errors of observation. The observations were made first at the surface and gradually downwards towards the bottom.

TABLE XLIV.

Date.	Place.	Temperature of water at various depths from the surface to the bottom.											Condition of the fishery.
		Surface.	10 fathoms.	20 fathoms	30 fathoms.	35 fathoms.	40 fathoms.	50 fathoms.	55 fathoms.	60 fathoms.	70 fathoms.	80 fathoms.	
Jan. 30	Svolvær	3.75	4.00		4.25	..		4.75		5.25	6.75	6.75	Irregular, mostly light.
Feb. 2		3.50	4.00		4.25		..	5.00	..	6.00	6.50	6.75	
6		2.75	4.00					4.50		5.00	6.00	6.00	
9		3.00	3.25		3.50	..		4.25		5.00	5.75	6.00	
16	Storvaagen	2.25	2.50		3.50		4.00	4.50		5.00			Few *trukket*, good fishing.
21		2.00	2.25		2.50	2.50	4.50	5.00	5.00	5.25			Irregular, mostly good.
25		1.75	2.25	3.50	4.50			5.00	5.00	6.25			Irregular, mostly light.
27	Stamsund	2.00	2.00	3.00	4.00	4.75							Uniformly good.
28		2.00	2.00	3.00	3.75	4.00							Fish abundant.
29		2.25	2.50	2.75	2.75	3.00							
Mar. 1		2.25	2.25	2.25	2.75	2.75							
3	(Strömmen)	1.50	1.75	1.75	2.00	2.00							
10	Storvaagen	1.75	1.75	2.00	2.25	2.50							Exceedingly light.
		1.25	2.25	4.00	5.00	5.50							Good fishing.
11	Islændingen	3.00	3.75	4.75	4.75	..	5.00						Irregular, mostly light.
		3.00	3.00	4.50	4.75		4.75	5.00		5.25			Exceedingly light.
12	Sundaflaket	2.75	2.75	2.75	3.50		5.00						
15	Islændingen	2.50	2.50	3.00	3.25		4.50	5.00		5.50	6.25	6.25	Light.
18	Østnæsfjord	2.00	2.25	4.75	5.00			5.75		6.00	6.25		Good fishing.
19		2.00	2.00	2.50	3.25		4.00	5.00		6.00	6.00		
	Stamsund	2.00	2.25		3.25		4.00	5.00			6.00		
20	Østnæsfjord	2.25	2.25	2.50	3.50		4.00						Light.
21		2.00	2.25		3.25		3.75	5.25		5.50	6.00	6.00	Smaller, especially night-line.
22		2.50	2.25	3.25	4.50			5.50			6.00	6.25	Sunday.
	Stamsund	2.50	2.50		3.25			4.50		6.00	6.00	6.25	Exceedingly light.
		2.25	2.25	2.50	3.00		4.50						Irregular, mostly good. Extremely light. In the rest of Loffoden no sea-going weather because of a SW. storm.
23													
24	Østnæsfjord	2.25	2.25		3.75		4.75	6.00			6.00	6.00	Almost no fishing.
25	Svolvær	2.50	3.00	5.00	5.25			6.00		6.00	6.00	6.25	
		2.50	3.00	5.00	5.25			6.00		6.00	6.00	6.25	Holiday.

TABLE XLV.

Date.	Place.	Temperature of water at various depths from the surface to the bottom.										Condition of the fishery.
		Surface.	10 fathoms.	20 fathoms.	30 fathoms.	35 fathoms.	40 fathoms.	50 fathoms.	60 fathoms.	70 fathoms.	80 fathoms.	
Mar. 26	Svolvær	2.50	2.50	4.00	5.00			6.00	6.00	6.00	6.25	Holiday.
27		2.25	2.50	2.75	4.50			5.50	6.00	6.00	6.00	Good net-fishing.
28		2.25	2.50		4.00			5.50	6.00	6.00	6.25	Holiday.
29		2.00	2.50		3.50			5.50	6.00	6.00	6.25	
30		2.00	2.25		3.00			5.00	6.00	6.00	6.00	Irregular; mostly light; few trukket.
31		2.00	2.25		3.00		4.50	6.00	6.00	6.00	6.00	Irregular; mostly light, though mostly good elsewhere.
	Stamsund	2.25	2.50	2.50	3.25		4.75					Irregular; mostly good.
Apr. 6		2.00	2.25	2.25	2.25		3.75					Irregular; mostly good; less, however, than March 31.
6		2.00	2.00	2.00	2.25		2.50	4.00	5.50			Net-fishing excellent; line light.
	Storvaagen	2.00		2.25	3.25	3.25						
12	Svolvær	2.00	3.00	4.25	5.00			5.75		6.00	6.25	
		2.28	2.54		3.69		4.27	5.20	5.70		6.21	

TABLE XLVI *a*.

Date.	Place.	Water temperature.				Condition of the fishery.
		Surface.	10 fathoms.	20 fathoms.	30 fathoms.	
		20 or 30 fathoms of water.				
Jan. 30	Svolvær	3.50	3.75		4.25	
Feb. 2						
6		2.75			4.00	
9		3.00	3.00		3.75	
16	Storvaagen	2.25	2.25	2.25		
21		1.25	1.75	2.00		
25		1.50	2.00	4.00		
27	Stamsund	2.00	2.00	2.75		Uniformly good.
28		2.00	2.00	2.50		Very good.
29		2.00	2.00	2.00		
Mar. 1		2.00	2.00	2.25		
3	(Strömmen)	1.25	1.25	1.75		
10	Islændingen	3.00	4.00			
	Storvaagen	2.00	2.75		3.75	Very good.
11	Islændingen	2.75	3.00	4.50	4.75	
13	Sundsflaget		4.00			
15	Östnæsfjorden	1.75	2.00	4.25	4.25	Very good.
18	Östnæsfjorden	2.00		2.25	3.00	
	Stene	2.25	2.50	2.75	3.75	
19	Stamsund				3.00	
	Östnæsfjorden	2.00	2.00			Very good.
20			2.25		3.25	
	Stamsund			2.25	2.50	
21	Östnæsfjorden	2.50	2.50	3.00	4.00	Sunday.
22		2.25	2.50		3.75	
	Stamsund	2.25	2.25	2.50	3.00	

TABLE XLVI *b*.

Date.	Place.	Water temperature. Surface.	10 fathoms.	20 fathoms.	Bottom.	Condition of fishery.
		Depth, 30 fathoms.				
Mar. 23	Östnæsfjorden	2.25	2.25	.....	3.50	
24		2.50	3.00	.....	5.25	Very good.
26	Svolvær	2.25	2.50	3.75	4.50	Holiday.
27		1.75	2.25	.....	3.75	Very good.
28		2.25	2.50	2.75	4.00	Holiday.
29		2.00	2.25	2.50	4.00	
30		1.75	2.25	.....	2.50	
31		1.75	2.25	.....	3.00	
Apr. 6	Stamsund	2.25	2.50	2.75	3.25	Irregular; mostly good.
		1.75	1.75	1.75	.....	
12	Storvaagen	2.00	1.75	2.50	.....	
	Svolvær	1.75	3.00	.....	5.00	
		2.18	2.48	.....	.....	

As the observations at Lödingen in May, last year, agreed in the main with those taken at Loffoden in April, so also the observations at Lödingen on the 5th of January, this year, give the same result as in Svolvær on January 30; therefore the observation of the temperature of the water which has been conducted from January, 1879, to April, 1880, may be regarded as a continuous series.

The observations this year, as well as last, show that, as a rule, there is a rather sharp limit between a colder and a warmer stratum of water, while the mass of the layer increases and diminishes considerably in a comparatively short time. This fall of temperature appears not to have extended to as great depth as last year; the lowest temperature observed at 60 fathoms was 2.15, and, at 50 and 40 fathoms, 1.75, while this year the temperatures were 5.25, 4.00, and 2.50, respectively. In February and March a temperature as low as 2.25 has not been observed farther down than 20 fathoms from the surface in 80 fathoms of water, and it has been noticed only twice in the same depth of water 35 fathoms from the surface. It is possible, however, that observations taken between the 3d and the 10th of March would have given a different result; for the water appears to have been coldest this year at that time, although, because of the frequent and sometimes considerable changes at different depths, it is difficult to arrive at a definite conclusion about the subject.

Concerning the influence of the temperature of the water upon the fishery, allow me to state the arguments for and against this assumption.

The following statements favor the assumption:

1. This year the fish were always found either near the surface or in comparatively shallow water, and since the temperature at these depths was both rather uniform and rather high, at all events, in comparison

with last year, it is not improbable that the fish have been influenced thereby in their choice of locality.

2. Since fishing begun at Islændingen, the lower part of Sundströmmen, the temperature at 20 and 30 fathoms was 4¾ degrees. The floating implements placed 25 fathoms from the surface, and the bottom implements set in 25 fathoms, took plenty of fish, while nets placed on the bottom in 60 to 80 fathoms, where the temperature was six degrees, caught almost nothing. The same thing occurred in Östnæsfjorden and Svolvær during the fishing there. Many of the net-fishermen floated only a portion of their nets, and allowed the rest to remain on the bottom, and the catch was generally good in the floated portion, and exceedingly light in the bottom nets.

3. The excellent fishery at Stamsund and stations farther west at the close of February was associated with a rise in the water temperature, which, from 2.50 at a depth of 35 fathoms on the 21st, increased on the 25th to 4.50 in 30 fathoms, and 3.50 in 20 fathoms. The same was true of the good fishing which begun in Östlofoten March 10. The fishing mentioned in Buksnæsfjorden under "Fishing at the different stations," and also the advent of cod which was noticed, March 17, between Stamsund and Skokkelvigöerne, occurred at a time when the warm stratum of water had descended to 20 fathoms from the surface.

The conclusion which I reach from these observations is, that the temperature which appears best adapted to cod is between 3½ and 4½ degrees.

The circumstances which disprove the influence of the temperature of the water are the following:

1. Since there were some fish in the seines, though in smaller and comparatively unimportant numbers, it follows that a temperature of 5 to 6 degrees is, at all events, not a barrier to the presence of cod.

2. Although the good fishing westward of Stamsund begun with a temperature of 4 degrees in 30 fathoms, it remained good, and in the early part of March it was even unusually good here as well as at Gemsöströmmen, though the temperature gradually decreased to 1¾ degrees in 20 fathoms and 2 degrees in 35 fathoms—which again seems to indicate that comparatively cold water is not prejudicial to the thriving of cod.

3. The fishing, which was excellent at Sund March 10, was poor on the 11th, though the temperature conditions were the same on both days; so this appears to be no assurance of a permanently good fishery.

It is shown by the combined observations also that some good fishing has taken place in depths where the water temperature varied from 2 to 5 degrees. Since this is the greatest variation which has been observed during the winter on the banks, and since the taking capacity of a net is only 3 to 4 fathoms perpendicularly, I conclude that the temperature of the water does not play the role in the fishing that one would suppose, at first consideration, should be ascribed to it. Examinations of the temperature of the cod itself at different depths would have been interesting, but I had no thermometer which was suitable therefor.

The observations this year have indeed been few, although they were begun the same day or the day after the fishing commenced. Although the frequent and sometimes considerable and irregular falling and rising of the warm water scarcely allow any hope of a practical result, and in spite of the little encouraging conclusions whereto the year's observations have led, it is my intention to continue these observations as far as time allows.

Table XLVII shows how many livers made a barrel at different times during the fishery. The numbers above the line indicate those taken in nets, below the line those caught by lines. Compared with the four preceding years the fish this year have been distinctly fatter, and, especially, they have retained their fatness longer than usual. The increased proportion of liver in the districts of Stamsund and Sörvaagen at the close of February was associated with the excellent fishing there, and seems to indicate a new arrival (of fish). The stated proportion of liver at the end of the first week of March to the quantity of fish has not been so great in any of the four preceding years at the same time; and one may possibly, from this longer-retained proportion of liver, draw the conclusion that the East Loffoden fishery in March is due to the incoming of new fish and not to an afflux from West Loffoden. The observations are, however, highly uncertain, and cannot be otherwise; so it is difficult to base any decision upon them. On the average 385 cod are estimated to have yielded one barrel of livers, or 78 pots (0.65 barrel) of oil. According to the inspection tables, the proportion between fish and liver has been as follows:

	Cod.		Cod.
1869	450	1875	440
1870	350	1876	415
1871	400	1877	425
1872	350	1878	420
1873	390	1879	420
1874	400	1880	385

An average of 400 to the barrel of liver and 600 to a barrel of oil.

TABLE XLVII.—*Number of livers in a barrel.*

Week ending—	Östnæsfjorden.	Svolvær.	Skroven.	Vaagsø.	Hopen.	Henningsvær.	Stamsund.	Ure.	Balstad.	Sorvaagen.
January 24						0			0	
						300			300	
January 31		0			280	250				
		300			300	300				
February 7			280	280			300	350		200
			300	300			350	400		250
February 14	300	300		300			350	300		300
	340	350		350			400	350		350
February 21		300			300		280		0	350
		400			400		350		350	400

TABLE XLVII.—*Number of livers in a barrel*—Continued.

Week ending—	Östnæsfjorden.	Svolvær.	Skroven.	Vaagene.	Hopen.	Henningsvær.	Stamsund.	Ure.	Balstad.	Sörvaagen.
February 28	350	350	300			300			350	300
	450	450	350			350			400	400
March 6				320	350					300
				370	450					350
March 13			350	350		350	350	400	400	400
			400	450		400	400		450	500
March 20	400	400	400	400	400	400	300			500
	450	500	500	550	500	500	350			600
March 27				400		480	350	450	450	
				500		550	450	500	500	
April 3				420	450		400		500	
				550	600		480		550	
April 10				480		480			550	
				0		600			600	

Table XLVIII states the prices of net and line fish at different times during the fishing. The average price is assumed to have been about 15 öre for net fish, about 13 for line fish, 12 for deep-water fish, and in general, 13.70. Since 1860 there has only once been a lower price; this was in 1868, when the average was 13.33.

TABLE XLVIII.—*Prices of fish (in öre).*

Week ending—	Östnæsfjorden.	Svolvær.	Skroven.	Vaagene.	Hopen.	Henningsvær.	Stamsund.	Ure.	Balstad.	Sörvaagen.
January 17						12			0	
									12	
January 24				14						
January 31		14			12		0			
							10			
February 7		16	12	15		14	0	12		
		14	11	14		13	13.5			
February 14			16	16	18	17	16	14		14
	14		12	14	16	14	15	13		12
February 21		17	17	17	19		17.5	16.5		
		15	16	15	17		16	15.5		
February 28			18	17		18	18	18	15	16
			16	16		16	16	16	14	12
March 6		18			18		15	14		
		16			16		13	13		
March 13	10	15	17	14–16	17		14	18	14	15.5
	9	13	16	10–12	15		13	15	12	12
March 20	14	13	12	12–13	15	16	16		14	14
	10	10	10	10–11	13	14	14		13	12
March 27		16	14	12–14	13	15	14.5	14		15
		12	13	10–11	11	14	13	12		12
April 3			12	13–15			16		14	13.5
			11	10–11			15		13.14	12
April 10			14	0	14	12	16	17		17
			13	10–11	12	10	14	15		13

Table XLIX gives the prices of the other fish products and of bait. The prices of roe have been somewhat higher, of liver a little lower than in the last few years. According to these prices the value of one fish round has been 20.8 öre. Bait has commanded an unusually high price.

TABLE XLIX.—*Prices (in öre).*

Inspection district.	Liver.			Heads.	Bait.			
					Herring.		Cattle-fish.	Mussels.
	Fresh.	Old.	Roe.		Fresh.	Salted.		
	Barrel.*			Millions.	Barrel.			
Skroven	20		16			20		
	14		20					
Svolvær	15			0.50		12	14	16
	12			0.70		20	20	
Vaagene	18	12	16	0.40		16	20	18
	12	15	21	0.50			28	24
Hopen	18	16	15	0.50		16	16	10
	12	12	22	0.70		20	20	20
Henningsvær	17	14	20	0.40		16	20	
	15	13	22	0.60		20		
Stamsund	20	14	18			14	18	
	17	12	22					
Ure			18	0.60		16		
			23	0.80		20		
Balstad	15		21	0.40		13	19	
				0.60		18		
Sörvaagen	16		18	0.50	20	14	18	
	12		22	0.60		20	16	

*This probably means so many öre per fish by the barrel and so many per head by the million.—TR.

Table L gives the Loffoden prices and the export values since 1873. Up to and for 1877 the export values are taken from the official statistics; for 1878 and 1879 they are quoted from the generous communication of the supervisor of the merchants' clerks in Bergen. According to this statement the export prices have been—

Export prices.		1878.	1879.
Split cod	per vog*	$1 66	$1 27
Round fish	do	1 54	1 27
Coarse-cut:			
Ling	do	1 88	1 54
Cod	do	1 74	1 47
Brosmius	do	67	64
Titling:			
Cod	do	1 81	1 61
Haddock and Brosmius	do	80	54
Large coal-fish	do	94	87
Medium coal-fish	do	86	59
Small coal-fish	do	54	43
Medicinal oil	per barrel	13 53	11 79
Refined oil	do	13 13	11 26
Clear brown oil	do	12 86	10 99
Brown oil	do	10 99	9 92
Roe:			
First quality	do	8 04	7 77
Second quality	do	5 36	5 09

*Thirty-six Danish pounds.

Of the total export of roe 15 per cent. is assumed to be of the second quality. The cost of split cod may be estimated at 8.8 crowns ($2.36) per 1,000.

TABLE L.—*Prices.*

Year.	Fish.			Roe.		Liver.		
	Average Loffoden price.	Export price.		Loffoden price.	Export price.	Loffoden price.		Export price.
		Split cod.	Dried cod.			For medicinal oil.	For other oils.	
	Per hundred.			Per barrel.				
1873	$6 21	$9 29	$5 91	$9 18	$13 18	$6 48–$7 56	$0 48	$9 61
1874	6 48	9 72	5 75	$11 88–12 42	15 23	7 56– 8 64	$5 40–5 94	9 04
1875	5 94	8 75	.....	8 64–10 80	11 45	6 48– 7 56	5 40	8 69
1876	5 40	11 34	6 45	8 04	11 96	7 29– 8 77	4 32–5 40	9 64
1877	5 94	8 48	6 18	7 02– 8 64	7 15	6 21– 8 64	5 40	9 10
1878	5 40	9 29	*5 75	4 32– 4 86	7 72	4 86– 7 56	4 59–4 86	8 42
1879	4 68	7 13	*4 75	4 86– 5 94	7 45	4 86– 6 48	3 78–4 86	7 21

* Round fish only.

Table LI shows the yield of fish in the Loffoden fishery at the close of each week for the last five years. In this, as also in the following tables, certain items are wanting for 1878, since it has been hitherto impossible to obtain a statement of medical taxes for this year.

TABLE LI.—*Yield of Loffoden fishery.*

Month.	1875.		1876.		1877.		1878.		1879.	
	Date.	1,000 fish.	Date.	1,000 fish.	Date.	1,000 fish.	Date.	1,000 fish.	Date.	1,000 fish.
February			1	200						
			5	600	3	130	2	360	1	1,000
	13	2,500	11	1,500	10	500	9	700	8	2,000
	20	3,750	19	2,500	17	1,500	16	2,500	15	2,750
	28	6,000	26	4,200	24	3,000	23	3,000	22	5,000
March					3	4,750	2	5,500	1	6,750
	7	9,000	5	7,500	10	8,250	9	8,500	8	7,500
	14	13,500	12	9,000	17	11,500	16	11,750	15	11,000
	21	16,500	19	11,750	24	17,000	23	17,750	22	16,000
	28	18,500	26	15,500	31	20,250	30	22,250	29	21,000
April			2	20,250						
	4	21,000	9	21,250	7	24,250	6	23,500	5	24,750
	11	23,000	15	22,000	14	28,000	13	24,750	12	25,500
After deducting medical tax		23,000,000		23,000,000		28,000,000		.....		25,250,000
Caught after April 14		180,000		500,000		1,500,000		250,000		60,000
Caught in January and February		6,000		6,000		4,000		.....		6,750
Caught in March		13,400		14,000		16,250		.....		15,250
Caught in April		3,600		2,400		7,750		.....		3,250

Table LII shows the combined yield of the different fish products since 1873. The yield of fish in millions will be seen to correspond nearly with the number of thousand barrels of roe. This year the inspection estimates 34 per cent. more roe proportionally than for the preceding year. How far 1870 has been exceptional, or the estimate of the inspection has been erroneous, can, however, not be determined until the close of the year.

TABLE LII.

Year.	Yield of Loffoden fishery, including the fishing after April 14.							
	Total.	Embracing—		Heads.	Roe.	Oil.		Value in million crowns.
		Split cod.	Dried cod.			Medicinal.	Other oil.	
	Millions.				1,000 barrels.			
1872	18.2	10.7	7.5	4.7	19	0.7	33	5.1
1873	19.5	12.4	.....	4.8	18	0.5	.....	6.0
1874	16.0	10.9	5.1	5.5	15	0.4	27	5.1
1875	23.2	15.5	7.7	14.5	21	0.9	35	7.2
1876	23.5	18.0	5.5	13.5	24	1.4	35	6.5
1877	29.5	25.3	4.2	15.0	29	4.4	36	8.8
1878	.....	.....	3.7	18.0	.....	3.0	.....	.....
1879	25.3	21.6	3.7	21.0	26	2.7	36	6.0

Table LIII gives the yield of the rest of the fisheries in the districts of Nordland and Tromsö. The fact that the quantity of oil in 1879 was twice as great as in 1876, though the yield of fish from the summer and autumn fisheries was the same, is due, in part, to the circumstance that the home consumption of fish in 1879, because of the unsuccessful herring fishery, was considerably greater, which, as a matter of course, has had its influence on the quantity exported; and in part to the very small fishery at Finmark in 1876, which again affected the export of oil from Tromsö, some of whose fishermen bring home livers. This and the preceding table I have worked out from a critical examination of the different fishery reports, and I believe that even if there be found some errors of judgment, the statements may be regarded as tolerably correct in the main features and in relation to the amount of the different items.

TABLE LIII.

Year.	Yield of the fisheries in Nordland and Tromsö districts, excluding the Loffoden fishery.						
	Winter and spring fishery.					Summer and autumn fishery.	
	Total.	Divided into—		Roe.	Oil.	Oil.	Fish.
		Split cod.	Dried cod.				
	Millions.			1,000 barrels.			Millions.
1872	.....	.....	.....	.....	.....	.....	6.7
1873	5.5	0.5	5.0	6.5	11.4	11.0	7.6
1874	4.5	.....	4.0	4.5	9.0	7.5	10.2
1875	2.3	0.3	2.0	2.5	4.5	9.5	9.3
1876	7.2	0.8	6.4	8.5	13.0	7.6	9.2
1877	8.0	1.4	6.6	10.0	14.0	6.7	13.2
1878	11.2	2.5	8.7	16.0	19.0	9.9	.....
1879	4.4	0.4	4.0	5.4	7.6	.....	9.6
	7.0	0.9	6.1	8.2	12.1	14.1	
	6.2	0.9	5.3	7.7	11.3	9.5	9.4

Table LIV shows the inspector's statement of fish, roe, livers, and medicinal oil at the close of each week, also the number of fishing days. In the quantity of liver is not included that portion which is used in the manufacture of medicinal oil. Only a day on which there is fishing throughout the Loffoden Islands is considered an entire fishing day. The best yield in proportion to the number of fishing days and the size of the fleet was during the week from March 7 to March 13 (the most fish taken); the next best was in the week from March 14 to March 20. In January and February there were caught 6,000,000 (22.7 per cent.); in March, 18,500,000 (69.8 per cent.); and in April, 2,000,000 (7.5 per cent.). The number of fishing days from January 11 to April 14 made up 59 per cent. of the whole time.

TABLE LIV.—*Weekly statement of the yield.*

Week ending	1,000 fish.			1,000 barrels.			Fishing-days.	
	Total catch.	Salted.	Week's catch.	Liver.	Medicinal oil.	Roe.	Whole.	Part.
January ..17	100	.....	.....	.....	.....	.....	5	.....
24	150	.....	50	.....	.....	.....	1	1
31	170	.....	20	.....	.....	.....	.....	3
February.. 7	500	.....	330	1.6	.....	1.4	1	2
14	1,600	.....	1,100	5.0	0.2	3.7	3	4
21	3,000	.....	1,400	9.1	0.4	7.2	1	1
28	6,000	.....	3,000	18.0	1.0	14.0	4	3
March 6	9,250	6,000	3,250	25.0	1.5	20.5	2	4
13	13,250	9,750	4,000	36.0	2.0	26.5	.....	.....
20	22,500	18,250	8,750	54.5	2.5	34.0	6	.....
27	23,500	19,750	1,500	57.0	3.0	34.5	1	2
April 3	24,500	20,750	1,000	59.0	.....	35.0	1	1
10	26,000	22,250	1,500	62.0	3.1	.....	4	3
14	26,500	22,750	500	63.0	.....	.....	2	1
				Oil, 41.0			31	25

Table LV shows the yield of fish, liver, medicinal oil, roe, and heads used for the manufacture of guano in the different inspection districts.

TABLE LV.—*Distribution of the catch by inspection districts.*

Inspection district.	1,000 fish.				1,000 barrels.			Million heads.
	Total.	Salted.		Dried fish.	Liver.	Medicinal oil.	Roe.	
		Ashore.	At sea.					
Skroven*	2,050	280	1,670	100	4.9	0.350	1.8	1.5
Svolvær	4,000	390	3,400	210	8.9	0.330	3.4	2.5
Vaagene	4,500	410	3,980	110	9.6	0.815	3.3	3.2
Hopen	3,250	520	2,660	70	6.8	....	3.8	2.2
Henningsvær	4,400	540	3,360	500	10.3	0.800	8.5	3.7
Stamsund	2,570	640	1,650	280	7.2	0.670	4.0	2.0
Ure	710	150	360	200	1.9	.....	1.4	0.2
Balstad	1,820	110	1,030	680	4.2	0.100	3.3	1.5
Sörvaagen†	3,200	290	1,310	1,600	9.2	.....	5.5	1.5
Total	26,500	3,330	19,420	3,750	63.0	3.065	35.0	18.3
*Amount for Ostnæsfjord	1,230	110	930	190	2.8	.....	1.2	.....
†Amount for Nufsfjord	580	60	330	190	1.8	.....	0.8	.....

Table LVI gives the catch of fish by the different methods.

TABLE LVI.—*Yield by the different methods.*

Inspection district.	1,000 fish.		
	Net.	Trawl-line.	Deep bait.
Skroven	1,320	570	160
Svolvær	1,000	2,400	600
Vaagøe	3,500	470	530
Hopen	1,750	1,400	100
Henningsvær	2,330	1,900	170
Stamsund	1,950	500	120
Ure	200	450	50
Balstad	250	1,570	.....
Sörvaagen	1,000	2,190	10
Total	13,300	11,450	1,740

Table LVII shows the proportion between the different kinds of fishermen and the yield of the methods in the last five years. In the last three years the use of lines has given proportionally the best yield. A comparison of the last nine years shows that the use of lines has given the most certain yield, since there were only two years—1876 and 1877—wherein the catch was proportionally small in relation to the number of line-fishermen, while the use of nets has furnished a relatively small yield in six of the nine years.

TABLE LVII.

Year.	Proportionate yield of the various methods.					
	Net-fishing.		Trawl-line fishing.		Day-fishing.	
	Fishermen.	Fish.	Fishermen.	Fish.	Fishermen.	Fish.
	Per ct.	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*	*Per ct.*
1876	43.0	52.0	45.0	43.5	12.0	4.5
1877	50.0	55.5	41.0	35.5	9.0	9.0
1878	58.0	57.0	32.0	38.0	10.0	5.0
1879	56.0	43.0	33.0	52.0	11.0	5.0
1880	49.0	50.0	38.0	43.0	13.0	7.0

Table LVIII shows the yield of the guano factories in the last five years. This year a factory was erected with English capital in Bretesnæs, while the Norwegian fish-guano company (Lerosen factory) was dissolved.

TABLE LVIII.

Year.	Yield of guano factories.					Heads consumed.
	Sauöen.	Lerosen.	Lyngvær.		Total.	
			Guano.	Fish meal.		
	Sacks of 200 pounds.			2-pound packages.	200-pound sacks.	Millions.
1875	11,650	8,000	4,000	.....	23,650	14.3
1876	10,000	9,960	8,100	1,000	23,060	14.6
1877	9,880	8,630	4,080	2,420	22,560	13.7
1878	13,500	6,150	2,210	1,200	21,860	13.2
1879	16,700	7,600	2,340	1,500	26,640	16.0
Average	12,350	8,070	3,140	.....	23,550	10 6

Of medicinal oil manufactories there are now two in Skroven, one in Svolvær, two in Kabelvaag, two in Henningsvær, and one in each of the stations Stamsund, Stene, and Balstad. Altogether they can utilize about 500 barrels of livers daily.

For consumption during the fishery are used 750,000 fish. For use at home fully 250,000 are sent. This million is not included in the foregoing statement.

According to the statement of the treasurer of the medical fund, the medical taxes for 1879 amounted, in the counties of Norland and Tromsö, to 95,129.33 crowns ($25,494.65), divided as follows:

	Crowns.	Dollars.
187,677 times 120 split cod, 22,521,240 fish..	25,023.60	6,706 32
26,370 vogs of salted fish in vessel	293.00	78 52
718,013 vogs of dried cod,* 19,386,351 fish..	23,933.77	6,414 25
271,706 barrels herring.....	18,113.73	4,854 48
597 barrels other salted fish....	39.80	10 67
64,898 barrels oil.....	25,959.20	6,957 06
35,325 barrels roe.....	1,766.23	473 35
	95,129.33	25,494 65

For bait it is estimated that there were consumed 16,000 barrels of salted and 40 barrels of fresh herring, 8,000 barrels of cuttle fish, and 1,300 barrels of mussels, the combined value of which was 400,000 crowns ($107,200).

The *aggregate gross yield* of the Loffoden fishery is worth a little over 5,500,000 crowns ($1,474,000).

Table LIX gives the average share which has generally fallen to the different methods of fishing, also the greatest share, as far as known to the inspection officers. The average share was 200 crowns ($53.60).

*Wherever dried cod are reduced from weight to number, 27 fish are calculated to a vog (36 Danish pounds).

The average was, in 1874, 270 crowns = $72.36; in 1875, 390 crowns = $104.52; in 1876, 305 crowns = $81.74; in 1877, 410 crowns = $109.88; in 1878, 300 crowns = $80.40; and in 1879, 240 crowns = $64.32.

Wages of hired men were from 100 to 120 crowns ($26.80 to $32.16) and expenses. In East Loffoden they were occasionally reduced to 80 crowns ($21.44).

TABLE LIX.

Inspection district.	Average share.			Highest share.		
	Net-fishermen.	Trawl-line fishermen.	Deep-bait fishermen.	Net-fishermen.	Trawl-line fishermen.	Deep-bait fishermen.
Skroven	$64 32	$48 24	$26 80			
Svolvær	53 60	42 88	37 52	$96 48	$85 76	
Vaagene	75 04		32 16	160 80	53 60	$53 60
Hopen	64 32	48 24	34 84	134 00	107 20	
Henningsvær	53 60	42 88	32 16	107 20	85 76	
Stamsund	58 96	50 28		115 24	60 68	
Ure	48 24	45 56		75 04	80 40	
Balstad	69 68	69 68				
Nufsfjord	80 40	72 30		99 16	107 20	
Sund	75 04	75 04		93 80	142 04	
Reine	80 40			91 12	107 20	
Sörvaagen	67 00	80 40		88 44	125 96	
Moskenæs		75 04			112 56	
Aa	58 96	80 40		61 64	125 96	

The loss of implements has been distinctly smaller than last year, especially so far as nets are concerned. In Skroven only one link was lost, and in Hopen ten to twelve, while, on the other hand, an individual in Kabelvaag has lost two settings. The loss of lines has been proportionally greater in Henningsvær and Balstad. The loss is everywhere attributed to a current, which set westward with unusual strength in the latter half of February. In the beginning of March it set eastward. From many places comes the complaint that the implements are too lightly weighted, both lines and nets, and a desire has been expressed that the law-making power should interfere. In order that the weights, which are at present insufficient, may be satisfactory they must be so heavy as to materially increase the labor of the ordinary daily business, so that it is doubtful how far they will secure any corresponding advantage. There was at one time an association in Stamsund whose members pledged themselves to use anchor-stones of a fixed weight; but, so far as I remember, it existed only one year, and I am not aware that the experiment was repeated.

Of floating implements floating lines were used exceptionally in East Loffoden and more commonly than before in West Loffoden. Floating nets were used only a little westward of Storvaagen, and then nets floated under water were always employed. Eastward nearly one-fourth of the men used surface-floating nets.

The Loffoden fishery this year has been next to the greatest known,

as the number of fish caught was at least 27,500,000, including what were used during the fishing and carried in for use at home. It exceeds the catch of the preceding year by one million, and is only a little over a million less than the catch of the rich year of 1877, when the yield to April 14, was 28,750,000. For individual fishermen, on the contrary, the yield was smaller than in any preceding year since 1869, if we except 1869. The average catch, excluding what was used during the fishing or at home, was 970 cod for each fisherman, or 100 fish fewer than the average from 1869 to 1879, both inclusive, while the average price, 20.8 öre for a round fish, is smaller than at any time during the period named. In order that the fishermen, at the prices of the year, should have a net profit of 100 crowns ($26.80), the catch should have been somewhat over six millions greater, or 33,600,000 in all.

Table LX shows how the gross expenses of the fishery, 5,500,000 crowns ($1,474,000), were divided among the different items of expense.

TABLE LX.

Items of expense.	Division of expenses.	
	Total.	Per cent.
License ($14.20 per fisherman)	$385, 920 00	26.0
Food	343, 040 00	23.0
Leather goods	58, 960 00	4.0
Wood and lodging	67, 000 00	4.5
Bed-clothing	13, 400 00	1.0
Expense of laying up	72, 360 00	5.0
Boat hire	91, 120 00	6.2
Interest and wear and tear	259, 960 00	17.6
Loss	80, 400 00	5.4
Bait	107, 200 00	7.3
	1, 479, 360 00	100

The costs are divided as follows: For implements, 2,010,000 crowns, or 36.5 per cent.; personal expenses of fishermen during the fishery, 2,070,000 crowns, or 37.5 per cent.; and only one-fourth part, 1,440,000 crowns, or 26 per cent., remains for the support of the family and other expenses at home, partly during and partly outside of the fishing season.

The course of the fishery was, in the main, as follows: As early as the beginning of January a considerable number of cod appeared to be present from Vaagen westward, particularly at Stamsund and westward from Sund. Fishing was carried on, however, by several resident fishermen. In the middle of January 900 boats had arrived; but bad weather almost totally prevented work for the rest of the month and during the early part of February. From the middle of February to the 9th of March was the height of the fishing season from Henningsvær westward, and the fishing was partly good from February 24 to March 4, while it was poor eastward, except at Hopen February 27 and 28 and March 1, when it also became to some extent good here, especially with

trawl-lines. On the 8th of March exceptionally good fishing began at all stations from Hopen eastward to and including Östnæsfjord; westward there was good fishing, also, everywhere until the 10th, when it became poor at stations from Balstad westward; at the remaining stations the good fishing continued until the 12th, after which date it was poor everywhere. In East Loffoden there was an especially good fishery from March 14 to the 20th, during which week 8,750,000 fish were taken, the largest week's catch known to have been made. The East Loffoden fishing closed, so far as Östnæsfjord is concerned, on the 20th, and at the remaining stations about a week later. At the close of March fishing began again to be sufficiently good, though irregular, from Henningsvær westward. It was, however, not permanent, except at the first-named station and in the region from Sund westward, where it was quite good even until the middle of April.

A peculiarity of this year's fishery was that the cod almost from the beginning remained near the shore; besides, they were found near the surface, and most of the fishing was done at depths of 30 to 40 fathoms, and sometimes less. Their presence in not inconsiderable numbers was proven, also, in many places inside the reef, where they ordinarily seldom appear, as at Islændingen, near Sund, and in various coves of Buksnæsfjord. On a voyage from Stamsund to Balberg Islands, on March 17, the inspection employés observed in many places, where the depth allowed the bottom to be seen, fish as large as cod, all of which were moving northward and towards the land.

Table LXI gives the percentage of fishing days on which there has been good fishing in the different inspection districts.

TABLE LXI *a*.

Per cent. of good fishing days from January 16 to April 12.

Inspection district.	Net fishermen.				Trawl-line fishermen.				Day fishermen.	
	January.	February.	March.	April.	January.	February.	March.	April.	February.	March.
Svolvær		27	76		14	30	70		22	78
Skroven		0	83		0	53	81		23	73
Vaagene	25	47	78				*50		31	64
Hopen	0	43	94	14	50	80	85		55	81
Henningsvær		85	50	37	07	95	69	100	64	66
Stamsund				15		59	53		67	50
Ure	100									
Balstad		90	62		0	100	72			
Sund			†00		67	69	74	30		
Sörvaagen		89	44	100	80	93	47	70		
		80					64	70		

*Not used from the middle of March. †Little used.

The course of the fishery this year appears at first view to indicate a movement of the schools of fish first from east to west, then from west to east, and finally again from east to west, since the fishing, which was

tolerably good everywhere in the first half of February, was so in the second half and until March 8, almost exclusively from Henningsvær westward; later, on the contrary, and until the close of the month, that is, from the 15th, almost entirely from Hopen eastward. The following facts, however, antagonize this opinion:

1. Fishing began at all the easterly stations on the same day.

2. It continued in West Loffoden with a good yield many days after it had begun in East Loffoden.

3. It closed in West Loffoden at the same time at the majority of the stations.

If there was a marked advance from west to east this should have been shown by an increased fishery from west to east, if only for a short time. Of course from March 4 to the 14th there was no common fishing day, and four whole days were spent ashore, the 6th, 7th, 9th, and 13th, so that it was difficult to follow the course of the fishery. An advance should, moreover, have secured an exceptionally good catch for the implements employed; but this was not so marked as to be conclusive. No relation between the fishing at the different stations, therefore, can be shown this year with certainty. In order to reach a conclusion, if possible, in the future, I shall continue the detailed records of the fishery which I begun in 1878. In the following table is given a synopsis of the course of the fishery during the last three years:

TABLE LXI *b*.

Time.	1878.	1879.	1880.
First half of February.	Eastward of Henningsvær, to and including Svolvær, Raftsundet.	Henningsvær to Balstad.	Westward of Sund. Ordinarily quite good line fishing everywhere.
Second half of February.	Eastward of Henningsvær, to and including Svolvær.	Henningsvær to Stamsund, and part of Skroven.	Westward of Henningsvær.
First half of March	Ure to Hopen.....	Good fishing everywhere.	To the 8th, westward of Henningsvær; from the 8th, eastward of Hopen, to and including Östnæsfjord.
Second half of March ..	Balstad to Vaagen	Westward of Henningsvær.	Eastward of Hopen, to and including Östnæsfjord.
April.....	Westward of Stamsund.	Westward of Balstad	Henningsvær, and westward of Sund.

Since the conditions in Raftsundet, Östnæsfjorden and Gimsöströmmen appear to be, in a measure, similar, I have examined the fishery in these places of late years, as far as there was any to investigate, when I have had the materials to work upon. From the following table it will be seen, meanwhile, that there is no regularity here, as one year there may be fishing in all of the three places, during another year in only one of them. As is well known, all experienced fishermen have fixed signs by which they believe they can foretell the course of the fishery. Though such rules of experience are generally based only on observations within an extremely limited circle, they may possibly have some value, wherefore I seek, as far as possible, to confirm their correctness or incorrectness.

TABLE LXI c.

Year.	Condition of the fishery.		
	Raftsundet.	Östnæsfjorden.	Gimsöströmmen.
1866	Quite good during the first half of March.	Excellent from the end of February to the end of March.	
1868	Almost nothing taken	Good fishing from the end of February to the end of March.	Excellent from the 11th to the 28th of March.
1875	Excellent fishing from the middle of February to past the middle of March.		Small fishery.
1876	Good, partly excellent, about the middle of March.	Small in February	Nothing taken.
1877	Good, partly excellent, from the 5th of March to the beginning of April.	Partly good line fishing during the last half of March.	Quite good in the middle of March, especially from Stamsund.
1878	Quite good about the middle of February.	Small line fishery in the middle of March.	Good, partly excellent, fishing some days in the early part and middle of March.
1879	Nothing caught	Almost nothing taken	Good, partly excellent, 8 days from the middle of March.
1880	do	Excellent fishing from the 8th to the 20th of March.	Good, partly excellent, at the close of February and the beginning of March.

Comparing the catch of each fisherman for some years past, we find the following averages:

	Cod to each man.
In 1869	820
In 1870	1,170
In 1871	1,000
In 1872	1,080
In 1873	1,130
In 1874	850
In 1875	1,260
In 1876	1,080
In 1877	1,310
In 1878	1,090
In 1879	980
In 1880	940

An average of 1,060 cod to each man.

The difference between the highest and lowest catch was 490 cod. From this number, however, we cannot draw any conclusion, as the place where the fishing was done, the number of fishing days, the time at which these days fell, and the time of the arrival of the fleet have considerable influence upon the catch, and the data are accurately determined for the last four years only. Of really excellent fishery years there appear to have been only two during this twelve years period, 1875 and 1877; and of poor years there were also two, 1869 and 1874.

The fishing at the different stations was as follows:

Brettesnæs.—Here there was no fishing.

Skroven.—Inner side (east side). In February there was, in part, a good catch here with nets as well as with lines. There appears, however, to have been no important fishery. West side. In January the

fishing was exceedingly small. In February and in the beginning of March it was irregular and light except with trawl-lines during the second and third weeks of February, when these implements brought good and occasionally even excellent results. From the 10th of March to the 22d, on the other hand, the fishing was exceptionally good for all of the implements. At the close of the month it declined, and in April it was poor. The principal fishing this year was at "Höla."

Svolvær.—Trawl-lines were first used December 30, and were hauled on the day following with a catch of 13 cod. The next attempt was made January 10 by three boats, which took 2, 8, and 11 cod respectively. At the close of January the catch amounted to 100 for each boat employed. In February and March the trawl-line fishing was irregular and light as a rule until the 8th, from which time it was uniform and good, sometimes excellent, almost to the close of the month. In April it was light again.

Nets were first used February 9. They were set on the 11th, and caught from 100 to 400. On the 12th the catch of nets set at night was from 100 to 700. If we except the 19th, when nets set at night exceptionally took 800, the fishery was irregular and light until March 8th, from which time it was excellent until the close of the month.

Deep-bait and day-line fishing were poor during the whole time except from the 8th to the 31st of March, when the boats frequently got two or three loads daily.

Östnæsfjorden.—Here the fish were found in January as well as in February, and were caught at Langestrand, even in quite large numbers, in the second week of February, especially with day lines. At the close of February and in the beginning of March the fishing was extremely uncertain until the 8th, at which date it became excellent, and continued so until the 20th, when it suddenly ceased. Thus on the 19th the catch in nets amounted to 2,000, and on night lines, 600; on the 20th these implements caught 900 and 80 respectively. The 21st was Sunday. On the 22d the fishing was extremely uncertain; on the 23d the nets and day lines were not once attempted, and the catch on trawl-lines was from none to 15.

Although the fish disappeared suddenly from Östnæsfjord, they remained in the neighboring district of Svolvær eight days longer; since as late as the 27th as many as 1,200 were caught in nets set at night, and as many as 400 on trawl-lines. The 28th and 29th were holidays. On the 30th the fish here, also, suddenly disappeared; the catch in nets set at night was from 5 to 50. As usual, there were some herring in the fjord.

Vaagene.—The lines set at night, six in number, were hauled for the first time on the 9th of January, and took from 50 to 150 cod per boat. In the first half of February this fishery became, towards the close, irregular, but quite good. Later it was poor until March 8, from which date boats as a rule returned with full loads until the close of the month. In April again it was poor.

Nets were first used January 16 by four boats, which caught 100 cod. In February there was occasional good sea weather, as on the 7th, when the average catch was 300, and from the 14th to the 21st. During the remaining time the fishing was poor, except from March 8 to the 21st, when it became good—in part excellent. On the last-named day the nets took as high as 1,400; on the next sea-going day, April 5, 50–1,200, being an average of 300; on the 6th, on the contrary, from none to 150.

The deep-bait and day-line fishing in February were somewhat better than in the districts previously named. In the plentiful period, from March 8 to 31, there were, however, some days, for instance, the 20th, 27th, and 31st, on which the fishing with this apparatus was poor, though the other implements did well.

Hopen.—Trawl-lines were first used on the 7th of January with a catch of 100 cod. During the rest of the month the catch varied from 20 and 30 to 150. From the 6th of February to the end of March, the trawl-line fishing was uniformly good, often excellent, if we except certain days in the beginning of the last-named month. Thus on the first of March the average catch was 350 fish; from the second to the fourth, on the contrary, only from 70 to 100, whereupon the fishing became uniformly good again, sometimes excellent.

Four nets were first used January 22, and took from 8 to 150 fish. In January and the first half of February the fishing was irregular, mostly poor; during the rest of the month, on the other hand, though generally irregular, it was mostly good. From March 8 to 31 it was uniformly good, though not so excellent as in the more easterly stations.

Deep-bait and day-line fishing, with occasional short interruptions, were next best from the middle of February to the close of March.

The rare occurrence on January 30 is stated of a great school of large and small coal-fish (*Merlangus carbonarius*) inside of "Bikja."

Henningsvær.—Four lines were set for the first time January 8. They were hauled on the 10th, when the highest catch was 150. In February the fishing increased and continued uniformly good, especially at the close of the month, until the middle of March, whereupon it became irregular, mostly poor. In April it increased again, and remained quite good until the middle of the month, when it ceased.

Nets were hauled for the first time, January 22, with a catch of 40 cod; the second time, January 28, with a catch of 250 cod. As the line fishing increased in February, so also did the net fishing, but the latter was more uniform. The best fishing occurred at the end of February and in the beginning of March. From the middle of March to the close of the fishery it was, with some exceptions, rather irregular and mostly poor.

Day-line and deep bait fishing became good, sometimes very good, at the end of February and the beginning of March. The rest of the time they were poor, and ceased in some places entirely from the middle of March, when the majority of the boats shifted eastward.

Gimsöströmmen.—Fishing was good here from the middle of Feb-

ruary until near the middle of March, sometimes excellent during certain days at the beginning and end of the months named.

Stamsund.—Four lines set at night were hauled for the first time, January 10, near shore with a catch of 30 to 80 cod. During the four sea-going days which occurred in the week between the 11th and the 17th of January, the catch was uniformly good, up to 300 per boat. Between the end of January and the middle of February there were nearly two days of poor fishing; from the middle it remained good until towards the middle of March. Later it was irregular and poor.

Nets (set two or three nights) were first hauled January 17, and they took from 300 to 950 cod. If we except the close of the second week of February, this mode of fishing was good until the middle of March, whereupon it became poor, and so remained for the rest of the fishery.

Deep-bait fishing was good at the end of February and the beginning of March.

Ure.—Lines (set at night) were hauled first on the 8th of January with a yield of 40 to 50 cod, which catch on the following week increased to about 100 on two to three tubs of trawl. From the beginning of February to the middle of March fishing was uniformly good; later, with the exception of a couple of days at the close of the last-named month, on the contrary, it was poor.

One net set January 28 was first lifted February 4 and caught 12 cod. On the 5th two boats hauled one which was set at night, and they took 8 and 13, respectively. From February the fishing was nearly as in Stamsund, and likewise here during the last week of February and the early part of March it was excellent.

Day lines, which went into use in the beginning of March, did well until the middle of the month.

Balstad.—In the second week of February line fishing was variable and poor, but after that quite good until the middle of March. At the close of this month and in the beginning of April there was some good sea-going weather also.

Net fishing begun with March and then became quite good, and for a few days even very good, until the middle of the month.

In the middle of February cod were observed in Buksnæsfjord, as the native fishermen caught on night lines as well as day lines from 5 to 30 fish. There was no fleet up there, however, before the middle of March. Nets and lines set on the 16th in Gravdal Bay and Gjerstad Cove were hauled on the following day with a catch of 100 to 150. On the 18th the fishing was quite good, especially with nets, but extremely variable. On the 19th and 20th many fishermen gathered and succeeded well with nets—on the 20th exceedingly well even with day lines, while the night-line fishery was small. On the 22d the fishing was ended. Since small herring were seen at the same time in the fjord, the cod are supposed to have followed them. The cause of this fishery can hardly be ascribed exclusively to the herring, since these were present in large schools as well before the cod appeared in any

abundance as after the close of the fishing. The fishing took place in from 16 to 30 fathoms of water.

Sund.—Lines were first used January 6, and caught from 50 to 100 cod. Later the fishing was done farther in, and the catch here appeared to be somewhat more uniform. In February and until March 11 the fishing was evenly good; later it was poor, until the close of the month, when it again became good. In April it was variable, mainly good, until the 9th, when it began to be small.

Nets were first used by two boats January 28, with a catch of 200 cod. After that this fishery became about like the line fishery.

On the 6th of March fish were observed at "Islændingen" (the lower part of Sundströmmen). In the following week fishing was carried on here by all kinds of implements; but the catch was extremely irregular, because the weather was unfavorable to the business.

Sörvaagen.—Trawl-line fishing here was somewhat better, net fishing somewhat smaller, than at Sund.

Table LXII shows the catch at the remaining cod fisheries which were of any importance.

TABLE LXII.

Place.	Yield of the cod fisheries in 1880.					
	Fish.			Liver.	Medicinal oil.	Roe.
	Total.	Kinds.				
		Salted.	Dried.			
	1,000 fish.			Barrels.		
Finmarken	23,000	13,500	9,500	3,400	.....	.....
Dverberg	278	44	234	700	24	300
Öksnæs	900	270	630	2,950	.....	1,400
Bö	876	90	786	2,800	.....	1,200
Gimsö	350	20	330	1,100	.....	450
Borge	500	100	400	1,700	.....	700
Væro and Röst	770	330	440	2,060	.....	1,000
"Outside"	3,674	854	2,820	10,810	24	5,050
Skærvö	55	10	45	100	.....	.....
Lyngen	3	.....	3	10	.....	.....
Berg and Torsken	40	40	.....	120	.....	70
Trondenæs	25	10	15	80	.....	30
Tranö	4	3	1	10	.....	.....
Rödö	330	150	180	1,130	.....	560
Herö	64	50	14	250	.....	120
Lurö	300	50	250	700	.....	200
Rest of Nordland and Tromsö	821	313	508	2,400	.....	980
Namdalen	Small	.....	.....	.....	.....	.....
Nordmöre	3,500	.....	.....	7,000	.....	.....
Romsdalen	1,500	.....	.....	*600	950	1,100
Söndmöre	5,800	.....	.....	†12,000	.....	11,000
South Bergenhus	1,250	.....	.....	.....	.....	.....

*Oil. †4,500 barrels of this was medicinal oil.

Table LXIII gives the yield of the winter and spring fisheries for the last five years, and the aggregate export, reckoning 50 fish to the hundred-weight of split cod and 75 of dried cod.

TABLE LXIII.

[In millions.]

Fishery.	Yield of the winter and spring fisheries.									
	1875.		1876.		1877.		1878.		1879.	
	Split cod.	Dried cod.	Split cod.	Dried cod.	Split cod.	Dried cod.	Split cod.	Dried cod.	Split cod.	Dried cod.
Finmarken	9.9	9.8	2.2	3.1	8.9	8.6	6.3	5.6	11.2	7.4
Nordland & Tromsö	16.5	23.2	19.9	20.7	28.3	25.7	.....	.....	22.5	19.4
Namdalen	0.8	.....	0.9	.....	1.5	.....	0.4	.....	0.3	.....
Fosen	1.3	.....	0.9	.....	1.3	.....	0.9	.....	0.8	.....
Nordmör	2.5	.....	1.7	.....	2.7	.....	2.4	.....	2.0	.....
Romsdalen	0.9	.....	0.5	.....	0.9	.....	0.9	.....	0.9	.....
Söndmör	2.8	.....	1.8	.....	4.3	.....	3.6	.....	5.0	.....
Sönd & Nordfjord	0.5	.....	0.2	.....	0.3	.....	0.4	.....	.....	.....
Söndre Bergenhus	.....	.....	.....	.....	.....	.....	0.03	.....	.....	.....
Stavanger	.....	.....	.....	.....	.....	.....	0.03	.....	.....	.....
Total	35.2	33.0	28.1	23.8	48.2	34.3	.....	.....	42.7	26.8
Exported	36.8	31.3	33.0	29.5	45.9	31.7	41.0	24.0	44.7	31.0

Tables LXIV to LXXII show the export of cod from Norway, Canada, St. John's (Newfoundland), the United States, Iceland, France, Scotland, and Holland from 1872 to 1878. Thus from the fish-exporting places returns are wanting from St. Pierre and Miquelon (Newfoundland) and the Faroe Islands only.

In the report for last year the export from Canada in 1876 is erroneously stated.

In the United States the fiscal year is reckoned from July 1 to June 30. In the other places, on the contrary, from January 1 to December 31.

In the Scotch fishery statistics it is not stated specially to what country the export was made. After comparing it with the English trade statistics, I believe that I have committed no important error in stating that the export to "the continent" went exclusively to Spain, and that to "places outside of Europe" to the British West Indies.

For Iceland, no official statistics are known to me, and I have taken as the basis of my calculation the export to Denmark and statements from a private individual for 1878 and 1879. According to an article by Hen. M. Lindeman, in Dr. A. Petermann's Mittheilungen, 60th part, the total export was:

	Split cod.	Dried cod.
	Pounds.	*Pounds.*
1873	6,500,000	230,000
1874	8,700,000	270,000
1875	5,900,000	190,000

My estimate was too high.*

* The fact that I have not undertaken any corrections in the tables is owing to their having been worked out last autumn, and I have not had time to change them, since it was necessary for me to finish my report as early as possible, in order to be able to attend the fishery exhibition at Berlin before its close.

Nor am I in possession of any official statistics for the Faroe Islands. According to the author named above, the export was—

	Split cod.	Dried cod.
	Pounds.	*Pounds.*
1868	1,700,000	150,000
1869	2,200,000	170,000
1870	3,700,000	140,000
1871	3,300,000	30,000
1872	2,900,000	20,000
1873	2,900,000	80,000
Average	2,780,000	100,000

or not quite one and one-half million fish (1,465,000) yearly, one-third of which were shipped to Denmark.

From Belgium was carried on a not unimportant bank fishery in the North Sea, though of late years not to the same extent as formerly. The catch, which for the most part was consumed within the country itself, was—

	Barrels.
In 1872	10,400
In 1873	11,500
In 1874	11,300
In 1875	9,700
In 1876	9,200
In 1877	9,400
In 1878	9,200
In 1879	7,600

An average of 9,800 barrels, or about one-half million fish yearly.

The export from Newfoundland must be greater than is given in the tables from St. John's. According to a statement received during the negotiations on the occasion of the fishery treaty between the United States and Canada the amount exported from the region extending from the Rameau Islands to Cape Race, and therefrom northward to Twillingate, was, in

	Quintals.
1868	829,000
1869	791,000
1870	915,000
1871	928,000
1872	847,000
1873	983,000
1874	1,183,000

An average of 925,000 quintals. For the last three years the average was 1,004,000 quintals, or 102,400,000 pounds, while the export from St. John's for the same time is given by the Commercial Journal as 76,300,000 pounds; the difference, 26,100,000 pounds, must have been sent out from other places on the coast. Since this discrepancy is considerable, and since Newfoundland competes with Norway in the English, Spanish, Portuguese, and Italian markets, the accuracy of the statement has considerable importance for Norwegian exporters, wherefore I ven-

ture to ask that inquiry may be made through the consulate as to whether and to what extent there is opportunity to obtain statements of Newfoundland's total export.

According to French reports the participation of St. Pierre and Miquelon in the Newfoundland fishery has increased not inconsiderably. I have, however, seen no report of the amount exported, wherefore I venture to beg that information in this respect may also be procured, so far as these places are concerned, through the consulate in Quebec.

The yield of the French fisheries is, for the greatest portion of the amounts given, from the weight of fish in salt. The bulk of the exported portion, however, is dried.

The yield of the fishery of the United States for 1876 and 1879 is stated to be only one-half that of the two preceding years. To judge from the number of incoming fishing vessels the reports for 1876 and 1877 cannot be correct.

TABLE LXIV.

[Times 100,000 pounds.]

Where to.	Export of split cod from Norway.								
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	Average.	1879.
Great Britain and Ireland	24.0	16.2	21.3	40.5	43.9	58.3	20.3	32.1	38.7
Hamburg and Bremen	20.7	24.9	25.5	36.2	33.1	66.1	63.6	38.6	62.1
Portugal	41.2	27.1	16.1	55.3	58.7	121.7	146.6	66.7	105.4
Spain	465.5	422.2	463.7	515.9	474.2	582.8	531.8	493.7	648.9
Italy and Austria	1.7	0.9	0.7	19.8	10.6	29.4	18.1	11.6	17.5
Holland	0.7	1.0	0.2	0.7	0.7	1.0	0.4	0 7	0.5
West Indies	39.9	54.2	63.9	43.4	35.1	50.5	32.0	45.6	23.1
Brazil	13.1	10.9	5.9	19.5	.....	3.9	3.2	8.1	.....
Other countries	12.9	2.1	2.2	5.3	4.5	3.5	3.4	4.8	2.3*
Total	619.7	559.5	599.5	736.6	660.8	917.2	819.4	701.8	893.5
Million fish, estimating 50 per hundred-weight.	31.0	28.0	29.8	36.8	33.0	45.9	41.0	35.1	44.7

* To France 1.8; to Denmark 0.2.

TABLE LXV.

[Times 100,000 pounds.]

Where to.	Export of dried cod from Norway.								
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	Average.	1879.
Sweden	69.0	70.9	64.4	70.6	79.6	80.2	63.2	71.1	45.1
Denmark	3.9	4.8	9.1	7.5	5.2	8.5	7.9	6.7	1.7
Great Britain and Ireland	6.1	3.8	4.1	5.2	4.5	3.1	4.2	4.4	7.2
Russia and Finland	21.2	25.4	30.5	38.9	34.3	26.4	32.1	29.8	28.3
German ports on the Baltic	0.8	1.9	2.6	1.4	1.0	1.0	2.0	1.5	0.9
Hamburg and Bremen	3.3	4.8	4.1	7.0	6.0	6.1	6.0	5.3	13.1
Holland	48.3	69.5	57.0	61.5	71.1	59.5	57.0	60.6	67.6
Belgium	15.9	22.0	19.2	24.4	18.9	21.6	14.7	19.5	18.1
France	1.0	3.3	.....	3.3	3.0	4.7	4.3	2.8	2.0
Spain	4.5	3.8	16.7	9.1	1.2	6.1	12.6	7.7	7.6
Italy and Austria	173.0	151.2	170.8	187.4	166.8	205.1	114.4	167.8	220.0
United States	.....	0.2	0.2	0.5	0.1	0.1	0.6	0.2	0.8
West Indies	0.3	0.5	0.8	0.5	0.5	0.1	0.6	0.5	0.4
China	2.6	5.2	.....	.....	.....	.....	.....	1.1	.....
Other countries	0.5	0.6	0.1	0.1	1.4	0.1	0.7	0.5	.....
Total	350.4	367.9	385.6	417.4	393.6	422.6	320.6	379.7	412.8
Million fish, estimating 75 per hundred-weight.	26.3	27.6	28.9	31.3	29.5	31.7	24.0	28.5	30.9

TABLE LXVI.

[Times 100,000 pounds.]

Where to.	Export of split cod from Canada.								
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	Average.	1879.
Great Britain and Ireland	21.9	26.5	32.7	20.1	10.7	17.9	18.0	21.1	40.1
Portugal	20.2	31.1	35.5	8.0	14.0	12.2	10.7	18.8	24.0
Spain	5.4	5.5	.....	.....	.....	.....	.....	1.8	.....
Italy	.....	.....	.....	.....	31.7	35.1	33.5	.....	42.8
Austria	52.2	43.6	45.5	38.9	.....	.....	.....	36.2	.....
	.....	.....	.....	.....	.....	2.3	2.3	.....	2.3
United States	19.9	47.6	70.6	44.7	43.2	91.1	87.5	57.8	82.2
Newfoundland	.....	.....	.....	1.2	7.3	1.2	18.2	4.0	6.3
British West Indies	.....	.....	.....	.....	216.2	203.2	265.9	.....	.....
Spanish West Indies	.....	.....	.....	.....	154.9	189.6	181.5	.....	.....
French West Indies	.....	.....	.....	.....	51.2	42.7	55.9	.....	.....
Hollandish West Indies	544.5	474.3	544.4	512.1	.....	0.1	0.1	504.7	583.7
Danish West Indies	.....	.....	.....	.....	5.4	3.1	4.8	.....	.....
Hayti	.....	.....	.....	.....	11.7	7.3	4.3	.....	1.6
Guiana	.....	.....	27.9	.....	31.8	32.7	25.5	16.8	29.5
South America	39.3	28.8	36.7	44.1	59.0	71.8	78.4	51.3	68.6
Madeira	.....	.....	.....	.....	3.0	6.4	3.4	1.8	0.3
Africa	.....	.....	.....	.....	0.3	0.1	.....	.....	.....
Other countries	4.5	11.6	4.0	2.6	1.5	.....	.....	3.5	.....
Total	707.9	690.6	797.3	671.7	641.9	776.8	790.0	725.2	881.4*
Million fish	35.4	34.5	39.9	33.6	32.1	38.8	39.5	36.3	44.1
Catch	41.0	44.9	40.7	38.1	42.3	41.6	46.0	42.1	57.3

403.4 | 506.00 | 512.5

*315.6 of these in the first 6 months, 565.8 in the last 6 months.

TABLE LXVII.

[Times 100,000 pounds.]

Where to.	Split cod exported from St. John's.								
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	Average.	1879.
Great Britain and Ireland	24.5	47.7	42.3	24.9	24.9	43.0	39.4	35.4	48.3
Portugal	87.1	85.2	109.4	104.7	87.9	67.8	89.6	90.2	125.0
Spain	180.8	236.2	222.6	134.5	156.6	112.4	79.5	160.4	138.1
Italy	10.1	13.7	49.0	25.9	27.3	22.7	30.3	25.6	43.2
United States	8.2	8.6	17.1	3.1	3.8	5.3	10.3	8.1	17.8
Canada	2.3	21.3	15.4	0.5	1.5	.....	2.1	6.2	7.1
British West Indies	68.4	75.1	91.9	67.4	58.3	66.5	50.4	68.3	57.6
Brazil	221.3	235.8	285.5	244.5	204.7	205.1	242.0	242.7	346.6
Other countries	35.2	43.6	51.5	49.3	13.3	26.1	19.7	34.1	15.3
Total	637.9	767.2	884.7	654.8	578.3	609.0	563.3	670.7	799.0
Million fish, estimating 50 to a hundred-weight.	31.9	38.4	44.2	32.7	28.9	30.4	28.2	33.5	39.9

TABLE LXVIII.

[Times 100,000 pounds.]

Where to.	Export of dried and smoked cod from the United States.				
	1876.	1877.	1878.	Average.	1879.
Great Britain and Ireland		0.4	1.1		9.9
Hamburg		0.1			
Newfoundland and Labrador	2.7	11.8	25.6	19.6	0.4
Canada	21.3				18.6
Columbia	1.9				2.0
West Indies:					
Honduras and British West Indies.	3.8				6.5
Danish West Indies	0.1	15.1	17.0		0.6
St. Domingo	5.1				3.6
Porto Rico	7.5				1.3
Hayti	81.5	63.3	94.7		74.0
Cuba	14.5	18.9	7.3		25.7
French West Indies	19.2	20.3	21.6		20.8
Hollandish West Indies	19.1	25.5	16.6		0.4
	16.5 / 150.4	143.1	157.2	150.2	132.5
British Guiana	1.2				0.9
Hollandish Guiana					15.7
Brazil	0.3		0.3	0.2	0.5
South America	1.0	1.8	1.4	1.4	11.0
Other countries		4.9	8.0	4.3	8.2
Total	178.0	161.9	193.6	177.8	200.0
Million fish, estimating fifty to a hundred-weight.	8.9	8.1	9.7	8.9	10.0
Yield of the cod fisheries, in hundred-weights.	728	735.4	806.1		825.1
Number of fishing vessels arriving.		461	732		752
Draught in tons		19,000	26,700		29,900

TABLE LXIX.

[Times 100,000 pounds.]

Year.	Denmark—dried and dry-salted cod.						
	Imported.					Exported.	Consumed.
	Faroe Islands.	Iceland.	Greenland.	Other countries.	Total.		
1872	9.6	21.0	0.4	2.4	33.4	10.2	23.2
1873	8.3	19.7	.....	5.2	33.2	9.2	24.0
1874	8.1	22.8	0.3	6.7	37.9	12.6	25.3
1876	13.9	18.0	0.5	3.0	35.4	7.6	27.8
1877	10.5	35.6	.....	5.5	51.6	13.9	37.7
1878	10.0	35.0	.....	.....	.....	.....	.....

REMARK. In 1879 there was exported from Iceland 200,000 pounds of dried cod and 12,500,000 pounds of split cod, to the following places:

	Pounds.
Spain	6,850,000
Copenhagen	3,650,000
Great Britain and Ireland	2,000,000
	12,500,000

From the Faroe Islands were exported in 1879 2,000,000 pounds of split cod and 100,000 pounds of dried cod.

TABLE LXX.

[Times 100,000 pounds.]

Destination.	Salted and dried cod exported from France.							
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	Average.
Great Britain and Ireland	0.1	.....	.....	.....	0.5	.....	.....	0.1
Spain	.....	7.4	.....	3.1	3.2	.....	3.3	2.8
Italy and Austria	43.2	38.4	.....	42.6	37.7	27.2	34.7	37.3
Algiers	7.1	9.8	.....	7.1	9.7	10.6	12.0	9.4
Greece	13.4	15.9	.....	6.8	11.0	3.8	10.3	10.2
Turkey and Egypt	6.8	6.4	.....	4.5	4.0	2.8	3.9	4.7
West Indies	0.3	8.5	.....	1.0	.....	5.7	1.6	2.8
South America	2.8	0.2	.....	.....	.....	.....	.....	0.5
Other countries	3.9	5.4	.....	10.0	3.7	10.6	11.1	7.4
Total	65.6	92.0	114.0	75.1	69.8	60.7	76.9	79.2
Million fish, estimating 50 to a hundred-weight.	3.3	4.6	5.7	3.8	3.5	3.0	3.8	4.0
Yield:								
In salt	615.9	668.2	582.6	558.1	549.1	589.3	673.4	605.2
Dried	148.0	127.8	123.2	87.0	101.0	83.1	81.8	107.4
Other products	18.3	18.9	23.1	22.5	17.5	19.3	22.3	20.3
Total	782.2	814.9	728.9	667.6	667.6	691.7	777.5	732.9

TABLE LXXI.

[Times 100,000 pounds.]

Year.	Split cod, exported from Scotland.				Millions of fish caught.
	Destination.			Total.	
	Ireland.	The Continent (Europe.)	Places outside of Europe.		
1872	.....	.....	.....	53.6	.....
1873	38.4	23.1	8.6	70.1	.....
1874	30.3	21.3	9.4	61.0	4.5
1875	43.5	25.7	12.7	81.9	5.8
1876	28.9	25.0	5.9	59.8	3.5
1877	41.2	23.3	8.9	73.4	6.0
1878	42.9	40.3	11.8	95.0	0.2
Average	37.5	26.4	9.5	70.7	5.2
Millions of fish, estimating 50 per hundred-weight	1.9	1.3	0.5	3.5	.....

TABLE LXXII.

[Times 100,000 pounds.]

Year.	Cod, salted, in barrels, exported from Holland.			Catch, in millions.
	Belgium.	Germany.	Total.	
1872	8.1	4.8	12.9	1.4
1873	10.9	5.9	16.8	1.7
1874	5.4	8.1	13.5	1.4
1875	5.1	6.5	11.6	1.4
1876	10.6	8.3	18.9	1.4
1877	10.8	8.7	19.5	1.7
1878	6.7	5.3	12.0	1.4
Average	8.2	6.8	15.0	1.5
Fish, estimating 17 per hundred-weight	139,400	115,600	255,000	.....

Table LXXIII contains a summary of the annual export. Including the Faroe Islands, the total was 154,500,000 yearly, of which 28,500,000 was dried cod, and 126,000,000 split cod. Of the whole amount, again, 75,000,000 were caught in European and 79,500,000 in American waters. The amount exported was greatest from Norway, 63,600,000, or 41 per cent.; next from Canada, 36,300,000, or 23½ per cent.; next from St. John's, 33,500,000, or 21¾ per cent.; next from United States, 6,800,000, or 4½ per cent.; next from Iceland, 5,000,000, or 3¼ per cent.; next from France, 4,000,000, or 2½ per cent.; next from Scotland, 3,500,000, or 2¼ per cent.; next from Faroe Islands, 1,500,000, or 1 per cent.; finally from Holland, 300,000, or ¼ per cent.

TABLE LXXIII.

Where from.	Total export in millions.							
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	Average.
Norway:								
Dried cod	26.3	27.6	28.9	31.3	29.5	31.7	24.0	28.5
Split cod	31.0	28.0	29.8	36.8	33.0	45.9	41.0	35.1
Canada	35.4	34.5	39.0	33.6	32.1	38.8	39.5	36.3
St. John's	31.0	38.4	44.2	32.7	28.9	30.4	28.2	33.5
United States	5.0	5.0	5.0	6.1	8.9	8.1	9.7	6.8
Iceland	4.5	4.5	5.0	5.0	4.0	5.6	5.6	5.0
France	3.3	4.6	5.7	3.8	3.5	3.0	3.8	4.0
Scotland	2.7	3.5	3.0	4.1	3.0	3.7	4.7	3.5
Holland, barreled fish	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.3
Total split cod	114.0	118.8	132.8	122.3	113.7	135.8	132.7	124.5
Total of fish	140.9	146.4	161.7	153.6	143.2	167.5	156.7	153.0

Table LXXIV gives a summary by weight of the split cod imported, and Table LXXV by number. The amount of dried cod imported is stated in Table LXV. The importation of cod during the last seven years has varied as follows: In the West Indies, 4,900,000 (35,300,000 to 40,200,000); in Spain, 3,600,000 (35,500,000 to 39,100,000); in Brazil, 4,400,000 (10,200,000 to 14,600,000).

In Portugal, Germany, and Denmark the importation has been steadily increasing. In most other countries the amount consumed appears to be tolerably uniform year by year. When the amount imported exceeds the average one year, it falls below it during the next two. The considerable increase in the manufacture of split cod which has taken place in Loffoden of late years, namely, from 10,000,000 to 11,000,000 in the beginning of the seven-year period to double that amount at the end of the period, exceeds by a couple of millions the difference between the lowest and the highest amount imported by the two countries (Spain and the West Indies) which consume three-fifths of the split cod, and one-half of all the cod in other forms which come upon the market.

The exports have varied as follows: From Norway, dried cod, 7,700,000 (24,000,000 to 31,700,000); split cod, 17,900,000 (28,000,000 to 45,900,000); total, 22,000,000 (55,600,000 to 77,600,000). From Canada, 7,800,000

(32,100,000 to 39,900,000); from St. John's, 16,000,000 (28,200,000 to 44,200,000); from United States, 4,700,000 (5,000,000 to 9,700,000); from Iceland, 2,500,000 (3,100,000 to 5,600,000); from France, 2,700,000 (3,000,000 to 5,700,000); from Scotland, 2,000,000 (2,700,000 to 4,700,000); from various countries, 26,600,000 (140,900,000 to 167,500,000).

TABLE LXXIV.

Destination.	Total import (of split cod). Times 100,000 pounds.								
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	Average.	Million fish.
West Indies	751.1	714.7	803.6	751.0	705.6	780.7	765.5	753.2	37.7
Spain	732.7	754.4	772.6	746.2	711.0	781.5	717.9	745.2	37.3
Brazil	234.4	246.7	291.4	264.0	205.0	209.0	245.5	250.9	12.5
Portugal	148.5	143.4	161.0	168.0	160.6	201.7	248.9	175.7	8.8
Great Britain and Ireland	109.1	138.8	138.6	142.0	118.9	173.6	134.7	136.5	6.8
Italy and Austria	107.2	96.6	132.5	127.2	107.3	116.7	118.9	115.2	5.8
United States	28.1	56.2	87.7	47.8	47.0	96.4	97.8	65.0	3.3
South America	42.1	29.0	36.7	44.1	60.0	73.6	79.8	52.2	2.6
Germany	22.3	26.9	28.2	38.4	35.9	69.1	65.4	40.9	2.0
Denmark	30.6	28.0	30.9	35.4	31.9	46.1	45.0	35.4	1.8
British Guiana	.....	.....	27.9	.....	33.0	32.7	25.5	29.8	1.5
Mediterranean	27.8	32.1	24.3	18.4	24.7	17.2	26.2	24.3	1.2
Canada	2.3	21.3	15.4	0.5	22.8	11.8	27.7	14.5	0.7
Newfoundland	.....	.....	.....	1.2	10.0	1.2	18.2	4.4	0.2
Other countries	62.5	68.7	71.1	74.8	28.2	51.6	45.6	57.5	2.9
Total	2298.2	2346.8	2021.9	2459.0	2301.9	2722.9	2660.6	2501.6	125.1
Millions of fish	114.9	117.3	131.1	122.9	115.1	136.1	133.0	125.1	.....

TABLE LXXV.

[Millions of fish.]

Country.	Total import (of split cod).							
	1872.	1873.	1874.	1875.	1876.	1877.	1878.	Average.
West Indies	37.6	35.7	40.2	37.6	35.3	39.0	38.2	37.7
Spain	36.6	37.7	38.6	37.3	35.5	39.1	36.0	37.3
Brazil	11.7	12.3	14.6	13.2	10.2	13.4	12.3	12.5
Portugal	7.4	7.2	8.0	8.4	8.0	10.1	12.3	8.8
Great Britain and Ireland	5.5	6.9	6.9	7.1	5.9	8.7	6.7	6.8
Italy and Austria	5.4	4.8	6.6	6.4	5.4	5.8	5.9	5.8
United States	1.4	2.8	4.4	2.4	2.3	4.8	4.9	3.3
South America	2.0	1.4	1.8	2.2	3.0	3.7	4.0	2.6
Germany	1.1	1.3	1.4	1.9	1.8	3.5	3.3	2.0
Denmark	1.5	1.4	1.5	1.5	1.6	2.3	2.2	1.8
British Guiana	.....	.....	1.4	.....	1.6	1.6	1.3	1.5
Mediterranean	1.4	1.6	1.2	0.9	1.2	0.9	1.3	1.2
Canada	0.1	1.1	0.8	.....	1.1	0.6	1.4	0.7
Newfoundland	.....	.....	.....	0.1	0.5	0.1	0.9	0.2
Other countries	3.1	3.4	3.6	3.7	1.4	2.6	2.3	2.9
Total	114.8	117.6	131.0	122.7	114.8	136.2	133.0	125.1

Table LXXVI contains a summary of the total import. Of the whole quantity exported, 57,600,000, or 37.4 per cent., went to America; 92,000,000, or 59.9 per cent., to Europe; and 4,000,000, or 2.6 per cent., to unknown places.

The most important markets were: Spain, which received 37,900,000, or 24.7 per cent.; West Indies, which received 37,700,000, or 24.5 per cent.; Italy and Austria, which received 18,400,000, or 12 per cent.; Brazil, which received 12,500,000, or 8.2 per cent.; Portugal, which received 8,800,000, or 5.8 per cent.; Great Britain and Ireland, which received 7,200,000, or 4.7 per cent.; Sweden, which received 5,300,000, or 3.4 per cent.; Holland, which received 4,500,000, or 2.9 per cent.

TABLE LXXVI.

Country.	Total average import from 1872–1878.	
	Millions.	Per cent.
Spain	37.9	24.7
West Indies	37.7	24.5
Italy and Austria	18.4	12.0
Brazil	12.5	8.2
Portugal	8.8	5.8
Great Britain and Ireland	7.1	4.7
Sweden	5.3	3.4
Holland	4.5	2.9
United States	3.3	2.2
South America	2.6	1.6
Germany	2.5	1.6
Denmark	2.3	1.5
Russia and Finland	2.2	1.5
Belgium	1.6	1.0
Mediterranean	1.4	0.9
British Guiana	1.5	0.9
Other countries	4.0	2.6
Total	153.6	100.

I shall furnish, toward the close of the year, to one of our newspapers, tables of export in 1879, just as I did last year. With these statistics, and a general abstract of the year's fisheries as a starting-point, one will have a tolerably accurate basis for judging the state of affairs in 1881. It will, therefore, be very useful if the consuls render, as soon as the fishery in a country ends, and also concerning the autumn cod fisheries, a short report on its results—that is to say, whether it has been unsuccessful, tolerably good, or good. According to the material which lies before us, the exports for 1879 will presumably exceed those of all preceding years. The effects hereof will be traced in 1881, and, since the Norwegian fisheries have given an unusually good yield this year, the prospects of fair prices during the coming Loffoden fishing are not promising, even if the other fisheries should reach the results of an average year.

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