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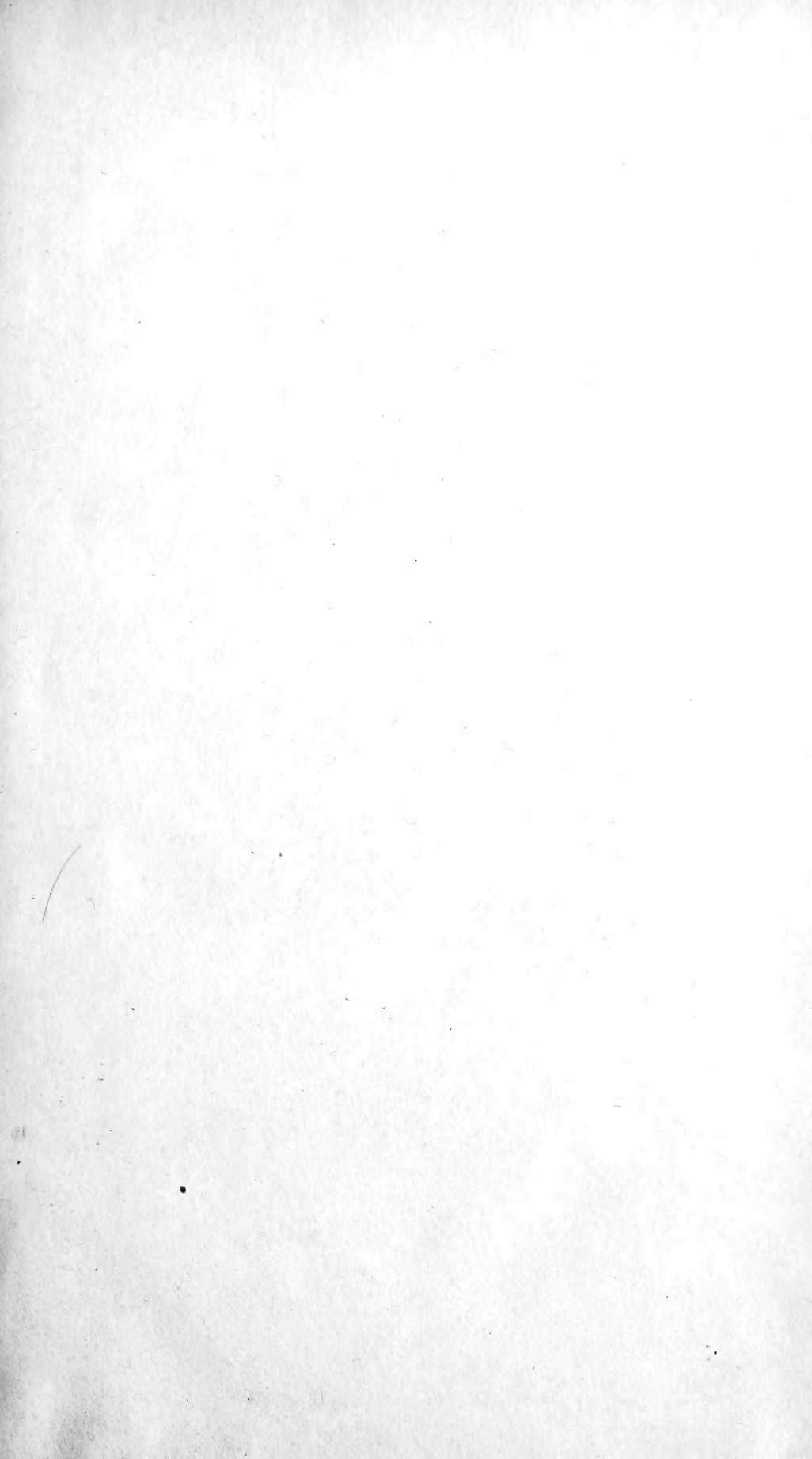
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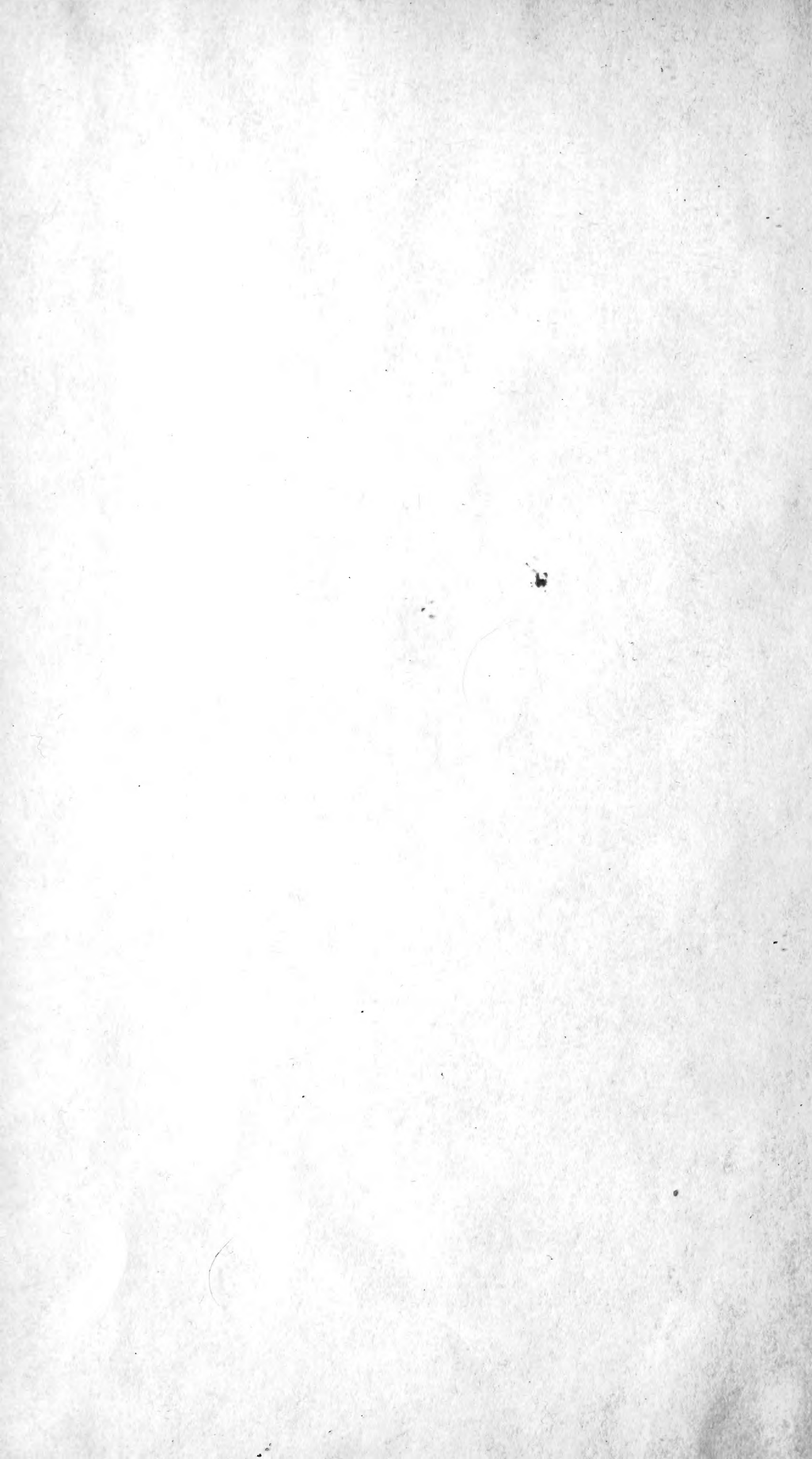


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ANNUAL REPORT

OF THE

FISHERY BOARD FOR SCOTLAND

Being for the Year 1915.

Presented to Parliament by Command of His Majesty.



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The **Journal of the Board of Agriculture and Fisheries** is published monthly by the Board, at 4, Whitehall Place, London, S.W. Price 4*d.*, post free.

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FISHERY BOARD FOR SCOTLAND.

33RD ANNUAL REPORT, FOR THE YEAR 1914.

Part I.—General Statement; Means of Capture; Fish Landed; Scottish Fishermen at English and Irish Fishings; Fish Used Fresh; Fish Cured and Exported; By-products; Persons engaged in Scottish Fisheries; Boat-building; Herring-barrel Making; Herring Basket Branding; Marine Superintendence; Prosecutions for Illegal Trawling, &c.; Trawling in Prohibited Areas Prevention Act, 1909; Damage sustained by Boats or Gear of Fishermen; Casualties; Prevention of Damage by Trawlers to Submarine Cables; Whaling. Appendices:—Returns and Statements relating to the Report; Reports from the Inspectors and District Fishery Officers; Harbour Improvement Schemes.

Part II.—Salmon Fisheries. Appendices:—Salmon Inspector's Report; Reports from District Fishery Boards, &c.; Rateable Value of Salmon Fisheries; Annual Close Time; List of Chairmen and Clerks of District Boards. (*With Diagrams.*)

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II. Results of Salmon Marking—seventh paper.

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II. Results of Salmon Marking—eighth paper. (1912.) Price 2*d.*, post free 2½*d.*

SALMON FISHERIES, 1912.

I. Scales of Salmon of the River Add. *With 3 Plates.* (1913.) Price 4*d.*, post free 4½*d.*

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CONTENTS.

	PAGE
Part I.—General Statement	iii
Means of Capture	v
Herring Fishery	vii
Scottish Fishermen at English and Irish Fishings	vii
Herring Curing	viii
Cured Herrings Exported	ix
White Fish Fishing	x
Curing of White Fish	xi
Persons Engaged in Scottish Fisheries	xii
Improvement of Fishery Harbours	xii
Part II.—Salmon Fisheries	xiii
Part III.—Scientific Investigations	xvi

APPENDICES (<i>see separate Contents</i>)	1
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THIRTY-FOURTH ANNUAL REPORT.

TO THE RIGHT HONOURABLE
HAROLD J. TENNANT, M.P.,
His Majesty's Secretary for Scotland.

FISHERY BOARD FOR SCOTLAND,
EDINBURGH, 15th April 1916.

SIR,—

In terms of the Act 45 and 46 Vict., c. 78, we, the Fishery Board for Scotland, have the honour to present this, our Thirty-fourth Annual Report, being for the year 1915 :—

PART I.—GENERAL STATEMENT.

The conditions and circumstances under which the fishing industry was carried on in Scotland after August 1914, as indicated by us last year, have not varied much in the year now under report. In 1914 we had only five months under war conditions to report upon ; we have now a whole year. The longer period of restriction in 1915 has, of course, told on the comparative results, as the statistics show.

It is gratifying that the apprehensions with regard to the unsold stock of cured herrings on hand in Scotland in 1914 have not materialised to the extent which was feared. While it is true that many curers and exporters suffered from the loss of the usual Continental markets, it is satisfactory that the whole industry and those directly dependent on it did not suffer to the extent anticipated.

A modifying influence was the extent to which the historical connection between the Navy and the fishermen of Scotland was realised, thus demonstrating the truth of the preamble of the old Scottish Act of Parliament of 1756 (29 Geo. II. cap. xxiii.) intituled "An Act for encouraging the Fisheries in that part of Great Britain called Scotland" that "Whereas the extending and improving of the

British Fishery is of great importance to this Kingdom as it not only adds considerably to the national wealth but is moreover a fruitful nursery of able seamen for the public service, etc." That was more than a century ago ; yet it is questionable whether its truth was ever more vividly exemplified than at the present time.

There are engaged in the service of the country over 1000 steam fishing vessels belonging to Scotland, manned by over 10,000 Scottish fishermen, all engaged in the branch of service for which they are best adapted. In addition to the men serving on these vessels upwards of 7000 fishermen were, by the end of 1915, serving in other branches of the Navy or in the Army, so that more than half of the total number of Scottish fishermen are directly engaged in national service.

The withdrawal of so many of the best men and vessels from the industry was bound to have a great effect on the amount of fish landed, quite apart from the restrictions on fishing areas which the Naval Authorities, in the interests of the defence of the Realm, felt constrained to impose.

In this connection we desire to acknowledge the friendly and sympathetic spirit in which all reasonable representations by the Board and by fishermen were received, considered, and, where possible, conceded by the Naval Authorities.

The following statement of facts must be read in the light of the foregoing remarks.

The sea fish of all kinds landed within the year amounted to 2,319,390 cwts., of the value, including shell fish valued at £58,294, of £2,109,465. This is a decrease in value as compared with the preceding year of £1,099,071 and in quantity of 5,120,931 cwts. It must, however, be borne in mind that 1914 had seven months of pre-war conditions.

This result was obtained by 4653 fishing vessels manned by crews numbering 15,244.

We have already taken steps to collect information and consider the best means of assisting the fishing industry of Scotland back into normal conditions upon the cessation of war.

We give on the opposite page in summary form the means of capture employed and the resultant catch since 1898.

SUMMARY OF MEANS OF CAPTURE AND RESULTS.

Year.	Number of Vessels.	Value of Boats and Gear.	Total Catch.	
			Quantity.*	Value.
		£	Cwts.	£
1898	11,576	2,029,384	6,558,768	1,879,866
1899	11,245	2,383,776	5,145,076	2,189,933
1900	11,275	2,711,877	5,369,265	2,325,994
1901	11,201	3,001,301	6,385,170	2,238,310
1902	11,097	3,212,455	6,866,028	2,502,668
1903	11,008	3,448,168	6,518,808	2,401,287
1904	10,891	3,431,284	7,947,829	2,231,102
1905	10,581	3,304,695	7,856,310	2,649,148
1906	10,554	4,117,549	7,593,369	2,977,583
1907	10,365	4,857,816	9,018,153	3,149,127
1908	10,078	5,223,149	8,645,252	2,512,162
1909	9,889	5,291,533	7,423,185	2,889,107
1910	9,724	5,439,857	8,709,655	3,100,387
1911	9,543	5,628,087	8,511,974	3,127,929
1912	9,290	5,777,102	8,587,106	3,656,178
1913	8,991	6,035,952	7,828,350	3,997,717
1914	8,869	6,297,745	7,440,321	3,208,536
1915	4,653	1,668,765	2,319,390	2,109,465

* Excluding shell-fish, which are sold partly by number (*e.g.*, oysters) and partly by weight (*e.g.*, mussels), and have no common measure except value.

CHANGES IN MEANS OF CAPTURE.

The figures for the year 1915 as to the number and value of the boats, etc., engaged in the Scottish fisheries during the year, given above and in Appendix A, do not include the vessels engaged in the service of the country, referred to above, or unemployed on account of the Admiralty restrictions of the fishing areas or the lack of crews to man them.

In regard to the steam fishing fleet there is little to record. A number of steam trawlers were built, but they were very little engaged in fishing, being taken over for national work as soon as possible, while the building of steam drifters practically ceased.

The installation of motor engines into the smaller boats engaged in the inshore fisheries has, however, been proceeding apace with undoubted advantage to all concerned, and by far the greater number of the year's increase belong to this class. The number of boats actually employed at the fishing is shown in Appendix A, but the total increase, including boats engaged otherwise than at fishing, or unemployed during the year, was 117. The circumstances which prevented

any substantial development of the steam fishing fleet did not operate to the same extent in the case of motor boats, and in some respects gave an impetus to the installation of motor power. Substantial as is the increase reported, it would undoubtedly have been much greater but for the difficulty experienced by the makers in supplying and installing engines.

The following figures indicate the totals for the years 1914 and 1915 :—

	Year 1914.	Year 1915.	Increase.
East Coast	361	434	73
Orkney and Shetland	38	42	4
West Coast	295	335	40
	<hr/>	<hr/>	<hr/>
Totals	694	811	117

The increase in 1915 occurred principally in the following districts :—Eyemouth 7, Leith 14, Anstruther 7, Montrose 22, Aberdeen 15, Loch Broom 6, Loch Carron and Skye 18, Fort William 4, Clyde area 9.

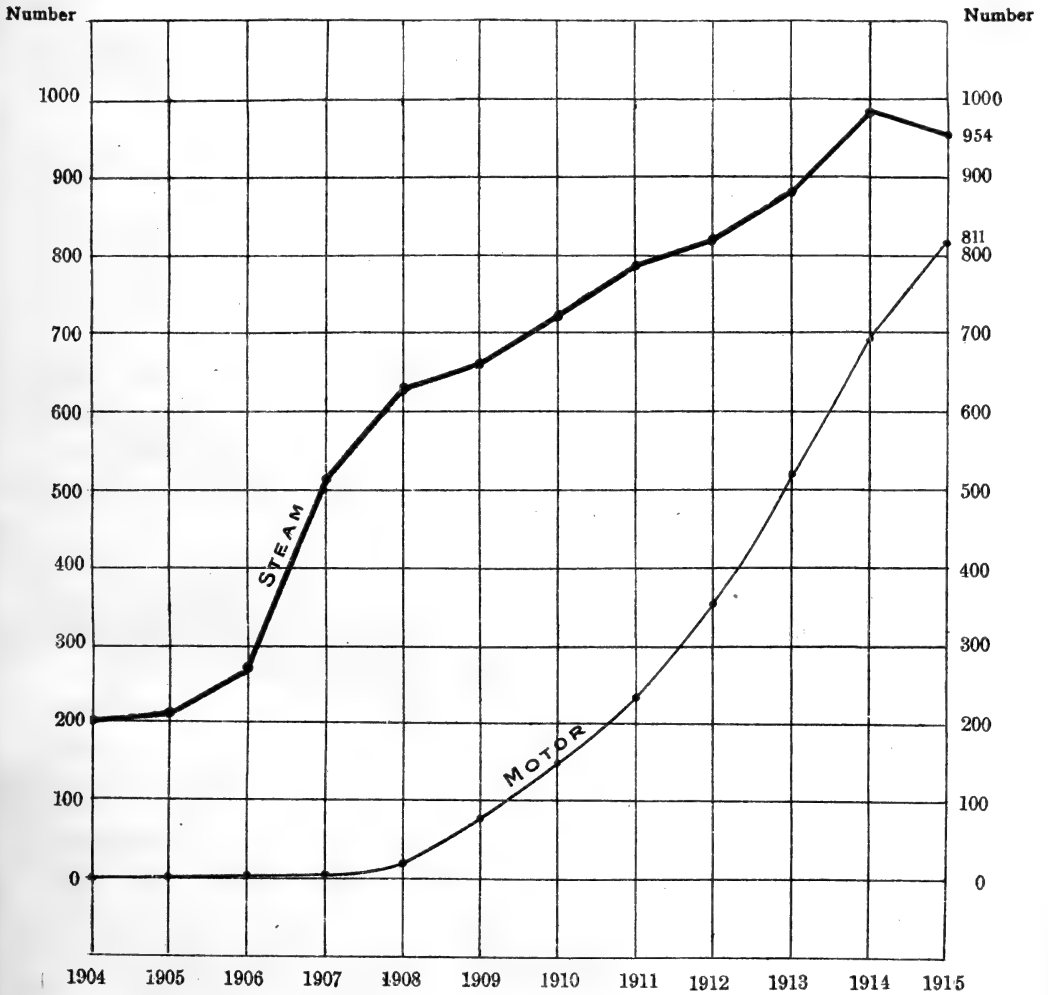
On the opposite page we give a diagram showing in graphic form the increase in the steam and motor fishing fleets of Scotland during the last eleven years : the figures for 1915 represent the number of vessels on the register, not the number actually engaged in fishing, during the year.

As contributors to the herring supplies power-propelled vessels were, prior to the war, making a rapid advance upon the position so long held by sailing vessels. The transition which is taking place in this respect, exemplified in the following table, would appear to have received a check during the past year, but the check is only an apparent one, due to the causes already explained, and there is no doubt that when normal conditions return, the advance will be strongly resumed.

TABLE showing the Percentage of the Total Catch of Herrings obtained by Steam, Motor, and Sailing Boats respectively in each year since 1906 :—

Year.	Steam Vessels. Percentage.	Motor Vessels. Percentage.	Sailing Vessels. Percentage.
1906	31	—	69
1907	45	—	55
1908	50	—	50
1909	54	—	46
1910	56	4	40
1911	59	5	36
1912	61	6	33
1913	64	8	28
1914	74	7	19
1915	47	31	22

CHART SHOWING THE INCREASE OF STEAM DRIFTERS AND LINERS AND MOTOR BOATS.



DIFFERENT FISHERIES.

1. HERRING FISHERY—GENERAL.

The herring catch of 1915 amounted to 703,096 cwts. in quantity and £441,980 in value, as compared with 4,383,265 cwts. and £1,339,046 in 1914. This shows a decrease of 3,680,169 cwts. and £897,066 as compared with the previous year.

The following table gives the total results of the Scottish herring fishery since 1900 :—

Year.	Quantity. Cwts.	Value. £	Average Price per Cwt.
1900 . . .	3,520,216	1,243,407	7/
1901 . . .	4,338,635	1,061,034	4/10 $\frac{3}{4}$
1902 . . .	4,753,944	1,360,492	5/8 $\frac{1}{2}$
1903 . . .	4,279,485	1,244,656	5/9 $\frac{3}{4}$
1904 . . .	5,432,494	1,017,541	3/9
1905 . . .	5,342,777	1,343,080	5/
1906 . . .	4,979,848	1,649,163	6/7 $\frac{1}{2}$
1907 . . .	6,253,341	1,795,650	5/9
1908 . . .	5,690,114	1,151,644	4/0 $\frac{1}{2}$
1909 . . .	4,541,297	1,569,743	6/11
1910 . . .	5,687,226	1,594,308	5/7
1911 . . .	5,036,484	1,505,334	6/
1912 . . .	5,201,300	1,910,533	7/4 $\frac{1}{2}$
1913 . . .	4,449,323	2,087,754	9/4 $\frac{1}{2}$
1914 . . .	4,383,265	1,339,016	6/1 $\frac{1}{4}$
1915 . . .	703,096	441,980	12/6 $\frac{3}{4}$

Herring fishing was restricted to an even greater extent than other fishings throughout the year. Most of the fleet remaining worked in the Minch and obtained wonderfully good results. Loch Bracadale in January and Loch Ewe in November and December were particularly productive. Operations which were developing well on a reduced scale in Shetland waters were interrupted in June by an enemy submarine, but were resumed under altered conditions.

In the Firth of Clyde herring fishing was a failure for the first half of the year, but thereafter increasingly good catches were taken, first on the west side of the Firth and then off the North Ayrshire coast. As the herrings were small, only the demand arising from war conditions enabled the fishermen to dispose of their catches to advantage.

SCOTTISH BOATS IN ENGLAND AND IRELAND.

A small fleet of Scottish vessels shared in a remarkably successful autumn fishing off the East Anglian coast, the average gross earnings

of 93 Scottish steam drifters being £1886, of 56 motor vessels £1164, and of 7 sail boats £560, a record for the fishing in every case.

The following table shows the extent to which Scottish herring fishermen participate from year to year in the English and Irish fisheries :—

Year.	ENGLISH FISHING.			IRISH FISHING.		
	No. of Boats.	Catch.	Value.	No. of Boats.	Catch.	Value.
		Cwts.	£		Cwts.	£
1900	910	1,050,931	259,436	58	31,150	9,490
1901	951	850,941	197,126	104	45,619	15,718
1902	1009	1,445,797	356,428	158	35,157	12,456
1903	1184	1,166,928	213,462	218	60,928	21,967
1904	996	1,575,687	249,974	280	59,830	22,035
1905	1207	1,539,672	485,278	439	59,646	30,780
1906	1292	1,210,236	477,106	307	53,559	35,556
1907	1340	1,892,105	338,899	252	47,753	23,158
1908	1221	1,741,675	454,230	291	91,528	54,898
1909	1259	1,528,628	467,866	346	122,278	36,036
1910	1257	1,243,207	456,528	200	153,819	42,011
1911	1039	1,798,824	549,342	237	264,931	65,339
1912	1099	2,329,373	701,895	258	103,030	33,808
1913	1163	2,488,183	763,256	159	102,074	40,572
1914	125	112,068	35,817	129	76,121	24,066
1915	190	101,649	267,329	27	8,555	25,925

These figures are not included in the statistics already given of the Scottish fisheries. Though the fish are landed by Scottish boats the returns are included in the fishery statistics of the particular country in which the fish are landed.

HERRING CURING.

Owing to the shortage in the catch and the practical prohibition of herring fishing on the East Coast the quantity of herrings cured gutted amounted to only 60,436 barrels—the lowest figure for the past hundred years. In normal years the great bulk of the catch is cured for export, but in 1915 the comparatively small quantities landed were mainly kippered or consumed fresh in this country, and the quantity cured represents to a large extent only the surplus catch after satisfying the effective home demand.

The tinning trade accounted for only a small proportion of the catch, but the quantity converted into “reds” was practically the same as during normal years.

During the year a demand for ungutted herrings for France arose, and more than 2000 barrels were so cured at Lerwick for this trade.

Owing to the closing of the market for branded herrings, there was no demand for the official brand during the year.

CURED HERRINGS EXPORTED.

The total export of cured herrings for 1915 was 119,265 barrels. The principal market has hitherto been the Continent of Europe, and the greater part of the export has gone to the two countries of Germany and Russia. The following is the rate of export to each since 1901 :—

Year.	To Germany.*	To Russia.
	Barrels.	Barrels.
1901	998,240	233,129
1902	1,049,502	292,987
1903	794,711	303,202
1904	1,095,683	384,443
1905	1,057,315	430,554
1906	1,025,886	424,200
1907	1,186,100	627,100
1908	1,001,645	616,497
1909	786,682	574,307
1910	982,361	732,345
1911	794,219	655,814
1912	719,013	750,187
1913	672,701	619,680
1914	353,323	493,039
1915	—	51,143

* From 40 to 50 per cent. of the total quantity of herrings exported to Germany was, in normal circumstances, sent over the frontier to Russia and other Eastern countries.

The quantity exported during the year included practically the whole of the balance of the 1914 cure which was on hand at the beginning of 1915. The exports to Russia, with the exception of some 2000 barrels sent *via* Scandinavia, required of necessity to go by way of Archangel, and the Board are glad to be able to report that the transport difficulties from that port were successfully overcome, both as regards the herrings exported during 1915 and those which had been forwarded in the previous year and had been in stores over winter.

The exports to America amounted to 45,385 barrels, while 9892 barrels, including ungutted herrings, were sent to France.

2. WHITE FISH FISHING.

After the herring fishery, the next most important branch of the industry in Scotland is the white-fish fishing. This fishing is carried on by means of three classes of vessels and three methods of fishing—the vessels differentiated by their methods of propulsion (steam, motor, or sails and oars), and the methods of fishing, whether by trawls, anchored nets, or by lines. We will deal with the results of these methods (1) in the aggregate, and (2) separately.

The following are the totals of the white-fishing since 1901 :—

Year.	Quantity.	Value.
	Cwts.	£
1901 . . .	2,024,867	1,166,919
1902 . . .	2,076,580	1,133,088
1903 . . .	2,168,973	1,145,887
1904 . . .	2,459,373	1,202,942
1905 . . .	2,481,085	1,296,727
1906 . . .	2,558,574	1,306,529
1907 . . .	2,696,943	1,334,797
1908 . . .	2,917,295	1,351,108
1909 . . .	2,830,728	1,305,811
1910 . . .	2,968,598	1,491,339
1911 . . .	3,391,316	1,540,539
1912 . . .	3,331,799	1,666,380
1913 . . .	3,296,257	1,824,741
1914 . . .	2,949,008	1,778,973
1915 . . .	1,540,345	1,585,717

Trawling has contributed to the foregoing result as follows —

Year.	Quantity.	Value.
	Cwts.	£
1901 . . .	1,325,072	820,813
1902 . . .	1,465,073	812,229
1903 . . .	1,566,370	829,932
1904 . . .	1,705,633	841,757
1905 . . .	1,745,431	948,117
1906 . . .	1,870,517	957,008
1907 . . .	2,061,336	985,751
1908 . . .	2,092,411	971,972
1909 . . .	2,020,209	953,259
1910 . . .	2,102,031	1,102,976
1911 . . .	2,439,108	1,113,820
1912 . . .	2,392,692	1,232,193
1913 . . .	2,541,948	1,424,115
1914 . . .	2,191,387	1,333,834
1915 . . .	953,503	1,040,726

And all other methods as follows :—

Year.	Quantity.	Value.
	Cwts.	£
1900	757,000	371,000
1901	696,000	341,000
1902	608,700	318,300
1903	602,600	315,900
1904	753,700	361,200
1905	735,654	348,610
1906	688,057	349,521
1907	635,601	349,041
1908	824,684	379,079
1909	810,519	352,552
1910	866,567	388,363
1911	952,208	426,719
1912	939,107	434,187
1913	754,309	400,626
1914	757,621	445,139
1915	586,842	544,991

Trawling was conducted as usual principally from Aberdeen and also from Granton and Dundee. The fleets were much reduced in efficiency by the removal of the largest and most modern vessels, but earnings were good, and those remaining were utilised to the utmost of their capacity, while a strong demand arose for vessels of any type which might be fitted for trawling. Even a few motor drifters were experimented with, although without success. Towards the close of the year stormy weather greatly interfered with the operations of the inferior vessels remaining at work, and supplies of fish were accordingly light, while prices rose to record figures.

Steam liners had discouraging results, and a number were transformed to trawlers. Small line vessels, especially on the East Coast and in Shetland, were markedly successful, although in many cases manned only by youths or old men. The boats provided with motor power proved much superior to sail boats, especially in stormy weather.

CURING OF WHITE FISH.

Owing to the restricted supplies and the keen demand for fish for consumption fresh the quantity of fish other than herrings cured during the year was only 156,798 cwts. as against 544,296 cwts. in 1914. The quantities cured dried for export showed the most marked decrease, and the shortage was very inadequately met by the utilisation of several cargoes of cod brought wet-salted from Norway to Aberdeen.

The smoking of haddocks was not curtailed to the same extent, the quantity so cured being 77,658 cwts. as against 93,379 cwts. in the preceding year. The large quantities of cod and other fish formerly brought to Aberdeen from Icelandic waters by German trawlers were almost invariably dried, while in 1915 the fish brought from Iceland by our own trawlers were bought up for the fresh market, and in any case the proportion of cod in the total landings was less than usual. Haddocks, on the other hand, were comparatively abundant, and as they are prepared principally for the home market they were able to command a sufficiently advanced price to meet their extra cost.

PERSONS EMPLOYED.

The number of persons employed in the fisheries of Scotland and the various industries subsidiary thereto in the year 1915 was 35,461. Of these, 15,244 manned the fishing fleet, 3546 were gutters and packers of herrings, 1926 were engaged in the carrying trade, and the remainder were engaged in other operations connected with the fishing industry.

WHALING.

The whaling stations in Shetland and Harris were idle during the year, as operations in Scottish waters had been prohibited by the Naval Authorities.

IMPROVEMENT OF FISHERY HARBOURS.

The rate of progress in carrying out the improvements of fishery harbours for which grants had been made was also affected by the general conditions. Labour became scarce and materials dear; and with the consent of the Development Commissioners, in some cases where work had not been begun, operations were postponed until the return of normal conditions. Progress was, however, made in the case of harbours where work had already been begun before the war.

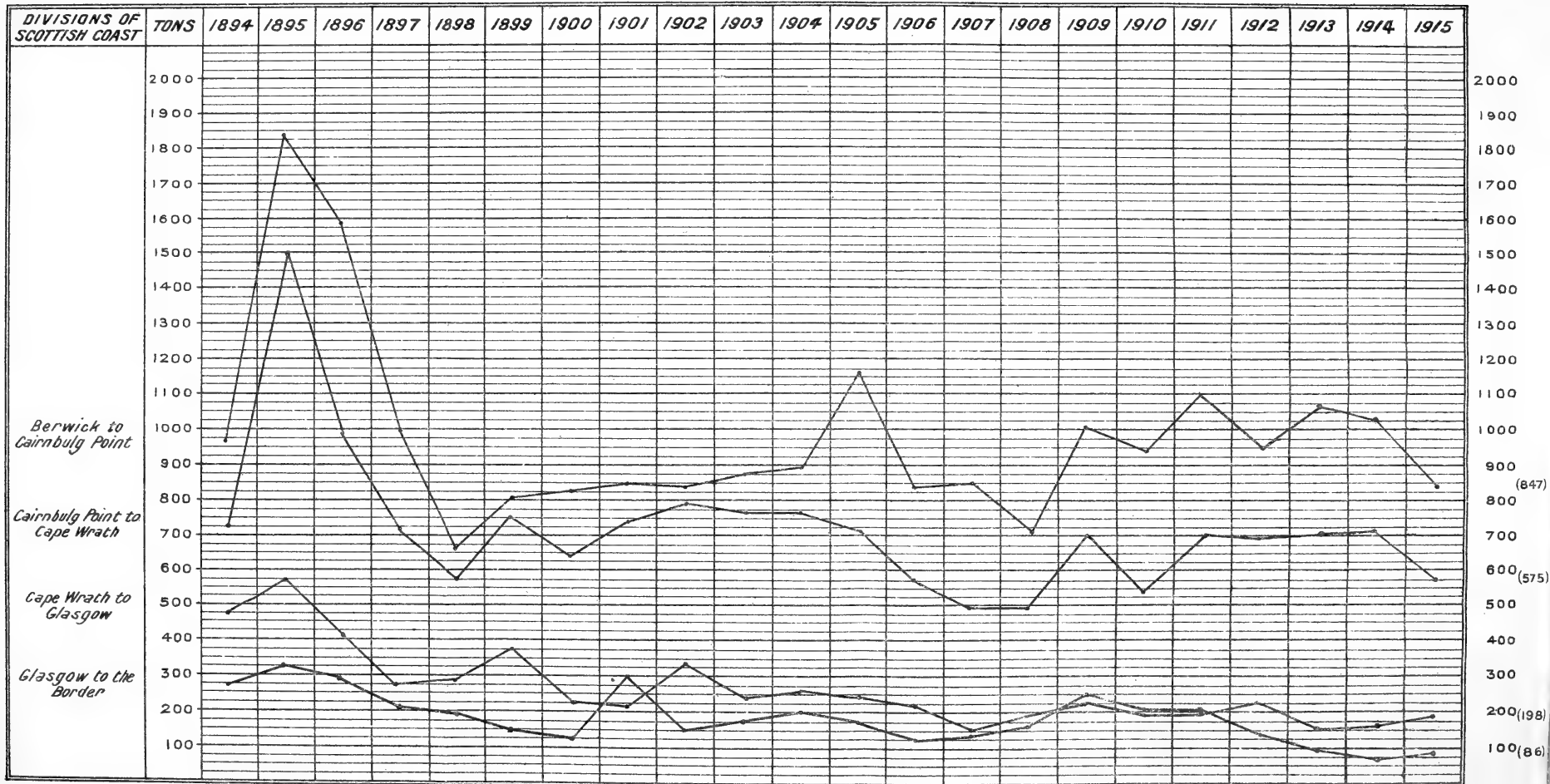
A Report on these harbours by Mr. Gordon Nicol, M.Inst.C.E., the Board's consulting engineer, will be found under Appendix M, p. 89.

APPENDICES.

Owing to the dislocation of the industry on account of the war and the necessity for economy, it has not been deemed necessary to print the whole of the Appendices in full as in normal years.



CURVES SHOWING APPROXIMATELY THE TONS OF SALMON CARRIED BY
SCOTTISH RAILWAYS & STEAMSHIPS SINCE 1894



Appendix A has been considerably curtailed, while several of the others have been omitted. The usual information has, however, been collected and recorded, and will be made available to any inquirers specially interested.

PART II.

SALMON FISHERIES.

The total weight of salmon carried by rail and steamer in Scotland during 1915 was less by 268 tons than the weight carried in the previous year. A slight improvement on 1914 is noticeable in the case of the west coast from Cape Wrath to the Solway, but the catch on the east coast, from which the largest figures always come, is down, in spite of the fact that in the extreme north of the country fishing was remarkably good.

Since 1895, which was the best year of which we have record, and the year immediately succeeding it, the annual catch, so far as figures at our disposal are able to show, has maintained a fairly low level. The quinquennial average for the years in which the good fishing years referred to occurred amounted to 2771 tons. Since then quinquennial averages have shown 2034, 1865, and 2056 tons respectively. As compared with this last average, the catch for 1915 shows a decline of 348 tons.

The whole coast line has been divided as usual into four sections, and the curves on the accompanying chart indicate the catch as ascertained for each section described.

We also give a table which shows in detail the various quinquennial averages, and the details of the two last years.

District.	Average, 1894 to 1898.				Average, 1899 to 1903.				Average, 1904 to 1908.			
	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.
<i>a</i> Berwick to Cairnbulg Point,	1,206	18	1	1	839	1	2	9	887	8	2	24
<i>b</i> Cairnbulg Point to Cape Wrath,	900	17	3	6	737	10	3	17	608	13	1	19
<i>c</i> Cape Wrath to Glasgow, . . .	403	7	1	21	274	18	1	27	209	3	3	6
<i>d</i> Glasgow to the Border, . . .	260	3	2	6	183	6	1	19	160	9	3	15
Totals, . . .	2,771	7	-	6	2,034	17	1	16	1,865	15	3	8

District.	Average, 1909 to 1913.				Year 1914.				Year 1915.			
	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.	Tons.	Cwts.	Qrs.	Lbs.
<i>a</i> Berwick to Cairnbulg Point,	1,015	5	3	18	1,030	14	1	7	847	9	0	25
<i>b</i> Cairnbulg Point to Cape Wrath,	664	14	-	3	710	1	3	20	575	8	1	24
<i>c</i> Cape Wrath to Glasgow, . . .	205	2	-	7	161	6	3	8	198	17	3	10
<i>d</i> Glasgow to the Border, . . .	171	13	1	3	74	2	-	-	86	12	-	-
Totals, . . .	2,056	15	1	3	1,976	5	-	7	1,708	7	2	3

A certain reduction in catching power has taken place owing to the War. In the Firth of Forth all bag nets were prohibited, and the netting was confined to the use of fly nets which ebb dry, and for the fishing of which the use of a boat or coble was therefore unnecessary. We think it unlikely, however, that this reduction accounts for more than a very small part of the decline. On the other hand, the most successful fishing which was obtained in the extreme north of the country is in great part made up of grilse. In some of these northern districts eight or ten grilse are taken to every adult salmon, and as our data consist of weights of consignments, a large number of small and light fish do not swell the figures.

From some districts, as for instance from the Tweed, which is not formally under our supervision, but from which reports are kindly sent, actual numbers are given. In 1915 in the Tweed 1500 fish were caught by fixed nets in the sea, 13,339 fish were taken by river nets, and about 2000 were taken by rods. In this case, therefore, the rods took more salmon than the sea nets. Our own experimental netting on the coast has shown, as reported by Mr. Calderwood, that large numbers of salmon may be traced from the coast of one district to the coast and rivers of other districts, while the broad interests of salmon fisheries in the whole country are affected by the policy adopted, and the results obtained in each district.

Now in 1915, according to information which has reached the Board, the net fishings of the Spey District did so badly that the catch has been described as the worst on record. If our information is correct it appears, therefore, that this bad netting season has resulted in spite of a large increase in the stock of salmon. This apparently contradictory state of matters might most usefully be inquired into were it possible to examine data from this and other districts.

There are twelve Salmon Fishery Districts from the Tweed to the Spey inclusive, and the present assessable rentals of these amount to £96,842. North of the Spey, still on the east coast, we have returns from nine out of the thirteen districts. The Beauly, Alness, Dunbeath, and Berriedale districts are not reported upon, but the rentals of the remaining nine amount to £19,405, making a total for eighteen districts on the east coast of £116,247.

The following table gives the rentals, since the year 1900, of the five most important districts in Scotland :—

YEAR.	Tweed.	Tay.	N. Esk.	Dec.	Spey.
	£	£	£	£	£
1900 . .	..	22,548	6,510	18,989	..
1901 . .	..	22,558	6,466	19,418	8,608
1902 . .	..	22,663	6,494	19,455	8,146
1903 . .	15,338	22,648	6,494	18,393	8,147
1904 . .	15,439	23,099	6,494	19,078	7,396
1905 . .	15,499	22,675	6,489	19,332	8,364
1906 . .	15,499	22,838	6,485	19,068	8,740
1907 . .	15,732	23,202	6,490	18,940	8,990
1908 . .	16,093	23,508	6,474	18,893	9,243
1909 . .	16,092	23,715	6,614	18,335	9,396
1910 . .	16,130	23,861	7,620	17,883	9,139
1911 . .	16,130	23,873	7,617	18,005	9,129
1912 . .	16,050	23,586	7,597	17,990	10,304
1913 . .	15,930	23,584	7,597	18,153	11,228
1914 . .	15,936	24,399	7,745	18,784	..
1915 . .	16,104	24,105	7,830	18,953	11,226

The Salmon Fisheries of the Solway continue in a depressed state, although the catch of sea trout showed an improvement, and conditions have arisen which in the opinion of the Annan Board seriously threaten the upper Solway fisheries. The rentals of the Annan, Nith, and Cree are respectively £2272, £621, and £856. The settlement of the general question of the better regulation of both the English and the Scottish fisheries of the Solway area has been again under consideration, but under existing conditions it has been found impossible to deal with the matter satisfactorily.

The Fishmongers' Company of London have still further increased their practice of sealing salmon which are to be put up in cold store in order that they may be sold at any season. The increase in the whole of the United Kingdom amounts to 29,719 fish, but so far as Scotland is concerned the total has decreased, and is now comparatively insignificant. As compared with the total for 1914-15, the Scottish figure shows a decrease of 2270 fish, only 529 fish having been sealed by the close of last open season.

SALMON RESEARCH IN 1915.

The salmon research work was continued during 1915, but the nets were removed from the Black Isle shore to the east coast of Sutherland between the mouths of the rivers Brora and Helmsdale. The results were still more successful than in the previous years. We were able to fish five bag nets for a considerable part of the season, and were also fortunate in catching large numbers of grilse.

The total number of fish marked was 1748, being 378 salmon, 1295 grilse, and 75 sea trout.

The recaptures during the same season's fishing of fish marked in the season (1915) amount to 438, being 105 salmon, 322 grilse, and 11 sea trout. In addition a few recaptures have been made of fish marked in 1914, and one fish marked in 1913.

A point of importance was the number of fish which had migrated north to the coast of Caithness, where they were captured by the bag nets which fish at Berriedale and Dunbeath. This was most evident in the case of grilse, 89 of these young fish being recaptured at Berriedale and 94 at Dunbeath. It was also noticeable that after the date of a high flood in July, the grilse on the coast disappeared.

Many of the fish travelled even beyond Dunbeath in a single day, while others went south, or entered rivers at an earlier date than that of the flood referred to. One or two fish travelled to extraordinary distances in a comparatively short period. A separate paper * on the subject has been prepared by the Inspector, which gives the most important points to be deduced from the evidence received. A statistical paper † on the catch and the results of the scale readings has also been prepared by Mr. Menzies, who assisted Mr. Calderwood.

PART III.

SCIENTIFIC INVESTIGATIONS.

During the year 1915, the Scottish scientific investigations in connection with the sea fisheries were carried on under the supervision of the Scientific Superintendent, as authorised by the Board, and, as far as possible, on the same general lines as in previous years. Most of the research work has been done at the Marine Laboratory at the Bay of Nigg, and in the Laboratory at the Old Post Office, Aberdeen, and other inquiries relating to the herring and herring fishery have been made in Lochfyne from time to time, in continuation of the observations of preceding years, and also in the Moray Firth with reference to the closing of the waters there to the operations of trawlers. The special statistics of the catches of line-boats in the Moray Firth have been collected monthly through the Fishery Officers, as before; but, owing to the withdrawal of the research steamer, "Goldseeker," the trawling stations could not be examined last year. A report on the investigations and statistics is in course of preparation.

THE HATCHING OPERATIONS.

Owing to the transference of the "Goldseeker" to other work, the fish-cultural work at the Hatchery at the Bay of Nigg was greatly curtailed. The stock of adult spawning plaice, from which the eggs

* Fisheries, Scotland, Salmon Fish., 1915, I. (July 1916).

† Fisheries, Scotland, Salmon Fish., 1915, II. (in the press).

for the hatchery are obtained, was, as usual, reduced in number in the course of the summer, and, in the circumstances that existed, it was not possible to renew this stock with living fish from the sea. Another circumstance that interfered with the spawning of the fishes was that the spawners had to be confined for about six weeks in a small reservoir tank while the reconstruction of the filter-chamber for the large tank was in progress. In consequence of the diminished stock and of the circumstances just described, the number of fertilised eggs obtained from the pond was much smaller than in former years, and did not exceed half a million. The fry obtained from these, estimated to number about 450,000, were put out in the sea in the neighbourhood of the Hatchery.

Since the hatching of the plaice was begun at the Bay of Nigg, the estimated number of the eggs which have been dealt with amounts to about 438,201,000, and approximately 343,694,000 fry of the plaice have been put into the sea. The results of this experiment are described in the Twenty-Sixth Annual Report.

During last year, the steam-pumps used for pumping the water in connection with the Hatchery and Laboratory were replaced by electric pumps, which were fitted up under the direction of Mr. J. A. Bell, the Electrical Engineer for the Corporation of Aberdeen.

THE INVESTIGATIONS ON THE HERRING FISHERY IN LOCHFYNE.

The investigations on the Lochfyne herring fishery, which have been described in previous Reports, were continued in 1915, so far as the means at disposal allowed. The statistics show that the yield from this once important fishing still continues at a low level; but it is encouraging that the quantity of herrings taken last year was considerably greater than in any of the previous three years, amounting to 13,399 cwts., or 3828 crans, as compared with 919 crans in 1914, 3056 crans in 1913, and 2192 crans in 1912. In September, most of the fish were caught in Kilbrennan Sound, but at the end of that month and during October and November, they were taken at the mouth of the Loch. A small quantity of herrings of very good quality were caught near Inveraray at the end of September. The following shows the monthly catch (in cwts.) last year:—

January	378	July	539
February	—	August	214
March	—	September	223
April	—	October	4033
May	45	November	6209
June	460	December	1298

TOTAL—13,399 cwts.

Nevertheless, the quantity taken was very small compared with former years.

Fluctuations in the herring fishery, especially in fjords or arms of the sea, are of no infrequent occurrence on the coasts of other countries, and have been attributed to various causes, such as changes in the physical conditions of the water, or in the quantity or kind of the

minute floating organisms, on which the herring mainly subsists. At a number of places in the Loch, a series of temperature observations are made at different levels, and collections of the floating food secured, and it is proposed to continue these investigations until the herrings return to the Loch in their former abundance, so that comparison may be instituted between the observations taken in the period of scarcity and those taken in the period of abundance.

FISHERY INVESTIGATIONS IN THE NORTH SEA.

Trawling Investigations.

The staff have been kept busily engaged in working at the collections of various kinds which were obtained in previous years, and also in dealing with the records of the observations and the statistics obtained. Among these, the following may be mentioned.

Migration and Growth of Fishes.

Marking experiments on the plaice were commenced in 1904, and continued until the end of 1913, during which period 8354 plaice were marked and liberated at various stations in the North Sea. Of the total, 4070, or 48·7 per cent., were recaptured up to April 1916. The particulars for each year are shown in the accompanying table :—

Year of Liberation.	Number Liberated.	Number Recaptured.	Percentage Recaptured.
1904	310	101	32·6
1905	245	89	36·4
1906	40	12	(30·0)
1907	13	6	(46·1)
1908	259	67	25·9
1909	336	65	19·3
1910	1896	1001	52·8
1911	1736	895	51·6
1912	2175	1199	55·1
1913	1344	635	47·2
	8354	4070	48·7

A detailed Report on the results of the marking experiments in the years 1904–1909 has already been published, and another Report dealing with the later experiments is now all but completed. A large number of charts have been prepared, showing the course taken by the marked fish liberated at each station, and it is hoped that some at least of the more important of these may be published with the Report.

Other Investigations.

Other investigations on which the scientific staff have been engaged, and in regard to which Reports are in course of preparation, include the following :—The influence of herring-trawling on the fish supply; the life of the herring in captivity; the determination of the age and

growth of the herring and of the lemon sole from a study of the markings on the scales ; the diseases of fishes ; and the distribution of the pelagic eggs, and of the larval and post-larval stages of the food fishes.

We have the honour to be,

SIR,

Your most obedient Servants,

ANGUS SUTHERLAND, *Chairman.*
W. LYON MACKENZIE, *Deputy-Chairman.*
D'ARCY W. THOMPSON.
BREADALBANE.
JAMES ARCHIBALD.
JOHN H. IRVIN.
MALCOLM SMITH.

DAVID T. JONES, *Secretary.*

APPENDICES.

PART I.

APPENDIX A.

MEANS OF CAPTURE.

	PAGE
I.—Return, for the year 1915, showing the Number and Value of the Boats and Vessels engaged in the Scottish Fishing Industry; the Number of Persons employed thereon; and the Value of Fishing Gear	4
II.—Return showing Particulars regarding the State of the Fisheries at each Fishing Creek or Station on the Scottish Coasts	<i>Suspended owing to war</i>
III.—Return showing the largest Number of Boats, Decked and Undecked, <i>irrespective</i> of the places to which they belong, employed in fishing for Herrings, as well as the Number of Persons engaged in that Industry, in each District in Scotland at one time . <i>Suspended owing to war</i>	

APPENDIX B.

TOTAL QUANTITY OF FISH LANDED.

I.—Statement of the Total Quantity and Value of Herrings landed in Scotland by Steam, Motor, and Sailing Boats respectively in the year 1915	9
II.—Returns respecting Vessels arriving and Fish landed in the various Districts during the year 1915	12

APPENDIX C.

FISH USED IN A FRESH STATE.

Statement showing the Estimated Quantity of Fish consumed Fresh in Scotland, or dispatched from Scotland in a Fresh State, in the year 1915	76
---	----

APPENDIX D.

FISH CURED.

I.—Return showing the Quantities of Fish Cured, and the Modes of Cure, in the year 1915	77
II.—Statement showing the Number of Barrels of Herrings Cured, Gutted and Ungutted, on the East and West Coasts of Scotland, for the Hundred and five years ended 31st December 1915	79

APPENDIX E.

CURED FISH BRANDED, AND EXPORTED, AND VALUE OF SAME.

I.—Return showing the Number of Barrels of Cured Herrings Branded, distinguishing the different Brands, and the Amount of Brand Fees collected	<i>Suspended owing to war</i>
--	-------------------------------

	PAGE
II.—Return showing the Total Quantity of Fish Exported to England, Ireland, to the Continent, and to Places out of Europe, during the year 1915	83
III.—(1) Statement showing the Ports and Places to which the Herrings Exported to the Continent were Shipped	<i>Suspended owing to war</i>
(2) Return showing, by Districts, the Direct Exports of Cured Herrings to Germany and Russia	<i>Suspended owing to war</i>
IV.—Return showing the Estimated Value of Cured Herrings, Branded and Unbranded, as well as of Cod, etc., Cured	<i>Suspended owing to war</i>
V.—Return showing, under each of the Crown Brands, the Number of Barrels of Cured Herrings presented to the Officers of the various Fishery Districts for Inspection with a view to Branding if in accordance with the Board's Regulations, the Number and Percentage in respect of which the Brand was Refused, and the Principal Grounds of Refusal	<i>Suspended owing to war</i>

APPENDIX F.

I.—PERSONS EMPLOYED.—Return showing the Total Number of Persons employed in connection with the various branches of the Sea Fishing industry during the year 1915	84
II.—TRANSPORT TRADE.—Return showing the Tonnage of Shipping and the Number of Seamen engaged in transporting Fish and Curing Material	<i>Suspended owing to war</i>
III.—CASUALTIES.—Return of the Casualties sustained in connection with the Sea Fisheries of Scotland	<i>Suspended owing to war</i>

APPENDIX G.

I. BOATBUILDING.—Return showing the Number and Value of Fishing Vessels constructed within the boundaries of each District in Scotland	<i>Suspended owing to war</i>
II. BARREL-MAKING.—Return of the Numbers of Barrels and Half-Barrels constructed and of the Number of Quarter-Cran Baskets branded in Scotland	<i>Suspended owing to war</i>

APPENDIX H.

REGISTRATION OF FISHING BOATS.

Return of Fishing Boat Proceedings under the Sea Fisheries Acts of 1868 and 1883, and Sea Fisheries (Scotland) Amendment Act of 1885	<i>Suspended owing to war</i>
--	-------------------------------

APPENDIX I.

PIERS AND HARBOURS.

I.—Account of Receipts and Payments by the Board for Building, Extending, and Repairing Piers or Harbours in Scotland, in the year 1915	86
II.—Return of Piers and Harbours erected or improved by the Board from 1st January 1883 to 31st December 1915	87
III.—Statement showing particulars of the Brand Fee Revenue, Cost of Collection, Surplus and Expenditure during the period from 1881 to 1914	88

APPENDIX K.

	PAGE
I.—DAMAGE TO BOATS OR GEAR: Return of Complaints of Damage to Fishing Vessels or their Gear by other Fishing Vessels made to, and Investigated by, Officers of the Fishery Board .	<i>Suspended owing to war</i>
II.—ILLEGAL TRAWLING: Return of Prosecutions undertaken against Masters of British and Foreign Trawl Vessels .	<i>Suspended owing to war</i>
III.—OFFENCES OTHER THAN ILLEGAL TRAWLING. Return of Prosecutions undertaken	<i>Suspended owing to war</i>
IV.—ILLEGAL TRAWLING: Summary of Prosecutions from 1886	<i>Suspended owing to war</i>

APPENDIX L.

Reports from the Inspectors and District Fishery Officers .	<i>Suspended owing to war</i>
---	-------------------------------

APPENDIX M.

Harbour Improvement Schemes	89
---------------------------------------	----

PART II.

APPENDIX N.

Salmon Inspector's Report	95
-------------------------------------	----

APPENDIX O.

Reports from District Fishery Boards, etc.	<i>Suspended owing to war</i>
--	-------------------------------

APPENDIX P.

Rateable Value of Salmon Fisheries	<i>Suspended owing to war</i>
--	-------------------------------

APPENDIX Q.

Annual Close Times	105
------------------------------	-----

APPENDIX R.

Chairmen and Clerks of District Boards	108
--	-----

APPENDIX A.—No. I.

MEANS OF CAPTURE.—Particulars relating to the Vessels, Gear, and Men actually employed in the Scottish Fishing Industry in the Year 1915.

I. SAILING VESSELS.

No.	District.	Number of Vessels.					Value of Vessels	Value of Fishing Gear.	Total Value.	No. of Fishermen and Boys.
		1st Class.		2nd Class.	3rd Class.	Total.				
		45 feet keel and upwards.	30 to 45 feet keel.	18 to 30 feet keel.	Under 18 feet keel.					
EAST COAST.						£	£	£		
1	Eyemouth . . .	...	6	39	8	53	1,496	2,999	4,495	143
2	Leith . . .	11	26	78	58	173	4,123	6,339	10,462	566
3	Anstruther . . .	4	19	67	33	123	2,748	2,559	5,307	252
4	Montrose . . .	...	22	30	66	118	1,165	1,279	2,444	172
5	Stonehaven . . .	...	5	14	15	34	874	1,717	2,591	108
6	Aberdeen . . .	...	...	28	4	32	527	1,058	1,585	122
7	Peterhead . . .	...	1	36	94	131	2,856	4,348	7,204	249
8	Fraserburgh . . .	38	4	18	272	332	14,352	14,360	28,712	858
9	Banff . . .	...	4	32	49	85	1,411	2,885	4,296	229
10	Buckie . . .	53	4	46	24	127	19,340	8,072	27,412	278
11	Findhorn . . .	15	1	54	30	100	6,490	6,970	13,460	338
12	Cromarty . . .	1	...	34	18	53	1,495	2,040	3,535	213
13	Helmsdale . . .	...	...	34	15	49	628	1,700	2,328	163
14	Lybster . . .	...	2	...	23	25	310	210	520	92
15	Wick . . .	...	...	...	132	132	1,584	720	2,304	220
East Coast Totals .		122	94	510	841	1,567	59,399	57,256	116,655	4,003
Orkney and Shetland.										
16	Orkney . . .	...	...	10	404	414	2,315	1,990	4,305	898
17	Shetland . . .	6	2	26	306	340	3,646	3,615	7,261	1,074
Orkney and Shetland Totals .		6	2	36	710	754	5,961	5,605	11,566	1,972
WEST COAST.										
18	Stornoway . . .	32	20	30	16	98	9,728	8,955	18,683	569
19	Barra . . .	2	18	65	88	173	2,755	2,969	5,724	497
20	Loch Broom . . .	1	2	46	201	250	4,053	4,096	8,149	499
21	Loch Carron & Skye . . .	...	5	110	130	245	3,310	4,140	7,450	670
22	Fort-William . . .	...	2	27	72	101	1,041	1,313	2,354	239
23	Campbeltown . . .	...	...	61	30	91	873	440	1,313	119
24	Inveraray . . .	...	...	17	28	45	612	709	1,321	97
25	Rothesay . . .	...	...	6	37	43	240	454	694	59
26	Greenock . . .	...	...	17	30	47	536	382	918	63
27	Ballantrae . . .	...	...	103	54	157	2,401	2,891	5,292	277
West Coast Totals .		35	47	482	686	1,250	25,549	26,349	51,898	3,089
Grand Totals .		163	143	1,028	2,237	3,571	90,909	89,210	180,119	9,064

APPENDIX A.—No. I.—continued.

MEANS OF CAPTURE.—Particulars relating to the Vessels, Gear, and Men actually employed in the Scottish Fishing Industry in the Year 1915.

II. MOTOR VESSELS.

No.	District.	Number of Vessels.					Total.	Value of Vessels.	Value of Fishing Gear.	Total Value.	No. of Fishermen and Boys.
		1st Class.		2nd Class.	3rd Class.						
		45 feet keel and upwards.	30 to 45 feet keel.	18 to 30 feet keel.	Under 18 feet keel.						
EAST COAST.							£	£	£		
1	Eyemouth . . .	24	9	4	...	37	21,590	12,363	33,953	230	
2	Leith . . .	8	19	16	...	43	13,510	3,106	16,616	193	
3	Anstruther . . .	21	12	21	2	56	23,045	8,284	31,329	223	
4	Montrose . . .	8	53	28	1	90	25,619	3,282	28,901	360	
5	Stonehaven . . .	...	5	1	...	6	1,020	162	1,182	24
6	Aberdeen . . .	...	2	13	1	16	1,980	418	2,398	50
7	Peterhead . . .	...	...	...	...	...	...	...	...	...
8	Fraserburgh . . .	16	14	2	...	32	17,390	6,500	23,890	174	
9	Banff . . .	4	2	29	...	35	7,370	3,354	10,724	132	
10	Buckie . . .	3	...	...	...	3	2,850	744	3,594	24
11	Findhorn . . .	3	...	...	...	3	2,400	1,050	3,450	24
12	Cromarty . . .	...	...	...	...	...	...	...	...	...
13	Helmsdale . . .	...	...	3	...	3	480	240	720	12
14	Lybster . . .	...	...	...	...	...	...	...	...	...
15	Wick . . .	...	2	18	7	27	2,340	380	2,720	68
East Coast Totals .		87	118	135	11	351	119,594	39,883	159,477	1,514	
Orkney and Shetland.											
16	Orkney . . .	...	...	4	14	18	970	267	1,237	47
17	Shetland . . .	...	4	12	1	17	4,895	2,561	7,456	68
Orkney and Shetland Totals .		...	4	16	15	35	5,865	2,828	8,693	115
WEST COAST.											
18	Stornoway . . .	3	...	1	...	4	1,830	510	2,340	36	
19	Barra . . .	...	4	1	...	5	1,520	525	2,045	34
20	Loch Broom . . .	...	1	7	...	8	1,338	1,004	2,342	32
21	Loch Carron & Skye . . .	...	6	39	...	45	7,415	2,270	9,685	179
22	Fort-William . . .	...	3	10	1	14	2,490	1,040	3,530	45
23	Campbeltown . . .	...	4	56	1	61	7,448	2,316	9,764	271
24	Inveraray . . .	...	...	47	1	48	5,670	1,517	7,187	188
25	Rothsay . . .	...	2	10	1	13	1,570	492	2,062	31
26	Greenock . . .	...	...	14	...	14	1,420	589	2,009	48
27	Ballantrae . . .	...	...	55	2	57	6,850	3,416	10,266	199
West Coast Totals		3	20	240	6	269	37,551	13,679	51,230	1,063	
Grand Totals .		90	142	391	32	655	163,010	56,390	219,400	2,692	

APPENDIX A.

MEANS OF CAPTURE.—Particulars relating to the Vessels, Gear, and

III. STEAM

No.	District.	Steam Liners and Steam Drifters.				Steam	
		No. of Vessels.	Value of Vessels.	Value of Fishing Gear.	Total Value.	No. of Fishermen and Boys.	No. of Vessels.
EAST COAST.			£	£	£		
1	Eyemouth	10	22,350	5,153	27,503	63	...
2	Leith . . . . .	...	...	...	...	...	26
3	Anstruther	7	8,500	2,590	11,090	25	...
4	Montrose . . . . .	...	...	...	...	...	8
5	Stonehaven . . . . .	...	...	...	...	...	...
6	Aberdeen	{ 17	25,500	7,956	33,456	153	} 139
7	Peterhead	{ *22	86,500	4,977	91,477	199	
8	Fraserburgh	45	99,000	18,595	117,595	405	1
9	Banff	30	68,500	12,000	80,500	180	...
10	Buckie	14	27,000	4,802	31,802	112	1
11	Buckie	54	79,200	13,200	92,400	290	...
12	Findhorn	7	18,200	2,940	21,140	63	...
13	Cromarty . . . . .	...	...	...	...	...	...
14	Helmsdale	5	5,980	...	5,980	...	...
15	Lybster . . . . .	...	...	...	...	...	...
15	Wick	5	4,500	1,750	6,250	17	...
East Coast Totals		216	445,230	73,963	519,193	1,507	175
Orkney and Shetland.							
16	Orkney . . . . .	...	...	...	...	...	...
17	Shetland	{ 4	6,400	1,270	7,670	36	} ...
		{ †16	40,000	5,500	45,500	160	
Orkney and Shetland Totals		20	46,400	6,770	53,170	196	...
WEST COAST.							
18	Stornoway	10	10,000	2,533	12,533	135	...
19	Barra . . . . .	...	...	...	...	...	...
20	Loch Broom . . . . .	...	...	...	...	...	...
21	Loch Carron and Skye . . . . .	...	...	...	...	...	...
22	Fort-William . . . . .	...	...	...	...	...	...
23	Campbeltown . . . . .	...	...	...	...	...	...
24	Inveraray . . . . .	...	...	...	...	...	...
25	Rothsay . . . . .	...	...	...	...	...	...
26	Greenock . . . . .	...	...	...	...	...	6
27	Ballantrae . . . . .	...	...	...	...	...	...
West Coast Totals		10	10,000	2,533	12,533	135	6
Grand Totals		246	501,630	83,266	584,896	1,838	181

* These represent the only steam liners distinct from drifters operating during 1915.

† These represent the only steam drifters other than Scottish working from Scottish ports during 1915.

—No. I.—continued.

Men actually employed in the Scottish Fishing Industry in the Year 1915.

VESSELS.

Trawlers.				Total Steam Fishing Vessels.					No.
Value of Vessels.	Value of Fishing Gear.	Total Value.	No. of Fishermen and Boys.	No. of Vessels.	Value of Vessels.	Value of Fishing Gear.	Total Value.	No. of Fishermen and Boys.	
£	£	£			£	£	£		
...	...	...	...	10	22,350	5,153	27,503	63	1
80,100	4,500	84,600	234	26	80,100	4,500	84,600	234	2
...	...	...	...	7	8,500	2,590	11,090	25	3
25,600	1,600	27,200	84	8	25,600	1,600	27,200	84	4
...	...	...	...	...	...	...	...	...	5
515,000	19,460	534,460	1,260	178	627,000	32,393	659,393	1,612	6
5,000	160	5,160	9	46	104,000	18,755	122,755	414	7
...	...	...	...	30	68,500	12,000	80,500	180	8
2,000	150	2,150	9	15	29,000	4,952	33,952	121	9
...	...	...	...	54	79,200	13,200	92,400	290	10
...	...	...	...	7	18,200	2,940	21,140	63	11
...	...	...	...	...	...	...	...	...	12
...	...	...	...	5	5,980	...	5,980	...	13
...	...	...	...	...	...	...	...	...	14
...	...	...	...	5	4,500	1,750	6,250	17	15
627,700	25,870	653,570	1,596	391	1,072,930	99,833	1,172,763	3,103	
...	...	...	...	...	...	...	...	...	16
...	...	...	...	20	46,400	6,770	53,170	196	17
...	...	...	...	20	46,400	6,770	53,170	196	
...	...	...	...	10	10,000	2,533	12,533	135	18
...	...	...	...	...	...	...	...	...	19
...	...	...	...	...	...	...	...	...	20
...	...	...	...	...	...	...	...	...	21
...	...	...	...	...	...	...	...	...	22
...	...	...	...	...	...	...	...	...	23
...	...	...	...	...	...	...	...	...	24
...	...	...	...	...	...	...	...	...	25
30,000	780	30,780	54	6	30,000	780	30,780	54	26
...	...	...	...	...	...	...	...	...	27
30,000	780	30,780	54	16	40,000	3,313	43,313	189	
657,700	26,650	684,350	1,650	427	1,159,930	109,916	1,269,246	3,488	

APPENDIX A.—No. I.—*continued.*

MEANS OF CAPTURE.—Particulars relating to the Vessels, Gear, and Men actually employed in the Scottish Fishing Industry in the Year 1915.

IV. ALL VESSELS.

No.	District.	No. of Vessels.	Value of Vessels.	Value of Fishing Gear.	Total Value.	No. of Fishermen and Boys.
EAST COAST.						
			£	£	£	
1	Eyemouth	100	45,436	20,515	65,951	436
2	Leith	242	97,733	13,945	111,678	993
3	Anstruther	186	34,293	13,433	47,726	500
4	Montrose	216	52,384	6,161	58,545	616
5	Stonehaven	40	1,894	1,879	3,773	132
6	Aberdeen	228	629,507	33,869	663,376	1,784
7	Peterhead	177	106,856	23,103	129,959	663
8	Fraserburgh	394	100,242	32,860	133,102	1,212
9	Banff	135	37,781	11,191	48,972	482
10	Buckie	184	101,390	22,016	123,406	592
11	Findhorn	110	27,090	10,960	38,050	425
12	Cromarty	53	1,495	2,040	3,535	213
13	Helmsdale	57	7,088	1,940	9,028	175
14	Lybster	25	310	210	520	92
15	Wick	164	8,424	2,850	11,274	305
East Coast Totals		2,309	1,251,923	196,972	1,448,895	8,620
Orkney and Shetland.						
16	Orkney	432	3,285	2,257	5,542	945
17	Shetland	377	54,941	12,946	67,887	1,338
Orkney and Shetland Totals		809	58,226	15,203	73,429	2,283
WEST COAST.						
18	Stornoway	112	21,558	11,998	33,556	740
19	Barra	178	4,275	3,494	7,769	531
20	Loch Broom	258	5,391	5,100	10,491	531
21	Loch Carron and Skye	290	10,725	6,410	17,135	849
22	Fort-William	115	3,531	2,353	5,884	284
23	Campbeltown	152	8,321	2,756	11,077	390
24	Inveraray	93	6,282	2,226	8,508	285
25	Rothsay	56	1,810	946	2,756	90
26	Greenock	67	31,956	1,751	33,707	165
27	Bullantrae	214	9,251	6,307	15,558	476
West Coast Totals		1,535	103,100	43,341	146,441	4,341
Grand Totals		4,653	1,413,249	255,516	1,668,765	15,244

APPENDIX B.—No. I.

FISH LANDED.—STATEMENT of the Total Quantity and Value of **Herrings** landed by Steam, Motor, and Sailing Boats respectively in **Scotland** during the various Seasons of the Year 1915.

No.	DISTRICTS.	Winter. (1st Jan. to 31st Mar.)								Early Summer. (1st April to 30th June).	
		Steam.		Motor.		Sail.		TOTAL.		Steam.	
		Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.
	EAST COAST.		£		£		£		£		£
1	Eyemouth	1,584	803	4,361	2,289	..	..	5,945	3,092	..	..
2	Leith . . . . .	..	..	840	570	795	420	1,635	990	..	..
3	Anstruther	4,922	2,167	17,489	9,234	3,226	1,219	25,637	12,620	..	..
4	Montrose . . . . .	..	..	..	..	..	..	..	..	1	2
5	Stonehaven . . . . .	..	..	..	..	..	..	..	..	..	..
6	Aberdeen	3,940	1,002	..	..	..	..	3,940	1,002	2,585	1,804
7	Peterhead	238	44	..	..	..	..	238	44	..	..
8	Fraserburgh	399	78	..	..	..	..	399	78	..	..
9	Banff . . . . .	..	..	..	..	..	..	..	..	..	..
10	Buckie . . . . .	..	..	..	..	..	..	..	..	..	..
11	Findhorn . . . . .	..	..	..	..	1,069	697	1,069	697	..	..
12	Cromarty . . . . .	..	..	..	..	..	..	..	..	..	..
13	Helmsdale . . . . .	..	..	..	..	..	..	..	..	..	..
14	Lybster . . . . .	..	..	..	..	..	..	..	..	..	..
15	Wick	1,842	371	130	142	..	..	1,972	513	..	..
	East Coast Totals } carried down	12,925	4,465	22,820	12,235	5,090	2,336	40,835	19,036	2,586	1,806
	ORKNEY AND SHETLAND.										
16	Orkney . . . . .	..	..	..	..	..	..	..	..	..	..
17	Shetland	17,958	4,935	..	..	..	..	17,958	4,935	16,146	8,252
	Orkney and Shetland } Totals cd. down	17,958	4,935	..	..	..	..	17,958	4,935	16,146	8,252
	WEST COAST.										
18	Stornoway	33,836	9,947	1,840	1,012	1,835	658	37,511	11,617	6,919	8,134
19	Barra	112	32	..	..	318	75	430	107	..	..
20	Loch Broom . . . . .	..	..	..	..	1,950	317	1,950	317	..	..
21	Loch Carron & Skye	5,667	1,785	3,328	1,056	15,747	4,445	24,742	7,286	24	17
22	Fort-William	75,227	34,687	2,006	851	39	12	77,272	35,550	35,350	31,284
23	Campbeltown . . . . .	..	..	743	486	119	53	862	539	..	..
24	Inveraray . . . . .	..	..	301	98	77	30	378	128	..	..
25	Rothesay . . . . .	..	..	10	7	7	4	17	11	..	..
26	Greenock . . . . .	..	..	28	20	..	..	28	20	..	..
27	Ballantrae . . . . .	..	..	1,407	1,822	226	267	1,633	2,089	..	..
	West Coast Totals } carried down	114,842	46,451	9,663	5,352	20,318	5,861	144,823	57,664	42,293	39,435
	TOTALS brought down.										
	East Coast	12,925	4,465	22,820	12,235	5,090	2,336	40,835	19,036	2,586	1,806
	Orkney & Shetland	17,958	4,935	..	..	..	..	17,958	4,935	16,146	8,252
	West Coast	114,842	46,451	9,663	5,352	20,318	5,861	144,823	57,664	42,293	39,435
	Foreign Fishing } Vessels . . . . .	..	..	..	..	..	..	..	..	..	..
	Grand Tls. for 1915	145,725	55,851	32,483	17,587	25,408	8,197	203,616	81,635	61,025	49,493
	Grand Tls. for 1914	665,786	127,464	69,331	22,794	128,841	42,802	863,958	193,060	1,657,123	477,890
	Increase in 1915 . . . . .	..	..	..	..	..	..	..	..	..	..
	Decrease in 1915	520,061	71,613	36,848	5,207	103,433	34,605	660,342	111,425	1,596,098	428,397

FISH LANDED.—STATEMENT of the Total Quantity and Value in **Scotland** during the

No.	DISTRICTS.	Early Summer—continued. (1st April to 30th June).						Great Summer and Autumn. (1st July to 31st Dec.)			
		Motor.		Sail.		TOTAL.		Steam.		Motor.	
		Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.
	EAST COAST.		£		£		£		£		£
1	Eyemouth . . .	5,712	4,903	427	391	6,139	5,294	..	..	3,343	4,902
2	Leith . . .	..	..	119	61	119	61	.. 26	.. 34	..	..
3	Anstruther . . .	60	50	80	49	140	99	.. 39	.. 41	..	..
4	Montrose . . .	..	..	..	..	1	2	..	..	..	..
5	Stonehaven . . .	..	..	..	..	..	..	..	..	..	..
6	Aberdeen . . .	..	..	..	..	2,585	1,804	398	494	..	..
7	Peterhead . . .	..	..	..	..	..	..	28	14	..	..
8	Fraserburgh . . .	..	..	28	32	28	32	..	..	11,383	9,681
9	Banff . . .	7	6	21	17	23	23	..	..	1,330	1,008
10	Buckie . . .	..	..	20	21	20	21	..	..	..	..
11	Findhorn . . .	..	..	..	..	..	..	5	5	..	..
12	Cromarty . . .	..	..	..	..	..	..	..	..	..	..
13	Helmsdale . . .	..	..	..	..	..	..	..	..	646	333
14	Lybster . . .	..	..	..	..	..	..	..	..	..	..
15	Wick . . .	..	..	154	86	154	86	7	6	1,413	958
	East Coast Totals } carried down . . .	5,779	4,959	849	657	9,214	7,422	503	594	18,615	16,882
	ORKNEY AND SHETLAND.										
16	Orkney . . .	..	..	..	..	..	..	..	..	..	..
17	Shetland . . .	5,921	3,372	2,488	1,420	24,555	13,044	43,784	32,275	2,253	2,029
	Orkney and Shetland } Totals cd. down . . .	5,921	3,372	2,488	1,420	24,555	13,044	43,784	32,275	2,253	2,029
	WEST COAST.										
18	Stornoway . . .	927	1,027	2,848	3,080	10,694	12,241	30,709	29,091	7,821	6,102
19	Barra . . .	759	533	2,247	1,255	3,006	1,788	..	..	28	31
20	Loch Broom . . .	..	..	176	49	176	49	1,267	..	531	9,838
21	Loch Carron & Skye . . .	476	411	379	173	879	601	11,938	9,386	16,706	12,356
22	Fort-William . . .	8,823	7,799	983	760	45,161	39,843	34,355	32,788	27,098	24,020
23	Campbeltown . . .	1,250	852	10	6	1,260	858	..	..	18,320	8,027
24	Inveraray . . .	477	328	28	14	505	342	..	..	11,961	5,041
25	Rothesay . . .	285	86	267	102	552	188	..	..	6,354	2,530
26	Greenock . . .	266	87	76	42	342	129	..	..	17,674	7,261
27	Ballaantrae . . .	724	480	37	21	761	501	..	..	24,656	12,382
	West Coast Totals } carried down . . .	13,992	11,603	7,051	5,502	63,336	56,540	78,769	71,796	140,456	81,691
	TOTALS brought down.										
	East Coast . . .	5,779	4,959	849	657	9,214	7,422	503	594	18,615	16,882
	Orkney & Shetland . . .	5,921	3,372	2,488	1,420	24,555	13,044	43,784	32,275	2,253	2,029
	West Coast . . .	13,992	11,603	7,051	5,502	63,336	56,540	78,769	71,796	140,456	81,691
	Foreign Fishing } Vessels . . .	..	..	..	..	..	..	..	..	..	..
	Grand Tls. for 1915 . . .	25,692	19,934	10,388	7,579	97,105	77,006	123,056	104,665	161,324	100,602
	Grand Tls. for 1914 . . .	110,073	33,306	470,235	122,943	2,237,431	634,139	919,820	382,328	112,632	43,298
	Increase in 1915 . . .	..	..	..	..	..	..	..	..	48,692	..
	Decrease in 1915 . . .	84,381	13,372	459,847	115,364	2,140,326	557,133	796,764	277,663	..	57,304

No. I.—continued.

of Herrings landed by Steam, Motor, and Sailing Boats respectively various Seasons of the Year 1915.

Great Summer and Autumn—contd. (1st July to 31st Dec.)				TOTALS.						GRAND TOTAL.		No.
Sail.		TOTAL.		Steam.		Motor.		Sail.		Cwts. Landed.	Value.	
Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.	Cwts. Landed.	Value.			
	£		£		£		£		£		£	
721	777	4,564	5,679	1,584	803	13,916	12,094	1,148	1,168	16,648	14,065	1
128	81	154	115	26	34	840	570	1,042	562	1,908	1,166	2
..	..	..	..	4,922	2,167	17,549	9,284	3,306	1,268	25,777	12,719	3
156	111	195	152	40	43	..	..	156	111	196	154	4
..	..	..	..	6,923	3,300	..	..	..	..	6,923	3,300	5
..	..	398	494	29	15	266	58	..	..	267	59	6
1	1	29	15	266	58	..	..	1	1	267	59	7
19,525	15,570	30,908	25,251	399	78	11,383	9,681	19,553	15,602	31,335	25,361	8
42	30	1,372	1,038	..	..	1,337	1,014	63	47	1,400	1,061	9
129	90	129	90	..	..	..	..	149	111	149	111	10
4,795	2,757	4,800	2,762	5	5	..	..	5,864	3,454	5,869	3,459	11
70	40	70	40	..	..	..	..	70	40	70	40	12
2,247	920	2,893	1,253	..	..	646	333	2,247	920	2,893	1,253	13
2,005	1,066	2,005	1,066	..	..	..	..	2,005	1,066	2,005	1,066	14
1,224	536	2,644	1,500	1,849	377	1,543	1,100	1,378	622	4,770	2,099	15
31,043	21,979	50,161	39,455	16,014	6,865	47,214	34,076	36,982	24,972	100,210	65,913	
..	
3,498	2,265	49,535	36,569	77,888	45,462	8,174	5,401	5,986	3,685	92,048	54,548	16
3,498	2,265	49,535	36,569	77,888	45,462	8,174	5,401	5,986	3,685	92,048	54,548	17
..	
32,445	28,877	70,975	64,070	71,464	47,172	10,588	8,141	37,128	32,615	119,180	87,928	18
932	706	960	737	112	32	787	564	3,497	2,036	4,396	2,632	19
22,500	8,251	33,605	12,723	1,267	531	9,838	3,941	24,626	8,617	35,731	13,089	20
17,437	8,680	46,081	30,422	17,629	11,188	20,510	13,823	33,563	13,298	71,702	38,309	21
7,254	5,795	69,207	62,603	145,432	98,759	37,932	32,670	8,276	6,567	191,640	137,996	22
654	284	18,974	8,311	..	..	20,313	9,365	783	343	21,096	9,708	23
555	246	12,516	5,287	..	..	12,739	5,467	660	290	13,399	5,757	24
823	472	7,177	3,002	..	..	6,649	2,623	1,097	578	7,746	3,201	25
768	458	18,442	7,719	..	..	17,968	7,368	844	500	18,812	7,868	26
86	59	24,742	12,441	..	..	26,787	14,684	349	347	27,136	15,031	27
83,454	53,828	302,679	207,315	235,904	157,682	164,111	98,646	110,823	65,191	510,838	321,519	
..	
31,043	21,979	50,161	39,455	16,014	6,865	47,214	34,076	36,982	24,972	100,210	65,913	
3,498	2,265	49,535	36,569	77,888	45,462	8,174	5,401	5,986	3,685	92,048	54,548	
83,454	53,828	302,679	207,315	235,904	157,682	164,111	98,646	110,823	65,191	510,838	321,519	
..	
117,995	78,072	402,375	283,339	329,306	210,009	219,499	138,123	153,791	93,848	703,096	441,980	
249,424	86,221	1,281,876	511,847	3,242,729	987,682	292,036	99,398	848,500	251,966	4,383,265	1,339,046	
131,429	8,149	879,501	228,508	2,912,923	777,673	72,537	38,725	694,709	158,118	3,680,169	897,066	

Whittings	15,626	9,879	..	..	175	203	37	26	212	229	..	..	..	16	6	15,854	10,114	47,605	21,638
Conger Beils . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	325	612	195	298
Gurnards	1,202	335	..	..	..	..	..	..	..	..	..	..	..	..	..	1,202	335	1,425	288
Carfish	5,908	4,074	..	..	43	32	180	132	223	164	..	..	..	..	..	6,131	4,238	8,316	3,945
Monks (Anglers)	1,046	780	..	..	..	..	..	..	..	..	..	..	..	..	..	1,046	780	2,167	1,034
Hake . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,063	501
Total of Round Fish	156,158	130,890	21	11	11,490	14,495	5,645	4,978	17,156	19,484	..	..	..	1,924	2,227	175,238	152,601	276,256	158,749
FLAT.																			
Turbot	1,068	3,102	..	..	..	..	..	..	..	..	..	..	..	..	..	1,068	3,102	1,725	3,868
Hallibut	337	891	..	..	..	..	..	..	..	..	..	..	..	..	..	337	891	1,250	2,414
Lemon Soles	3,927	10,427	..	..	..	13	33	33	13	33	..	..	..	..	..	3,940	10,460	5,359	11,666
Flounders	715	1,207	..	..	..	99	74	74	99	74	..	..	..	..	..	2,913	2,536	2,858	2,501
Plaice, Large . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Medium	6,632	12,274	..	..	199	373	425	403	624	776	..	..	..	..	..	1,141	1,906	16,619	21,770
" Small	13	31	..	..	..	..	..	..	..	..	..	..	..	..	..	13	31	41	76
Brill	2,171	1,246	..	..	848	1,014	210	229	1,058	1,243	..	..	..	..	..	3,674	2,784	5,004	1,857
Dabs	1,170	2,393	..	..	..	..	..	..	..	..	..	..	..	..	..	1,170	2,393	3,001	4,390
Whitches	246	434	..	..	..	..	..	..	..	..	..	..	..	..	..	246	434	2,345	2,528
Megrim . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total of Flat Fish	16,279	32,005	..	..	1,047	1,387	747	739	1,794	2,126	..	..	..	3,685	3,456	21,758	37,587	38,202	51,070
Skates and Rays	3,642	1,465	4	3	30	22	..	..	34	25	..	..	..	..	..	3,676	1,490	5,073	1,502
Squids . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Unclassified kinds	205	121	..	..	..	..	153	108	153	108	..	..	..	60	31	418	260	676	324
GRAND TOTALS	176,414	164,590	25	14	125,671	15,904	6,812	6,014	19,404	21,932	..	840,570	8,140	7,124	7,694	204,798	194,216	358,594	227,741

SHELL-FISH

Oysters.	Lobsters.	Crabs.	Mussels.	Clams.	Unclassified.
No.	No.	No.	£	£	£
18,020	9,026	254,407	157	9,066	3,656
42	44	1,474	2,405	1,117	420
(included above)					197,872
Bait					75
					9,106
					4,779
					232,520
					164
					1,340

TOTAL VALUE OF ALL FISH
Fish used for Manure (included above)

APPENDIX B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Peterhead during the Year 1915, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.				Lines.				Nets.				1915.		1914.			
	Steam.		Motor.		Sail.		Total.		Steam.		Motor.		Sail.		Total.		Cwt.	£
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
No. of Vessels arriving	1	1	..	..	11,767	11,768	2	2	..	..	..	..	..	..	2	..	598,111	166,870
Aggregate No. of Days absent from Port	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Description of Fish.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£
	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£
PELAGIC FISH—																		
Herrings	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	267	58
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sparlings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackerel	..	..	..	..	1,538	687	14	3	..	..	..	..	..	..	..	..	1,552	690
Total of Pelagic Fish.	..	..	..	..	1,539	688	280	61	..	..	..	..	..	..	280	61	1,819	749
DEMERSAL FISH—																		
ROUND.																		
Cod	1	1	..	..	1,421	1,410	..	..	..	..	..	..	..	..	..	..	1,424	1,412
Codling	1	1	..	..	5,772	5,146	..	..	..	..	..	..	..	..	..	..	5,773	5,147
Ling	1	1	..	..	154	116	..	..	..	..	..	..	..	..	..	..	167	125
Torsk (Tusk)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Saithe (Coal Fish)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Haddock, ex. Large	..	..	..	..	498	262	..	..	..	..	..	..	..	..	..	..	501	264
" Large	..	..	..	..	978	1,282	..	..	..	..	..	..	..	..	..	..	978	1,282
" Medium	..	..	..	..	1,793	1,766	..	..	..	..	..	..	..	..	..	..	1,794	1,768
" Small	5	5	..	..	2,732	1,798	..	..	..	..	..	..	..	..	..	..	2,737	1,803
Total of Demersal Fish.	..	..	..	..	1,423	1,411	..	..	..	..	..	..	..	..	..	..	1,424	1,412
Total of all Fish.	..	..	..	..	5,772	5,146	..	..	..	..	..	..	..	..	..	..	5,773	5,147
Total Quantity and Value.	..	..	..	..	154	116	..	..	..	..	..	..	..	..	..	..	167	125
Total Quantity and Value.	..	..	..	..	498	262	..	..	..	..	..	..	..	..	..	..	501	264
Total Quantity and Value.	..	..	..	..	978	1,282	..	..	..	..	..	..	..	..	..	..	978	1,282
Total Quantity and Value.	..	..	..	..	1,793	1,766	..	..	..	..	..	..	..	..	..	..	1,794	1,768
Total Quantity and Value.	..	..	..	..	2,732	1,798	..	..	..	..	..	..	..	..	..	..	2,737	1,803

Whittings	3,097	1,623	3,993	2,013	7,090	3,636							7,090	3,636	4,693	2,563
Conger Eels															126	43
Gurnards																
Catfish																
Monks (Anglers)																
Hake																
Total of Round Fish	11,845	12,088	13,279	12,275	25,124	24,313		1,483	1,341	2,699	2,526	4,182	3,867	29,306	21,071	15,305
FLAT.																
Turbot																
Halibut															12	21
Lemon Soles								749	3,328	91	421	840	3,749	840	176	652
Flounders				45	41	41								45	16	13
Plaice, Large																
" Medium																
" Small																669
Brill																
Dabs																
Whitches																
Megrims																
Total of Flat Fish			45	41	45	41		749	3,328	91	421	840	3,749	885	873	2,244
Skates and Rays																11
Squids																
Unclassified kinds																
GRAND TOTALS	12,187	12,187	13,890	12,548	26,077	24,735		3,663	5,711	2,875	3,000	6,538	8,711	32,615	41,668	23,011

SHELL-FISH.

	Oysters.	Lobsters.	Crabs.	Mussels.	Clams.	Unclassified.
	No.	No.	No.	Cwts.	Cwts.	Cwts.
TOTAL VALUE OF ALL FISH			£	£	£	£
Fish used for Manure (included above)			47,876	343		
" " Bait ("						343
						33,789
						432
						22,443

APPENDIX B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Findhorn during the Year 1915, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.				Lines.				Nets.				1915.		1914.			
	Steam.		Sail.		Motor.		Sail.		Motor.		Sail.		Total.		Cwt.	£	Cwt.	£
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.				
No. of Vessels arriving	12	8,380	1	55	1,749	1,805										
Aggregate No. of Days absent from Port
Description of Fish.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£	Cwt.	£
PELAGIC FISH—	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£				
Herrings	5,869	3,459	18,788	5,039
Sprats	710	328	12,822	4,854
Sparlings
Mackerel
Total of Pelagic Fish.	6,584	3,789	31,737	9,907
DEMERSAL FISH—
ROUND.
Cod	8,090	6,394	13,714	7,942
Codling	733	576	910	464
Ling
Torsk (Tusk)
Saithe (Coal Fish)
Haddock, ex. La.
" Large
" Medium
" Small
Total of Demersal Fish.	16,894	16,709	9,213	7,402

		30	16	4,111	2,469	4,141	2,485	4,141	2,485	1,040	449
Whiting	..	..	..	..	..	..	..	..	..	..	..
Conger Eels	..	..	..	..	..	..	..	..	..	..	..
Gurnards	..	..	..	..	..	..	..	..	..	..	..
Catfish	..	..	..	..	..	..	..	..	..	..	..
Monks (Anglers)	..	..	..	..	..	..	..	..	..	..	..
Hake	..	..	..	..	..	..	..	..	..	..	..
Total of Round Fish	4,704	6,080	6,609	17,290	8,417	28,024	16,811	28,075	16,831	51,211	17,186
FLAT.											
Turbot	..	..	..	..	..	..	..	..	..	..	..
Halibut	84	268	705	281	902	619	1,875	619	1,875	871	1,668
Lemon Soles	..	..	..	..	..	..	..	..	..	..	..
Flounders	..	..	..	..	..	..	..	..	..	..	..
Plaice, Large	..	..	..	..	..	..	..	..	..	..	..
" Medium	..	..	..	51	35	51	35	51	35	64	35
" Small	..	..	..	..	..	..	..	..	..	..	..
Brill	..	..	..	..	..	..	..	..	..	..	..
Dabs	..	..	..	218	149	218	149	218	149	331	161
Whites	..	..	..	..	..	..	..	..	..	..	..
Megrims	..	..	..	..	..	..	..	..	..	..	..
Total of Flat Fish	84	268	705	550	1,086	888	2,059	888	2,059	1,266	1,864
Skates and Rays	..	..	..	..	..	..	..	..	..	..	..
Squids	703	191	167	38	81	1,156	310	1,158	310	2,138	481
Unclassified kinds	..	..	..	..	..	..	..	..	..	..	..
GRAND TOTALS	5,491	2,244	6,451	7,352	18,128	30,070	19,180	30,070	19,180	1,020,219	319,121

SHELL-FISH.											
	Oysters.	Lobsters.	Crabs.	Mussels.	Clams.	Unclassified.					
	No.	No.	No.	Cwts.	Cwts.	Cwts.	£	£	£	£	£
Fish used for Manure (included above)	..	102	50	1,090	54	1,493	274	..	340	..	469
" Bait (")	74,408	..	319,590
" " (")	6,307	2,365	4,528	928

TOTAL VALUE OF ALL FISH
 Fish used for Manure (included above)
 " " " " " " " "

APPENDIX B.—No. II.—RETURN respecting Vessels arriving and Fish landed in the District of Barra during the Year 1915, and showing the catch and value during the previous Year.

Method of Fishing.	Trawls.						Lines.						Nets.						1915.		1914.							
	Steam.		Motor.		Sail.		Total.		Steam.		Motor.		Sail.		Total.		Quantity.		Value.		Quantity.		Value.		Cwt.	£	Cwt.	£
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.						
No. of Vessels arriving	..																											
Aggregate No. of Days absent from Port	..																											
Description of Fish.	..																											
PELAGIC FISH—	..																											
Herrings	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£
Sprats
Sparlings
Mackerel
Total of Pelagic Fish.
DEMERAL FISH—	..																											
Round.	..																											
Cod
Codling
Ling
Torsk (Tusk)
Saithe (Coal Fish)
Haddock, ex. La.
" Large
" Medium
" Small
Total of Demersal Fish.
Total of all Fish.
Total Quantity	48,936																											
Total Value	21,076																											
Total Quantity	47,574																											
Total Value	20,954																											

Whittings	317	538	146	226	463	764	2	4	4	465	768	207	292
Conger Eels	176	112	16	8	192	120	..	..	..	192	120	449	188
Gurnards	..	..	..	..	..	..	..	..	..	..	..	..	..
Catfish	..	..	..	..	..	..	..	..	..	..	..	..	..
Monks (Anglers)	..	45	..	..	45	58	..	..	..	45	58	52	42
Hake	..	..	..	..	..	..	..	..	..	..	..	..	..
Total of Round Fish.	2,703	2,034	1,741	722	4,444	2,756	207	150	12	4,663	2,911	4,386	1,717
FLAT.													
Turbot	10	31	1	2	11	33	2	8	..	13	41	22	59
Halibut	4	10	..	..	4	10	..	..	..	4	10	16	32
Lemon Soles	..	..	..	..	2	2	..	..	..	2	..	..	..
Flounders	..	..	..	..	..	..	..	..	..	..	..	..	..
Plaice, Large	..	..	..	..	..	..	..	..	..	..	..	..	..
" Medium	..	..	32	40	32	40	304	814	..	336	854	480	908
" Small	..	..	..	..	..	..	..	..	..	..	..	..	..
Brill	..	..	..	..	..	..	..	..	..	..	..	..	..
Dabs	..	..	..	..	..	..	..	..	..	..	..	..	..
Whitches	..	..	..	..	..	..	..	..	..	..	..	7	8
Megrims	..	..	..	..	..	..	..	..	..	..	..	..	..
Total of Flat Fish	14	41	35	44	49	85	306	822	..	355	907	525	1,007
Skates and Rays	423	312	4	2	427	314	34	20	..	461	334	573	246
Squids	24	11	..	..	24	11	23	15	..	47	26	26	9
Unclassified kinds.	3,164	2,398	1,780	768	4,944	3,166	26,635	11,319	1,171	32,750	14,892	57,197	24,978
GRAND TOTALS													
	39,003	1,692	2,530	16	160	24	1,939	415	2,147	2,688	17,039	27,666	..
TOTAL VALUE OF ALL FISH	..	..	..	..	..	..	..	..	..	..	..	..	..
Fish used for Manure (included above)	..	..	..	..	..	..	..	..	..	..	..	..	..
" " Bait	..	..	..	..	..	..	..	..	..	..	..	..	..

SHELL-FISH.

Unclassified.
Cwts. £

Clams.
Cwts. £

Mussels.
Cwts. £

Crabs.
No. £

Lobsters.
No. £

Oysters.
No. £

TOTAL VALUE OF ALL FISH

Fish used for Manure (included above)

" " Bait

Whittings	655	785	396	350	1,051	1,135	..	..	..	..	..	1,051	1,135	1,544	1,191
Coner Eels	1,025	645	115	76	1,140	721	..	..	..	..	..	1,140	721	2,911	1,286
Gurnards	..	..	..	..	..	..	..	..	..	..	..	..	..	36	10
Cattish	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Monks (Anglers)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hake	50	59	1	1	51	60	34	35	2	2	37	87	97	250	198
Total of Round Fish.	3,187	2,623	1,960	1,709	5,147	4,382	320	208	1,043	752	960	6,510	5,292	16,704	8,612
FLAT.															
Turbot	7	24	5	20	12	44	20	60	12	47	107	44	151	81	274
Halibut	1	3	..	..	1	3	..	..	..	..	..	1	3	20	53
Lenon Soles	..	..	..	..	..	..	..	35	1	..	40	8	8	142	331
Flounders	..	..	..	..	..	..	7	..	245	179	245	245	179	1,194	1,307
Plaice, Large	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Medium	12	26	37	50	49	85	1,145	2,040	2,561	3,741	3,761	3,755	5,866	2,746	3,550
" Small	..	..	..	..	..	..	..	..	..	..	..	1	2	19	56
Brill	1	1	..	..	3	3	4	4	7	7	11	14	14	10	8
Dabs	..	..	..	..	..	..	..	..	..	..	..	..	..	66	92
Whitches	..	..	..	..	..	..	109	221	..	..	221	109	221	16	8
Megrims	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total of Flat Fish	21	54	44	81	65	135	1,285	2,360	2,827	3,981	6,341	4,177	6,476	4,294	5,679
Skates and Rays	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Squids	1,521	999	1,029	736	2,550	1,735	8	6	549	284	290	3,107	2,025	6,046	2,714
Unclassified kinds	..	..	..	..	..	..	..	..	..	..	..	..	..	156	27
GRAND TOTALS	4,747	3,685	3,215	2,679	7,962	6,364	34,271	19,324	5,213	5,641	24,965	47,446	31,329	47,990	28,443
SHELL-FISH.															
Oysters	No.	No.	No.	No.	No.	No.	£	£	£	£	£	£	£	£	£
4,55,825	1,750	7,001	331	9,764	48	2,457	283	156	52	3,691	4,561	7,025	33,854	8,066	36,539
Fish used for Manure (included above)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
" Bait ( " " )	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

APPENDIX B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed on the **East Coast of Scotland** during the Year 1915.

DESCRIPTION OF FISH.	TRAWLS.						LINES.						NETS.						1915.		1914.				
	Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.		Quantity.		Value.		Quantity.		Value.		
	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	
PELAGIC FISH.																									
Herrings	358	470	..	..	23	33	..	33	15,056	6,305	47,214	34,076	36,953	24,939	99,823	65,410	100,210	65,918	2,107,300	641,021	2,107,300	641,021	2,107,300	641,021
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	1,013	2,710	1,013	2,710	1,013	27,204	8,448	27,204	8,448	27,204	8,448
Sparlings	..	..	..	..	..	..	..	..	..	..	..	..	..	496	496	1,131	496	1,131	534	1,309	534	1,309	534	1,309
Mackerel	1,202	933	..	531	270	6,855	3,821	7,216	513	157	1,290	434	1,422	440	3,215	1,031	11,633	6,115	33,301	6,872	33,301	6,872	33,301	6,872	
Total of Pelagic Fish	1,560	1,403	..	531	270	6,714	3,854	7,245	10,109	6,552	48,404	34,510	41,581	27,523	106,244	68,585	115,049	74,172	2,298,429	657,645	2,298,429	657,645	2,298,429	657,645	
DEMERSAL FISH.																									
(a) ROUND.																									
Cod	292,974	236,057	24,155	27,094	33,004	42,197	47,346	39,370	110,505	108,031	..	..	..	..	..	..	..	..	379,359	394,871	379,359	394,871	379,359	394,871
Codling
Ling	25,672	16,883	45,711	36,920	622	598	432	321	46,765	37,779	..	..	..	..	..	..	..	..	72,437	54,162	72,437	54,162	72,437	54,162
Torsk (Tusk)	375	740	..	..	..	..	..	..	7,145	6,983	..	..	..	..	..	..	..	..	8,120	7,350	8,120	7,350	8,120	7,350
Saithe (Coal Fish)	74,603	36,446	1,302	709	698	457	2,725	1,441	4,065	2,007	..	..	..	..	..	..	..	..	79,250	39,037	79,250	39,037	79,250	39,037
Haddock, ex. La.	395,292	423,016	788	1,039	64,298	84,992	77,980	77,065	143,056	103,066	..	..	..	..	..	..	..	..	538,298	586,082	538,298	586,082	538,298	586,082
Large
Medium
Small
Whiting	79,445	70,853	..	11,175	8,919	15,677	9,085	26,852	18,604	..	..	..	..	..	..	..	..	..	106,313	89,448	106,313	89,448	106,313	89,448
Conger Eels	90	67	103	99	295	250	507	369	905	748	..	..	..	..	..	..	..	..	1,325	1,437	1,325	1,437	1,325	1,437
Gurnards	7,380	2,404	..	..	..	..	..	..	123	38	..	..	..	..	..	..	..	..	7,463	2,442	7,463	2,442	7,463	2,442
Catfish	19,700	11,523	146	80	1,217	923	595	407	1,953	1,410	..	..	..	..	..	..	..	..	21,668	12,933	21,668	12,933	21,668	12,933
Monks (Anglers)	11,213	6,445	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11,213	6,445	11,213	6,445	11,213	6,445
Hake	5,403	7,117	49	85	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,452	7,202	5,452	7,202	5,452	7,202
Total of Round Fish	852,642	831,642	79,399	73,000	117,240	133,292	145,355	129,690	342,033	339,981	..	..	..	..	..	..	..	..	1,230,908	1,201,808	1,230,908	1,201,808	1,230,908	1,201,808

APPENDIX B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed in **Orkney and Shetland** during the Year 1915.

DESCRIPTION OF FISH.	TRAWLS.				LINES.								NETS.				1914.					
	Steam.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.		Grand Total	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£
PELAGIC FISH.																						
Herrings	..	£	..	£	77,938	45,402	8,174	5,401	5,086	3,085	92,048	54,548	92,048	54,548	92,048	54,548	92,048	54,548	92,048	54,548	1,257,681	422,435
Sprats
Sparrlings	1,471	219	113	23	295	78	1,879	320	1,879	320	1,879	320	1,879	320	1,879	320	8,619	1,240
Mackerel
Total of Pelagic Fish	79,359	45,681	8,27	5,424	6,281	3,763	93,927	54,863	93,927	54,863	93,927	54,863	93,927	54,863	93,927	54,863	1,296,250	423,675
DEMERSEL FISH.																						
(a) ROUND.																						
Cod	1,059	593	1,455	1,286	5,898	5,360	8,412	7,239	51	20	51	20	51	20	51	20	51	20	14,217	5,975
Codling	1,574	674	50	8	200	107	1,794	789	..	..	..	..	..	..	..	..	..	..	7,237	2,653
Ling	420	135	..	..	207	73	627	208	..	..	..	..	..	..	..	..	..	..	1,422	279
Torsk (Tusk)	1,651	383	10	3	10,007	3,065	11,668	3,451	..	..	..	..	..	..	..	..	..	..	29,720	2,920
Saithe (Coal Fish)	5,073	6,087	6,470	4,931	11,543	11,098	..	..	..	..	..	..	..	..	..	..	14,067	8,673
Haddock, ex. La.
" Large
" Medium
" Small
Whiting
Conger Eels
Gurnards
Catfish
Monks (Anglers)
Hake
Total of Round Fish	4,701	1,785	6,588	7,400	28,893	16,055	33,185	25,240	..	..	51	20	9,898	629	..	..	..	..	48,104	25,889
																					67,754	20,966

APPENDIX B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed on the **West Coast of Scotland** during the Year 1915.

DESCRIPTION OF FISH.	TRAWLS.						LINES.						NETS.						1914.	
	Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.		Grand Total			
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£		
PELAGIC FISH.																				
Herrings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Linck	2	850	718	489	1,775	1,160	3,343	2,358	20	12	2	1	22	13	3,367	2,371	510,838	321,519	898,304	275,550
Torsk (Tusk)	2	1	55	19	7	116	55	190	..	..	..	..	..	..	192	82	..	..	..	..
Saithe (Coal Fish)	84	30	771	259	1,063	305	7,523	2,574	..	..	..	..	..	..	3,573	1,624	59,070	14,723	3,225	7,543
Haddock, ex. La.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19,221	6,547	..	..	..	..
Large Medium Small	72	91	..	..	427	495	4,165	4,592	..	..	14	18	8	10	22	23	569,922	336,310	936,545	283,191
Whittings	2	1	..	..	972	1,323	1,178	2,361	..	..	4	6	1	1	5	7	2,157	2,369	2,592	1,963
Conger Belts	..	..	4,011	2,333	4,674	2,828	1,792	1,085	..	..	..	..	..	..	10,477	6,246	10,477	6,246	23,214	9,837
Gurnards	..	..	..	..	5	2	517	239	..	..	..	..	..	..	..	..	522	241	343	88
Catfish	14	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	8	..	..
Monks (Anglers)	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hake	..	..	349	521	273	300	..	835	..	..	1,547	3,203	151	278	1,698	3,481	2,925	4,366	3,247	4,238
Total of Round Fish.	331	252	7,541	4,807	12,647	8,775	26,282	14,686	..	..	6,223	5,695	11,359	5,770	17,587	11,465	64,388	39,855	113,064	46,771

APPENDIX B.—No. II.—FISH LANDED.—STATEMENT of the Total Quantity and Value of the different kinds of White and Shell-Fish landed in **Scotland** during the Year 1915.

DESCRIPTION OF FISH.	TRAWLS.						LINES.						NETS.						1914.		1915.	
	Steam.		Motor.		Sail.		TOTAL.		Steam.		Motor.		Sail.		TOTAL.		Grand Total		Grand Total			
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Cwt.	£	Cwt.	£		
PELAGIC FISH.																						
Herrings	358	470	..	..	29	33	329,448	209,539	219,499	188,123	153,762	93,815	441,477	702,709	441,477	703,096	441,980	4,383,265	1,839,046	
Sprats	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,013	27,294	8,443	
Sparlings	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,710	1,013	1,377	
Mackerel	1,202	983	..	..	6,814	3,916	15,758	3,634	34,381	9,038	510	1,199	16,074	64,164	16,074	510	1,199	550	1,377	
Total of Pelagic Fish	1,560	1,463	..	..	6,843	3,949	345,206	213,173	253,880	147,161	171,007	99,429	459,763	770,093	459,763	779,045	465,454	4,491,313	1,364,534	
DEMERSAL FISH.																						
<i>(a) ROUND.</i>																						
Cod	233,828	256,995	26,719	28,655	44,955	46,449	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Codling	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ling	25,676	16,387	48,135	38,301	1,360	1,095	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tusk (Tusk)	789	749	7,620	7,137	19	323	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Saithe (Coal Fish)	74,744	36,520	3,724	1,351	1,711	765	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Haddock, ex. L.	385,408	423,242	788	1,039	69,788	91,544	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Large	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Medium	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Small	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Whiting	79,449	70,842	4,114	2,432	4,969	3,108	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Conger Fels	90	67	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gurnards	7,330	2,404	..	..	15	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Monks	19,724	11,537	146	80	1,217	923	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Monks (Anglers)	11,215	6,446	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hake	5,403	7,117	398	606	273	360	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total of Round Fish.	853,346	882,306	91,644	79,801	136,484	154,457	196,560	159,331	426,688	393,389	..	..	..	..	..	..	..	..	..	..
TOTAL.																						
Quantity.																						
Value.																						
Cwt.																						
£																						
Grand Total Quantity and Value.																						
Cwt.																						
£																						
Grand Total Quantity and Value.																						
Cwt.																						
£																						

(b) Year.		SHELL-FISH.																																															
		Oysters.				Lobsters.				Crabs.				Mussels.				Clams.				Unclassified.																											
		No.	£	No.	£	No.	£	No.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£		£																												
Turbot	2,724	11,213	10,468	37,927	3	58	104	44	165	..	..	..	..	22	68	12	47	34	115	2,602	11,493	4,005	12,171																						
Haddock	4,185	13,343	10,458	37,927	3	459	570	1,487	40,778	..	..	..	..	777	3,413	12	4	32	4	15,774	54,125	46,512	110,089																						
Lemon Soles	25,382	94,766	..	..	..	143	304	142	285	..	..	..	..	112	205	92	426	869	3,839	26,536	99,311	33,760	83,173																			
Flounders	792	1,363	..	..	..	43	1,369	1,917	1,402	..	..	..	..	..	..	2,914	1,989	3,026	2,204	5,735	4,909	7,488	5,919																	
Plaice, Large	19,028	43,753	..	..	..	588	1,097	8,687	12,788	..	..	..	..	2,091	3,943	5,151	8,263	7,182	12,206	35,485	68,747	53,680	90,282																			
" Small	98	257	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	1	2	99	259	444	826													
Brill	7,824	5,993	..	..	..	1,100	2,784	3,982	4,084	..	..	..	..	..	..	4	302	456	306	12,262	10,388	11,114	5,208																	
Dabs	2,118	4,728	..	..	..	..	..	..	..	..	..	..	..	109	221	452	..	109	221	2,227	4,947	21,621	25,415															
Whites	8,129	19,762	9	20	..	..	..	9	20	..	..	..	..	2	2	..	..	2	2	8,140	19,784	17,740	23,313																	
Megrims . . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..			
Total of Flat Fish	70,390	195,121	10,468	37,950	2,351	4,268	14,180	26,999	59,943	..	..	..	..	3,057	7,856	8,624	11,043	11,681	18,899	109,060	273,963	196,394	356,396																						
Skates and Rays	28,489	12,509	44,822	24,146	5,467	3,055	3,507	53,796	26,928	..	..	..	..	106	60	640	321	746	381	83,031	41,818	149,648	44,983																						
Squids	197	178	..	..	..	..	153	49	153	..	..	..	..	..	..	..	..	..	..	350	227	161	32												
Unclassified kinds	1,091	612	328	104	194	57	2,101	747	2,623	908	..	..	..	260	117	157	78	417	195	4,131	1,715	16,791	2,964																							
Total for 1915	955,063	1,042,189	147,262	141,801	145,045	1,621,116	225,344	183,528	517,651	437,445	345,206	213,173	268,437	164,701	233,093	143,663	846,676	521,537	2,319,390	2,051,171	..	..	..																							
Total for 1914	2,500,469	1,338,313	361,350	218,659	82,868	58,439	225,792	124,251	670,010	401,349	3,286,340	998,374	324,779	112,138	958,723	293,333	4,569,842	1,403,845	..	..	..	..	..																					
Increase in 1915 . . . . .	..	..	..	..	..	..	..	..	86,096	..	..	..	..	..	..	..	..	..	..	..	..	..	..												
Decrease in 1915	1,245,406	296,124	214,088	76,858	..	..	..	152,359	..	..	2,941,134	785,201	56,342	..	..	725,690	149,670	3,723,166	882,308	5,120,931	1,092,336	..	..																								
		SHELL-FISH.																																															
		Lobsters.				Crabs.				Mussels.				Clams.				Unclassified.																															
		No.				£				Cwt.				£				Cwt.																															
		491,149				1,867				527,247				24,781				1,282,672				10,491				165,896				8,615				9,251				1,176				33,071				11,334			
				Total Value of Shell-Fish for 1915				1914				Decrease in 1915				Total Value of Shell-Fish for 1915				1914				Decrease in 1915						£		58,294		65,029		6,735													
				Grand Total Value of Fish and Shell-Fish for 1915				£2,109,465				1914				3,208,536				Decrease in 1915				£1,999,071																									

APPENDIX C.

FISH USED IN A FRESH STATE.—Table showing the Estimated Quantity of each Species of Fish consumed fresh in Scotland, or dispatched from Scotland in a fresh state, in the Year 1915.

Description of Fish.	1915. Quantity.	1914. Quantity.
	Cwts.	Cwts.
Herrings	220,255	* 372,332
Sprats	1,660	17,793
Sparlings	510	550
Mackerel	63,651	67,108
Cod and Codlings	327,644	401,593
Ling	59,045	85,030
Torsk (Tusk)	5,197	2,177
Saithe	45,703	50,749
Haddockes	397,250	392,339
Whitings	80,979	141,394
Conger Eels	11,802	26,627
Gurnards	7,985	7,345
Catfish	21,682	9,674
Monks	11,215	† 1,172
Hake	7,777	27,844
Squids	350	161
Turbot	2,802	4,005
Halibut	15,774	46,423
Lemon Soles	25,039	33,790
Flounders	5,735	7,488
Plaice	34,832	53,680
Brill	99	444
Dabs	12,262	11,114
Whitches and Megrims	9,713	39,361
Skates and Rays	83,031	149,648
Unclassified kinds	4,131	6,471
Total	1,456,123	1,956,312

* Exclusive of herrings exported sprinkled or iced.

† Exclusive of monks exported fresh.

APPENDIX D.—No. I.

FISH CURED.—RETURN showing the Quantity of each Species of Fish Cured, and the Mode of Cure, in the Year 1915.

No.	DISTRICTS.	HERRINGS.					Total Number of Barrels.
		Barrels Gutted.	Barrels Un-gutted.	Barrels Kip-pered.	Barrels of Bloat-ers or Reds.	Barrels Tinned.	
EAST COAST.							
1	Eyemouth	73	..	13,982	3,648	3,687	21,390
2	Leith . . . . .	..	..	6,984	1,100	..	8,084
3	Anstruther	123	..	75	570	..	768
4	Montrose . . . . .	..	..	..	..	..	..
5	Stonehaven . . . . .	..	..	..	..	..	..
6	Aberdeen . . . . .	..	..	7,626	3,323	2,132	13,081
7	Peterhead . . . . .	..	132	..	..	382	514
8	Fraserburgh	7,013	..	1,260	..	46	8,319
9	Banff	47	..	208	..	..	255
10	Buckie	10	..	20	..	..	30
11	Findhorn . . . . .	..	..	..	..	..	..
12	Cromarty . . . . .	..	..	..	..	..	..
13	Helmsdale	152	..	..	..	..	152
14	Lybster	332	..	..	..	..	332
15	Wick	194	..	2,239	175	..	2,578
East Coast Totals carried down }		7,944	132	32,364	8,816	6,247	55,503
Orkney and Shetland.							
16	Orkney . . . . .	..	..	..	..	..	..
17	Shetland	14,092	2,362	10,704	..	..	27,158
Orkney and Shetland } Totals carried down		14,092	2,362	10,704	..	..	27,158
WEST COAST.							
18	Stornoway	19,636	..	21,271	..	..	40,907
19	Barra	1,392	..	..	..	..	1,392
20	Loch Broom	7,105	415	..	..	..	7,520
21	Loch Carron and Skye	4,678	170	827	..	..	5,675
22	Fort-William	2,130	180	7,165	..	..	9,475
23	Campbeltown	750	55	50	..	..	855
24	Inveraray	937	..	..	..	..	937
25	Rothesay	115	..	127	2	..	244
26	Greenock	1,642	..	9,900	168	..	11,710
27	Ballantrae	15	..	22	..	..	37
West Coast Totals carried down }		38,400	820	39,362	170	..	78,752
Totals brought down.							
East Coast		7,944	132	32,364	8,816	6,247	55,503
Orkney and Shetland		14,092	2,362	10,704	..	..	27,158
West Coast		38,400	820	39,362	170	..	78,752
Grand Totals for 1915		60,436	3,314	82,430	8,986	6,247	161,413
Grand Totals for 1914		1,133,542	13,364	176,814	14,077	46,731	1,384,528
Increase in 1915 . . . . .		..	..	..	..	..	..
Decrease in 1915		1,073,106	10,050	94,384	5,091	40,484	1,223,115

Note 1.—No vessel was fitted out for curing at sea during the year.

2.—The above figures represent the quantity cured "bungpacked," i.e. as finally ready for export. The corresponding equivalents in the "scastick" state, i.e. before the herrings have "pined" or settled down in the barrels, will be found in Appendix D. No II.

APPENDIX D.—No. I.—*continued.*

FISH CURED.—RETURN showing the Quantity of each Species of Fish Cured, and the Mode of Cure, in the year 1915.

SPECIES OTHER THAN HERRINGS.						
Description of Fish.	Dried. cwts.	Smoked cwts.	Pickled cwts.	Tinned cwts.	Total 1915. cwts.	Total 1914. cwts.
Cod	4,556	18,945	1,102	..	24,603	223,405
Ling	4,386	1,800	..	..	6,186	42,305
Tusk	422	826	..	..	1,248	5,462
Saithe	2,983	21,855	..	..	24,838	96,718
Haddocks . . . . .	..	77,658	45	1,161	78,864	104,379
Whitings	94	15,677	..	..	15,771	41,748
Catfish . . . . .	..	..	..	..	..	7,040
Monks . . . . .	..	..	..	..	..	2,730
Halibut . . . . .	..	..	..	..	..	76
Mackerel . . . . .	..	1,949	2,776	..	4,725	8,731
Sprats . . . . .	..	..	563	..	563	8,262
Unclassified . . . . .	..	..	..	..	..	3,440
Total	12,441	138,710	4,486	1,161	156,798	544,296

NOTE.—1. In addition to the above there were dried in Scotland during the year 1915: 12,500 cwts. cod imported wet-salted from Norway, and 232 cwts. cod, 19 cwts. ling, 127 cwts. tusk, 32 cwts. saithe, and 132 cwts. haddocks imported wet-salted from Iceland—a further total of 13,072 cwts.

2. The figures given above represent the weight after cure.

APPENDIX D.—No. II.

HERRINGS CURED.—STATEMENT showing the Numbers of *Barrels of Herrings Cured, Guttred and Unguttred, on the East and West Coasts of Scotland, for the Hundred and five years ended 31st December 1915.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Guttred.	Unguttred, Kipperd, &c.	Total.	Guttred.	Unguttred, Kipperd, &c.	Total.	
6th April 1811	2,008½	6,630	8,638½	62,186	19,110	81,296	89,934½
" 1812	4,325½	10,332	14,657½	65,922	24,518	90,440	105,097½
" 1813	9,179	20,950½	30,129½	76,561½	31,025½	107,587½	137,716½
" 1814	9,503	46,800½	56,303½	37,969	5,773	43,742	100,045½
" 1815	24,314	36,827	61,141	76,021½	7,756	83,777½	144,918½
" 1816	55,411½	18,416½	73,828	73,292½	2,578½	75,870½	149,698½
" 1817	90,710½	26,252½	116,963	60,581½	3,233½	63,815	180,778
" 1818	118,594½	8,287½	126,882	76,765	4,491½	81,256½	208,138½
" 1819	221,959½	22,158	244,117½	75,197½	6,441	81,638½	325,756
" 1820	267,556½	27,391½	294,948	72,629½	4,512	77,141½	372,089½
" 1821	318,473½	23,909½	342,382½	88,626½	2,613	91,239½	433,622½
" 1822	229,070	12,808½	241,878½	56,342½	1,328	57,670½	299,549½
" 1823	183,687	15,256½	198,943½	34,211	202½	34,456½	233,399½
" 1824	272,340½	32,402	304,742½	52,792	845½	53,594½	358,336½
" 1825	227,667	28,849½	256,516½	64,623	593	65,216	321,732½
" 1826	289,101	31,703½	320,804½	42,602	121	42,723	363,527½
" 1827	211,042½	22,241½	233,284½	43,231	117	43,348	276,632½
" 1828	287,906½	37,882½	325,789	45,632	2,039½	47,671½	373,460½
" 1829	249,365½	41,047½	290,412½	47,525	945	48,470	338,882½
" 1830	216,427½	35,226	251,653½	59,494	639	60,133	311,786½
" 1831	315,479	51,609½	367,088½	46,631	855	47,486	414,574½
" 1832	259,197½	36,183½	295,381	49,216½	3,167	52,383½	347,764½
" 1833	267,928½	45,564½	313,493½	77,144	573	77,717	391,210½

* The figures in this table, so far as relating to pickled herrings, gutted or unguttred, represent the numbers of barrels of "sea-sticks."
Vide Note 2 to Appendix D.—No. I. (p. 77).

APPENDIX D.—No. II.—continued.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kipperd, &c.	Total.	Gutted.	Ungutted, Kipperd, &c.	Total.	
5th April 1834	315,159	56,374 $\frac{3}{4}$	371,533 $\frac{3}{4}$	64,427 $\frac{1}{2}$	137	64,564 $\frac{1}{2}$	436,098 $\frac{1}{2}$
" 1835	166,539 $\frac{1}{2}$	33,339 $\frac{1}{2}$	199,879	45,091 $\frac{1}{2}$	633	45,724 $\frac{1}{2}$	245,603 $\frac{1}{2}$
" 1836	343,693 $\frac{3}{4}$	68,891 $\frac{3}{4}$	412,585 $\frac{1}{2}$	46,554 $\frac{1}{2}$	479	47,033 $\frac{3}{4}$	459,618 $\frac{3}{4}$
" 1837	229,371	71,449 $\frac{1}{2}$	300,820 $\frac{1}{2}$	54,859	1,892 $\frac{1}{2}$	56,751 $\frac{1}{2}$	337,571 $\frac{3}{4}$
" 1838	307,625	82,634 $\frac{3}{4}$	390,259 $\frac{3}{4}$	68,990 $\frac{1}{2}$	2,374 $\frac{1}{2}$	71,365	461,624 $\frac{3}{4}$
" 1839	308,581	119,489 $\frac{3}{4}$	428,070 $\frac{3}{4}$	66,046 $\frac{1}{2}$	1,672 $\frac{1}{2}$	67,719	495,789 $\frac{3}{4}$
" 1840	345,074 $\frac{1}{2}$	103,160	448,234 $\frac{1}{2}$	54,208 $\frac{1}{2}$	343	54,551 $\frac{1}{2}$	502,786
" 1841	334,539	78,225 $\frac{1}{2}$	412,764 $\frac{1}{2}$	87,562 $\frac{1}{2}$	3,402 $\frac{1}{2}$	90,965	503,729 $\frac{1}{2}$
" 1842	404,502 $\frac{1}{2}$	116,675 $\frac{1}{2}$	521,178	78,755 $\frac{1}{2}$	2,183 $\frac{1}{2}$	80,939	602,117
" 1843	376,374	118,755 $\frac{3}{4}$	495,129 $\frac{3}{4}$	61,568 $\frac{1}{2}$	1,627	63,195 $\frac{1}{2}$	538,325 $\frac{1}{2}$
" 1844	384,729	105,927 $\frac{1}{2}$	490,656 $\frac{1}{2}$	81,643	4,776	86,419	577,075 $\frac{1}{2}$
" 1845	305,461 $\frac{1}{2}$	72,649 $\frac{1}{2}$	378,110 $\frac{1}{2}$	80,836	901	81,737	459,847 $\frac{3}{4}$
1846	343,927	82,607 $\frac{1}{2}$	426,534 $\frac{1}{2}$	64,056	3,753 $\frac{1}{2}$	67,809 $\frac{1}{2}$	494,344
" 1847	343,009 $\frac{3}{4}$	137,296 $\frac{3}{4}$	480,306 $\frac{3}{4}$	67,613	11,263	78,876	559,182 $\frac{1}{2}$
" 1848	323,471 $\frac{1}{2}$	135,479	458,950 $\frac{1}{2}$	46,636 $\frac{1}{2}$	9,570	56,206 $\frac{1}{2}$	515,157
" 1849	337,450	155,654 $\frac{1}{2}$	493,104 $\frac{1}{2}$	52,473	6,981	59,454	552,558 $\frac{1}{2}$
" 1850	427,138	152,530	579,668	77,171 $\frac{1}{2}$	25,029 $\frac{3}{4}$	102,201 $\frac{1}{2}$	681,869 $\frac{1}{2}$
" 1851	320,493	129,532 $\frac{3}{4}$	450,025 $\frac{3}{4}$	57,694	21,134	78,828	528,853 $\frac{3}{4}$
" 1852	348,573	109,933	458,506	68,660 $\frac{1}{2}$	36,220 $\frac{3}{4}$	104,881	563,387
31st December 1852	331,055 $\frac{1}{2}$	89,355	420,410 $\frac{1}{2}$	44,623 $\frac{1}{2}$	13,903	58,526 $\frac{1}{2}$	478,937
" 1853	482,017	165,459 $\frac{1}{2}$	647,476 $\frac{1}{2}$	78,350	28,431 $\frac{1}{2}$	106,781 $\frac{1}{2}$	754,257 $\frac{3}{4}$
" 1854	410,332	132,977 $\frac{1}{2}$	543,309 $\frac{1}{2}$	48,247 $\frac{1}{2}$	31,207 $\frac{1}{2}$	79,455	622,764 $\frac{1}{2}$
" 1855	505,481 $\frac{3}{4}$	136,687 $\frac{1}{2}$	642,169 $\frac{1}{2}$	77,175 $\frac{1}{2}$	32,631	109,806 $\frac{1}{2}$	751,975 $\frac{1}{2}$
" 1856	396,650	92,400 $\frac{1}{2}$	489,050 $\frac{1}{2}$	69,755 $\frac{1}{2}$	32,492 $\frac{1}{2}$	102,248	591,298 $\frac{1}{2}$
" 1857	390,775	59,712 $\frac{1}{2}$	450,487 $\frac{1}{2}$	74,447 $\frac{1}{2}$	25,763 $\frac{1}{2}$	100,211	550,698 $\frac{1}{2}$
" 1858	410,524 $\frac{3}{4}$	111,440 $\frac{3}{4}$	521,965 $\frac{3}{4}$	59,868 $\frac{3}{4}$	23,350	83,218 $\frac{3}{4}$	605,184
" 1859	308,518 $\frac{1}{2}$	55,584	364,102 $\frac{1}{2}$	72,541	20,487	93,028	457,130 $\frac{1}{2}$

APPENDIX D.—No. II.—continued.

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kippered, &c.	Total.	Gutted.	Ungutted, Kippered, &c.	Total.	
1860	424,201½	103,086¼	527,287¾	71,894	37,891½	109,785½	637,073¼
1861	447,931½	97,207	545,138½	71,241½	34,336½	105,578	650,716½
1862	536,602½	88,911	625,513½	119,257½	52,685	171,942½	797,456
1863	445,596½	75,511½	521,108½	61,396½	26,810	88,206½	609,314½
1864	378,752	88,107½	466,859½	99,737½	42,889	142,626½	609,486½
1865	374,424	73,814½	448,238½	95,920½	57,207	153,127½	601,366
1866	398,358	72,420½	470,778½	99,396½	74,431	173,827½	644,605½
1867	492,172½	81,978½	574,150½	139,547½	90,392	229,939½	804,090
1868	363,922½	62,906	426,828½	81,546	129,886½	211,432½	638,260½
1869	395,500½	61,809½	457,310½	93,330½	124,502½	217,832½	675,143
1870	508,805½	98,318	607,123½	148,254	77,783	226,037	833,160½
1871	585,172	94,178	679,350	83,317½	62,808½	146,125½	825,475½
1872	623,443½	62,341	685,784½	48,260	39,815	88,075	773,859½
1873	710,376½	96,983½	807,360	86,525½	45,348	131,873½	939,233½
1874	789,345½	77,489½	866,835½	97,657	36,068½	133,725½	1,000,561
1875	774,293½	67,729	842,022½	60,529	40,428½	100,957½	942,980
1876	454,164	59,230	513,394	32,074½	52,729	84,803½	598,197½
1877	618,116½	65,529½	683,646	65,318½	63,284½	164,072½	847,718
1878	702,433½	70,927½	773,361	98,122½	65,318½	164,072½	905,768
1879	563,754	62,833½	626,587½	92,237	122,971½	215,208½	841,796
1880	1,096,953½	104,151½	1,201,105	127,245	145,250½	272,495½	1,473,600½
1881	830,751½	73,602½	904,353½	84,346½	122,455	206,801½	1,111,155½
1882	879,243½	98,983	978,226½	101,512	203,235	304,747	1,282,973½
1883	960,428½	87,477½	1,047,905½	128,658½	148,848½	271,506½	1,319,412½
1884	1,323,989½	132,061½	1,456,050½	72,223½	112,803	185,026½	1,637,077½
1885	1,244,259	74,725½	1,318,984½	108,190	145,779½	253,969½	1,572,952½
1886	1,017,152	125,287½	1,142,439½	76,211	93,572½	169,783½	1,312,223½

APPENDIX D.—No. II.—*continued.*

Year ended	East Coast (with Orkney and Shetland).			West Coast.			GRAND TOTAL.
	Gutted.	Ungutted, Kippered, &c.	Total.	Gutted.	Ungutted, Kippered, &c.	Total.	
31st December 1887	962,116	127,588	1,089,704	101,937 $\frac{3}{4}$	111,782 $\frac{1}{2}$	213,720 $\frac{1}{4}$	1,303,424 $\frac{1}{4}$
" 1888	790,458	82,155 $\frac{1}{4}$	872,613 $\frac{1}{4}$	116,542	129,717	246,259	1,118,872 $\frac{1}{4}$
" 1889	1,071,686	112,171	1,183,857	105,417	108,233	213,650	1,397,507
" 1890	1,042,089	81,218 $\frac{1}{2}$	1,123,307 $\frac{1}{2}$	142,340 $\frac{1}{2}$	38,955	181,295 $\frac{1}{2}$	1,304,603
" 1891	797,219	61,427	858,646	208,024	59,402	267,426	1,126,072
" 1892	1,012,452	82,267	1,094,719	125,299	37,924	163,223	1,257,942
" 1893	1,177,365	110,236	1,287,601	90,977	30,960 $\frac{1}{4}$	121,937 $\frac{1}{4}$	1,409,538 $\frac{1}{4}$
" 1894	1,312,926	98,783	1,411,709	91,489	14,879	106,368	1,518,077
" 1895	1,314,225	79,695	1,393,920	114,902	19,312	134,214	1,528,134
" 1896	1,232,549	101,098	1,333,647	132,234	26,035	158,269	1,491,916
" 1897	732,454	72,457	804,911	143,319	41,212	184,531	989,442
" 1898	1,500,533	92,883 $\frac{1}{2}$	1,593,416 $\frac{1}{2}$	174,743	37,188	211,931	1,805,347
" 1899	912,841	71,512	984,353	154,768	36,534	191,302	1,175,655
" 1900	968,077	98,673	1,066,750	156,522	32,339	188,855	1,255,605
" 1901	1,334,010	118,173	1,452,183	109,056	44,646	153,702	1,605,885
" 1902	1,507,138	125,933	1,633,071	123,437	46,651	170,088	1,803,159
" 1903	1,331,664	138,949	1,470,613	105,654	42,543	148,197	1,618,810
" 1904	1,737,345	170,510	1,907,855	102,548	52,571	155,119	2,062,974
" 1905	1,766,734	164,098	1,930,832	112,156	68,613	180,769	2,111,601
" 1906	1,679,947	166,011	1,845,958	116,343	35,561	151,904	1,997,862
" 1907	2,181,017	189,892	2,370,909	147,945	59,414	207,359	2,578,268
" 1908	1,787,835	183,495	1,971,330	163,931	64,808	228,739	2,200,069
" 1909	1,507,914	180,740	1,688,654	148,410	53,201	201,611	1,890,265
" 1910	1,934,320	211,236	2,145,556	145,628	37,690	183,318	2,328,874
" 1911	1,667,432	207,335	1,874,767	139,272	32,708	171,980	2,046,747
" 1912	1,660,972	178,116	1,839,088	148,414	34,945	183,359	2,022,447
" 1913	1,407,323	172,591	1,579,914	253,804	52,878	306,682	1,886,596
" 1914	1,176,361	185,854	1,362,215	185,925	66,887	252,812	1,614,527
" 1915	28,597	61,502	90,099	44,852	40,518	85,370	175,469

APPENDIX E.—No. II.

FISH EXPORTED.—RETURN showing the Total Quantity of Fish Exported to England, Ireland, the Continent, and Places out of Europe during the Year 1915.

I.—HERRINGS.						
DESCRIPTION OF FISH.	WHERE SENT.					
	Eng-land.	Ire-land.	The Continent.	Places out of Europe.	Total 1915.	Total 1914.
SCOTTISH CURED HERRINGS.	Barrels.	Barrels.	Barrels.	Barrels.	Barrels.	Barrels.
Branded :—						
La. Full . . . . .	..	..	..	..	..	6,182
Full . . . . .	..	..	102	..	102	20,873
Mat. Full . . . . .	..	..	2	..	2	4,423
Filling . . . . .	..	..	110	..	110	5,125
Mattie . . . . .	..	..	7,726	..	7,726	27,280
La. Spent . . . . .	..	..	51	..	51	188
Spent . . . . .	..	..	..	..	..	24
Total Branded . . . . .	..	..	7,991	..	7,991	64,095
Unbranded	8,916	1,659	55,314	45,385	111,274	993,093
Total Number of Barrels of Cured Herrings exported	8,916	1,659	63,305	45,385	119,265	1,057,188
Herrings Sprinkled or Iced . . . . .	..	..	..	..	..	37,657
Grand Totals for 1915	8,916	1,659	63,305	45,385	119,265	..
Grand Totals for 1914	12,632	5,069	961,797	115,347	..	1,094,845
Increase in 1915 . . . . .	..	..	..	..	..	..
Decrease in 1915	3,716	3,410	898,492	69,962	975,580	..

II.—OTHER KINDS.

Cod, Ling, &c., dried, cwts.	..	11,072	17,211	21,539	49,822	151,994
Do. pickled, brls.	32	..	..	..	32	333
Mackerel, " "	..	..	96	593	689	4,018
Sprats, " "	..	..	860	..	860	1,548

NOTE.—In addition to the above, there were exported, *via* Glasgow, 20,226 barrels of Irish, 1,400 of English, and 20 of Icelandic herrings to America, 61 barrels of Irish herrings to England, and 20,007 cwts. of preserved fish (principally dried cod and tinned herrings), 18,467 cwts. to America, 1,392 to Australia, and 148 to Ireland.

No. I.

Persons employed in each District in connection with the various during the Year 1915.

Boxmakers.	Boat Builders.	Basketmakers.	Persons making and mending Nets.	Persons manufacturing Barrel Staves.	Persons employed on board Vessels Curing, Exporting, and Carrying Herrings and other Fish.		Persons employed on board Vessels Importing Salt, Stave Wood, and Hoops.		Other Occupations.	Total Persons employed.	DISTRICTS.
					British.	Foreign.	British.	Foreign.			
..	13	..	17	..	..	..	..	..	..	880	EAST COAST.
30	55	7	400	10	82	..	24	10	90	3,011	Eyemouth.
..	7	..	190	4	..	8	..	7	..	916	Leith.
6	39	..	3	11	..	..	..	..	23	1,608	Anstruther.
..	1	..	20	..	..	..	..	..	..	292	Montrose.
120	1,701	17	210	35	130	..	32	15	460	8,703	Stonehaven.
..	20	1	50	6	8	96	..	23	..	1,440	Aberdeen.
..	12	1	6	..	16	46	8	40	..	1,732	Peterhead.
..	35	..	..	..	..	..	..	..	..	821	Fraserburgh.
..	32	..	32	2	..	..	..	..	..	846	Banff.
..	6	..	..	..	1	..	..	..	..	681	Buckie.
..	5	..	..	3	..	..	..	..	..	244	Findhorn.
..	2	..	..	1	..	..	..	..	..	283	Cromarty.
..	1	..	..	..	..	..	..	..	..	283	Helmsdale.
..	12	..	10	..	22	19	..	..	..	114	Lybster.
..	..	..	..	..	..	..	..	..	..	627	Wick.
156	1,941	26	938	72	259	169	64	95	573	22,198	East Coast Totals carried down.
..	..	..	..	..	..	..	..	..	..	..	Orkney and Shetland.
..	18	..	..	..	20	4	5	..	3	1,044	Orkney.
..	29	..	19	6	140	32	14	..	12	2,365	Shetland.
..	47	..	19	6	160	36	19	..	15	3,409	Orkney and Shetland Totals carried down.
..	..	..	..	..	..	..	..	..	..	..	WEST COAST.
2	19	..	8	..	269	..	23	..	3	1,486	Stornoway.
..	7	..	..	..	5	..	..	..	30	708	Barra.
..	8	..	3	..	152	..	12	..	..	946	Loch Broom.
..	18	7	..	..	81	..	4	..	..	1,290	Loch Carron and Skye
..	3	..	..	..	96	..	..	..	..	485	Fort-William.
..	4	..	15	..	20	..	..	..	..	507	Campbeltown.
..	..	..	..	..	51	..	4	..	..	410	Inveraray.
..	8	..	..	..	25	..	1	..	..	179	Rothesay.
10	5	..	450	..	356	..	23	..	26	3,072	Greenock.
..	16	..	..	..	..	..	2	..	..	771	Ballantrae.
12	88	7	476	..	1,055	..	69	..	59	9,854	West Coast Totals carried down.
..	..	..	..	..	..	..	..	..	..	..	Totals brought down.
156	1,941	26	938	72	259	169	64	95	573	22,198	East Coast.
..	47	..	19	6	160	36	19	..	15	3,409	Orkney and Shetland.
12	88	7	476	..	1,055	..	69	..	59	9,854	West Coast.
168	2,076	33	1,433	78	1,474	205	152	95	647	35,461	Grand Totals for 1915.
231	2,666	70	2,418	310	4,912	3,182	1,544	1,573	833	87,119	Grand Totals for 1914.
..	..	..	..	..	..	..	..	..	..	..	Increase in 1915.
63	590	37	985	232	3,438	2,977	1,392	1,478	186	51,658	Decrease in 1915.

APPENDIX I.—No. II.

RETURN of the PIERS and HARBOURS Erected or Improved by the FISHERY BOARD FOR SCOTLAND from 1st January 1883 to 31st December 1915, showing for each undertaking the CONTRIBUTION made by the Board, the SUBSCRIPTION raised by the Locality (so far as coming within the cognisance of the Board), and the TOTAL EXPENDITURE:—

County.	Pier or Harbour.	Total Contribution by the		Total Expenditure to 31st December 1915.			
		Board.	Locality.	£ s. d.	£ s. d.		
Aberdeen .	*Rosehearty	3,881	10 11	500	0 0	4,381	10 11
	Pennan	1,320	13 4	776	2 11	2,096	16 3
	Collieston .	5,482	0 7	1,618	4 6	7,100	5 1
	Sandhaven	738	10 9	300	0 0	1,038	10 9
	Fraserburgh	5,000	0 0	..	..	5,000	0 0
Argyll .	Carsaig, Mull	5	17 0	..	..	5	17 0
	Waterfoot, Cautyre .	24	0 0	116	14 0	140	14 0
Ayr .	Dunure	512	6 8	539	0 0	1,051	6 8
	Ballantrae	105	0 0	109	14 4	214	14 4
	Maidens .	1,181	19 6	1,181	19 6	2,363	19 0
Banff .	Crovie .	971	16 3	324	12 6	1,296	8 9
	*Findochty	9,331	8 9	7,500	0 0	16,831	8 9
	Buckpool .	1,474	18 11	800	0 0	2,274	18 11
	Buckie (Cluny) .	7,000	0 0	..	..	7,000	0 0
	Portknockie	6,993	16 0	3,500	0 0	10,493	16 0
	†Whitehills .	9,087	1 2	3,700	0 0	12,787	1 2
	Sandend .	432	18 4	577	5 0	1,010	3 4
Berwick .	Cullen .	1,400	0 0	600	0 0	2,000	0 0
	Macduff	3,000	0 0	..	..	3,000	0 0
	Coldingham	3,000	0 0	10,000	0 0	13,000	0 0
	Elgin .	1,000	0 0	..	..	1,000	0 0
Fife .	St. Monance	5,839	18 1	2,269	0 0	8,108	18 1
	Pittenweem	4,450	0 0	1,809	19 6	6,259	19 6
	St. Andrews	5,670	2 1	1,839	5 8	7,509	7 9
	Cellardyke	1,300	0 0	512	8 4	1,812	8 4
	Auchmithie	4,125	0 0	1,125	0 0	5,250	0 0
Forfar	Port Seton	180	0 0	96	0 2	276	0 2
Haddington .	Broadford, Skye .	7,875	0 0	2,625	0 0	10,500	0 0
	Kincardine	2,900	0 0	..	..	2,900	0 0
Northumberland .	Stonehaven	319	16 1	600	0 0	919	16 1
	Greenshaven	1,000	0 0	3,000	0 0	4,000	0 0
Nairn .	Craster .	5,587	10 0	1,862	10 0	7,450	0 0
Orkney and Shetland	Nairn	1,102	0 10	413	0 0	1,515	0 10
	Holm, Orkney	3,000	0 0	1,950	11 8	4,950	11 8
	Whitehall, Stronsay	5,805	13 0	1,935	4 5	7,740	17 5
Ross and Cromarty	Balintore	10	0 0	5	0 0	15	0 0
	Rockfield .	8,072	6 7	3,000	0 0	11,072	6 7
	Ness, Lewis	300	0 0	137	13 9	437	13 9
	Cromarty .	1,900	0 0	1,708	13 10	3,608	13 10
Sutherland	Avoch .	900	0 0	300	0 0	1,200	0 0
	Portnacou.	122,281	4 10	57,333	0 1	179,614	4 11

* These harbours were begun by the old Board, but the whole of the payments made towards the works are now given.

† The grant to this harbour has not yet been wholly expended.

Grants have also been provisionally made to Findochty, Banff, Cullen, Port Charlotte, and Buckie, amounting in all to £12,800.

APPENDIX I.—No. III.

BRAND FEES.—ACCOUNT OF THE BRAND FEE REVENUE, THE COST OF COLLECTION, THE SURPLUS, AND THE EXPENDITURE, during the period from 1881 to 1914.

Year of Collection.	Total Proceeds of Brand Fees.	Estimated Cost of Collection.*	Surplus or Deficit.	Year in which Surplus Voted.	Amount Voted.	How Amount Voted disposed of.									
						7.	8.	9.	10.						
1.	£	£	£	5.	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.		
10 Years } † 1881-90 }	83,245	56,647	26,598	1882-92	26,860	9,710 14 1	768 1 4	1,824 0 0§	14,557 4 7						
10 Years } †† 1891-1900 }	65,760	49,650	16,110	1892-1902	18,398	3,238 12 3	..	2,895 6 11	12,264 0 10						
1901	6,423	5,096	1,327	1902-03	1,327	..	..	460 4 6	866 15 6				
1902	7,259	5,219	2,040	1903-04	2,040	..	..	453 14 6	1,586 5 6				
1903	6,067	5,181	886	1904-05	886	..	..	447 4 6	438 15 6				
1904	8,070	5,443	2,627	1905-06	2,627	..	..	440 14 6	2,186 5 6				
1905	6,582	5,363	1,219	1906-07	1,219	..	..	437 9 6	781 10 6				
1906	5,100	5,487	387	..	..	..	..	..	..
1907	8,928	5,277	3,651	1908-09	3,651	..	..	421 4 7	3,229 15 5				
1908	7,218	5,419	1,799	1909-10	1,799	..	..	414 14 6	1,384 5 6				
1909	3,857	5,376	1,519	..	..	..	..	..	..
1910	5,246	5,467	221	..	..	..	..	..	..
1911	4,455	5,549	1,094	..	..	..	..	..	..
1912	2,915	5,550	2,635	..	..	..	..	..	..
1913	4,110	5,549	1,439	..	..	..	..	..	..
1914	1,288	5,639	4,351	..	..	..	..	..	..
Total	226,523	181,912	44,611		58,807	12,949 6 4	768 1 4	7,794 13 6	37,294 18 10						

* For details see Civil Service Estimates (Class II., Vote for Fishery Board for Scotland).
† To be spent as required.
†† To be spent as required.
§ This amount was set aside in the year 1891 as a Reserve Fund only to be drawn upon in the event of the Brand Fee Surplus in any particular year being insufficient, after defraying Telegraph Guarantees, to meet the liabilities under the Loan Guarantee. In 1892-93, £255 0s. 2d. was paid from this Fund; in 1898-99, £486 4s. 6d.; in 1900-01, £473 4s. 6d.; in 1901-02, £466 14s. 6d.; and in 1906-07, the balance, amounting to £162 16s. 4d.
|| For details of these years, see 26th Annual Report.

APPENDIX M.

HARBOUR IMPROVEMENT SCHEMES.

REPORT BY MR. R. GORDON NICOL, M.INST.C.E.

I have the honour to submit, for the information of the Board, the following report on the Harbour Improvement Schemes which are being carried out under the supervision of the Board, and were in progress for the year ended 31st December 1915.

The following table gives a list of these harbours, along with the estimated cost of the Schemes and the assistance in grants and loans that is to be provided from funds at the disposal of the Development Commissioners and the Board.

Name of Harbour.	Estimated Cost of Scheme.	Assistance to be Provided.		
		Free Grants.	Loans.	Total.
Berwick	£11,000	£4,000	£7,000	£11,000
Eyemouth	4,200	1,200	2,500	3,700
St. Andrews	1,710	1,500	...	1,500
Stonehaven	13,500	6,500	7,000	13,500
Fraserburgh	40,000	20,000	20,000	40,000
Gardenstown	9,500	4,000	4,000	8,000
Macduff	26,488	12,000	12,000	24,000
Banff	4,000	3,000	...	3,000
Whitehills	3,000	2,250	...	2,250
Cullen	6,037	2,800	2,300	5,100
Portknockie	8,000	3,200	2,800	6,000
Findochty	6,700	2,000	1,500	3,500
Buckie	35,000	10,000	25,000	35,000
Lossiemouth	15,034	3,000	10,000	13,000
Nairn	18,000	7,000	...	7,000
Wick	15,000	...	15,000	15,000
Lerwick	17,000	7,500	...	7,500
Total	£234,169	£89,950	£109,100	£199,050

Berwick Harbour.

This Improvement Scheme is now practically completed. It provides berthing and landing accommodation for fishing vessels at the south side of the River Tweed near its mouth. The timber wharf, which is the chief feature of the new work, is 405 feet long with a timber deck 38 feet wide, and the berthage in front is dredged to a depth of 5 feet below the level of low water of ordinary spring tides. The space behind the wharf, which has an average width of 120 feet, is partly filled up and may take some considerable time to complete as a free tip.

The total cost of the scheme including the purchase from the Crown of certain foreshore, but excluding the filling referred to and certain other minor details, was £10,770, 18s., which sum was paid by the Board to the Trustees, by way of grant and loan from the Development Fund.

Eyemouth Harbour.

The work of this Improvement Scheme is for the widening and deepening of the Navigation Channel within the pier head of the harbour. The contractors for the work, which is chiefly rock excavation to provide a depth of 2 feet below low water level, are Messrs. Anthony Fasey & Son, Leytonstone, the contract price being £4782, 17s. 2d. The work was commenced in April, but slow progress has been made with the removal of the rock, the amount excavated being 5580 cubic yards. In accordance with the original contract, the excavated rock was to be deposited on adjacent land, but it was subsequently arranged to dispose of it at sea.

Payment of the whole of the grant, amounting to £1200, has been made to the Trustees from the Development Fund.

St. Andrews Harbour.

The new gateway and sluicing gates which constitute this Harbour Improvement Scheme were completed in September and are now in use. In February a contract for the construction and erection of the new sluicing gates was placed with Mr. John Smellie, Glasgow, the contract price being £517, 10s. 0d. The sluicing operations have been entirely successful in removing the accumulations of silt in the outer harbour basin and entrance channel, which have hitherto limited the usefulness of the harbour and have formed a source of danger to navigation.

The total cost of the scheme was £2173, 12s. 7d., towards which the Board has made a free grant of £1500.

Stonehaven Harbour.

Work on this Harbour Improvement Scheme is practically completed. The rock in the outer harbour basin has been excavated to a depth of 6 feet below the level of low water of ordinary spring tides, and the strengthening and repair of the Old North Pier to allow of the increased depth is finished, with the exception of the landward portion of the concrete roadway and certain repairs to the foundation of the pier.

Fraserburgh Harbour.

Work is still in progress for the completion of this Harbour Extension Scheme, but the progress is slow. The operations are at present confined to the erection of Walker Quay and the hearting of Faithlie Jetty, but there is still a considerable amount of work to be done in pitching the sea face of the rock embankment in the east bay, and the repair of Burnett Pier, and the storm gates.

No payments have been made during the year towards the cost of the scheme from the Development Fund.

Gardenstown Harbour.

At the commencement of the year the matters in dispute between the Trustees and the contractors were still under arbitration, but in January, the Arbitrator, Mr. B. Hall Blyth, issued his Decree Arbitral, whereby the contract was determined, and the contractors were awarded the sum of £2539, 11s. 4d., in settlement of all claims, being £2577 less than the sum sued for. As it was impossible to repair the defective concrete work of the new West Pier, it was decided to remove it entirely, and this has in great measure been accomplished. Work on the East Pier Extension was in progress departmentally until late autumn when many interruptions

occurred owing to stormy weather. The workmen at such times were engaged on the repair of the existing harbour. Owing to the continuance of the war, and the necessity to curtail national expenditure, it was decided to defer the construction of the new West Harbour Basin.

Payments amounting to £4000 were made to the Trustees from the Development Fund during the year.

Macduff Harbour.

Good progress has been made on the construction of the new harbour basin, which is the chief feature of this Improvement Scheme. The outer sea wall has been constructed for a length of 950 feet, and part of the quay behind this wall has been formed, while 12,195 cubic yards of rock and 24,873 cubic yards of soft material have been excavated and removed from the new basin, to provide a depth of 11 feet below high water of ordinary spring tides. In November the sea broke over the works and flooded the basin, sweeping away some of the plant.

Payments amounting to £5061 have been made to the Trustees by way of grant from the Development Fund together with the grant of £2000 by the Board.

Banff Harbour.

This Improvement Scheme is to provide extra depth in the existing harbour for the accommodation of herring drifters. It entails the removal of a considerable quantity of rock and soft material to give a depth of 5 feet below low water level of ordinary spring tides, and the removal of the Inner Jetty.

The engineers for the scheme are Messrs. Kyle, Dennison, & Laing, Glasgow, and the contractor is Mr. A. H. Robertson, Inverkeithing, the contract price being £3108.

The work was commenced in April by the construction of a concrete cofferdam across the outer entrance, but progress on the work has been very slow, the quantity of rock and soft material excavated being only 1296 cubic yards. The removal of the Inner Jetty is almost completed. The slow rate of progress is chiefly due to the want of sufficient pumping plant to overcome the leakage water.

No payments were made by the Board towards the cost of the scheme during the year.

Whitehills Harbour.

This scheme, which is well advanced towards completion, includes the construction of a new concrete jetty and quay wall, and the deepening of part of the harbour to the level of low water of ordinary spring tides. Operations were temporarily suspended in November 1914, on account of the stormy weather, and will not be resumed until after the war.

A payment of £271, 9s. 11d. was made by the Board during the year towards the cost of the scheme.

Cullen Harbour.

This Improvement Scheme continues to make slow progress. The contractor has been urged frequently to push forward the work and now pleads scarcity of men on account of the war. The reinforced concrete retaining wall is almost completed, the concrete jetty is practically finished, and the work of strengthening the West Pier is more than half done, while the reconstruction and alteration of the West Pier head is well advanced. There is still a considerable quantity of excavation to be removed from the harbour basin to obtain the full depth required.

Payments amounting to £1900 have been made to the Trustees by way of grant and loan from the Development Fund.

Portknockie Harbour.

This scheme is to provide wintering accommodation for steam drifters within the existing harbour. A difference of opinion has arisen as to the best way in which this object may be attained, and the matter is at present under consideration.

Findochty Harbour.

The scheme for the enlargement of the harbour basin has been deferred until after the war.

Buckie Harbour.

This large Improvement Scheme still continues to make steady progress towards completion, but it suffers meantime for lack of funds.

The original scheme of extension, under the Provisional Order of 1910, has been in progress for about 5 years, and the subsequent scheme of extension under the Provisional Order of 1912, to provide wintering accommodation for herring drifters, was commenced in 1912. These schemes are now practically merged in one, which is to provide, when completed, three new harbour basins in addition to the two basins of the existing harbour, an extension of the concrete breakwater covering the entrance to the harbour, and a long sea wall or breakwater of concrete in blocks enclosing the new basins. The depth of water in two of the new basins is to be 11 feet at low water of ordinary spring tides, while in the third, which is the wintering basin proper, the depth is to be 6 feet at low water. The inner basin of the existing harbour is also to be deepened to 11 feet at low water, and the quay walls underpinned with concrete to suit the increased depth. The excavation from the four basins, which is chiefly composed of rotten rock, is deposited on the foreshore of the bay to the west of the harbour to form additional ground for fish curing purposes. It is to be protected from the destructive action of the sea by a sloping face of large concrete blocks. There are other features included in the scheme, such as deepening the approach to the harbour, the provision of a boat slipway for the repair of drifters, groynework, alterations in quays, the diversion of streams and sewers, wharfing at the entrance, and the repair and underpinning of existing and new work.

The entrance breakwater has been extended, the new sea wall or breakwater is almost completed, the existing inner basin and the new one adjacent to it have been excavated and are practically completed, and the excavation of the new basin eastward of these is well advanced, while the underpinning of the walls and the concrete facing of the rock where surmounted by concrete walls is making good progress. A large area of the foreshore at the west bay has been reclaimed by the rock excavation deposited there. The defective work in the breakwaters which was mentioned in a previous report is being rectified under close supervision.

During several severe storms which occurred, the sea broke over the breakwaters and flooded the works, caused considerable delay in the work of construction, and damaged the contractor's plant. The rock embankment was also damaged to a material extent, as none of the protective work is as yet carried out, and a large amount of the rock débris has been swept by the waves into the bay.

The latest revised estimates for the finished scheme, which were called for by the Board, amounted in October to £221,701. Several conferences were held by the Board at which the Town Council's representatives were present, accompanied by their Engineers, and as the result of protracted negotiations, it was decided, in view of the urgent need for economy in the expenditure of the public funds, to reduce the cost of the scheme by deferring the execution of certain works until a more opportune time. The works to be omitted from the scheme are (1) the concrete groyne at the west side of the bay, (2) the heavy stone or concrete facing of the rock embankment along the bay, (3) the patent slipway and berths in No. 4 harbour basin, (4) the excavation of No. 4 harbour basin, (5) the timber wharf at the harbour entrance, (6) the widening of roadway at the West Pier, (7) the deepening of the approaches to the harbour, (8) quay walls and roadways for No. 4 basin, and some other works. The cost of the works provisionally cancelled was estimated by the Council's Engineers to amount to £66,876.

The application of the Council to the Treasury for further financial assistance is still under consideration.

Payment of an instalment of £8250 has been made to the Trustees by the Board of Trade, and one of £8000 by way of loan from the Development Fund during the year.

Lossiemouth Harbour.

This Improvement Scheme is to provide accommodation for the wintering of herring drifters in the estuary of the River Lossie. The engineers for the scheme are Messrs. D. & C. Stevenson, Edinburgh, and the contractors are Messrs. Cooper & Faris, Dunfermline, the contract price being £13,776.

Operations were commenced in February, and considerable progress has been made with the work. The timber East Pier has been constructed for a length of about 120 feet, and the sheet piling, which runs in line with this and forms the east side of the new river basin, has been put in for a length of about 560 feet. The new concrete breakwater is constructed for a length of 109 feet, on which a short length of the parapet has been erected. At the West Quay all the piles have been driven and the cross ties and walings fixed.

Payment has been made to the Harbour Commissioners of the grant of £1000 which was promised by the Board.

Nairn Harbour.

This Improvement Scheme is for the reconstruction of the East Pier where damaged by storms, and to provide accommodation for the wintering of herring drifters. Further damage was done to the piers by the storms of the autumn, which have necessitated reconsideration of the Council's proposals, but these are not yet sufficiently matured for submission to the Board.

Wick Harbour.

This scheme is to provide improved accommodation for fishing vessels and for the general protection of the harbour. I have submitted a report dealing with the whole matter, which is at present under the consideration of the Development Commissioners. In view of the financial outlook they have obtained a supplementary report dealing with the least repairs necessary to ensure the existing works against damage by the sea, the larger questions involved in the earlier report to be held over to a more opportune occasion.

The Resident Engineer has recently reported that the storms of the autumn have done further damage to the South Breakwater and the point of the North Pier, and that this is of such a serious nature that it will require immediate attention.

Lerwick Harbour.

This scheme which is to provide additional accommodation for fishing vessels alongside Victoria Pier is now completed.

The final instalment of the grant promised by the Development Commissioners, and amounting to £2500, was paid by the Board in November.

R. GORDON NICOL,
Consulting Engineer.

APPENDIX N.

SALMON FISHERIES.

MR. CALDERWOOD'S REPORT.

FISHERY BOARD FOR SCOTLAND,
February 1916.

I have the honour to report with regard to the Salmon Fisheries, and my inspections during 1915.

The salmon fisheries have been less affected by the war than I understand sea fisheries in general have been. With the exception of the Firth of Forth, where the Commander-in-Chief at Rosyth decided that it was inexpedient to allow bag nets to be fished, the coast fisheries have been but slightly interfered with. In the Firth of Forth, netting was not entirely suspended, however, since fly nets, which can be worked at low tide without the use of a boat, were allowed. The sandy parts of the coast of Fifeshire could therefore be fished as formerly, except that bag nets could not be outrigged from the ends of the fly nets.

The total weight of salmon carried by rail, etc., in Scotland is less than in 1914 by 268 tons, and is less than the last quinquennial average by 348 tons.

As compared with 1914, however, there is a slight improvement in the results from the whole of the West Coast, including the Solway. The decrease in the catch is from the East Coast, and chiefly from that section between Berwick and the entrance to the Moray Firth which usually produces the largest results.

The Moray Firth catch appears to have been singularly variable in different localities. From our own netting for Research purposes we ascertained, in 1914, that large catches of grilse were made in the Nairn neighbourhood. In the same way, having shifted our nets in the meantime, we participated, in 1915, in large catches of grilse on the east coast of Sutherland, catches which were presently echoed, as it were, on the east coast of Caithness. The Scrabster and Castlehill fisheries in the Pentland Firth also did remarkably well. At the same time, some of the more southern districts of the Moray Firth did rather badly, although the stock of salmon in neighbouring rivers has improved. The definite movement of grilse from our nets at Kintradwell, just north of Brora, to the nets on the east coast of Caithness, coupled with the fact that the stock of fish in the Helmsdale was extraordinarily good, and produced, I understand, almost a record in the angling results of the river, is a matter of considerable interest. The fisheries of both east and north Caithness, as well as all the fisheries along the shores of the Pentland Firth and north Sutherland, are primarily grilse fisheries. While our marking of kelts in rivers had shown indications of a southward movement in these mature fish, the more recent marking of fish in the sea now shows, especially amongst grilse, a distinct northward movement along the shore. Many of the marked grilse, it is true, turned up at points to the south of our nets, a few being far to the south, one being as far as the river Coquet in Northumberland, but

the majority of recaptures were distributed along the Berriedale and Dunbeath neighbourhoods, some being taken north of Wick, one in the Pentland Firth, and one as far round as Loch Inver on the west coast of Sutherland. Of those north-going grilse, about 180 were recaptured during the season.

This is the first proof, in Scotland, that grilse, after striking the coast from their off-shore feeding grounds, move along the shore in such a manner that the nets of widely separated districts take fish from the same runs or shoals. These adolescent salmon are of the utmost importance to the ultimate stock. I have previously had the opportunity of showing that the difference between the abundance of salmon in the past, and the comparative paucity of fish at the present day, is chiefly a difference in the numbers of grilse.

Unfortunately, owing to the war, it will not be possible to follow up the results we have obtained, and to continue the sea netting in the near future, but a report on all results to date, excepting the scale examination, will be found as a separate paper.*

SALMON FISHERIES OF UPPER SOLWAY.

In connection with certain inquiries I had occasion to make in the Upper Solway, I ascertained as far as possible the present extent of the Salmon Fishery interest and the number of nets used.

It is convenient to group the fisheries as above and below the Railway Viaduct which crosses from Annan to Kirkbridge.

(A) Above the Viaduct:

Stake Nets.

- | | |
|--|-------------------------------|
| 1. Seafield Range, belonging to the Burgh of Annan. | |
| 2. Clatty Range, | " " |
| 3. Battlehill, | " " and Duke of
Buccleuch. |
| 4. Burnfoot, a march range shared by Duke of Buccleuch and Lord Mansfield. | |
| 5. Dornoch Brow, belonging to the Earl of Mansfield. | |
| 6. March Range, | " " |
| 7. Saugh Hope, | " " |
| 8. Poke Range, | " " |
| 9. Torduff, | " " |
| 10. Crabtree, | " " |
| 11. Holynbush, | " " |
| 12. Browhouses, | " " |
| 13. Brae Range, | " " |
| 14. Breast Range, | " " |
| 15. Flag Range, | " " |
| 16. Thorn Range, | " " |
| 17. Kirtlefoot, | " " |
| 18. Grey Yad, | " " |

The Loch
Fishings.

Lord Mansfield holds certificates to fish 11 ranges and 37 pockets, and it appears, at first, from the above list that one range too many exists. This is explained, however, by the nature of the certificates held for numbers 13 and 14 of the list. Only one of those nets can be fished

* Fisheries, Scotland, Salmon Fish., 1915, I. (July 1916).

at a time. Further, it may be noted that the fishing of the Grey Yad range is a matter of uncertainty, depending upon the situation of the channel.

Haaf Nets and Poke Nets.

About 25 licences are issued by Lord Mansfield (and at times as many as 80 or 90 when the channel suits), and about 35 by the Eden Board of Conservators at Carlisle.

These are the haafers of the Scottish and English side respectively, and the fishing is carried on as far up as about the mouth of the river Kirtle.

Lord Mansfield also holds certificates for poke nets with 30 clouts, and he issues a varying number of licences locally for these.

Sweep Nets.

Above the netting referred to, 2 sweep nets are fished by a tenant of Netherby.

Whammel Nets.

This fishing is carried on both above and below the Viaduct, as the nets drift with the rapid current. Only three licences were issued by the Eden Board in 1915, and a falling off in this highly criticised form of fishing seems to have been going on recently. The Clerk to the Eden Board kindly informs me that in 1914 five licences were issued, and in 1913 twelve. In 1906 I ascertained that there were 20 licences in use.

(B) Below the Viaduct:

Stake Nets.

14 ranges of nets with 36 pockets form the Newbie fishings.
11 ranges are commonly fished, viz.:

- | | |
|---|--------------|
| 1. The Big Net, next the Viaduct, with 3 pockets. | |
| 2. Boos | „ 1 pocket. |
| 3. Nicholas | „ 1 „ |
| 4. Scour Point | „ 1 „ |
| 5. Rabbits | „ 3 pockets. |
| 6. Dumfries | „ 1 pocket. |
| 7. Billam Hole or Sandyard | „ 4 pockets. |
| 8. The Bay | „ 1 pocket. |
| 9. Powfoot | „ 9 pockets. |
| 10. Haggarth | „ 1 pocket. |
| 11. Swinhope (farthest west) | „ 4 pockets. |

29

Haaf Nets and Poke Nets.

40 haaf net and 34 poke net permits are issued by the Burgh of Annan. The poke nets contain 500 clouts. The licensees operate within the limits of the Burgh.

Whammel Nets.

Apart from the whammel nets mentioned in the list for above the Viaduct and which operate to a certain extent below the Viaduct, it is reported that whammel nets are used by the Crown tenants *ex adverso*

of three miles of shore in the parish of Ruthwell. The tenants are The Annan Fishermen's Association, and the boundary of their fishing is mid-channel. This may account to some extent for the decline in the number of whammel licences issued by the Eden Board, as the majority of the Solway whammellers in the past lived at Annan Waterfoot. No stake nets are used by the tenants referred to.

NITH.

The Salmon Fisheries of this river have frequently been under review, criticism being chiefly centred upon three points: the netting at the mouth of the river; the pollutions; and the manner in which many of the tributaries are obstructed to salmon by difficult or insurmountable weirs.

It is unnecessary, in the present Report, to review the whole position in which the District is unfortunately placed to-day, but certain changes have recently occurred which may open up rather improved prospects for the future.

The netting which for very many years has been carried on in the tidal waters below Dumfries Caul has been criticised because of the manner in which the netting has been conducted. I do not refer to the shot which is fished immediately below the Caul, although the use of a net in such a position is most unfortunate, since it is certain to catch the fish which have been checked in their ascent by the obstruction. It is perfectly legal to net as is done, but in some localities private agreements have been come to by which netting or rod fishing is prohibited within a prescribed distance—an arrangement which certainly would be of great advantage at Dumfries.

The unlawful method of fishing which I have witnessed, and which has repeatedly been complained against, is practised lower down. The net is hung across the stream in such a way as to form a complete barrier from bank to bank, no attempt being made to row the shot as in proper sweep net fishing with a net and coble, or to keep the net moving through the water by the active operation of fishing.

In most localities, I am glad to say, the movement of the net through the water by the action of the fishermen is strongly insisted upon, but in the Nith, although I have drawn the attention of the District Fishery Board to the matter, the practice complained of has continued. It has been reported to me that a net has been seen to hang for as long as an hour and a quarter. I have timed the operation more than once, and although I have not seen the process of hanging or drifting carried on so long, the normal five minutes or so in which the shot should have been completed was far exceeded. There is no possible ambiguity about the way in which a net and coble shot should be fished, after the decision, in the House of Lords, of the case *The Duke of Atholl v. The Glovers Incorporation of Perth*. The Lord Chancellor, together with his colleagues Lords Macnaghten, Davey, and Brampton, all supported the ruling of Lord Westbury in the earlier case of *Hay v. The Magistrates of Perth*, in which the motion of the net by the hand of the fisherman and the temporary grasp of the water in the sweep of the net were insisted upon. The Lord Chancellor's words are: "Lord Westbury described the mode of fishing which he held to be lawful, and which he said came within the principle of ordinary net and coble fishing, because it was a mode of fishing which exists only and takes the fish only while the net is kept in motion, and which preserves all the distinctive peculiarities of fishing by net and coble—namely, taking a grasp of a portion of the river during such time only as is required for the boat to row round the net."

Lord Macnaghten adds: "Nets stretched or stented across the channel"

of a river, or any part of the channel, for the purpose of obstructing the passage of salmon, have invariably been held illegal." Lord Davey says: "The fisherman must be fishing with the net and not merely regulating its position in the stream so as to catch the fish of itself. I think the effect of the decision in *Hay's* case is that net and coble fishing is the type, and the exclusive type, of all lawful fishing for salmon with nets, and although other modes of fishing may conceivably be invented differing in some details and in form from net and coble fishing as at present practised, they must conform to that mode of fishing in substance."

Lord Brampton refers to the hanging of the net as an operation to impede the ascent of salmon, not to capture the fish, and in referring to the *Bermony Boat Case* (*Hay's* case) quotes Lord Westbury "that it is illegal to fish for salmon with any net which is a fixture, which is at all fixed or permanent even for a time in the water," and adds that so long as a net floats gradually down the current it remains a continuous obstruction.

To hang the net as I have witnessed in the Nith is to use the sweep net as a fixed engine in a river, and no fixed engine is legal within the limits of any river estuary.

The netting rights in this locality have changed hands. The previous owner was a member of the District Fishery Board whose mandatory occupied the chair. The rights have now been purchased by the Corporation of Dumfries, and the Provost occupies the chair.

The formation of the salmon pass on the Dumfries Caul has frequently been subjected to local criticism, but the alteration in the netting methods would be of much greater value to the stock of fish in the river than any interference with the pass. I might perhaps venture to add that if a reduction in the amount of the netting, either by the discontinuance of one of the shots, the removal of the net from the actual foot of the Caul, or by the extension of the weekly close time, could be arrived at locally, a wise policy would be inaugurated. It is a difficult time to suggest such steps, but those who have the highest interests of the river at heart would do well to consider the matter. The annual value of the entire salmon fisheries of the District, both sea and river, is now assessed at only £621, and rod fishing in this beautiful river last season is reported to have accounted for only 29 grilse and salmon.

The town mill, situated on the right bank, which is supplied by the Caul, has been leased for a term of years to the Dumfries Electric Co., who have taken out the old wheels and substituted two turbines. This appears to have made a considerable difference to the rush of water through the lade, and during the past year it was found that large numbers of fish, especially finnock, managed to escape the polluted waters of the lower river, and passing an unsuitable heck, to ascend the lade as far as the turbines, beyond which there was no escape. A point of some interest arose through the tenant of the net fishing regarding the lade as included in his sphere of operations. The Corporation have agreed, however, to the erection of a new and more suitable heck at the mouth of the lade "where it joins the river." It is unfortunate, nevertheless, that a heck which conforms in every way to the requirements of the Salmon Fishery Acts is powerless to prevent the ascent of such small fish as finnock.

With regard to pollutions in the neighbourhood of Dumfries the conditions appear to have somewhat improved, owing to the Sewage Scheme of the town. The Maxwelltown mills and the mills of Messrs. Shortridge are now, I understand, the only sources of difficulty outwith the influence of the Sewage Scheme.

In the upper river, however, considerable complaint still exists on account of the coal washings from pits.

TUMMEL.

The Tay District Fishery Board decided to alter the intake of the Tummel Falls Pass, referred to in a previous Report. So far as my actual observation goes, the amount of the lowering at the sill of the intake is $16\frac{3}{4}$ inches. In addition to this, the channel from the main river to the intake sill, which is short and protected by cement work, was also deepened.

I saw the pass a short time after this work had been completed, and a considerable quantity of gravel had already accumulated a short distance from the sill. This is probably inevitable, and in times of flood, if a sluice is at any future time placed at the intake sill, it may be desirable to allow a sufficient force of water into the pass to carry off this superfluous gravel.

From various sources of information, there appears to be no doubt that a very considerable number of salmon have ascended the fall without taking advantage of the pass since the time the fall was slightly altered. Twenty fish at a time have been observed resting just above the fall but below the intake of the pass, while fish have also been observed in the course of their ascent of the fall.

Fish usually surmount the fall in quite low conditions of water flow, and it may be found that the recent lowering of the sill of the pass affects this condition. In those circumstances the presence of a sluice might be of advantage. At the Invermoriston Pass, however, where, it should be noted, the ascent of the fall is quite impossible at all states of river, it has been decided that the best results are to be obtained by doing away with sluices altogether, but preventing the direct inrush of the river by a narrow and slightly regurgitating channel. Like the Tummel Pass, the Invermoriston Pass is excavated from the solid rock, and can receive no great damage from flood water.

The result of the recent lowering of the sill at the intake of the Tummel Falls Pass will be that a considerably greater amount of water will be able to descend, while the action of a sluice would be to keep a surplus out if necessary. From what I have been able to observe in this type of pass, however, a depth approaching 3 feet makes the water unduly rough and rapid.

It was decided, I understand, to give a slope to the floor of the pass immediately behind the intake, so that the old gradient should be joined by the new at a point about 67 feet below the sill. The pass now, therefore, has two gradients. The original conception was, as I understand, slightly to alter the fall so that, in low river, fish would find the ascent less difficult, and to adjust the level of the pass to the level of the river at which fish would most readily run. The entrance or lower end of the pass remains as before, but with this new alteration of the level of the intake, the original conception is departed from. With an additional supply of water, the results, so far as the ascent of salmon are concerned, will require to be carefully observed.

In the same river, the Dunalastair Falls have also been altered since last Report. The operation has been done by blasting the lower section of the fall itself. I visited the falls in July, but the debris from the recent blasting was so choking the fall that nothing could be learned as to the actual result. When floods have shifted the shattered rocks into the pool below, it will be possible, I hope, to make another visit.

The Dalchroy Dam Dyke, lower down, has also been receiving some attention. It was an extremely leaky structure formed of boulders, and in

low conditions of river was quite impassable to fish, since all the water of the river passed through the interstices of the dyke. It has now been rendered more watertight, but a slap has not been cut in the sill so as to concentrate the flow of water in any way, nor has a pass of a simple kind been formed. As the dyke is not high, however, it is believed that in future fish will not congregate so badly below it.

CROE.

On 29th July I visited the mouth of this river, and discovered a net set at an anchor directly opposite the mouth. On shore a tent had been erected, and three men, the salmon fishers, were here waiting the next run of salmon with the rising tide. I learned that the fishing was being carried on by the proprietor who owns the rights, and that a fourth man, the proprietor's gamekeeper, was absent on other duties.

I had the net drawn on shore, and found it to be about 130 yards long, the ground rope leaved and the top rope corked. I was informed that the net was commonly left as I had found it for as long as two to three hours at a time. The fish were sent to a merchant in Dingwall.

I found also that a similar net was used at Ratigan on the opposite shore. I trust that neither net will be used in this illegal manner in future. The case referred to under the heading Nith, at the beginning of this Report, is equally applicable here, although in the river Nith the fishermen did not carry the matter so far as to use an anchor. The limits of the estuary, in the case of the Croe, within which it is illegal to use any form of fixed net for the capture of salmon, are mentioned under the heading Loch Luing in Schedule B of the Salmon Fisheries (Scotland) Act, 1868, and are "a straight line drawn due South, true Meridian, from Scart Point on the north Shore to the Mainland on the South." This practically includes the whole of Loch Duich.

EWE.

In the river Ewe, which flows out of Loch Maree, a good run of fish is reported in the month of April, as many as five in a day having been taken. It is clear that in this district a large number of fish must pass through the river in the early part of each year, and also that they pass through Loch Maree, which is twelve miles long, and, from the Kinlochewe River at the head, ascend the Alt Ghairbhe into Lochs Clare and Coulin, since before the month of May is out good sport is to be had in the head lochs. The question of the relative benefits of having sport in the river Ewe or in the head lochs seems therefore to arise for the consideration of the proprietor of the salmon fishing rights. To those who greatly prefer the attractions of river fishing, the beautiful series of pools and streams in the Ewe, in spite of its short course, will always appear most inviting. There is the capture of some 3000 sea trout in summer, but the total catch of salmon in the river remains extraordinarily small under present conditions.

AILORT.

I referred in my last Annual Report to the proposal which came up as far back as 1911 to erect a dam dyke at the outlet of Loch Eilt, so as to control the water supply to the river Ailort and create floods at will. The work was commenced in 1913, and brought near to completion, when a high flood almost destroyed the structure. For fully a year the wrecked wall was allowed to remain as the flood left it. Last summer, however, I noticed the structure rebuilt and completed. It is not quite in the form

in which I think the plan was first drawn, the check upon the outflow being less than was suggested, but the adopted arrangement will probably answer satisfactorily, and in the letting down of floods disadvantage will not be felt. From the main outlet the flow should have been checked by a dead wall, from which the water had to regurgitate and find an outlet parallel to the dyke and close to its down-stream face.

THURSO.

The effort to catch salmon in the sea by means of a large sweep net worked from a motor boat, to which I referred in my last Report, was not continued in 1915. This experiment, like previous trials of drift netting in Scotland, proved a failure.

The limits of the estuary are:—"A portion of a circle of 400 yards radius drawn from a centre placed mid-channel at the line of low water of equinoctial spring tides, and continued to the shore at high water by tangents, that on the east being to a Point 500 yards north-east of Thurso Castle, and that on the west being in the direction of the Toll House." The Toll House does not now exist, but in 1912 I was able to establish where it previously stood and to view the old foundations on the still vacant site. (31st Annual Report, p. 240). Irrespective of the site of this old Toll House, however, the direction of the tangent to the semi-circular estuary is sufficiently clear.

Net and coble fishing is carried on in the estuary by a tenant, but in terms of the lease it is not commenced till 1st June, and is not conducted at all inside of a line between the end of the pier on the west side of the river mouth and the northern corner of Thurso Castle.

I have observed that the fishing by net and coble is carried on in a manner which is not generally approved. At the commencement of the shot the coble is rowed out, the end of the "tow" being left with a man on shore as usual. When the rope is out, and at times when a fathom or two of the net is out, the rowing of the shot is suspended and the boat is moored while the fishermen watch for approaching fish. On these being seen, the mooring is slipped, and the rest of the net is at once rowed out and the shot completed. This is a method by which the least operative part of the shot is got over so as to save time till fish are seen, the capture of the fish being thus made more certain. It used to be practised regularly in the Cromarty Firth, as was also regular stell-net fishing.

When only part of the net was run out, the practice at Alness was not to anchor the coble, but to allow the net to drift, and this method was termed "lying at gantry." I am unable to give any derivation of the word gantry or Gantry. The method of fishing was successfully put down by the Alness District Fishery Board, since to drift with a salmon net inside the limits of an estuary is, by House of Lords decision, to fish by means of a fixed net. In the same way at Thurso, if any of the net is run out and anchored, or if the coble with part of the net out be attached to a mooring (which amounts to the same thing), a fixed engine is at once created.

I have referred to the Alness fishing at p. 9 of the 23rd Annual Report, Part II., 1904. In the present Report the same question is brought up in another form under the heading Nith.

FORTH (ALLAN WATER).

In the 22nd Annual Report I made reference to the various dam dykes of the Allan Water. Since that date, a salmon pass has been erected at the Airthrie Dyke, reference to which will be found in my paper "Salmon Passes," published in the 28th Annual Report, Part II., Appendix I., p. 11.

Another dam dyke has now been dealt with, viz., that at Dunblane Mill. No gap or fish pass existed at this dyke, nor were hecks to be found in the lade. The dyke was about 5 feet high on an average, and the water in the lade was very seldom used for any milling purpose. On account of this, I recommended in my General Report of 1903 that the lade should be closed and the water turned over the dam dyke for the benefit of ascending fish.

The Forth District Fishery Board have now had a pass erected at the dyke, but instead of proceeding, as in other districts, to secure the statutory gap in the sill of the weir, the District Board have agreed to a pass which has no proper gap and does not conform to the requirements of the Bye-law (G) of the Salmon Fisheries (Scotland) Act, 1868, which deals with this matter. I desire very specially to call attention to the manner in which it is possible for District Boards to allow this Bye-law to be interpreted. As matters are at present, it seems impossible to exercise proper control over local operations of the kind referred to.

I am by no means inclined to argue that the type of pass prescribed by the Bye-law to which I have referred is perfect, or that the best interests of the salmon fisheries are served by having a fixed and invariable type of pass at dam dykes; but one provision which has to be secured in any type of pass if water is to be concentrated in the pass and a reasonable lead given to ascending fish, is that a certain gap shall exist.

The Bye-law is quite explicit. It reads, after dealing with the breadth of the ladder: "The upper sill shall be not less than 6 inches below the lowest part of the crest of the dam for the whole width of the ladder." The gap may be more than 6 inches, but it must not be less than 6 inches. The requirement of a gap has existed without intermission since The Scots Act, 1696, c. 33. The later Statutes carry on the same general principle. By the Salmon Fisheries (Scotland) Act, 1862, Commissioners were appointed and authorised, *inter alia*, to make Bye-laws as to "the construction and alteration of mill dams or lades or water wheels, so as to afford a reasonable means for the passage of salmon," and in the later Act of 1868, which has already been referred to, the actual Bye-law governing the matter is appended. The recognised procedure in case of difficulty of enforcing the Bye-law is to make application to the Sheriff under the 29th Section of the Act of 1862.

Further, the owner of the structure is required to erect the pass, and, in practice, any loss of water consequent upon the presence of the required gap has to be regarded as incidental to the requirements of the Salmon Acts.

I am informed that the Forth District Fishery Board are themselves paying for the erection of this pass, and the contempt with which the requirements of the Acts are treated is therefore more marked. With an insufficient gap in the sill of the dyke, the pass is manifestly useless until the river has risen to such a height that fish can ascend the down-stream face of the dyke without the aid of the pass. As a matter of fact, when this new pass is dry, water is still flowing over the dyke and down the mill lade, a condition of things altogether against the spirit of the regulations. The Bye-law requires that the pass shall be "capable of affording a free passage for the ascending fish at all times when there is water enough in the river to supply the ladder." With the ladder built up upon the surface of the dyke, instead of cut into it, the ladder cannot be properly supplied with water.

I have already stated that in the case of this dyke the water is really of very little use for power. I understand this condition remains unchanged. In past years, a carpenter's circular saw has been occasionally driven, the carpenter being a tenant of the local Gas Co., who hold the water rights. It appears to me that not even this use is now made, and

that the water drawn off into the lade, and constantly allowed to run thus to waste, is not regarded by the District Board as making the obstruction at the dyke more serious than it need be. With regard to this particular matter, I would again refer to the Bye-law (1st Section), where it is stated that "all water not taken into the lade for the use of the mills or other lawful purpose shall be made to flow over the dam as fully as may be practicable"; and again in Section 2, after providing for the proper provision of sluices, it is stated, "No water shall, with the exception hereinafter stated, be allowed to enter any mill lade beyond the quantity required for the use of the water wheel or wheels of any one fall on that lade, or for other lawful purpose in the lade, that is to say, no water shall be allowed to escape from any lade into the river by means of any byewash or overflow, but all water not required for the uses aforesaid shall be made to flow over the dam into the river as far as may be practicable."

The Clerk to the Forth Board sent me the plans and specifications of the pass referred to on 23rd April 1915, and after examining these I called his attention to the fact that, apparently, not only was no proper gap secured to the pass, but that the sill of the pass was, for a width of 6 feet in the centre, to be 1 inch *above* the lowest part of the crest of the dyke, and for a width of 3 feet on each side of this to be 2 inches *above*. I pointed out that such a pass could not conform to the requirements of the Salmon Acts, and that this most important feature should at once be put right, and that failing this it seemed unnecessary to go into further detail. The intake appears to have been slightly altered, however.

In reply to this I was informed that the plans had not been submitted to me for any formal approval; that the Clerk had sent them on his own initiative in case I might have any suggestion to make with a view to the improvement of the pass.

The suggestion I had already made was certainly for the improvement of the pass, and with the object of bringing it into harmony with the Regulations, yet for some reason or other the suggestion has been virtually disregarded, and the pass erected so as to confer no benefit upon the local fisheries, while securing a maximum of water supply to the opposing interest, which water supply is apparently of no particular use to any one at present.

APPENDIX Q.

ANNUAL CLOSE TIMES APPLICABLE TO THE SALMON RIVERS IN SCOTLAND.

N.B.—Observe that, in the following List, the days fixing the commencement and termination of the Annual Close Time for Net-fishing and for Rod-fishing, respectively, are in all cases inclusive, as in the case of the Add, the first river in the List.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Add	From Sept. 1 to Feb. 15, both days inclusive.	From Nov. 1 to Feb. 15, both days inclusive.
Aline	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Alness	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Annan	From Sept. 10 to Feb. 24.	From Nov. 16 to Feb. 24.
Applecross	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Arnisdale (<i>Loch Hourn</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Awe	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Aylort (<i>Kinloch</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ayr	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Baa and Goladoir	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Badachro and Kerry (<i>Gairloch</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Balgay and Shieldag	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Beaully	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Berriedale	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Bervie	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Bladenoch	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Broom	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Brora	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Carradale (<i>in Cantyre</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Carron	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Clayburn, Finnisbay, Avenangeren, Strathgravat, North Lacastile, Scalladale, and Mawrig (<i>East Harris</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Clyde and Leven	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Conon	From Aug. 27 to Feb. 10.	From Oct. 16 to Jan. 25.
Cree	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Creed or Stornoway, and Laxay (<i>Island of Lewis</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Creran (<i>Loch Creran</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Croe and Shiel (<i>Loch Duich</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Dee (<i>Aberdeenshire</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Dee (<i>Kirkcudbrightshire</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Deveron	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Don	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Doon	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Drummachloy or Glenmore (<i>Isle of Bute</i>)	From Sept. 1 to Feb. 15.	From Oct. 16 to Feb. 15.
Dunbeath	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Earn	From Aug. 21 to Feb. 4.	From Nov. 1 to Jan. 31.
Eckaig	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Esk, North	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Esk, South	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Ewe	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Fincastle, Meaveg, Ballanachist, South Lacastile, Borve, and Obb (<i>West Harris</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Findhorn	From Aug. 27 to Feb. 10.	From Oct. 11 to Feb. 10.
Fleet (<i>Sutherlandshire</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Fleet (<i>Kirkcudbrightshire</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Forss	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 24.
Forth	From Aug. 27 to Feb. 10.	From Nov. 1 to Jan. 31.
Fyne, Shira, and Aray (<i>Loch Fyne</i>)	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Girvan	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Glenelg	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Gour	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Greiss, Laxdale, or Thunga.	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Grudie or Dionard	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Gruinard and Little Gruinard	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Halladale, Strathy, Naver, and Borgie	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 11.
Helmsdale	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Hope and Polla or Strathbeg	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 11.
Howmore	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Inchard	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Inner (<i>in Jura</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Inver	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Iorsa (<i>in Arran</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Irvine and Garnock	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Kannaird	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kilchoan or Inverie (<i>Loch Nevis</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kinloch (<i>Kyle of Tongue</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kirkaig	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kishorn	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Kyle of Sutherland	From Aug. 27 to Feb. 10.	From Oct. 1 to Jan. 10.
Laggan and Sorn (<i>Island of Islay</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Laxford	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Leven	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Little Loch Broom	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Lochy	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Duich	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Luig	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Loch Roag	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Lossie	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Luce	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 10.
Lussa (<i>Island of Mull</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Moidart	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Morar	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Mullanageren, Horasary, and Lochnaciste (<i>North Uist</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Nairn	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Naver and Borgie, <i>see</i> Halladale.		
Nell, Feochan, and Euchar.	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ness	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 1.
Nith	From Sept. 10 to Feb. 24.	From Dec. 1 to Feb. 24.
Orkney Islands (<i>River from Loch of Stenness, &c.</i>)	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 24.
Ormsary (<i>Loch Killisport</i>), Loch Head, and Stornoway (<i>Mull of Cantyre</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Pennygowan or Glenforsa, and Aros	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.

Name of River.	Annual Close Time for Net-fishing.	Annual Close Time for Rod-fishing.
Resort	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ruel	From Sept. 1 to Feb. 15.	From Nov. 1 to Feb. 15.
Sanda	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Scaddle	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Shetland Islands (<i>River of</i>		
<i>Sandwater, &c.</i>)	From Sept. 10 to Feb. 24.	From Nov. 16 to Jan. 31.
Shiel (<i>Loch Shiel</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Sligachan, Broadford, and		
<i>Portree (Isle of Skye)</i>	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Snizort, Orley, Oze, and		
<i>Drynoch (Isle of Skye)</i>	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Spey	From Aug. 27 to Feb. 10.	From Oct. 16 to Feb. 10.
Stinchar	From Sept. 10 to Feb. 24.	From Nov. 15 to Feb. 24.
Tay (except Earn)	From Aug. 21 to Feb. 4.	From Oct. 16 to Jan. 14.
Thurso	From Aug. 27 to Feb. 10.	From Oct. 6 to Jan. 10.
Torridon, Balgay, and		
<i>Shieldag</i>	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Tweed	From Sept. 15 to Feb. 14.	From Dec. 1 to Jan. 31.
Ugie	From Sept. 10 to Feb. 24.	From Nov. 16 to Feb. 24.
Ullapool (<i>Loch Broom</i>)	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Urr	From Sept. 10 to Feb. 24.	From Nov. 30 to Feb. 24.
Wick	From Aug. 27 to Feb. 10.	From Nov. 1 to Feb. 10.
Ythan	From Sept. 10 to Feb. 24.	From Nov. 1 to Feb. 10.

APPENDIX R.

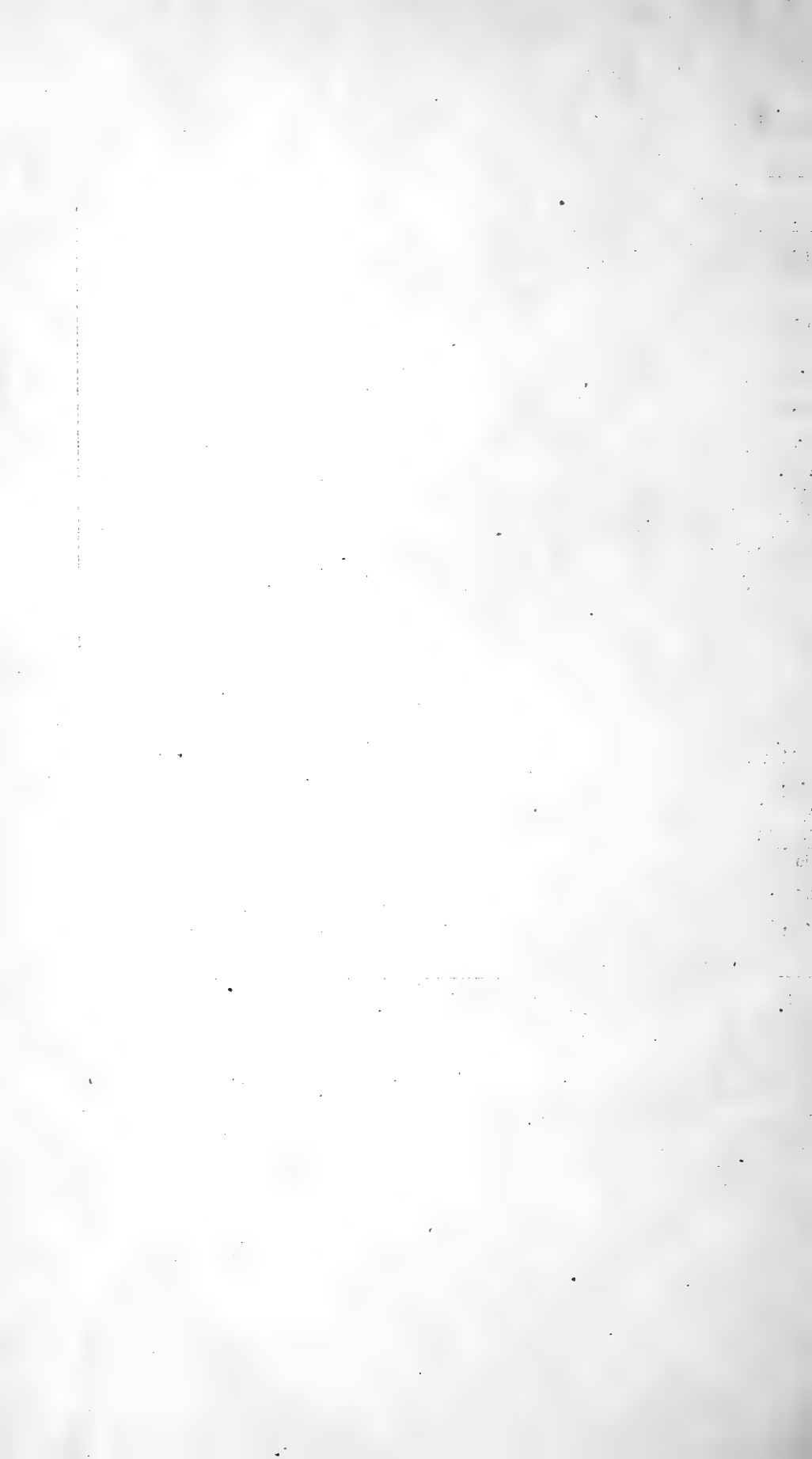
LIST OF CHAIRMEN AND CLERKS OF SALMON FISHERY DISTRICT BOARDS IN SCOTLAND.

DISTRICT.	Name and Address of Chairman.	Name and Address of Clerk.
Alness . . .	Andrew Mackenzie, Esq., Dalmore House, Alness.	William J. Duncan, Solicitor, Dingwall.
Annan . . .	A. Johnstone Douglas, Esq., Comlongan Castle, Ruthwell.	J. C. R. Macdonald, 84 Irish Street, Dumfries.
Awe . . .	The Duke of Argyll, Inveraray Castle, Inveraray.	Alex. MacArthur, Solicitor, Oban.
Ayr . . .	Richard A. Oswald, Esq., of Auchincruive, Ayr.	C. Young, W.S., County Buildings, Ayr.
Balgay . . .	C. R. Manners, Esq., C.E., 12 Lombard Street, Inverness.	Duncan Shaw, W.S., 15 High Street, Inverness.
Bervie . . .	David Scott Porteous, Esq., of Lauriston, as Mandatory of the Commissioners of Woods and Forests.	W. C. Walls, Solicitor, Montrose.
Broom . . .	W. Ewing-Gilmour, Esq., of Inverlael, per A. W. G. Aitken, Esq., S.S.C., Edinburgh.	W. R. T. Middleton, Solicitor, Dingwall.
Carron (W. Ross)	Baron von Schroder of Attadale.	Arthur H. Duncan, Solicitor, Dingwall.
Conon . . .	John Little Mounsey, Esq., W.S., 5 Thistle Street, Edinburgh, Commissioner for Col. J. A. F. H. Stewart Mackenzie of Seaforth.	W. R. T. Middleton, Solicitor, Dingwall.
Cree . . .	The Earl of Galloway, Cumloden, Newton-Stewart.	A. B. Matthews, Solicitor, Newton-Stewart.
Dee (Aberdeen)	The Lord Provost of Aberdeen.	Alex. Duffus, Advocate, Aberdeen.
Dee (Solway) . .	J. Wilkinson, Esq., Mandatory for Capt. Hope, R.N., of St. Mary's Isle.	W. Nicholson, Jun., Solicitor, Kirkcudbright.
Deveron . . .	Wm. MacIntosh, Esq., Fife Lodge, Banff.	James Morrison, Solicitor, Banff.
Don . . .	George Davidson, Esq., Wellwood, Aberdeen.	Alex. Duffus, Advocate, Aberdeen.
Doon . . .	Marquis of Ailsa, Culzean Castle, Maybole.	C. Young, W.S., County Buildings, Ayr.
Dunbeath . . .	Mandatory of Commissioners of Woods, etc., London.	D. W. Georgeson, Solicitor, Wick.
Esk (North) . . .	W. Douglas Johnston, Esq. (as Mandatory for Proprietors of Morphy Fishings), Montrose.	J. R. Findlay, Solicitor, Montrose.
Esk (South) . . .	W. Douglas Johnston, Esq., Montrose.	D. S. Campbell, Solicitor, Montrose.
Feochan . . .	The Marquis of Breadalbane, Taymouth Castle, Aberfeldy.	Alex. MacArthur, Solicitor, Oban.
Findhorn . . .	Sir R. C. Munro Ferguson, Bart., of Novar, per J. J. Meiklejohn, Esq., factor.	C. Grant Mackenzie, Solicitor, Forres. Jas. Munro, National Bank Buildings, Forres, Clerk <i>ad interim</i> in Mr. Mackenzie's absence.
Forth . . .	Mandatory of Commissioners of Woods, etc., London.	Henry Robb, 11 Barnton Street, Stirling.
Girvan . . .	John Campbell Kennedy, Esq., of Dunure.	T. Gerald Tait, Solicitor, Girvan.
Gruinard and Little Gruinard	Alfred N. G. Aitken, Esq., S.S.C., Edinburgh, Factor and Commissioner for Hugh Mackenzie, Esq., of Dundonnell.	W. R. T. Middleton, Solicitor, Dingwall.
Kyle of Sutherland	Sir Charles Lockhart Ross, Bart., of Balnagowan.	John M'Crone, Solicitor, Dornoch.

APPENDIX R.—(continued)—LIST OF CHAIRMEN AND CLERKS OF SALMON FISHERY DISTRICT BOARDS IN SCOTLAND.

DISTRICT.	Name and Address of Chairman.	Name and Address of Clerk.
Little Broom .	Alfred N. G. Aitken, Esq., S.S.C., Edinburgh, Factor and Commissioner for Hugh Mackenzie, Esq., of Dundonnell.	W. R. T. Middleton, Solicitor, Dingwall.
Lochy . . .	Factor and Mandatory for the Trustees of the late Lord Abinger, Inverloch Castle, Fort-William.	Duncan Maclachlan, Solicitor, Fort-William.
Nairn . . .	Brodie of Brodie, Brodie Castle, Forres.	H. T. Donaldson, Solicitor, Nairn.
Ness . . .	Captain E. C. Ellice of Glengarry, Fort-Augustus.	Anderson & Shaw, Solicitors, Inverness.
Nith . . .	John Henderson, Esq., Solicitor, Dumfries.	C. Steuart Phyn, Procurator-Fiscal, Dumfries.
Sligachan, Broadford, & Portree (Skye)	The Hon. Godfrey MacDonald, Portree.	Kenneth Macrae, Sheriff-Clerk, Portree.
Snizort, Orley, Oze, and Drynock (Skye)	The Hon. Godfrey MacDonald, Portree.	Kenneth Macrae, Sheriff-Clerk, Portree.
Spey . . .	The Duke of Richmond and Gordon, Gordon Castle, Fochabers, per George Muirhead, Esq., Commissioner.	T. R. Mackenzie and A. F. Macdonald, Solicitors, Elgin.
Stinchar . .	The Earl of Stair, Lochinch, Wigtownshire.	Stair M'Harrie, Rephad, Stranraer.
Tay . . .	The Earl of Moray, Kinfauns Castle, Perth.	Condie, Mackenzie, & Co., Solicitors, Perth.
Thurso . . .	Peter Keith, Esq., Mandatory for Archibald H. M. Sinclair, Esq., of Ulbster.	David Keith-Murray, Solicitor, Thurso.
Torridon . .	C. R. Manners, Esq., C.E., 12 Lombard Street, Inverness.	Duncan Shaw, W.S.; 15 High Street, Inverness.
Tweed (Police Committee of the Commissioners)	Sir Richard John Waldie-Griffith, Bart., of Hendersyde Park, Kelso.	David W. B. Tait, W.S., Kelso.
Ugie . . .	Lieut-Col. Ferguson, of Pitfour, Mintlaw.	Robert Gray, Solicitor, Peterhead.
Wick . . .	Mrs. Duff Dunbar, of Hempriggs, Ackergill Tower, Wick.	D. W. Georgeson, Solicitor, Wick.
Ythan . . .	Earl of Errol, Slains Castle, Aberdeenshire.	D. M. A. Chalmers, Advocate, Aberdeen.

Note.—In addition to the districts specified above, the Duke of Sutherland is sole proprietor in the following river districts:—Helmsdale, Brora, and Fleet, on the east coast, Laxford, and Inchard, on the west coast, Halladale, Naver and Borgie, and Kinloch, on the north coast (under the charge of his factor, Mr. John Morrison, Sutherland Estate Office, Golspie); Mr. J. W. Stewart is sole proprietor in the Inver and Kirkaig districts (in charge of his factor, Mr. Murdo Kerr, Assynt Estate Office, Lochinver); Mr. W. E. Gilmour of Rosehall is sole proprietor of the rivers Dionard, Polla, Strathy, and Armadale, and part owner, with the Duke of Sutherland, of the River Hope district (Mr. A. Gunn, Overseer, Durness, by Lairg, acts for Mr. Gilmour); Lord Lovat has practically sole rights of fishing in the river Beaully (under the charge of his factor, Mr. J. T. Garrioch, Estate Office, Beaully); and the Countess of Cromarty is sole proprietrix of the district of the river Kannaird (under the charge of her factor, Mr. Alex. Taylor, Cromarty Estate Office, Kildary).



FISHERY BOARD FOR SCOTLAND—(continued).

SALMON FISHERIES, 1913.

- I. Salmon Research in 1913; Sea Netting Results. *With Chart.*
- II. Results of Salmon Marking in Rivers—ninth paper.
- III. The Spawning Mark on Salmon Scales: A Review. *With Plate.* (1914.) Price 9*d.*, post free 10*d.*

SALMON FISHERIES, 1914.

- I. Hatchery Results at Glen Etive.
- II. Further Notes on the percentage of previously-spawned Salmon. *With Plates.* (1914.) Price 9*d.*, post free 10*d.*
- III. Salmon Research in 1914; Sea Netting Results—second paper. *With 2 Charts.*
- IV. Study of the Salmon of the Moray Firth. (1915.) Price 1*s.*, post free 1*s.* 1½*d.*

SALMON FISHERIES, 1915.

- I. Salmon Research in 1915; Sea Netting Results—third paper. *With Chart and Diagram.* (1916.) Price 1*s.*, post free 1*s.* 1½*d.*

SCIENTIFIC INVESTIGATIONS, 1909.

- I. Report on Larval and later Stages of certain Decapod Crustacea. *Illustrated.* (1911.) Price 2*s.* 3*d.*, post free 2*s.* 4*d.*

SCIENTIFIC INVESTIGATIONS, 1910.

- I. Reproductive Organs of Sparus Centrodontus, Sparus Cantharus, Sebastes Marinus, and Sebastes Dactylopterus; and on the Ripe Eggs and Larvae of Sparus Centrodontus (?) and Sebastes Marinus. (1911.) Price 1*s.* 6*d.*, post free 1*s.* 7½*d.*
- II. Retardation of the Development of the Ova of the Herring. (1911.) Price 4*d.*, post free 4½*d.*

SCIENTIFIC INVESTIGATIONS, 1911.

- I. Notes on some small Crustacea from the "Goldseeker" Collections. (1912.) Price 9*d.*, post free 9½*d.*
- II. Report on Diseases and Abnormalities in Fishes. *With Plates.* (1913.) Price 2*s.*, post free 2*s.* 1½*d.*

SCIENTIFIC INVESTIGATIONS, 1912.

- I. Eggs of certain Skates (Raia). *With Plates.* (1913.) Price 6*d.*, post free 7*d.*
- II. Distribution of the Larvae of the Eel in Scottish Waters. (1913.) Price 4*d.*, post free 4½*d.*

SCIENTIFIC INVESTIGATIONS, 1913.

- I. Aberdeen Trawling Statistics, 1912. Price 3*s.* 6*d.*, post free 3*s.* 8½*d.*
- II. Deep Sea Currents of the North Sea, as ascertained by means of Drift Bottles. Second Report. *With Charts.* Price 1*s.* 6*d.*, post free 1*s.* 7½*d.*
- III. Spawning Areas of Sand-eels in the North Sea. *With Chart.* (1914.) Price 4*d.*, post free 4½*d.*

SCIENTIFIC INVESTIGATIONS, 1914.

- I. European Races of Herrings. A Short Résumé of the Researches into the, and the Method of Investigations. (1914.) Price 6*d.*, post free 6½*d.*
- II. Distribution of Plaice Eggs in the Northern North Sea. *With Text Figures and Chart.* Price 2*s.*, post free 2*s.* 1½*d.*

FISHERY BOARD FOR SCOTLAND—(continued)

SCIENTIFIC INVESTIGATIONS, 1916—(continued)

- III. Aberdeen Fishery Statistics, 1913. *With Charts.* (1915.) Price post free 3s. 2d.
- IV. Mean Sea Level and its Fluctuations. *With Charts.* (1915.) Price post free 1s. 1d.

FISHERY AND HYDROGRAPHICAL INVESTIGATIONS, 1908-1911.

FIFTH REPORT (NORTHERN AREA) ON FISHERY AND HYDROGRAPHICAL INVESTIGATIONS IN THE NORTH SEA AND ADJACENT WATERS, conducted in co-operation with the International Council for the Exploration of the Sea. 1908-1911.

I. Observations on the Plaice from the "Goldseeker" Experiments, and from the Statistics of the Aberdeen Market.

II. On the Distribution and Seasonal Abundance of Flatfishes (*Pleuronectidae*) in the North Sea, and the Fluctuations in their Abundance during the years 1901-1910.

III. On the Marking of Plaice and other Fish by the S.S. "Goldseeker" during the years 1904-1909.

IV. On the Egg-production of certain Fishes.

V. Statistics of Trawled Fish landed at Aberdeen during the years 1908-1911, showing the Place and Season of Capture.

VI. On Hydrographical Investigations in the North Sea and the Faeroe Channel during the years 1909-1910.

With charts and diagrams.

[Cd. 6950] of Session 1913. Price 14s., post free 14s. 7d.

FISHING BOAT MOTOR ENGINES.

Report on Fishing Boat Motor Engines exhibited, &c., at the North Sea Fisheries Exhibition, Yarmouth, Nov. 1910. (1911.) Price 2d., post free 2½d.

Do. at the Fisheries and Marine Motor Exhibition, Copenhagen, July and August 1912. (1912.) Price 1d., post free 1½d.

NORTH SEA FISHING INDUSTRY.

SCOTTISH DEPARTMENTAL COMMITTEE appointed to inquire into and report upon certain matters connected with the Development of the Scottish Sea Fishing Industry, after visiting the various Countries engaged in Fishing in the North Sea.

VOL. I. REPORT.—General survey of the conditions under which the Fisheries in the North Sea and adjacent seas are carried on, with maps; detailed surveys of the Norwegian, Swedish, Danish, German North Sea and Baltic, and Dutch Sea Fisheries; Fishery Administration, Scientific Research, and Educational Facilities for Fishermen in those Countries; the nature of the means of capture and the methods by which fishermen obtain the necessary capital to maintain the efficiency of their vessels and equipment; Summary of Recommendations; &c. With Appendices.

[Cd. 7221] of Session 1914. Price 3s. 1d., post free 3s. 6d.

VOL. II. MINUTES OF EVIDENCE.—Contains list of witnesses examined from 27th February 1912 to 16th May 1913, and the Evidence taken; also selected written Statements furnished by Witnesses. With Index to the Minutes of Evidence.

[Cd. 7462] of Session 1914. Price 1s. 10d., post free 2s. 3d.

