1937.

NEW ZEALAND.

MARINE DEPARTMENT.

ANNUAL REPORT FOR THE YEAR 1936-37.

Presented to both Houses of the General Assembly by Command of His Excellency.

Marine Department, Wellington, 14th September, 1937.

YOUR EXCELLENCY,—

I do myself the honour to transmit, for Your Excellency's information, the report of the Marine Department for the financial year ended the 31st March last.

I have, &c.,
P. FRASER,
Minister of Marine.

His Excellency the Governor-General of the
Dominion of New Zealand.

REPORT.

The SECRETARY, MARINE DEPARTMENT, to the Hon. the MINISTER OF MARINE.

Marine Department, Wellington, 20th August, 1937.

Sir,—

I have the honour to submit the annual report on the operations of the Marine Department for the financial year ended 31st March, 1937.

The past year has been marked by extension in the various branches of the Department, due partly to the improved shipping and general trade and partly to the progressive expansion into activities for which this Department holds the responsibility, such as fisheries inspection and research, &c. Increased expenditure, due mainly to the restoration of staff salaries, extension of activities, and cost of commodities, has been met with increased revenue in all branches, but the small departmental profit shown during the past four years has been reduced to a loss of approximately £1,500, after providing for depreciation and interest on capital of approximately £13,000 each. The restoration of salaries alone increased expenditure by about £6,000, so that the small loss, after allowing for the depreciation and interest charges, can be considered satisfactory.

The Department has progressively faced the necessity for an augmented staff; also extra repairs and maintenance-work held over during the period of financial depression have been carried out during the year. It is not a sound principle to postpone necessary maintenance-work in lean years to the succeeding years in that minor items become major repairs in the interim. There is no doubt therefore that the next few years' accounts of this Department will reflect abnormal maintenance expenditure, portion of which was a legitimate charge to previous years.

It is the duty of the Marine Department to survey ships for safety purposes in the manner and to the extent set out in the Shipping and Seamen Act and the regulations thereunder. Annual surveys are carried out on all ships except fishing-boats not exceeding 10 tons register; sailing ships not exceeding 5 tons register; motor pleasure launches of not more than 10 tons register, and farmers' oil-launches not exceeding 6 tons register. Shipowners as a whole maintain their vessels and equipment in a good and seaworthy condition, but where small coastal vessels are owned in single units or in small groups and when competition by sea and land is keen the tendency is to keep the vessels in service at all costs and to neglect the precautions against mishap which every ship should take. The Department has under consideration methods of keeping more closely in touch with vessels of this type with the object of ensuring that they are maintained in good condition, that all equipment is carried, and that they are navigated with due regard to their own safety and that of other vessels using the same waters. Close attention will also be paid to fishing-vessels, particularly to those under

10 tons measurement which are now exempt from survey, and for this purpose small amendments to the legislation will be necessary. The application of the tonnage limit, as is done with fishing-vessels to decide when a vessel comes under survey, works out unsatisfactorily in that owners will, if at all possible, keep their vessels below the limit in order to escape the inconvenience (and the small fee) resulting from the annual laying-up of the vessel for survey purposes. This has the undesirable result of perpetuating a fleet of smaller and, consequently, less seaworthy vessels than would otherwise be the case.

The main lights on the New Zealand coast follow the world-wide practice of using incandescent oil-burners, and to ensure that they function correctly the constant attendance of a keeper is necessary. The most desirable improvement in working-conditions that could be brought about in the light-house service is the elimination of this night-watching, and if this can be done without impairing the reliability of the lights, and this reliability must be maintained at any cost, a great advance will have been made. The use of electricity offers great possibilities, and when the new light at Baring Head was erected in 1935 an electric system was installed. There is automatic protection against the failure of a generating-unit, also automatic replacement of a burnt-out lamp, and the keeper is warned of any failure by an alarm automatically sounded in his house. This plant has worked satisfactorily for the past two years, and the Department is now satisfied that a light of this type—that is, lens fixed, lamp 1,000 watts, and characteristic obtained by make and break of circuit—can give the reliable service required at a lighthouse without the attention of a keeper on watch. Almost the whole of the major lights, however, have fixed lights, the flashing characteristic being obtained by revolution of the lenses. This introduces a complication in the introduction of an electric system, but it is thought that a practical solution is possible. The light at Cape Campbell is of this type, and plans have been prepared for its electrification and the order for plant placed. If the expected reliability can be obtained here the programme of general electrification of coastal lights will be put in hand.

It was intimated in last year's report that radio beacon equipment was being ordered from England for Baring Head and Cape Campbell lighthouses on specifications prepared by Post and Telegraph Engineers who had investigated systems in Great Britain. The installation of these two beacons is going on simultaneously with the electrification of the lights, power being generated on the spot by Diesel-engined generating-sets. There were unforeseen and unavoidable delays in the delivery of these equipments, but they have now arrived, and by the time this report is in print Baring Head beacon will be in operation under test. Provision is made on the estimates for a vote of £20,000 to continue the programme.

At the time of the submission of this report His Majesty's Surveying Ship "Endeavour" has arrived in New Zealand waters to undertake the resurvey of the New Zealand coast-line. Work was commenced without delay in the vicinity of Auckland in completion of charts commenced by His Majesty's Surveying Ship "Penguin" in 1905. The major portion of the cost of this work is generously provided by His Majesty's Government in Great Britain, the contribution of the New Zealand Government being the provision of coal, stores, and the cost of docking, refitting, &c.; also the provision of drawing-office accommodation at the Naval Base in Auckland.

Financial.

The following statement summarizes the revenue and expenditure of the Department for the past four years in comparison with the figures for 1922–23.

These figures exclude Westport Harbour, which is summarized separately later :—

Branch.	1922–23.	1933–34.	1934–35.	1935–36.	1936–37.
		Revenue.			
Shipping Branch—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Light dues	39,688 16 8	89,075 6 0	91,108 3 3	94,020 10 10	98,717 2 4
Engagement and discharge fees	3,179 11 0	1,712 19 6	1,711 13 6	1,793 8 6	2,140 13 0
Survey fees	3,095 9 0	3,542 5 9	3,500 12 0	3,625 5 10	3,731 0 5
Examination fees, &c.	395 12 6	229 12 6	194 14 10	202 3 0	235 2 6
Lighthouse tender—					
Freight, passage-money, &c.	1,785 0 7	719 4 0	4,464 17 0	642 3 8	1,105 1 6
Miscellaneous	1,289 0 4	1,370 19 10	1,305 7 9	1,416 6 10	1,806 3 10
Harbours—					
Pilotage, port charges, &c.	764 14 6	1,806 3 0	1,711 15 1	2,044 0 11	1,855 13 10
Foreshore revenue	1,126 14 1	2,192 8 1	1,963 13 11	2,203 17 10	2,474 2 6
Inspection of Machinery—					
Inspection fees, &c.	17,126 19 6	19,529 12 2	19,331 14 10	19,566 5 8	20,082 15 6
Examination fees, &c.	667 0 0	313 2 6	359 4 6	422 14 6	592 10 0
Fisheries—					
Sale of oysters	7,702 9 6	5,359 16 9	5,925 8 4	3,765 6 8	4,984 13 11
Fishing-boat license fees, &c.	324 9 6	613 7 6	513 17 1	555 8 9	612 13 11
Rental of toheroa-beds	10 0 0	320 1 9	316 0 0	313 0 0	376 0 0
Fresh-water Fisheries: Fees, &c.	..	..	..	..	1,066 15 9
Ross Sea revenue	..	1,000 7 6	600 0 0	500 0 0	100 0 0
Miscellaneous revenue	2,800 11 4	14 8 10	525 11 8	516 19 1	528 17 11
Totals	79,956 8 6	127,799 15 8	133,532 13 9	131,587 12 1	140,409 6 11

Branch.	1922–23.	1933–34.	1934–35.	1935–36.	1936–37.
		Expenditure.			
Head Office	9,612 2 8	7,788 11 9	8,612 5 5	9,193 9 7	10,067 13 2
Harbours	4,826 13 2	1,792 3 3	2,071 3 7	2,333 3 11	2,668 5 0
Lighthouses	49,532 14 2	38,306 13 11	40,190 0 8	43,928 18 8	48,849 4 11
Mercantile marine	15,150 17 11	18,868 11 0	19,629 5 3	20,256 11 9	23,129 2 0
Inspection of Machinery ..	27,015 0 0	14,279 19 6	15,130 5 5	15,863 12 0	18,191 10 1
Fisheries	9,580 7 1	8,948 11 2	10,191 16 10	9,785 3 4	12,319 8 5
Miscellaneous services ..	2,655 3 8	25 19 6	..	5 0 0	..
Grants and subsidies	1,510 0 0	550 0 0	550 0 0	250 0 0	250 0 0
Depreciation	8,156 0 10	13,303 8 10	13,140 4 9	12,961 3 2	12,960 7 5
	128,038 19 6	103,863 18 11	109,515 1 11	114,577 2 5	128,435 11 0
Interest on capital	15,716 7 3	20,634 1 0	14,331 17 2	13,917 8 0	13,483 19 9
Totals	143,755 6 9	124,497 19 11	123,846 19 1	128,494 10 5	141,919 10 9
	Deficit.	Surplus.	Surplus.	Surplus.	Deficit.
Financial result	63,798 18 3	3,301 15 9	9,685 14 8	3,093 1 8	1,510 3 10

A deficit of £1,510 3s. 10d., after making allowance for approximately £13,000 depreciation and interest charges of over £13,000, is most satisfactory. The total expenditure shows a rise from £102,187 last year to £116,046 for 1936–37, an increase of approximately £14,000, of which £6,000 is represented by the restoration of staff salaries. The income of the Department has also risen from £131,659 in 1935–36 to £140,181 in 1936–37, the principal increase being £4,700 in light dues from shipping—a reflection in the Department's accounts of the improved general trend of trade. Income from fisheries has also increased from £869 in 1935–36 to £2,056 in 1936–37, due to the making provision for 10 per cent. of fresh-water-fishing-license revenue to be paid to this Department. This extra fisheries income is to cover, to some extent, the activities of the Fresh Water Fisheries Research Section, which has now been accommodated in a laboratory in Wellington.

The restricted rock-oyster season in Auckland during the past year brought results comparable with previous years.

Harbours.

An important function of the Marine Department is the investigation, in conjunction with Treasury, of all applications for loans by Harbour Boards or harbour authorities under the Local Bodies' Loans Act. The financial and engineering aspects of each application receive close scrutiny from both national and local points of view. This is a necessary feature, particularly as public funds are being expended in capital works which may, or may not, have a purely local value and it is now noticeable that Harbour Boards are beginning to study their progress more from a national point of view than formerly. When it is considered that three minor adjoining ports in New Zealand have a collective public debt of over £2,000,000 without yet accomplishing the provision of a harbour capable of berthing foreign-going vessels, the need for close scrutiny of proposed works and co-operation of harbour authorities will be apparent.

Most of the larger New Zealand harbours are controlled by local Harbour Boards, the smaller ports being vested in County Councils, with the exception of Picton and Westport harbours, which are controlled by the Marine Department. The minor harbours, not vested in a local body, are also controlled by this Department.

Westport Harbour.—The chief improvement carried out during the year was the electrification of the harbour lights, and arrangements are now well in hand for the construction of an extension to the breakwater and repairs to the existing one. From a shipping point of view this harbour was maintained in an excellent manner during the past year, the depths both on the bar and in the berthing-area being well above normal.

The average of monthly mean depths on the bar at L.W.O.S.T. was 16 ft. 3 in., a considerable improvement on the 14 ft. 4 in. for the previous year, and 14 ft. for 1934–35. For April the mean depth on the bar was 14 ft. 3 in., and from then on a gradual increase was maintained until October, when a mean depth of 17 ft. 4 in., the highest for the year, was reached. The following table shows the number of days in each year during the past ten years on which the specified depths were maintained :—

Depth.	1927–28.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.	1936–37.
Over 14 ft. ..	..	..	..	..	..	..	365	365	366	365
,, 16 ft. ..	..	365	365	365	..	365	360	357	361	365
,, 18 ft. ..	366	350	363	340	366	350	279	353	355	356
,, 20 ft. ..	351	249	345	208	360	287	152	263	263	328
,, 22 ft. ..	217	168	276	43	252	144	42	81	90	257
,, 24 ft. ..	102	107	99	..	53	14	..	15	6	86
,, 26 ft. ..	17	26	11	..	10	..	..	..	..	7
,, 28 ft. ..	..	3	..	..	..	..	..	..	..	..

During the year the average working-depth on the bar at high water was 22 ft. 8 in. This is a substantial increase on 20 ft. 10 in. for the preceding comparative period and 20 ft. for 1934–35.

The average working-depth in the river at high water was 24 ft. 6 in., as against 23 ft. 6 in. for 1935–36 and 24 ft. for 1934–35. This increase in depth followed the general trend of improved bar conditions for the first half of the year, but whereas definite shoaling occurred on the bars, the improvement in the fairway was maintained. A factor of definite effect in this connection, however, was that 216,434 cubic yards of material was lifted during the year by the "Eileen Ward" from the lower river fairway—*i.e.*, from the crane wharf to the bar—as against 97, 277 for the preceding year, whilst the amount lifted during 1934–35 was 134,939 cubic yards.

Dredging operations were confined to the suction dredge "Eileen Ward," the bucket dredge "Maui" and the suction dredge "Rubi Seddon" still remaining out of commission.

The "Eileen Ward" worked on 158 days and dredged a total of 535,105 cubic yards, of which 267,687 were taken from the bar, 216,434 from the lower river, 38,073 from the berthages, and 12,911 from the floating basin.

The dredging was carried out at a cost of 4·83d. per cubic yard, which is less than the unit cost per yard for the previous two years.

The favourable cost of the dredging was accounted for by the fact that the dredger was not docked during the year, in which case there would have been increased costs and smaller output.

The "Eileen Ward" was well maintained throughout the year, and a large amount of reconditioning was carried out during the period the vessel was under survey and overhaul.

A comparison of the shipping entering the port during this year as against the previous two years shows very little difference, and amounted to 257,506 tons.

For the twelve months under review eighteen large overseas vessels worked the port, as against sixteen for the previous period and fourteen for 1934–35.

Rain fell on 229 days, an exceptionally large number, and 90·61 in. were recorded on the harbour gauge. This was the wettest year since 1931–32, when 114·55 in. fell.

The reticulation of the main beacons, signal-station, and the two signalmen's cottages was put in hand during the year, the work being completed shortly after the close of the period. This work involved erection of 3½ miles of transmission-line, nearly three of which is high-tension line.

All plant and buildings have been kept in good repair.

No major construction-work was carried out during the year, but repairs to the breakwater and river-protection work have been authorized. Preliminary work in the clearing of the Cape Foulwind line for the resumption of quarrying work and repairs to the Organ's Island Bridge have been put in hand.

The following statement shows the coal trade, shipping, and financial statistics of Westport Harbour for each year since the Department has had control of the port:—

Year.	Net Tonnage of Shipping entered.	Tonnage of Coal shipped.	Expenditure.	Revenue.	Financial Result.	
			£ s. d.	£ s. d.		£ s. d.
1921–22 ..	273,706	480,873	63,950 1 10	25,836 19 3	Deficit	38,113 2 7
1922–23 ..	332,401	573,487	50,738 17 5	38,700 8 1	,,	12,038 9 4
1923–24 ..	275,762	442,070	46,619 1 11	42,285 7 4	,,	4,333 14 7
1924–25 ..	334,827	556,669	44,666 14 0	50,378 11 0	Surplus	5,711 17 0
1925–26 ..	386,669	552,949	51,909 4 11	57,539 12 11	,,	5,630 8 0
1926–27 ..	459,670	637,165	52,769 12 6	62,976 13 10	,,	10,207 1 4
1927–28 ..	466,021	623,256	65,828 1 7	65,909 8 1	,,	81 6 6
1928–29 ..	458,712	604,778	68,871 13 0	64,214 5 6	Deficit	4,657 7 6
1929–30 ..	479,623	625,835	64,877 10 5	66,274 17 3	Surplus	1,397 6 10
1930–31 ..	352,228	513,503	53,436 16 9	53,013 2 11	Deficit	423 13 10
1931–32 ..	234,936	336,873	46,803 2 4	34,602 12 9	,,	12,200 9 7
1932–33 ..	223,936	282,163	40,974 8 9	30,516 6 1	,,	10,458 2 8
1933–34 ..	240,132	280,080	39,783 7 4	30,886 13 9	,,	8,896 13 7
1934–35 ..	253,041	291,449	39,011 8 8	30,773 2 5	,,	8,238 6 3
1935–36 ..	260,111	295,067	41,480 16 9	30,891 0 7	,,	10,589 16 2
1936–37 ..	257,506	345,507	41,785 2 7	34,300 11 1	,,	7,484 11 6

The finances show an improvement of £3,000 over the previous year's figures in spite of increased expenditure due to restoration of salaries and wages and increased coal costs. It is interesting to note that the financial statement this year is the best presented for a six-year period, and the more satisfactory position is accounted for by increased coal shipments. The revenue at this port is sufficient to meet normal working-expenses, interest on loans, and interest on advances from the Consolidated Fund, but is still unable to provide for sinking fund.

The bunkering of vessels at Westport is encouraged as far as possible by reduced port dues on the vessels calling for bunkering purposes only, and this portion of the harbour trade continues to show

an improvement, as shown by the following summary of vessels which called at Westport for bunkering during the past twelve years :—

Year.	Number of Vessels.	Quantity of Bunker Coal taken.
		Tons.
1925–26	20	..
1926–27	44	..
1927–28	51	54,993
1928–29	54	54,083
1929–30	57	61,546
1930–31	24	25,969
1931–32	10	7,637
1932–33	7	6,872
1933–34	14	12,703
1934–35	21	16,376
1935–36	34	20,647
1936–37	23	22,039

Little Wanganui Harbour.—This port was maintained in a satisfactory working-condition through the year.

The beacon marking the rock edge at the south side of the entrance was re-erected. This beacon is an iron tripod bolted to concrete footings on the rock. It had previously been wrecked by heavy weather.

A new row-boat was supplied for the use of the Port Pilot, the old one having seen its day.

The matter of extending downstream the port wharf so as to permit of greater facility in handling and loading timber was investigated, and a preliminary proposal approved. Detail plans have now been prepared.

Tokomaru Bay Wharf.—Proposals for the reconstruction of wharf and approach viaduct submitted by the Tokomaru Bay Harbour Board have been reported on for the Local Government Loans Board.

Waikokopu Harbour.—The operations at this harbour have been carried out by the Wairoa Harbour Board on behalf of the Public Works Department.

During the year eighty-six coastal vessels worked the port and handled 5,932 tons of general cargo and 392,226 square feet of timber. In addition, seven oversea vessels worked the port and lifted 1,350 quarters of beef, 50,678 carcasses of lamb, 1,261 carcasses of pork, 2,417 packages of sundries, 670 bales of wool, 81 bags of hides, 29 casks of tallow, 500 cases of jellied veal, and 104 tons of general cargo.

Exports are well below those of the previous year on account of the difficulty experienced by the freezing companies in obtaining shipping space.

Necessary repairs have been carried out to wharf and buildings. Soundings show no appreciable change in depth.

New Plymouth Harbour.—A report has been submitted on a proposed loan for harbour-works.

Whangapara Wharf, Great Barrier Island.—Plans, &c., in connection with the wharf have been approved and a contract let for same. The contractor has ordered materials, but so far none has come to hand and no work has been done on the site.

Elmslie Bay Wharf, French Pass.—The new wharf in Australian hardwood with a tee 75 ft. long by 32 ft. wide, with 132 ft. of 8 ft. wide approach spans, has been completed, together with the erection of a shed for storage and two sets of launch steps. The formation of track approaches to the wharf has also been completed.

Torea Wharf, Queen Charlotte Sound.—Repairs of a minor nature have been carried out.

Portage Wharf, Kenepuru Sound.—General repairs have been carried out, the main items being the resheathing of the piles and renewal of major portion of the decking.

Onahau Bay Wharf, Queen Charlotte Sound.—An addition to this wharf has been made by the erection of a tee 15 ft. by 5 ft. on 53 lb. of steel-rail piles.

Waitaria Bay Wharf, Kenepuru Sound.—Extensive repairs have been completed, including the replacement of single caps with double caps, the renewal of practically all the decking, and renewal and repair of handrail.

Thames Harbour.—A small channel was previously dredged out over a distance of 226 ft. beyond the edge of the wharf. Dredging operations this year were extended another 334 ft., and the channel was excavated to a width of 50 ft., and a depth of 7 ft. at low water. Operations ceased when the dredger was submerged during the stormy weather, and has not been resumed. The total work carried out is—Berthage, 277 ft. long by 60 ft. wide by 9 ft. deep at low water; channel beyond the wharf, 660 ft. long by 50 ft. wide by 7 ft. deep at low water.

Okarito Harbour.—The Okarito Harbour Co. has not carried out any further work during the year, but has been watching developments at the entrance.

Continued northerly weather caused considerable erosion of the beach during the greater part of the year, but during the past three to four weeks southerly winds have caused a considerable building-up south of the present outlet.

During the year the outlet channel has moved a considerable distance southwards and is now approximately midway between its position in 1934 and the north training wall.

Jacksons Bay Harbour.—During the year a survey of the harbour-site has been carried out and a contour plan of the bottom prepared for the purpose of locating a wharf-site.

Lighthouses.

The work of tendering the lighthouses has been satisfactorily carried out by the Government steamer "Matai," and, where possible to do so, steps were taken to provide many of the light-stations with more frequent mail-services.

The provision of two additional automatic lights was commenced, and these will be in operation before this report appears in print. One is on Pearl Island at the entrance to Port Pegassus, and the other on St. Anne's Point at the entrance to Milford Sound.

During the year arrangements were made to reduce the hours of duty of keepers to approximately forty hours per week by prescribing the hours of day duty to two hours per day for five days per week. At stations manned by two keepers only, the annual holiday leave was increased to six weeks to offset the extra hours of duty over forty per week.

Six keepers were transferred to other branches of the Public Service, one resigned, while the services of two probationary keepers were dispensed with. Seven new keepers were appointed to fill existing vacancies.

Considering the age of the wooden buildings at the lighthouses, many of which are over seventy years old, they are in a wonderful state of preservation and reflect credit on those whose duty it has been to attend to them in the past. However, in a few instances, notably at Centre Island and Portland Island, new dwellings are required, and it is hoped to proceed with the erection of them in the coming year. The curtailment of expenditure on repairs during recent years will, for some little time, be reflected in an increased annual expenditure on repair work.

The following are the more important works carried out or put in hand during the past year:—

Godley Head Fog Signal.—The fog-signal machinery has been overhauled and new parts supplied where necessary. The signal was dismantled and cleaned and new parts made and fitted.

Akaroa Lighthouse.—A new steel staircase for the landing-stage has been designed and is now in the course of manufacture.

Tiri Tiri Fog Signal Station.—New handrailing has been fitted in the engine-room. A full-way 6 in. valve has been incorporated in the main air-pipe line to the diaphone in place of the original 6 in. screw-down valve. A small hillock of earthwork has been excavated away from the site immediately under and extending outwards from the sound-projecting horn to improve the range of the signals.

Milford Sound Lighthouse.—A new reinforced-concrete lighthouse has been erected on Anne Point, Milford Sound, complete with steel tower and fourth order flashing light in 300 m.m. dioptric lens. A crane has been erected at the landing and the bush cleared around the light. A new track has also been formed from the landing-point to the lighthouse.

Pearl Island Lighthouse.—A new flashing light in 140 m.m. dioptric lens has been erected on a steel tower at Pearl Island, Port Pegassus, Stewart Island.

Akers Point Light.—Action has been taken to procure a substitute flasher for the lighthouse at Akers Point.

Ponui, Moko Hinau, Cuvier Island, North Cape, and Cape Maria Van Diemen Lighthouses.—In order to improve the transport conditions on the above stations the Department has arranged for the manufacture and delivery of power-winches to take the place of the present hand-operated outfits. The foundations and anchorage for the cable-way at Chicken Island has been put in, and it is hoped to have all the winches installed during the coming year.

French Pass Beacon.—Considerable damage was done to this beacon when it was struck by one of the Anchor Shipping Co.'s steamers. A ring of reinforced concrete has been placed round the base of the beacon, and attention to a few minor details will complete the work. This work was hampered, as it could only be carried on during some spring tides.

Kahurangi Point Lighthouse.—On account of sea-erosion during spring tides the lightkeeper's residence and store were endangered, and it was found necessary to remove the building 120 ft. to a safer position.

Baring Head Lighthouse.—The necessary equipment for a modern radio beacon has been ordered. Two 75 ft. steel masts have been fabricated and erected, and it is anticipated that by the time this report is in print the radio beacon will be in operation. The beacon will be operated on the existing Diesel power-supply, but a new 250 amp. 110 volt battery has been installed in place of the smaller one originally provided. This new battery will have ample capacity to meet the existing services as well as the additional load. During fog the beacon will transmit signals every two minutes in every six minutes' interval. In clear weather transmission will be made during the first and second six minutes' interval of each half-hour for the purpose of affording ships an opportunity of testing their direction-finders and the accuracy of the bearings obtained. This beacon, as well as the others to be erected on the coast, would be classified as W/T fog signals to distinguish them from beacons which operated at stated times irrespective of weather conditions or only on request.

Cape Maria Van Diemen Lighthouse.—The old type W/T fog signal at Cape Maria Van Diemen is giving a considerable amount of trouble and has reached the stage when it is unreliable if operated for a lengthy period of fog. Pending the replacement with a modern type beacon, it may be necessary to make the signals available only on request.

Cape Campbell Lighthouse.—It is now proposed to electrify this light and also to provide a radio-beacon service. The apparatus has arrived in New Zealand and duplicate units of 18 kw. Diesel engined generating-sets are expected shortly. Plans have been prepared for the power-house and radio quarters. Arrangements are being made to ship the necessary material to Cape Campbell, and the erection of power-house, aerial, generating-sets, &c., will be carried out by the Public Works staff, and

the aerial and radio beacon by the Post and Telegraph Department. The necessary apparatus for converting this light from an incandescent oil-burning one to electric operation has been ordered, and the conversion should be completed during the coming year. The generating-sets, the revolution of the lens to give a flashing characteristic, and the emergency lamp-changer will be automatically controlled electrically and will function with a minimum of attention.

Stephens Island Lighthouse.—This light is also to be converted to an electric one in an exactly similar manner to Cape Campbell and a direction-finder installed. The generating-sets have been ordered, and arrangements are in hand for the erection of masts, aerial, and power-house.

Harbour Board Legislation.

The following legislation affecting Harbour Boards was passed during the year, the various Bills being investigated and approved by the Marine Department before presentation to Parliament:—

Auckland Harbour Board Empowering Act, 1936, amends the *Auckland Harbour Board Empowering Act, 1926*, to provide for the inclusion of the undermentioned works as from the operation of the latter Act, viz: (1) the construction of a new wharf west of Princes, with sheds and equipment; (2) the purchase of cranes and equipment for wharves; (3) the placing of roofing over roadway Princes Wharf; and (4) dredging.

Bay of Islands Harbour Amendment Act, 1936, amended the Bay of Islands Harbour Act, 1920, to provide that the limits of the port may be defined under section 6 of the Harbours Act, 1923.

Motueka Harbour Board Amendment Act, 1936, enabled the Board to increase the amount of its borrowing-powers to £33,000.

Napier Harbour Board and Napier Borough Enabling Act, 1936, authorizes the Board to sell portions of Ahuriri Lagoon Reserve to the Council for recreation purposes and vests portion of Battery Road in the Board.

New Plymouth Borough Land Exchange and Empowering Act, 1936, effected an exchange of land between the Borough and the New Plymouth Harbour Board.

Thames Harbour Act, 1936, dissolved the Thames Harbour Board and transferred its assets and liabilities to the Thames Borough Council.

Wellington City Reclamation and Empowering Act, 1936, empowers the Council to reclaim portions of Lyall Bay for the purposes of a street and aerodrome.

In addition to the above the following clauses appeared in the Local Legislation Act, 1936:—

Section 39 authorizes Auckland Harbour Board to borrow moneys in respect of purchase of tug.

Section 40 authorizes Auckland Harbour Board to contribute towards a Trust Fund for the purpose of endowing the School of Engineering at the Auckland University College.

Section 41 validates expenditure incurred by the Auckland Harbour Board in connection with the visit of the Australian Squadron.

Section 42 authorizes Auckland Harbour Board to make a grant to the Wilson Home Endowment Fund.

Section 43 makes provision with respect to raising of a loan of £5,400 by Wanganui Harbour Board.

Section 44 repeals section 28 of the Timaru Harbour Board Act, 1876, which required harbour-improvement schemes to be submitted to a Commission.

Section 56 authorizes Wellington Harbour Board, *inter alia*, to contribute to Wellington Branch of the New Zealand Free Ambulance Transport Service Incorporated.

Section 59 authorizes Wellington Harbour Board to grant lease of land to Wellington City Council.

Section 63 authorizes Napier Borough Council to refund portion of overdue rates and penalties to the Napier Harbour Board.

Section 65 authorizes the Thames Harbour Board to lease an area of land for purposes of an aerodrome.

Section 20 of the Reserves and other Lands Disposal Act, 1936, validates an agreement respecting the reclamation at the mouth of the Hutt River.

The Statutes Amendment Act, 1936, section 31, amended section 248 of the Harbours Act, 1923, to permit a worker injured in the course of his employment to bring an action within six (6) months after the cause of action arose.

New and entended harbour-limits for the Bay of Islands Harbour were defined on the 1st December, 1936.

Shipping Laws.

The following general legislation was enacted during the past year:—

The Shipping and Seamen Amendment Act, 1936, provided for the issue of Certificates for Engineers of Coastal Motor Vessels and the making of regulations therefor. It also provided for the manning of motor-ships by engineers and deals with the manning-scale of fishing-vessels.

Section 64 of the Shipping and Seamen Act, 1908, was modified to permit of a seaman excepting any claim from a release signed by him.

Section 202 was amended to remove any doubt that authority existed to charge dues on deck cargo.

The Protection of British Shipping Act, 1936, was passed to protect British shipping against competition from foreign shipping in the carriage of passengers and goods between New Zealand and Commonwealth of Australia if such shipping is by the laws of its own country protected against competition from British shipping in the carriage of passengers or goods between ports or territories of that country. The Act applies only with respect to ships of a foreign country to which it is applied by Order in Council under the circumstances set out in section 3 of the Act.

Control of Foreshores and Wharves.

An important function of the Marine Department is the efficient control of foreshores not already vested in local authorities and the approval of all plans for wharves or any works contemplated by harbour and other local authorities. Applications for foreshore licences and plans for harbour-works are submitted to this Department, and when approved are the subject of Orders in Council.

The following return shows the Orders in Council which have been issued during the year ended 31st March, 1937 :—

Date of Order.	Purpose of Order.
1936.	
1st April	Approving plan (M.D. 7417)—Extension Whakatane Wharf.
29th ,, ...	Approving plan (M.D. 7410)—Slipway, Bluff Harbour ; Bluff Yacht Club.
29th ,, ...	Approving plan (M.D. 7418)—Boatshed and skid, Evans Bay, Wellington Harbour ; W. F. Coleman.
29th ,, ...	Approving plan (M.D. 7426)—No. 2 Jetty, Lyttelton Harbour (widening).
6th May	Approving plan (M.D. 7423)—Extension Oyster Wharf, Bluff Harbour ; Bluff Harbour Board.
6th ,, ...	Approving plan (M.D. 7434)—Punt Ferry, Mercer, Waikato River ; Roose Shipping Co., Ltd.
6th ,, ...	Approving plan (M.D. 7409)—Widening Bowen Pier, Port Chalmers ; Otago Harbour Board.
6th ,, ...	Approving plan (P.W.D. 91723)—Wharf, Motutapu Island, Auckland Harbour ; Defence Department.
6th ,, ...	Approving plan (M.D. 7435)—Reconstruction Birch Street Wharf, Dunedin ; Otago Harbour Board.
6th ,, ...	Licensing G. G. Hayter and C. Hayter occupy foreshore, Port Hardy, D'Urville Island (wharf).
6th ,, ...	Revoking Order in Council (27th March, 1923) licensing Ostend–Onetangi Wharves, Ltd., occupy foreshore Onetangi, Waiheke Island (wharf).
13th ,, ...	Authorizing Auckland Harbour Board reclaim land, Freeman's Bay.
13th ,, ...	Approving plan (M.D. 7431)—Reclamation, Freeman's Bay ; Auckland Harbour Board.
13th ,, ...	Licensing Northern Wairoa Co-op. Dairy Co., Ltd., occupy foreshore, Mangawhare, Northern Wairoa River (wharf and coal-bins).
13th ,, ...	Revoking Order in Council (8th June, 1922) licensing W. Duncan occupy foreshore, Wade River (wharf).
13th ,, ...	Revoking Order in Council (18th June, 1923) licensing Mrs. E. L. Smith occupy foreshore, Wade River (wharf).
20th ,, ...	Licensing W. H. Saies occupy foreshore, Totara North, Whangaroa Harbour (store).
12th June	Authorizing Tauranga Harbour Board reclaim land in Tauranga Harbour.
12th ,, ...	Approving plan (M.D. 7442)—Reclamation, Tauranga Harbour.
16th ,, ...	Revoking Order in Council (16th July, 1928) licensing John Harrison occupy foreshore, Whangape Harbour (wharf).
16th ,, ...	Revoking Order in Council (8th June, 1925) licensing trustees of estate of H. B. Riley occupy foreshore, Collingwood Harbour (wharf).
16th ,, ...	Approving plan (M.D. 7440)—Training Wharf, Calliope Dock, Auckland Harbour.
16th ,, ...	Approving plan (7443)—Dolphins, Off Launch Jetty, Mount Maunganui, Tauranga Harbour.
1st July	Licensing A. C. Moore occupy foreshore, Rangiora, Hokianga Harbour (sawmill and timber-yard).
1st ,, ...	Approving plan (M.D. 7450)—Groynes, South Beach, Blaketown, Greymouth ; Greymouth Harbour Board.
1st ,, ...	Approving plan (M.D. 7447)—Jetty, Railway Reserve, Picton ; Morgan and Olsson.
22nd ,, ...	Licensing Pasco Bros., Ltd., to use and occupy part of foreshore at Half-moon Bay as a site for a wharf.
22nd ,, ...	Revoking Order in Council of 18th June, 1934, licensing Paturau Valley Estate, Ltd., to occupy foreshore at Mangarakau River.
22nd ,, ...	Approving plan (M.D. 7449)—New Mangonui Wharf.
22nd ,, ...	Approving plan (M.D. 7463)—Dolphin at Bluff Harbour Board's Slipway, Bluff Harbour.
22nd ,, ...	Approving plan (M.D. 7452)—Sewage outfall, &c., Chelsea Bay, Auckland Harbour ; Birkenhead Borough Council.
5th August	Amending Order in Council (13th May, 1930) licensing Mrs. E. S. Mullions occupy foreshore, Whangaroa Harbour (boatshed, &c.).
5th ,, ...	Approving plan (M.D. 7470)—Stop-bank, Whangaroa Harbour.
5th ,, ...	Approving plan (M.D. 7453)—Workshop and shipyard, St. Lawrence, Admiralty Bay ; A. S. Turner and Sons.
5th ,, ...	Licensing A. S. Turner and Sons occupy foreshore, St. Lawrence, Admiralty Bay (workshop and shipyard).

CONTROL OF FORESHORES AND WHARVES—*continued.*

Date of Order.	Purpose of Order.
1936.	
12th August	Approving plans: Structures in Auckland Harbour— (1) M.D. 7458—Boatshed, Ponsonby; J. P. Hastings. (2) M.D. 7459—Boatshed, Stanley Point; P. H. Hughes. (3) M.D. 7460—Boatskid, Northcote; J. Reid. (4) M.D. 7461—Boatskid, Stanley Point; G. Winstone. (5) M.D. 7462—Boatshed, Ponsonby; A. G. Frankham.
19th ,, ...	Licensing Mangonui County Council occupy foreshore, Mangonui Harbour (wharf).
19th ,, ...	Approving plan (M.D. 7471)—Training Wharf, Calliope Dock, Auckland Harbour.
2nd September	Approving plan (M.D. 7479)—Boatshed, Ross Point, Otago Harbour; W. A. Johnston.
9th ,, ...	Licensing S. Bassett occupy foreshore, Wairoa River, Westhaven (wharf).
9th ,, ...	Approving plan (M.D. 7477)—Workshop, Tauranga Harbour; Tauranga Harbour Board.
16th ,, ...	Prescribing dues for wharf, Whangaroa Harbour; Mrs. E. S. Moreton.
23rd ,, ...	Amending Order in Council (27th May, 1931) vesting in Hobson County Council management of certain wharves.
23rd ,, ...	Licensing Tangowahine Sawmill, Ltd., occupy foreshore, Tangowahine, Northern Wairoa River, Kaipara Harbour (wharf).
30th ,, ...	Approving plan (M.D. 7490)—Electric transmission line; Northern Wairoa Bridge, Dargaville.
30th ,, ...	Authorizing Onehunga Borough Council reclaim land Manukau Harbour (addition to Waikaraka Cemetery).
7th October	Approving plan (M.D. 7487)—Additions to Kerikeri Wharf, Bay of Islands; Bay of Islands Harbour Board.
7th ,, ...	Approving plan (M.D. 7493)—Boatshed and slipway, Vauxhall, Otago Harbour; Otago Power Boat Club.
7th ,, ...	Approving plan (M.D. 7500)—Slipway, Dunedin, Otago Harbour Royal Naval Volunteer Reserve.
14th ,, ...	Licensing W. G. H. T. Freese occupy foreshore, Rawene, Hokianga Harbour (office).
14th ,, ...	Approving plan (M.D. 7503)—Office on foreshore, Rawene, Hokianga Harbour; W. G. H. T. Freese.
22nd ,, ...	Licensing Australian Glass Manufacturers Co., Ltd., occupy foreshore, Parengarenga Harbour (wharf site).
22nd ,, ...	Approving plan (M.D. 7499)—Wharf, Parengarenga; Australian Glass Manufacturers Co., Ltd.
22nd ,, ...	Licensing William Wilson occupy foreshore, Half-moon Bay, Stewart Island (boatslip).
22nd ,, ...	Approving plan (M.D. 7488)—Bridge over Makarau River, Kaipara Harbour; Waitemata County Council.
28th ,, ...	Approving plan (M.D. 7502)—Slipway (near Lagoon Dock), Greymouth Harbour; Greymouth Regatta Club.
4th November	Approving plan (M.D. 7512)—Encroachment of road embankment, Mercer, Waikato River; New Zealand Railways.
4th ,, ...	Approving plan (M.D. 7456)—Dolphins, Helensville, Kaipara Harbour; Charles Staniland West.
4th ,, ...	Licensing Charles Staniland West to occupy foreshore at Helensville, Kaipara Harbour (site for dolphins).
4th ,, ...	Approving plan (M.D. 7515)—Jetty at Purerua, Bay of Islands; Education Department.
4th ,, ...	Prescribing dues and rates to be charged for use of Grove Wharf, Queen Charlotte Sound; Marlborough County Council.
11th ,, ...	Licensing E. R. Lane to occupy foreshore at Picton, Queen Charlotte Sound (boatslip).
11th ,, ...	Revoking license of Frederick Charles Hargrave to occupy foreshore at Rawene, Hokianga Harbour (factory and shop site).
11th ,, ...	Approving plan (M.D. 7508)—Men's convenience, Dargaville; Dargaville Borough Council.
11th ,, ...	Approving plan (M.D. 7508)—Boatshed and slipway, Vauxhall, Otago Harbour; A. D. Reid.
18th ,, ...	Licensing Northern Wairoa Co-op. Dairy Co., Ltd., to occupy foreshore at Mangarama, Northern Wairoa River (wharf-site).
30th ,, ...	Approving plan (M.D. 7518)—Retaining-wall, reclamation, viaduct, and timber wharf, Tokomaru Bay; Tokomaru Bay Harbour Board.
30th ,, ...	Approving plan (M.D. 7491)—Reclamation, Picton Harbour; Picton Borough Council.
30th ,, ...	Authorizing Picton Borough Council to reclaim land, Picton Harbour.

CONTROL OF FORESHORES AND WHARVES—*continued.*

Date of Order.	Purpose of Order.
1936.	
1st December	Approving warrant defining limits of Harbour of Bay of Islands.
9th ,, ...	Approving plan (M.D. 7523)—Boatshed and slipway, Vauxhall, Otago Harbour; K. K. McCulloch.
9th ,, ...	Approving plan (M.D. 7522)—Boatshed and slipway, Vauxhall, Otago Harbour; J. C. McBride.
15th ,, ...	Approving warrant defining limits of Harbour of French Pass.
16th ,, ...	Licensing William Buchanan to occupy foreshore in Okuru River (jetty).
16th ,, ...	Approving plan (M.D. 7517)—Jetty, Okuru River; William Buchanan.
16th ,, ...	Approving plan (M.D. 7527)—Reclamation, St, Mary's Bay, Auckland Harbour; Auckland City Council.
16th ,, ...	Vesting French Pass Road Board with powers of a Harbour Board; Harbour of French Pass.
16th ,, ...	Authorizing Reclamation, St. Mary's Bay, Auckland Harbour; Auckland City Council.
23rd ,, ...	Approving plan (M.D. 7530)—Additional bay to Oyster Wharf, Bluff Harbour; Bluff Harbour Board.
23rd ,, ...	Licensing Hokianga Co-op. Dairy Co., Ltd., to occupy foreshore at Motukaraka, Hokianga Harbour (wharf site).
1937.	
21st January	Vesting Te Hapua Wharf, Parengarenga Harbour, in trustees, and prescribing dues.
21st ,, ...	Approving plan (M.D. 7516)—Dams and stop-banks, Okarito Harbour; Okarito Harbour Co., Ltd.
21st ,, ...	Licensing Heathcote County Council occupy foreshore, Sumner, Heathcote Estuary (Mount Pleasant Jetty).
21st ,, ...	Revoking Order in Council (3rd November, 1920) licensing T. L. Millar occupy foreshore Waima River, Hokianga Harbour (reclamation).
21st ,, ...	Licensing O'Brien Bros. occupy foreshore, Omiha Bay, Waiheke Island (wharf).
21st ,, ...	Approving plan (M.D. 7532)—Slipway, Port Nelson; Nalder and Biddle.
21st ,, ...	Approving plan (M.D. 7536)—Boatshed, Manukau Harbour; E. McDonald.
27th ,, ...	Approving plan (M.D. 7540)—Reclamation of site for oil-tank, Calliope Dock, Auckland Harbour; Defence Department.
3rd February	Approving plan (M.D. 7545)—Additional bay, Oyster Wharf, Bluff Harbour.
3rd ,, ...	Revoking license of Waitemata County Council over Taiotea Wharf.
3rd ,, ...	Licensing Hauraki Plains County Council occupy foreshore (Waitakaruru Stream and Piako River) and wharves at Waitakaruru, Pipiroa, Kopurahi, Hopai, Horahia, Ngatea, Puhanga, Kerepeehi, Kaihere, Mangawhero, and Patetonga.
3rd ,, ...	Approving plan (M.D. 7535)—Wharves vested in Hauraki Plains County Council.
3rd ,, ...	Licensing R. Forrester occupy foreshore, Tokatoka, Kaipara Harbour (barge landing).
3rd ,, ...	Approving plan (M.D. 7521)—Barge landing, Tokatoka, Northern Wairoa River, Kaipara Harbour; R. Forrester.
3rd ,, ...	Vesting in Akitio County Council foreshore at Akitio.
15th ,, ...	Fixing harbour light dues; Nelson Harbour Board.
15th ,, ...	Approving plan (M.D. 7537)—Bridge over Waiarohia Stream, Cameron Street, Whangarei; Whangarei Borough Council.
15th ,, ...	Approving plan (M.D. 7542)—Landing, Ponsonby, Auckland Harbour; Auckland Harbour Board.
5th March	Approving plan (M.D. 7552)—Clubhouse, Saint Mary's Bay, Ponsonby; Ponsonby Cruising Club, Auckland.
18th ,, ...	Revoking old scale of wharfage dues, Waitangi, Chatham Islands; Chatham Islands County Council.
31st ,, ...	Vesting management of Metal Landings, Northern Wairoa River, Kaipara Harbour, in Hobson County Council.
31st ,, ...	Revoking license of Thomas Bragg to occupy foreshore, Bragg's Bay, Stewart Island.
31st ,, ...	Licensing T. M. Lane and Sons, Ltd., to occupy foreshore, Whangaroa Harbour (sawmill).
31st ,, ...	Licensing Fish Freezers, Ltd., to occupy foreshore, Half-moon Bay, Stewart Island (freezing-works).
31st ,, ...	Revoking license of Mrs. Ethel Grace Burns to occupy foreshore, Rotokakahi River, Whangape Harbour.

Adjustment and Inspection of Ships' Compasses.

The regulations for the adjustment of compasses have been carefully administered, and compasses continue to be maintained in a good state of efficiency. The results of the investigation of adjustments show that the work of Compass Inspectors and Adjusters has been carefully performed. In a few cases it has been necessary to exercise extra supervision on account of the changing magnetic force in the vessels.

Admiralty Charts.

The Department, acting as sub-agent for J. D. Potter and Co., London, maintains a stock of Admiralty charts at Head Office and at the Mercantile Marine Offices in Auckland, Wellington, Lyttelton, and Dunedin. The stock includes all charts of the Dominion, and also charts of a considerable portion of the globe. The latter practically includes all ports where non-regular traders are likely to go after discharging in the Dominion.

The charts, after their receipt, are periodically corrected to date and, to ensure that purchasers receive information issued subsequent to the date of correction, a list of Notices to Mariners affecting the charts is maintained at each office for inspection. This procedure has been in operation in the Dominion for some years, and is now a condition in agreements between sub-agents and Messrs. J. D. Potter and Co.

The sales of charts are increasing progressively, and this year reached a total of 976, of which about 32 per cent. were of charts outside the Dominion.

Examination of Masters and Mates.

During the year examinations were held in Auckland and Wellington and were conducted in a satisfactory manner, those for foreign-going certificates being in accordance with the Imperial Board of Trade requirements.

Seventy-two examinations were held during the year. The percentages for foreign-going and home-trade certificates are as follows: Foreign-going—full pass, 47·8; partial pass, 39·1; failure, 13·1. Home-trade—full pass, 71·4; partial pass, 14·3; failure, 14·3. One candidate passed for fore and aft sail endorsement.

Examination in Form and Colour Vision.

These examinations are held at Auckland, Wellington, Lyttelton, and Dunedin. During the year fifty-seven candidates were examined, only one of whom failed in the lantern test and also in the letter test. No special examination was held during the year.

Shipping Casualties.

The shipping casualties during the year on or near the coast of New Zealand are recorded in the table attached to this report. Most of these are of a minor nature, but it is necessary to record them in order to maintain, for the use of surveyors, a complete history of every vessel. Casualties involving loss of life are, fortunately, rare on the New Zealand coast, but this year the sailing scow "Rangi" capsized during a cyclonic storm near Auckland with the loss of four lives. Of the other casualties, none of which involved loss of life, the most serious were—the striking by the new motor-ship "Matua" of an uncharted coral rock in Arutunga Anchorage, Aitutaki, Cook Islands; the striking of Pipitea Wharf at Wellington by the s.s. "Wahine" during a fog; the wreck of the s.s. "Abel Tasman," which was swept away from the wharf at Greymouth during a flood and thrown on to the beach near the north Breakwater; and the foundering of two scows "Kaiaia" and "Tamahae."

"New Zealand Nautical Almanac and Tide-tables."

This publication for 1937 (35th edition) was issued about three weeks later than usual, the delay being due to pressure of work at the Government Printing Office. It provides seamen and other persons with much necessary and useful information in addition to special information for the various ports in the Dominion. The port information is corrected by the various Boards, and at the time of going to press is the latest available. New plans of Timaru and Oamaru were included in this year's edition.

Notices to Mariners.

Information relative to changes in navigational aids and to the discovery of obstructions, wreckage, or other dangers to navigation, and general information necessary for the use of mariners was published in the form of Notices to Mariners, of which fifty-five were issued during the year.

In conformity with a scheme developed by the International Hydrographic Bureau, Monaco, the Auckland, Wellington, Lyttelton, and Dunedin Mercantile Marine Offices have been established as "Centralization Offices for Notices to Mariners." Notices are now received from the Admiralty, United States of America, Norway, Sweden, Germany, Singapore, India, Japan, Dutch East Indies, France, Canada, and Phillipine Islands and are available for inspection at these offices. At all other ports visited by foreign-going ships notices from the Admiralty, Australia, and Suva are available for inspection.

"Certificates of Efficiency as Lifeboatmen."

Examinations for these certificates are held in Auckland, Wellington, Lyttelton, and Dunedin, and the certificates issued by the Superintendents of Mercantile Marine.

The shipping companies are requested to provide the necessary lifeboat and gear, and are responsible for getting the men together at the time appointed for the examination.

Since the examination was introduced, 1,032 certificates have been issued.

Registration of Shipping.

On the 31st December, 1936, there were on the Register of Vessels in the Dominion 53 sailing-vessels of 4,701 tons register, 166 steamers of 82,136 tons register, and 264 motor-vessels of 14,269 tons register, as compared with 52 sailing-vessels of 4,726 tons register, 188 steamers of 80,763 tons register, and 255 motor-vessels of 10,518 tons register at the end of the previous year. The total number of vessels of all classes on the register at the end of the year was 483, aggregating 101,106 tons, as against 495 vessels aggregating 96,007 tons at the end of the previous year.

The number of seamen employed on board was 3,071, as compared with 2,887 for the year 1935.

Government Shipping Offices.

The administration of the Shipping and Seamen Act has been efficiently and smoothly carried out in the Government Shipping Offices to the entire satisfaction of owners and crews. The improvement in the shipping trade is reflected in the increased number of seamen engaged and discharged at the various ports during the year, the revenue in fees also showing a decided increase. The total number engaged and discharged was 11,803 and 11,533 respectively, compared with 10,283 and 10,070 respectively for the previous year. The transactions at the four main ports were as follows, the figures in parenthesis being those of the previous year :—

Port.	Engaged.	Discharged.	Fees.
			£ s. d. £ s. d.
Auckland	3,244 (2,808)	3,355 (2,659)	618 2 0 (501 9 0)
Wellington	5,735 (5,062)	5,484 (5,069)	1,021 19 0 (865 9 0)
Lyttelton	546 (509)	550 (500)	91 10 0 (85 2 0)
Dunedin	615 (372)	502 (400)	107 0 0 (73 0 0)

Engagement of Seamen.

This service has been maintained. A record of seamen applying for work is kept for the purpose of filling vacancies.

Sick and Injured Seamen.

The total amount paid by shipowners to sick and injured seamen, under the provisions of the Shipping and Seamen Act, 1908, and its amendments, was £20,208 8s., as against £14,619 7s. 9d. for the previous year, an increase of £5,589 0s. 3d.

Survey of Ships.

The following table shows the number of certificates of survey issued to ships during the year, the figures for the previous year being shown in parenthesis :—

Sea-going steam and motor ships	155	(159)
Sea-going sailing-ships	2	(4)
Restricted-limits steam and motor ships	367	(382)
Totals	524	(545)

Four new sea-going motor-ships, "Matua," "Kauri," "Gale," and "Coastguard," were surveyed by the Department for the first time during the year for the issue of certificates.

The "Matua" is a steel vessel, built at Hebburn-on-Tyne in June, 1936, of 4,193 tons gross and 2,112 tons register. The propelling machinery consists of two sets of Armstrong Whitworth two-stroke cycle, single-acting Diesel engines, the total brake horse-power being 5,400. The auxiliary machinery is electrically driven, while the steering-gear is electro-hydraulically operated. The vessel is engaged in the New Zealand–Pacific Islands cargo and passenger service. A safety certificate as required for a passenger-ship plying on an international voyage was issued to the vessel after annual survey at Wellington in January, 1937, under the provisions of the International Convention for the Safety of Life at Sea, 1929.

The "Kauri," built at Glasgow in August, 1936, has a gross tonnage 2,361, and a register tonnage of 1,302, and is propelled by a single set of 1,600 b.h.p., two-stroke cycle, single-acting Diesel engines constructed by Alex. Stephen and Sons, Ltd. She is employed in the intercolonial coal and timber trade.

The "Gale," of 622 tons gross and 314 tons register, was built at Bowling, Scotland, in 1935. She is propelled by a single set of two-stroke cycle Diesel engines of 725 b.h.p., built by British Auxiliaries, Ltd., and is employed in the New Zealand coastal trade.

The "Coastguard" is a wooden fishing-vessel built at Sydney in 1935, of 27 tons register, and fitted with a single set of Fairbanks-Morse two-stroke cycle oil engines of 100 b.h.p.

Eight restricted-limits motor-vessels and one steamship were surveyed for the first time during the year for the issue of certificates. Five of these vessels were new, two had been in private use for a number of years, and two were converted ships' life-boats.

The s.s. "William C. Daldy," the largest of the new vessels, is a tug 117 ft. 6 in. long and was built at Renfrew in 1935. The propelling machinery consists of two sets of triple-expansion engines of 261n.h.p., made by Lobnitz and Co., Ltd. Steam is supplied by two cylindrical multitubular boilers, made by Barclay, Curle, and Co. Coal is burned under Howden's forced-draught system. This vessel, it will be observed, is the only new ship propelled by steam-engines surveyed in the Dominion during the year. The remaining first-survey vessels were all propelled by internal-combustion engines.

The sailing vessels "Pahiki," "Esme," and "Seagull" were converted to auxiliary powered vessels, the two latter after having been laid up for about five years.

Now that the "Rangi" has been wrecked, the "Rewa" is the only sailing-vessel in commercial service on the New Zealand coast.

The s.s. "Kaitoa," a small iron vessel some thirty-seven years old employed in towing on the Waikato River, was converted to oil-engine propulsion by the removal of the boiler and steam-engine, and the installation of a Diesel unit of 66 b.h.p.

A total of nine vessels were deleted from the Department's current records during the year. Of these, the s.s. "Himatangi," a cargo vessel of 479 tons gross, built in 1911, which had been laid up since 1932, was purchased by an Australian firm and towed to Sydney. The s.s. "Kanna," a cargo vessel of 1,948 tons gross, also built in 1911, was sold to Eastern buyers. As the vessel sailed from New Zealand under foreign registry, the Department's Certificate of Survey was not required, but a survey of the life-saving appliances aboard was carried out by the Department.

Three old steam-vessels, built of iron, were scuttled—namely, "Opihi," 1,117 tons gross, built 1886; "Dredge 222," 907 tons gross, built 1881; "Plucky," 81 tons gross, built 1880. The s.s. "Orepuki," 545 tons gross, built 1908, was broken up. Three small vessels were wrecked, destroyed by fire, and sunk, respectively.

The arrival of the t.s.s. "Awatea" in New Zealand waters last September, and the commencement of her running during that month, was a notable event in the history of the intercolonial passenger-service. The vessel is a luxury liner of the highest class and was built at Barrow-in-Furness in 1936. She is 527·3 ft. long, 74·2 ft. in breadth, with a depth of 31·75 ft. Gross tonnage is 13,482, and register tonnage is 7,929. The propelling machinery consists of two sets of single reduction geared turbines of over 20,000 shaft horse-power receiving superheated steam at 425 lb. per square inch pressure from six Yarrow type oil-fired boilers. Machinery and boilers were made by the builders of the vessel, Messrs. Vickers Armstrong, Ltd. The service speed of the "Awatea" is 20·½ knots, a marked increase over the speed of British vessels hitherto engaged in the trade, and is sufficient to enable the vessel to make one round trip between Sydney and New Zealand ports a week. The ship ran throughout the summer of 1936–37 under a passenger and international safety certificate issued by the Imperial Board of Trade in July, 1936.

Plans and specifications of nine new vessels built or building for service in New Zealand waters were examined in Head Office during the year. All the vessels are of wood with the exception of one, a new vehicular ferry steamer for Auckland Harbour, which is of composite construction. This vessel will be propelled by internal-combustion engines of 400 b.h.p.

The largest repairs of the year were carried out to two express steamers—the "Rangatira" and "Wahine"—both engaged in the Wellington–Lyttelton passenger service. The "Rangatira" struck a rock outside Wellington Harbour on the morning of 2nd February, 1936, and entered dry-dock at Wellington on 9th February for repairs and reconditioning. She remained in dry-dock until 25th May, a period of 106 days, and, on completion of the work afloat, resumed running on the 29th June, 1936. The damage sustained to the hull-bottom was practically continuous from the forefoot to a position approximately 140 ft. aft of the stem. The plating, keel, framing, floors, and other internal structure were badly set up and the plating pierced in parts. The stem and the bow rudder were damaged. Serious damage was also sustained in way of the engine-room on the starboard side. Plating and frames were set up at this part, but, fortunately for the safety of the ship, the plating was not pierced. The work of repair was probably the greatest of its kind ever carried out in New Zealand. Forty hull plates were renewed and a large number were taken off, faired, and replaced. Fifty frames on port and starboard sides were cut and renewed, together with floors and brackets in numbers 1, 2, 3, and 4 double bottom tanks. The bow rudder was removed, repaired, and refitted, and a portion of the stem bar and the forefoot castings were removed, faired, annealed, and replaced. The work was carried out to the requirements and under the supervision of the Department's surveyors and has proved in service to be entirely satisfactory.

On 5th June, 1936, the "Wahine" collided with Pipitea Wharf, Wellington, in a dense fog and sustained extensive damage to the stem bar and bow rudder and to the hull plating, and internal structure from the stem to the chain locker bulkhead. The collision bulkhead immediately aft of the damage remained intact and water did not gain access to the main compartments of the ship. Twelve shell plates on both sides of the bow were damaged and these were taken off and faired or renewed, and refitted. Portions of ten frames on both sides were cut and renewed. The bow rudder was completely renewed, and the forward steering-gear repaired. The vessel was out of commission from 5th June, 1936, to 21st December, 1936, the greater part of this period being occupied in complete reconditioning of the vessel's battery of water-tube boilers. The vessel was originally equipped with eight coal-fired boilers and on a change-over to oil fuel some years ago it was found that six boilers were ample for requirements. Two boilers were taken out of the ship, and the tubes, headers, and mud drums of the remaining boilers were renewed. One steam-drum was also renewed.

In addition to the usual annual surveys, 244 seaworthiness, efficiency, and tonnage surveys were made during the year. Forty-one seaworthiness and efficiency surveys were made to overseas vessels not registered or normally surveyed in the Dominion. Twelve of these surveys were connected with repairs to the hull, ten with machinery, and four with winches and cargo gear. In two instances surveys were made in connection with the extension of Board of Trade passenger and safety certificates of passenger-vessels. In each of these cases the vessel's certificate expired while in New Zealand waters and the extension was granted under Article 52 of the International Convention for the Safety of Life at Sea for the purpose of allowing the ship to return to England.

Safe Working Loads Regulations.

The regulations require that no person shall sell or purchase any fibre rope for working cargo unless a written guarantee is given as to quality or brand and breaking-load, and that such guarantee must first have the Department's approval. The Department's approval is given in the form of a certificate based on the result of mechanical tests of samples of the ropes. During the year twenty samples of various brands and sizes of rope holding guarantee certificates were selected at random and tested with a view to ascertaining whether the quality of guaranteed rope was being maintained. The results of the tests were satisfactory in all cases.

Three instances of the overloading of cargo gear came under the Department's notice. Proceedings against the offenders were duly taken, and convictions obtained.

General Harbour Regulations.

Regulation 103 of the General Harbour Regulations, 1935, requires:—

(1) In every case where there occurs any accident causing death or serious injury to any person engaged in loading or discharging or handling cargo or coal, or in repair, overhaul, or repair-work on a ship, the person having the control or management of the work in connection with which the accident occurred shall forthwith after such accident deliver to the Superintendent of Mercantile Marine written notice of the same on the prescribed form.

(2) In every case of breakage or failure of any derrick, chain sling, rope, or other appliance used in loading or discharging cargo or coal on or from ships, the person in charge of the work in connection with which the break or failure occurred shall, as soon as is reasonably possible thereafter, deliver to the Superintendent of Mercantile Marine written notice thereof on the prescribed form.

The total number of accidents reported under the provisions of this regulation was 529, 509 being reported under the first paragraph and twenty under the second.

Of the 509 reported accidents in which injuries were received by a worker, 485 could not be classed as serious and were, no doubt, reported as a precautionary measure.

The remaining twenty-four comprised two fatal accidents and twenty-two involving workers in more or less serious injuries.

Of the two fatal accidents one was due to a seaman falling from a gantry when releasing a hatch-lid, and the other was due to a seaman falling from a boatswain's chair when painting a ventilator. Neither case was, strictly speaking, within the scope of the regulation.

Of the twenty-two serious but non-fatal accidents, nine were due to falls down holds, four to falls other than down holds, five to being struck by falling cargo, and four to being struck by swinging cargo or gear.

With regard to the twenty reported accidents involving failure of gear, two involved the failure of a derrick, two the failure of a chain, one the failure of a wire sling, and fifteen the failure of blocks, hooks, and other iron components of the gear.

In none of these accidents were any injuries sustained by a worker, and in the majority of cases they were due to misuse of the gear.

Inspection of Boilers.

The total number of boilers inspected was 8,979, as against 9,009 inspected last year, a slight decrease of thirty. Of the boilers inspected, 4,834 were fired boilers, 3,370 were unfired steam-pressure vessels, and 775 were air-receivers. The inspections included eighty-five new power-boilers, aggregating 1,527 horse-power manufactured in the Dominion, and thirty-seven new power-boilers, aggregating 655 horse-power imported from abroad. They also included 168 new steam-pressure vessels and forty-one new air-receivers manufactured in the Dominion, and 179 new steam-pressure vessels and fifty new air-receivers imported from abroad. The total number of new boilers, pressure vessels, and air-receivers for the year was 560, an increase of 104 over last year, and the drawings for the whole of these were examined and checked in Head Office before the units were accepted for a safe-working pressure. Some of the boilers of which plans were examined and approved are important boilers of their kind. One set of drawings represented two large water-tube boilers of the four-drum type each designed to evaporate 30,000 lb. of steam per hour. Each boiler is complete with a battery of modern equipment for the economical production of high-pressure steam, consisting of superheater, economizer, de-aerating, and water-softening plant, and mechanical stokers. The designed working pressure is 450 lb. per square inch. Another drawing examined was of a cross-drum type water-tube boiler with a heating surface of 4,394 square feet. The boiler includes a superheater with a heating surface of 1,320 square feet, an economizer and a chain-grate stoker for automatic firing. The working-pressure is 270 lb. per square inch. A drawing of a similar boiler of rather less heating surface and a working-pressure of 250 lb. per square inch was also examined.

In the steam-heating class of boiler plans were examined and approved of a large boiler with a heating surface of 432 square feet working at a pressure of 10 lb. per square inch. Among the unfired pressure vessels, plans were approved of a multiple roll ironer of all-welded construction, 13 ft. 8 in. long, designed to work at a steam-pressure of 100 lb. per square inch.

The plans of Dominion-made boilers included several multitubular boilers of the largest size. A group of three now under construction are each 84 horse-power, 6 ft. 6 in. in diameter by 16 ft. long, and will work at a pressure of 130 lb. per square inch.

During the year the question of acceptance of Velox supercharged steam-boilers for electric-power generation at Wellington was put before the Department, and after careful consideration it was decided to accept the boilers under certain conditions. The Velox boiler, or steam-generator, which is perhaps a more appropriate term, is one of the most recent developments in the steam-generation field. The main characteristic is the application of the principle of supercharging resulting in combustion taking place under pressure far exceeding normal practice and the partial transformation of this pressure into velocity in order to obtain high flue gas speed. Essentially, the boiler comprises a combustion chamber lined with evaporator tubes, a superheater, a separator by means of which water is separated from the steam, an exhaust gas turbine, and a feed water preheater.

The Velox boiler is very light in weight, contains little water, and occupies a comparatively small space. There is a complete absence of brickwork, and it operates flexibly under load variations at a very high efficiency. A feature of the design is the rapidity in which steam at full working-pressure can be supplied from cold. The boilers, made for New Zealand under test at the makers' works, Baden, started from cold to full load in 3 min. 38 sec. and attained the high efficiency of nearly 95 per cent.

The pressure parts are practically of all-welded construction, and in this respect the Velox boiler is the first power boiler of this construction approved for service in New Zealand. The conditions of acceptance of the welded pressure parts called for rigid tests. These comprised tensile of all weld metal, bend, impact at the junction of the welds, impact at the welds, tensile at joints, and density tests. Photo-macrographs and micrographs were required of the plates in the vicinity of the welds, of the junctions between welds and parent metals, and of the welds. X-ray photographs were required of the entire length of each welded seam, both longitudinal and circumferential. In addition to the tests it was required that each welded vessel should be efficiently heat-treated. The heat treatment consisted of heating each vessel in twelve hours to 650° C. holding it at that temperature for three hours and allowing it to cool slowly to 200° C. at the rate of 15° to 20° C. per hour.

All the tests were carried out to the Department's satisfaction. The boilers will operate at a steam-pressure of 225 lb. per square inch, and are rated to generate 90,000 lb. of steam per hour. At the moment of writing the first unit is erected and is about to undergo exhaustive steam tests. Reference to the results of tests and the general operation of the Velox boiler will be made in the next annual report.

A return showing the number of boilers inspected during each of the past five years is as follows:—

—	1932–33.	1933–34.	1934–35.	1935–36.	1936–37.
Fired boilers	4,501	4,582	4,655	4,997	4,834
Unfired steam-pressure vessels	2,522	2,649	2,670	3,251	3,370
Air-receivers	635	691	675	761	775
Totals	7,658	7,922	8,000	9,009	8,979

Machinery.

The following statement shows the number of inspections of machines, machinery plants, lifts, cranes, and hoists made during the year, the corresponding figures for the previous year being shown in parentheses:—

Machines not driven by steam power, plants, 9,499 (9,473)	64,214	(60,253)
Machines driven by steam power, plants, 2,514 (2,638)	13,316	(12,329)
Electric-power-supply stations	154	(167)
Lifts	3,328	(3,116)
Cranes	336	(395)
Hoists	1,329	(1,308)
Total inspections	82,677	(77,568)

Included in these numbers are sixty-three lifts and twenty-seven cranes inspected for the first time. The plans of these machines were examined in Head Office and the working-loads computed before they were certificated.

Of the new cranes installed in New Zealand during the past year the crane with the largest lifting capacity is one of the Guy Derrick type, imported by Messrs. Kanieri Gold-dredging, Ltd., for dredge-erection purposes. The mast and derrick of this crane are each 100 ft. long, and the safe load which can be lifted with the derrick at the maximum radius of 92 ft. is 10 tons.

The increased dimensions of the newer passenger and cargo vessels that now call regularly at New Zealand ports are reflected in the larger and improved cargo cranes which have been installed on the wharves at Auckland, Wellington, and Lyttelton during the past year. At Auckland four new electric wharf cranes, each with a lifting-capacity of 5 tons at a maximum radius of 60 ft., have been purchased, and the jibs of some existing cranes on Auckland wharves have been lengthened to enable them to satisfactorily load and unload cargo from the largest vessels now trading to the port. At Wellington two 3 ton derrick cranes have been erected on the Queen's Wharf. They should prove useful in the rapid handling of the cargo, baggage, and mail carried by the large trans-Tasman express steamers which habitually berth at this wharf, and whose stay in port is of

necessarily brief duration. In Lyttelton the Harbour Board has purchased ten electric wharf cranes of the high pedestal type, each capable of lifting 5 tons at a maximum radius of 65 ft. These cranes represent the largest order for port cargo-handling appliances which has been placed in recent years. Cranes used on wharves are certificated under the Inspection of Machinery Act and, as they are used for the purpose of handling ships' cargo, must comply with the Department's Safe Working Loads, issued under the General Harbour Regulations, in addition to the requirements for purely land cranes.

Included in the new lifts are some very modern installations. The procedure adopted by the Department for the first inspection of machinery of this nature is that the importer or manufacturer must submit detailed plans and particulars to Head Office before erection. When plans have been examined and details finalized the District Office concerned is advised of the approved construction and instructed to inspect the installation, check it with the approved plans, and carry out the necessary tests of safety equipment. On receipt of the Inspector's report, together with a report from the local electrical supply authority, issued under the provisions of the Electrical Wiring Regulations, a certificate for the lift is issued. The certificate states the load or the number of persons the lift may carry and has a currency of six months. It must be posted in the lift-car. The type of lift now being installed in modern buildings is illustrated by the following brief description of a recent installation in a Wellington office building. The lift carries twelve persons and operates at a speed of 400 ft. per minute on car-switch or automatic push-button control. The source of power is alternating current at 400 volts, which is transformed by a motor-generator set to direct current for operation of the lifting machinery and the controls. A feature of the system is that all electrical circuits are operated at the low direct-current voltage of 60 volts and the controller is effectively isolated from the high-pressure mains and entirely eliminates any danger of high-voltage shocks from those using the lift or operating the doors. The landing-doors are provided with self-closers and the doors are so fitted that they must be locked in a closed position before the car can move. The lift is fully equipped with the latest electrical safety-devices and is fitted with an over-speed governor which operates and brings the lift to rest at a pre-determined over-speed.

Eight fatal accidents and 129 non-fatal accidents connected with machinery inspected by the Department were reported and fully investigated during the year. In the case of each accident the whole of the relevant facts were obtained and the matter was not closed until the Department was satisfied that the machine and similar machines were equipped with safeguards which under ordinary care of the worker would prevent a recurrence of like accidents. The total number of boilers and machines of all classes is 90,303, and the ratio of the number of accidents to the number of boilers and machines inspected is 1 to 659.

Two of the fatal accidents were connected with circular saws, two with lifts, and one each with a coal screen, an excavator, a churn, and a dough-mixer. Brief summaries of the fatal accidents taken from the reports are as follows :—

(1) In April, 1936, the owner of a small portable wood-cutting plant met his death while cutting wood near Christchurch. The plant consisted of a home-made bench of the sliding chariot type and a circular saw driven by an old motor-car engine. Various parts of old motor-cars were used in the make-up of the plant, and it appeared from a careful examination after the accident that the circular saw was in a particularly bad condition. The saw was 30 in. diameter with a centre hole $1\frac{3}{4}$ in. diameter. The saw spindle was 1 in. diameter, and a poorly fitted loose washer was let in to make up the deficiency in bore. There was evidence that the saw had been well hammered and severely handled, and several old cracks were visible in the parts examined. On the day of the accident willow-trees were being cut for firewood, and when a knotty piece was met the saw flew to pieces. One portion struck the owner, who was operating the plant at the time, and inflicted injuries which caused almost instantaneous death.

The plant had not been inspected by the Department and was therefore not certificated. Its condition was such that it would not have been passed for the issue of a certificate.

(2) The second fatal accident with a circular saw also occurred near Christchurch, and again the owner and operator of the plant was killed. On this occasion the plant was fully certificated and a visit of inspection had been made only three days prior to the accident. On 5th October, 1936, at a breast bench equipped with a circular saw, a piece of sawn timber was thrown over the saw and struck the sawyer and inflicted injuries, from which he died. It appeared from evidence at the inquest that the deceased had removed a riving-knife from the back of the saw immediately after the Inspector had left the mill. The riving-knife is a strict requirement of the Department for this class of saw, and its purpose is to prevent sawn timber from pinching the back of the saw and being thrown over the saw to the danger of the operator. It was rigidly enforced some twelve years ago, when this class of accident was fairly common, and met with a good deal of opposition from the older workers, principally on the score that it would slow up the work. However, it was found that a well-fitted riving-knife gave the sawyer greater confidence in his work and actually improved production.

An accident such as this, due to proved safeguards being deliberately removed by the owner of the plant immediately after a visit of inspection, is difficult to prevent.

(3) A fatal accident occurred in September, 1936, with an automatic passenger-lift installed in an Auckland building. The body of a tenant was found at the bottom of the lift-well and it is assumed from blood-stains on the side of the well and on the car-sill that deceased went through the restricted opening between the car and the side of the well in the neighbourhood of the fifth floor and fell to the bottom of the well. It is further assumed that the lift temporarily stopped between floors and that deceased, who was the sole occupant of the car, opened the car-gate for the purpose of reaching down to open a landing gate. While in this position the lift probably started and he was drawn between the

car and the side of the well. Apart from a defect in the car guide-shoe, which was an effect of the accident, and a defective lock on the ground floor which had no bearing on the accident, rigid tests of the lift and its equipment did not reveal any defects which would have caused the lift to stop and thereby lead to the accident. The temporary stoppage may have been due to snatching at one of landing-doors as the lift passed upwards. The slamming of a snatched door would restart the lift. The term "snatching" is used to express the practice of irresponsible persons forcing open landing-doors of automatic lifts as the car passes a landing and momentarily releases the safety lock. Evidence at the inquest disclosed that snatching was prevalent in the building. The lift has since been fitted with a device which will prevent this abuse.

(4) The second lift fatality of the year under review occurred at Auckland in December, 1936, when a man was killed while riding on a lift certificated for goods only. The deceased was visiting the caretaker of a building after office hours and ascended in a goods-lift, although there was a properly equipped passenger-lift on the premises. The body was found in the lift-car at the second floor, and from the injuries received there is good reason to believe that he was jammed between the car and the side of the lift-well when the car was ascending. There were two prominent notices in the car stating that the lift was for goods only and prohibiting any person from riding in the car. The Coroner's verdict was that deceased died from a fractured neck resulting from an accident caused through his inability to manage a goods-lift in which he was trespassing.

(5) On 19th October, 1936, a workman, whose normal duties were those of attending to a revolving screen used for washing and screening coal at a mine on the West Coast, was found dead in a trough beneath the screen. There were no witnesses to the accident, and the primary cause can only be surmized. The screen makes only twenty-two revolutions per minute, equivalent to a peripheral speed of about 207 ft. per minute, and it is not likely that the deceased was caught by it. Severe injuries to the head and neck were the cause of death, and it seems probable that deceased tripped and fell into the trough and received the fatal injuries from the fall. The machine was equipped with safeguards at the time of the accident, but the platforms and guard-rails have since been improved to prevent a repetition of this class of accident.

(6) When a power-driven excavator was being used at Wellington on the 9th December, 1936, for pulling timber piles from a refilled trench, the luffing rope broke and the falling jib struck a workman on the head and inflicted injuries from which he died the next day. The fractured rope was thoroughly tested on behalf of the Department at the School of Engineering, Canterbury College, and results showed that it was in good condition at the time of the accident. Bull-dog grips used for seizing the rope at the end where it fractured were improperly fitted, and this, combined with the fact that the machine was overloaded, was the primary cause of the accident. The machine was certificated by the Department for use as an excavator and was being improperly used as a crane when the fatality occurred.

(7) In December, 1936, a worker was killed by a butter churn in a dairy factory in North Auckland. The man was not connected with the operation of the churn, and his duties at the time of the accident were washing a drain in the vicinity of the machine. He was found dead at the back of the churn, and from the injuries he had received it was assumed that his head was crushed between a fixed and rotating part when he either slipped on the wet floor or fainted and fell against the machine. The churn revolved very slowly, turning only $3\frac{1}{2}$ revolutions per minute, and the gear-wheels and other dangerous parts were enclosed by protective housings. In view of the slow speed at which the machine operated it was considered that the portions which projected from the back of the machine were not dangerous. Steps are being taken to improve the safety of this type of churn.

(8) The remaining fatal machinery accident of the year occurred in a bakery at Dunedin on 6th February, 1937. While dough from a dough mixing machine was being tested with the hopper-lid raised and the internal beaters running, a baker inadvertently dropped his left hand into the hopper and it was crushed between one of the beaters and the side of the machine. The injuries were not severe, but complications arose and the injured person collapsed and died in hospital about nine days later. The machine had been in operation for over twenty-five years without an accident and the deceased had been engaged at the machine for a period of thirteen years. The machine is of a very old type, and as it has two sets of beaters which may be run either in the same or opposite directions, it is difficult to guard completely. The hopper-lid is being fitted with an interlocking device so arranged that when the hopper is open for the purpose of testing dough the beaters will run in the direction in which an accident is not likely to occur.

One hundred and twenty-nine non-fatal accidents connected with inspected machinery were reported during the year. Of these, one hundred and fifteen were minor accidents and fourteen were major accidents. In each case the circumstances of the accidents, and the safeguards and condition of the machine, were fully investigated and, where practicable, improvements to the machine or to the safeguards were effected in order to prevent a repetition of similar accidents. The return shows a considerable increase over last year, when a total of sixty-two non-fatal accidents were reported. It does not follow, however, that machinery has become more dangerous during this year than it was last year. The higher accident rate may be attributed to a great extent to the fact that during the year Inspectors were notified that they should report all machinery accidents, except the really trivial ones, which incapacitated the injured persons for three days or more. The Inspection of Machinery Act requires owners of machinery to notify to the Department only those accidents causing loss of life or serious bodily injury. In previous years Inspectors did not have uniform views as to what constituted a serious accident, and hence would probably not have reported a large number of the accidents classified in this report as minor accidents. The increase in the number of machinery inspections shows that there has been an increased use of machinery during the year, with the consequence that more persons must have been exposed to the dangers of machinery. This would also explain to some extent the seemingly higher accident rate.

The reporting of minor accidents is very desirable. It is often merely a matter of chance that a minor accident was not a serious one. The vagaries of accidents should be well known, but it is sometimes not appreciated that a valuable lesson as to how a serious accident may be safeguarded can often be learned from an investigation into the causes of a minor accident.

No less than one hundred and seven of the accidents occurred with machines considered to be adequately equipped with safeguards. In many instances the guarding of such machines as saws, planers, shapers, moulders, and other wood-working machines and presses could not be improved. These machines may be considered dangerous, and only experience and extreme care on the part of the worker can prevent accidents. Fortunately, the safeguards fitted will prevent serious accidents, and where accidents do occur they are generally of a minor nature. One hundred of the accidents, or 77 per cent. of the total number reported, were connected with injuries to the fingers or hands. In a number of these cases thoughtlessness or inattention on the part of the workers were contributing factors.

The number of young persons injured by machinery during the year ending 31st March, 1937, was again high, no less than thirty-nine, or 30 per cent. of the total number of victims, being young persons of eighteen years of age and under. Many of these had been operating the machines at which they were injured for very short periods and the high rate is no doubt due to their youth and to inexperience in working with power-driven machinery.

Saws (21), planers (11), shapers, moulders, and other wood-working machinery (14), belts and shafting of transmission machinery (14), presses (12), metal-working machines (8), textile machinery (6), cranes and hoists (4), mincers (3), printing-machines (3), guillotines (2), and power mangles (2) were responsible for the majority of the non-fatal accidents.

New Zealand's Standards.

This branch of the Department is represented on the Mechanical Engineering Divisional Committee of the New Zealand Standards Institute. Approximately sixty standard specifications were examined up to the 31st March.

Prosecutions.

Legal proceedings which were taken during the year for breaches of the Inspection of Machinery Act, and those which were successful include seven prosecutions taken under section 16 (working machinery not adequately guarded), one under section 15 (working a lift when in charge of a boy not over eighteen years of age), one under section 38 (working machinery in respect of which a certificate had not been issued), and one under section 64 (employing an engine-driver not properly certificated and acting as engine-driver without a certificate).

Staff.

During the year Mr. Dawson, of Invercargill, was transferred to the staff of the Senior Surveyor of Ships, Wellington. Mr. S. N. Johnston was transferred from Wellington to the position of Senior Inspector of Machinery and Senior Surveyor of Ships, Christchurch. Mr. Lidgett, of Hamilton, resigned, and Mr. G. W. Martin, Inspector of Machinery, Queensland, was appointed to fill the vacancy. Mr. J. G. Lockie was transferred from Auckland to Greymouth to have charge of the West Coast district. Mr. Mowatt was transferred from Greymouth to Invercargill. Mr. Parker whose appointment was made last year commenced duties at Wellington on the 1st April. Mr. Townsend assumed the position of Senior Inspector of Machinery and Senior Surveyor of Ships, Auckland, at the end of April.

During the year Mr. C. H. Cowell was appointed Inspector of Machinery and Surveyor of Ships, Wellington.

Arrangements were made for pending transfers arising out of the retirement early in 1937–38 of Mr. D. Bell, Inspector of Machinery and Surveyor of Ships, Dunedin.

Examinations of Land Engineers, Engine-drivers, and Electric Tram-drivers.

These examinations were held at the various offices of the Inspectors of Machinery throughout the Dominion at the regular intervals provided for in the regulations. In addition, a few special examinations were granted, but the holding of special examinations is not encouraged, as it is considered that the regular examinations are of sufficient frequency, and except in very exceptional circumstances, candidates are expected to arrange that they may attend the scheduled examinations.

The full list of places where the examinations were held is shown in an appended return, as also is the number of candidates examined at each place. The classes of certificates for which examinations were held were :—

Extra First-class Stationary Engineer.
First-class Engine-driver.
Second-class Engine-driver.
Steam-winding-engine Driver.
Electric-winding-engine Driver.
Locomotive-engine Driver.
Traction-engine Driver.
Locomotive and Traction Engine Driver.
Electric-tram Driver.
Electric-tram Driver (One-man car).

The total number of candidates examined was 565. Of this number, 420 were successful and 145 failed in their examinations. Four hundred and eighty-three certificates were issued, which includes 420 to successful candidates in their examinations, the remainder being replacements and issues under the provisions of sections 53, 59, and 62 of the Inspection of Machinery Act, 1928.

Examination of Marine Engineers.

During the year 189 candidates were examined for Marine Engineers' Certificates of Competency at the various centres throughout the Dominion.

Of these, seventy-six candidates were examined for third-class, second-class, and first-class ordinary and motor certificates of Imperial validity; of the forty-six third-class candidates who presented themselves for examination, twenty-three were successful and twenty-three were unsuccessful; of the eight second-class ordinary, motor, and steam endorsement candidates examined, seven were successful and one unsuccessful; of the twenty-two candidates examined for first-class ordinary, motor, and motor endorsement, twelve were successful and ten unsuccessful in the examination.

In the case of first-class candidates the above particulars are comprised of nine candidates for ordinary certificates, of whom four were successful, six candidates for motor certificates of whom four were successful, and seven candidates for motor endorsement, of whom four were successful.

In the case of second-class candidates, the foregoing return comprised five candidates for ordinary certificates, all passed; two candidates for motor certificates, one passed and one failed; and one candidate who was successful for steam endorsement.

Of the twelve successful candidates for first-class examination, six passed at the first attempt, four at the second attempt, and two at the third attempt.

Of the seven successful candidates for second-class examination, all passed at the first attempt.

Of the twenty-three successful candidates for third-class examination, fifteen passed at the first attempt, seven at the second attempt, and one at the fourth attempt.

The summary for third, second, and first class examinations being 55·3 per cent. passes and 44·7 per cent. failures, represents a decrease of 10 per cent. successful candidates over the previous year.

There has been a reduction of about 22 per cent. third-class candidates presenting themselves for examination, which is, no doubt, due to the small demand for apprentices during the depression period. On the other hand, the return shows approximately the same percentage of increase for the higher grade certificates due to the improved shipping conditions.

Of the remaining candidates, 113 examined for Certificates of Competency, which are valid in New Zealand only, which number represents an increase of 28 per cent. over last year, due, no doubt, to the proposed new regulations regarding Coastal Motor Certificates in favour of the present P.V.O.S. Certificates. Of these, seventy—fifty-two of whom were successful—were examined for sea-going vessels propelled by some motive power other than steam; thirty-six—thirty-one of whom were successful—for service in vessels propelled by some motive power other than steam plying within restricted limits; seven—five of whom were successful—for steam-driven vessels plying within restricted limits.

The examinations for first-class, second-class, ordinary and motor certificates, and those for third-class certificates are held at the four main centres only.

Examinations for certificates of competency, which are valid in New Zealand only, have been held at the fifteen centres throughout the Dominion.

Prosecutions.

During the year proceedings were instituted under the various statutes administered by this Department. Of the thirty-nine cases the proceedings under each Act were as follows: Fisheries Act, 24; Inspection of Machinery Act, 10; Harbours Act, 1; Shipping and Seamen Act, 4.

Fisheries.

The report of the Chief Inspector of Fisheries, which is appended, deals fully with the activities of this Branch of the Department during the past year.

The sale of rock oysters showed an improvement on the previous year, sales amounting to £4,964 13s. 11d., as against £3,762 6s. 8d. for the 1935 season. The number of sacks marketed was 4,033, compared with 3,037 sacks in 1935. The quality of the oysters was again excellent and sales were brisk. Expenditure on oyster cultivation for the year was £1,161 14s. 1d.

Whaling.

Under the provisions of the International Whaling Convention signed at Geneva in 1931 the Marine Department has authority to issue licenses only to vessels registered in New Zealand. One floating factory owned in the United Kingdom, but registered in New Zealand, is operating under international convention license in the Antarctic waters; and the whaling-station operating in New Zealand waters from Tory Channel took sixty-nine whales during the 1936 season with a yield of 280 tons of oil, as compared with fifty-seven whales with a yield of 258 tons during the previous season.

The improvement shown in the price of whale-oil has been maintained during the past year.

Staff.

During the year the five-day working-week was instituted where practicable in the various branches of the Department, the additional hours for recreation purposes being appreciated by members of the staff. The conduct of the staff during the year has been excellent. The fullest co-operation has been shown and the efficiency of previous years maintained.

I have the honour to be,
Sir,
Your obedient servant,
L. B. Campbell, Secretary.

REPORT ON FISHERIES FOR THE YEAR ENDED 31ST MARCH, 1937.

SIR,—

By the way of introduction to this annual report on fisheries attention may be drawn to the twofold purpose that should be served by such a report. It should provide (*a*) a record of fishery conditions for the period under review, and (*b*) a record of official action and departmental functions in relation to fisheries administration. The first is obviously necessary to provide data for the intelligent consideration of fishery facts—past, present, or impending—by those who may have a commercial, administrative, or legislative interest in the matter; and the second, the administrative aspect of the report, is desirable in order that the public and their parliamentary representatives may be in a position to understand what is being done by and for the State to ensure that those national assets constituted by the fisheries are being utilized in a rational way and for the nation's benefit, which is, or should be, the aim of legislation and administration with regard to fisheries or any other national assets.

To render an account of fishery conditions is to deal with a subject that is notoriously obscure, illusive, and liable to present controversial aspects. It is commonly assumed that no one can know the true facts about fish and fishing so well as those who are actually engaged in the industry. So long as that is the case, the official administration of fisheries is a thing of futility not fulfilling its purpose. For a long time that actually was the case and, superficially regarded, it did not seem to matter. It is still the case in relation to many aspects of fishery conditions; the agents of exploitation are forging ahead while the agency for conservation is groping, its true course being out of sight or out of focus. But the present generation is at least beginning to suspect that conservation does matter. Whatever the limitations of departmental administration of fisheries have been with regard to practical knowledge, it has always had the imporatnt qualification of being disinterested. The object of the practical man, as fish-catcher or fish-dealer, is the maximum profit for himself with the minimum cost and effort. The administrator's object is to ensure rational utilization, to control exploitation so that it does not out-pace conservation, that present profits may not be made at the expense of posterity. To this end he must have an understanding of the practical facts of exploitation in general and in detail, an understanding of the conditions of to-day in comparison with those of the past, and, if possible, a prevision of the trend towards developments that are likely to occur in the future. He must have an understanding of the practical facts of the industry and a good deal more besides.

If this report were as near the ideal fisheries report as its writer would like it to be it would demonstrate these points in the clearest possible light. All that can be said is that an attempt has been made, in the time available, to bring out some of the essential facts of the situation. In so far as the facts are not sufficiently elucidated it must be inferred that the administrative machinery is not adequate. Its fundamental limitation may be pointed out. It resides in the fact that, while the Department has made steady progress, which has been accelerated during the last year, in acquiring a more detailed and a more comprehensive knowledge of the results of fishery exploitation, its knowledge of the capital stocks of fish that are available for exploitation proceeds very slowly because it is not yet equipped to acquire such knowledge by special investigations such as have been carried on during the last thirty years or more by all the civilized countries that take a serious interest in their fishery resources. There are, fortunately, prospects at last of some development in this direction to which reference will be made later.

During the year under review the staff of the Fisheries Branch was augmented by the appointment of two cadets, one of whom commenced his duties on 14th Spetember, 1936, and the other on the 14th January, 1937. The strength of our personnel was reduced, however, by the appointment of Mr. M. W. Young to the Sea Fisheries Investigation Committee set up by the Hon. the Minister of Industries and Commerce in January, 1937. This is only a temporary loss, and there is no doubt but that the detailed local evidence collected by this Committee throughout the Dominion will be of considerable assistance to the Government in dealing with the present problems in connection with all aspects of the fish industry.

Much appreciated provision was also made during the year for the strengthening of the provincial staff of the Fisheries Branch by creating appointments for a District Inspector of Fisheries for the Wellington, Canterbury, and Otago Provinces respectively. Hitherto there were no local whole-time Inspectors of Fisheries except in the Auckland Province, where attention to rock-oyster beds constituted their principal duties. The appointments of District Inspectors were not made until after the end of the year under review.

With the increased surveillance over fishery operations and the closer and more frequent contacts with the members of the industry that may now be expected the supply of information to headquarters will be more valuable than hitherto and future reports should thereby be much improved. In the present report, however, it is only on the statistical side that any important development can be recorded. For the first time in the history of the Department we have obtained data that may properly be called statistical. Though the fullest possible use cannot be made of them in this present report owing to limitations of time, the records are in our possession in detail and in collated form which can be utilized for purposes for which the records of previous years were quite inadequate. The statistical tables that it has been customary to present with this report are for this year based on monthly returns of the landings of individual fishing-vessels and not, as hitherto, on an estimate made for a whole year by local Inspectors who sometimes had limited opportunities for obtaining comprehensive data for such an estimate.

I would here express the thanks of the Fisheries Branch of the Department to the skippers and owners of fishing-vessels for the generally very satisfactory way in which they have co-operated with us in connection with these monthly returns. I believe it arises from a general desire to help, based

on an appreciation of the necessity of such data for a proper understanding of the fishing from year to year, and not from any compulsion imposed by the regulations. Of course, the responses have not been uniformly satisfactory, but, with the District Inspectors to assist where necessary, further improvements may be expected.

It is hoped, in the annual reports on fisheries in future, to give tables in a form designed to record fishing conditions and results with more significance as well as with more accuracy. For this report only one additional table has been included, IIB, (p. 47) which shows the quantities of different kinds of fish caught by different methods of fishing for the year ended 31st March, 1937.

The statement which follows gives the estimated total quantity and value of the principal classes of fishery products marketed during the year :—

	Quantity.	Value. £
Wet fish	363,128 cwt.	360,466
Whitebait	1,888 cwt.	17,621
Oysters (dredged)	63,412 sacks	39,632
Oysters (rock)	4,033 sacks	4,840
Mussels	10,415 sacks	2,809
Crayfish	8,868 cwt.	7,848
Toheroa (canned products)	104,936 lb.	6,271
Whale oil	280 tons	4,760
Quinnat salmon (netted fish only)	1,067 lb.	54
Total value		£444,301

In comparing these total figures with those of previous year's reports the fact must not be overlooked that, since they have been for the most part compiled from data collected, as explained above, on a different basis, the figures for wet fish and crayfish for the two years will not be strictly comparable. It is possible that the 1935–36 total of 363,448 cwt. for wet fish may have been slightly too high, because the bulk of the figures had been obtained from information supplied by merchants at the large centres, some of whose fish may have been derived from small outside fishing-ports. In the past there has thus always existed a possibility of the same fish figuring in two totals. However, the error involved was small, because such uncertainty applied to a very small portion of the whole, and it was also counterbalanced by the omission of sundry small catches that were disposed of by hawking, frequently by the catchers themselves.

Bearing these cautions in mind it will be noticed that the total quantity of wet fish landed for the year under review—363,128 cwt.— is very similar to that for the previous year, being scarcely 0·9 per cent. below it. Its total value, however, is estimated at £360,466, which is about 15 per cent. increase. A marked decline is shown for whitebait and quinnat salmon, but all other categories show an increased yield. Details may be studied in Tables I–IV (pages 44 to 48).

Surveying briefly the main features of the year's fishery at the principal ports we may first consider Auckland, which is by far the most important fishery port of the Dominion. Comparative figures for the total landings and for the two categories, snapper and flounder, for the last six years are given below :—

——	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.	1936–37.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Total quantity landed ..	83,753	82,758	91,512	102,313	129,209	159,371
Snapper	43,102	49,657	60,540	68,432	88,374	112,656
Flounder (including dabs) ..	4,201	10,452	6,607	6,550	7,560	3,743

The figures for total landings and for snapper are the highest yet recorded for any one year. The flounder total, with which is included the category returned as "mixed flat-fish," is the lowest for six years. This last is to be ascribed partly to a scarcity of the fish and partly to increased restriction on the fishing, the principal spawning-grounds for flounders in the Hauraki Gulf having been closed to Danish seiners for the two months (August and September) covering the period of reproduction, instead of the one month imposed the previous year, by a regulation gazetted on 8th August, 1935.

Two steam-trawlers were in full-time operation and one part-time, as against one whole-time and two part-time for the previous year, and during the year these vessels made 117 landings, an increase of twenty-two on the landings made for the year 1935–36. The trawler voyages were divided between the outer grounds of the Hauraki Gulf and the Bay of Plenty grounds in the proportion of about 3 to 2, with seven landings from the West Coast out of the total of 117. Trawl-caught fish represented 34 per cent. of the total landings at Auckland, Danish-seined fish 61 per cent., and line-fishing vessels and net-fishing vessels landed 2·4 per cent. and 2·2 per cent. of the total respectively.

In October, 1936, there was a dispute between the fishermen manning the thirty-two vessels comprising the Danish-seiner fleet and the fish-merchants regarding the prices paid for fish, and these vessels were not taken to sea between the 9th and the 24th of that month. The dispute was settled by the merchants agreeing to pay 2d. per pound for snapper and tarakihi, and the merchants came to an agreement among themselves regarding the over rigorous competition which had been going on in connection with export trade. There does not appear to be much foundation for the hope that this

settlement of October, 1936, has entirely ended the unsatisfactory conditions which have prevailed for some time in connection with the Auckland fishing industry. These were among the principal causes for the setting-up of a special Committee by the Government—the Sea Fisheries Investigation Committee—appointed in January, 1937, to make an exhaustive inquiry into the fish trade and fishing conditions throughout the Dominion, and from this inquiry beneficial results may be anticipated. The Committee, which at the time of writing is on the point of completing its inquiries, consists of Mr. James Thorn, M.P. (Chairman), with Mr. E. R. Sheed, of the Department of Industries and Commerce, and Mr. M. W. Young, of the Fisheries Branch, Marine Department. For the first time in the Dominion the catching of fish and its subsequent handling and distribution will be considered together as aspects of the same set of problems. The administration of fisheries by this Department is circumscribed by the authority given by the Fisheries Act and has no interest in fish when it has once been brought ashore (except fish that has been taken illegally). In actual fact, however, the conditions under which fish is bought and sold and distributed have a very important effect on the fishermen's operations. The problems of distribution cannot therefore be dissociated from the problems of production; and nowhere does this apply more forcibly than in connection with the fisheries of Auckland, where competition for markets, especially the export markets, which normally provide the maximum profit for the minimum overhead expenditure, has led to the increase of catching-power with a consequent rise in the costs of production and has intensified the normal tendency on the part of the merchant to pay as little as possible to the fishermen for the fruits of their labour. The less price he got for his fish the more fish the fisherman had to catch to enable him to make a living; and the effect of this was to accelerate the depletion of the overworked fishing-grounds, to drive the fishing-boats to more distant fishing-grounds, and to give rise to complaints from the local fishermen and settlers in distant coastal districts on account of the increased frequency with which the waters in their neighbourhood were exploited by these very efficient commercial vessels from Auckland. And all this appears to have done no good to any New-Zealander, least of all to the consumers of fish among the general public.

What may possibly be the preliminary effort of a new line of fishing enterprise for Auckland may here be recorded. In February, 1937, the "Maude E," an oil-engined fishing-vessel normally employed for Danish seining, was sent by Messrs. Sanford, Ltd., on an exploratory voyage for tuna. Starting from Auckland on 11th February she cruised as far north as Whangaruru and arrived back in Auckland on the 24th, trolling spinners of various patterns for practically the whole of the run in the open sea. The weather conditions were, on the whole, decidedly unfavourable, and this, together with the general inclemency of the 1936–37 summer, may be held accountable for the few fish caught. Altogether twenty-one fish of the tuna family were taken, consisting of four long-fin albacore (*Germo germo*) and seventeen bonita (*Katsuwonus pelamis*). Evidence of the presence of the yellow-fin tuna (*Neothynnus itosibi*) was also obtained. It may be mentioned that all three species have been taken on odd occasions by amateur fishermen when trolling for pelagic game-fish. At the present time there is apparently an unsatisfied demand for these fish for canning purposes in the United States. There is no doubt as to their seasonal occurrence in New Zealand seas, more especially between North Cape and the Bay of Plenty. Whether they can be caught in sufficient abundance and got to market or to a freezer at working-costs that would provide for a profitable industry must for the present be left an open question. In the absence of anything but a very slight knowledge of the hydrology and marine biology of our seas which would afford some basis for conjecture as to the possible abundance and movements of these fish, the only way to provide an answer to this question is by direct fishing experiments. Since these could hardly be profitable in their early stage there appears to be good ground for the Department assisting as far as possible in this exploratory work. The development of a new line of commercial fishing in New Zealand for kinds hitherto unexploited would be welcome if only to relieve the pressure on stocks which show evidence of having been over-fished. Our present fishing industry is dependent entirely upon bottom fish (the "demersal" class in English official nomenclature) which are sought by means of trawls, seines, and lines; and the nature and depth of the sea bottom round our coast set definite limits to the available stocks of such fish. Pelagic fish, such as the members of the tuna (tunny) family, are limited only by the suitability of the open waters in which they cruise as true ocean migrants. It has been shown by researches made in the Northern Hemisphere that the occurrence of the various species is correlated with water temperatures, which probably react directly upon the fish themselves and also indirectly upon them by conditioning the presence of food and their reproductive processes. However, as to these factors in New Zealand seas, next to nothing is definitely known. With regard to practical fishing possibilities it may be remarked that the tuna-fishing industry by modern methods in the North Pacific is a comparatively new development, but it has already resulted in a marked depletion of the nearer fishing areas, and only ocean-going vessels capable of cruising over a very long range are being built for the Californian tuna industry at the present time. I may venture to record my own doubts as to the occurrence of this class of fish in this part of the Pacific in anything like the abundance that is shown off the Pacific coast of North America, because there is no evidence of anything like the same wide distribution and vast abundance of the smaller pelagic fish such as sardines and mackerel upon which they feed. Because our pelagic fish resources may be comparatively small, however, there is no reason to assume that no use can be made of them. The nearness to the coast of the most "fishy" waters should be an advantage in reducing the cost of the fishing operations that may become a practical proposition when more exploratory work has been done and more experience gained in this line of fishing.

Thames, the nearest neighbour and, on a limited scale, the rival of Auckland as a fishing-port, received supplies from two Danish-seiners this year. Nineteen launches operated with set-nets only, nine used both nets and lines and one engaged in line-fishing only. The combined returns of fish landings for Thames give a lower total than was shown last year, but the difference is probably

exaggerated owing to the new system of collecting the data. The total for this port obtained from data collected in the old way approximates very closely to that of last year. The usual comparative table for the last six years follows:—

Fish landed at Thames.	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.	1936–37.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Total wet fish	21,291	18,078	17,412	17,614	19,134	15,447
Snapper	10,257	9,750	10,429	11,163	14,053	11,356
Flounder (including dabs)	7,228	6,516	4,869	4,769	3,305	2,165
Total value	£21,116	£14,029	£13,595	£13,957	£14,593	£16,690

A welcome rise in the total value is shown, the highest since 1931–32. This is due to the better prices paid for both snapper and flounders, especially for the latter part of the year, though both kinds had declined in quantity. For the time being, at any rate, Thames has fallen from the relatively more important position it held as a fishing-port in former years. Among the probable causes of this decline may be mentioned the deterioration of the flounder fishing and the disadvantage at which Thames is placed compared with Auckland from the better position of the larger port as an exporting centre and from its possession of a large fleet of Danish-seiners, most of which are recently-built vessels. Reports and fishing returns tend to show that the local fishing-grounds of the Thames are maintaining a satisfactory degree of productivity. So far as snapper fishing is concerned, this has been ascribed to the measures that have been taken for the protection of the spawning and nursery grounds. One may reasonably expect that the more recent steps taken to restrict the catching of dabs and flounders when they are spawning or congregating to spawn, together with the regulation prescribing a larger mesh for flounder nets will in time produce the desired improvement in the flatfish stocks. In passing, it may be mentioned that these more effective fishery regulations are based on a biological understanding of the fish stocks combined with a practical acquaintance with fishery operations. Thanks to the work of the staff of the Fisheries Branch in the Auckland district some progress has been made along such lines, which are fundamental as a basis for sound administrative action; but even in the Hauraki Gulf the problems to be elucidated are more than can be tackled with our present resources; and elsewhere, for lack of the means for making biological investigation or for practical contacts with fishery operations, administration has been left rather groping in the dark.

Fishing activity at Gisborne, which had slumped badly during the depression years, shows a decided revival; with one steamer trawling for part of the year and three whole-time motor-trawlers in operation, the landings have risen from 2,190 cwt. (value, £1,920) to 4,219 cwt. (value, £4,136). Good catches of tarakihi and groper were reported.

The Napier fish returns show a decrease compared with the previous year, the total being 15,585 cwt., as against 16,421 cwt., the total flat-fish landings having fallen by 242 cwt. and the round fish by 594 cwt. The total value, however, is higher, £15,522, compared with £13,782. The number of landings by trawlers diminished from 1,648 to 1,340, while Danish-seiner landings increased from 246 to 404. Trawling was responsible for 11,383 cwt., Danish-seining for 2,532 cwt., line-fishing for 1,661 cwt., while set-net and seine-fishing produced 9 cwt. out of the total of 15,585 cwt.

With returns received from every licensed fishing-boat, together with a better supply of market records, it has been possible to obtain much more comprehensive information as to the fishing in the Wellington district than has previously been the case. The two steam-trawlers, operating for the most part on the Cape Campbell, Kapiti, Kaikoura, and Palliser Bay grounds, provided 65 per cent. of the total fish landed. The principal fish caught by the trawlers, in order of abundance, was tarakihi (over 70 per cent. of the total fish landed by these vessels), moki (4·7 per cent.), barracouta (3·9 per cent.), snapper (2·4 per cent.), red cod (2·1 per cent.), groper (1·1 per cent.), and "whiting" (1 per cent.)

With regard to the long-line fishing-vessels operating from Wellington, the data available show the highest total for both groper (hapuku) and ling that has been shown since the collection of records of the fishing was commenced in 1932, with practically no change in the hake landings since last year. The general use of sardines ("Picton Herrings") as bait for groper has had a marked effect in improving the catches.

The catch for the district totalled 46,103 cwt., valued at £54,908, and consisted of: Trawled fish, 62·3 per cent.; fish landed by the regular long-lining fleet of Wellington, 23·5 per cent.; fish from miscellaneous fishing-launches working in and around Wellington Harbour, 10·1 per cent.; fish from local rowing boats, 0·1 per cent.; and fish caught by boats operating at Makara, Paremata, Paraparaumu, and other small stations on the west coast of the province, 3·9 per cent. Of the total fish landed in Wellington 45·7 per cent. by weight consisted of tarakihi, with groper (hapuku) next in order of importance, representing 19·5 per cent. Making nine landings at Wellington during the year, the fish-carrier "South Sea" brought a total of 8,721 cwt. of blue cod, 12 cwt. of groper, and 6 cwt. of mixed fish from the Chatham Islands.

The returns from the French Pass district give a total of 2,545 cwt., compared with the previous year's total of 1,919 cwt. We are now getting much better information as to the fishing in this region than formerly, but it is still uncertain whether our data represent the whole of the fish taken. It would appear, however, that there is very little steady and continuous fishing throughout the year, and the returns received give an average of approximately seven landings per boat per month for the only three boats that worked every month during the year. The other boats did not average more than two landings each per month.

The system of individual fishing-boat returns has for the first time enabled a fairly comprehensive and precise statement to be made regarding the fishing operations from the South Island fishing ports, such as is summarized below :—

Port.	Method of Fishing.	Percentage (by Weight) caught by each Method.	Principal Kinds of Fish caught by each Method (in order of Quantity).
Picton	Lines	93·9	Groper, blue cod, hake.
	Set-nets	6·1	Butterfish, moki.
Blenheim	Trawl	97·4	Flat fish, tarakihi, moki.
	Set-nets	1·4	Moki, butterfish, tarakihi.
	Lines	1·2	Groper, blue cod, snapper.
Kaikoura	Lines	95·3	Groper, ling, trumpeter.
	Set-nets	3·6	Butterfish.
	Trawl	1·1	Sole.
Lyttelton	Trawl	70·1	Tarakihi, ling, elephant-fish.
	Danish seine	19·1	Elephant-fish, gurnard, sole.
	Seine-net	7·8	Whiting, flounder, red cod.
	Lines	3·0	Red cod, ling, groper.
Akaroa	Trawl	83·3	Sole, elephant-fish, gurnard.
	Lines	15·9	Groper, ling.
	Seine-net	0·8	Flounder.
Timaru	Lines	61·8	Groper, ling.
	Danish seine	28·9	Gurnard, sole, red cod.
	Trawl	9·3	Flounder, red cod.
Oamaru	Lines	97·4	Groper, red cod, blue cod, ling.
	Set-nets	2·4	Moki, butterfish.
	Trawl	0·2	Sole, flounder.
Moeraki	Lines	98·3	Groper, blue cod, ling.
	Set-nets	1·7	Moki, butterfish.
Port Chalmers	Trawl	48·6	Sole, red cod.
	Lines	42·5	Groper, ling.
	Seine-nets and set-nets	8·9	Flounder, red cod.
Taieri Mouth	Trawl	76·9	Sole, flounder.
	Lines	23·1	Groper, blue cod, red cod.
Nuggets	Trawl	78·2	Sole, flounder.
	Lines	21·8	Groper, barracouta.
Owaka	Lines	66·7	Groper, blue cod.
	Nets (seine)	33·3	Flounder.
Waikawa	Trawl	65·7	Sole, flounder.
	Lines	33·9	Groper, blue cod.
	Nets (seine)	0·4	Flounder.
Invercargill	Nets	87·9	Flounder, "herring."
	Lines	12·1	Blue cod.
Bluff	Lines	84·6	Blue cod, groper.
	Nets	15·4	Flounder, butterfish, moki.
Stewart Island	Lines	96·7	Blue cod, groper, trumpeter.
	Set-nets	3·3	Butterfish, moki.
Riverton district	Lines	98·0	Blue cod, groper.
	Seine-nets	2·0	Flounder.
Greymouth	Trawl	86·9	Sole.
	Lines	11·0	Groper.
	Seine-nets	2·1	Mixed flat fish.
Westport	Trawl	74·6	Sole, flounder.
	Lines	25·2	Groper.
	Seine-nets	0·2	Mixed flat fish.
Motueka	Lines	96·0	Snapper, blue cod, groper.
	Seine-nets	4·0	Flounder,
Nelson	Lines	67·4	Snapper, groper, blue cod.
	Danish seine	31·2	Flounder, sole, gurnard.
	Seine-nets	1·4	Snapper, flounder.

For details of the fishing-vessels engaged and the total quantities and kinds of fish caught, reference may be made to Tables I, II, and IIA. Precise comparison with the conditions of the previous year is not possible, for reasons already mentioned. The general impression obtainable from various reports is that the local trawling-grounds off Canterbury and Otago are not as productive as formerly. The groper fishery, though yielding good supplies to long-liners on occasions, requires more effort than formerly to produce the same results. The blue-cod season for Stewart Island was below average and was much affected by bad weather.

Statistics.

Reference has already been made to this subject. In previous reports I have called attention to their fundamental necessity as a basis for fishery administration. Future reports, as they approach nearer to the ideal of what fishery reports should be, will consist to an increasing degree of information based on statistical data—viz., a record of the quantities of fish of various kinds produced by certain methods of fishing expressed so as to show the relationship between the yield of the fishery and the amount and kind of effort that has been used to produce it. This will involve a complete recasting of the form of this report such as has not been possible for this year, but which it is hoped will be possible for next year's report.

Attention may here be drawn to the one additional table (Table IIB, p. 47) which it has been possible to include in this year's statistics. This table shows the total amounts of each kind of fish produced by (*a*) trawling, (*b*) Danish-seining, (*c*) other nets (viz., set-nets and seines or drag-nets, which, unfortunately, have not been differentiated in some of the returns received), and (*d*) line-fishing. The total fish caught by each method of fishing were as follows :—

Method of Fishing.	Quantity.		Value.	
	Hundredweight.	Percentage of Total.	£	Percentage of Total.
Trawl	127,711	35·2	120,422	33·4
Danish seine	114,909	31·6	96,255	26·7
Long- and hand-lines ..	94,478	26·0	108,665	30·1
Set- and drag-nets or seines	26,030	7·2	35,124	9·7
	363,128	..	360,466	..

It will be noted that the fish caught by lines, though 5·6 per cent. less by weight than the proportion caught by Danish-seining, is 3·4 per cent. higher in value.

Of the total fish caught by line-fishing, groper (hapuku) represents 30·7 per cent., blue cod 29·0 per cent., and snapper 20·4 per cent. Ten other kinds of fish make up the remaining 19·9 per cent.

The quantities of the different kinds or classes of fish constituting the grand total of all wet fish landed for the year, together with their values, are shown below in order of abundance :—

Kind or Class of Fish.	Quantity.		Value.	
	Hundredweight.	Percentage of Total.	£	Percentage of Total.
Snapper	142,425	39·22	110,379	30·62
Tarakihi	53,114	14·63	51,492	14·29
" Mixed round fish " ..	32,792	9·03	25·322	7·02
Hapuku (groper) ..	31,673	8·72	46,120	12·79
Blue cod	27,403	7·55	34,415	9·55
Ling	12,723	3·50	9,334	2·59
Soles	11,971	3·30	19,404	5·38
Flounders	10,992	3·03	24,277	6·74
Gurnard	9,294	2·56	5,909	1·64
" Mixed flat fish " ..	7,543	2·08	15,295	4·24
Red cod	4,082	1·12	2,317	0·64
Mullet	2,666	0·74	1,922	0·53
Elephant-fish	2,287	0·63	2,237	0·62
Moki	2,277	0·62	2,010	0·56
Hake	2,162	0·59	2,009	0·56
John-dory	2,158	0·59	1,953	0·54
Barracouta	1,873	0·52	695	0·19
Pioke	1,603	0·44	277	0·08
Warehou	1,546	0·42	1,321	0·37
Butterfish	1,504	0·42	2,585	0·72
Whiting	644	0·18	741	0·21
Trumpeter	396	0·11	452	0·12
Totals	363,128	..	360,466	..

Exports.

The figures obtained from the Customs Department are shown in detail in Table V (p. 48). Exports of frozen fish have diminished in total quantity from 54,267 cwt. for the previous year to 50,727 cwt. for the year ended 31st March, 1937, but the total value shows an increase from £123,198 to £132,401. The change in both totals may be to some extent connected with the fact that there is an increasing tendency to ship fillets, especially of snapper, instead of whole fish for the Australian trade.

The quantities in the principal classes of exports for the last six years have been as follows :—

—	1931–32.	1932–33.	1933–34.	1934–35.	1935–36.	1936–37.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Frozen fish	14,098	19,854	34,738	46,714	54,267	50,727
Fish smoked, dried, pickled, or salted	638	521	1,243	1,968	2,519	3,724
Fish potted or preserved in tins—	lb.	lb.	lb.	lb.	lb.	lb.
Oysters	69,479	51,620	128,028	95,270	172,855	331,747
Other kinds	112,186	103,186	384,282	184,148	174,438	160,994

Blue-cod exports show a decline of 24·4 per cent. in quantity and 18·5 per cent. in value ; flounder have decreased by 37·3 per cent. in quantity and 11·4 per cent. in value ; the exports of snapper, however, show an increase of 34·5 per cent. in quantity and 84·5 per cent. in value, the disparity between the increments of quantity and value in this case being largely due to the above-mentioned trade in filleted fish.

Of canned fishery products the considerable increase in oysters shown last year is well maintained, the total being almost double in quantity and more than double in value in comparison with last year's figures. Toheroa and whitebait exports have also increased, but canned crayfish shows a substantial decline.

Rock Oysters.

As in 1935, the direction of the oyster-picking operations for the 1936 season was attended by difficulties arising from the great preponderance of young oysters on the beds, which were not sufficiently grown to be removed and which were liable to damage by the removal of those that were marketable. This condition was most marked in the Bay of Islands. Picking began on the 4th June, and the last shipment for the season arrived at the Auckland Depot on the 21st August. Weather conditions were generally much more favourable than during the previous winter, and the work of collection and transport from the beds was conducted with efficiency, for which credit is due to the Senior Inspector of Fisheries, in general charge, and to the local Inspectors, overseers, and pickers in the different areas of supply.

The numbers of sacks marketed from each area was as follows : Bay of Islands, 1,197 ; Kaipara, 350 ; Hauraki Gulf, 1,583 (Takatu - Gull Point, 138 ; Kawau, 120 ; Rakino, 89 ; Rangitoto, 368 ; Motutapu, 122 ; Waiheke, 353 ; Ponui, 365 ; the Noisies, 7 ; Crusoe's Island, 21) ; Coromandel, 403 ; Great Barrier Island, 500 : total, 4,033 sacks (of 3 bushels each). The gross proceeds from sales amounted to £4,965.

Since 1922 the beds in Whangarei Harbour have been picked for two seasons and then left for one, and 1936 was a year when no oysters were obtained from here. The beds in this harbour were reported to be in a disappointing condition. It is to be expected that this condition will prevail until whole-time surveillance is provided, with the continuous attention to both cultivation and protection that can only be forthcoming by the appointment of an Inspector competent to attend to these matters. Whangarei Harbour is one of the most promising areas within reasonable access to markets where there is scope for increasing rock-oyster production.

Oyster-cultivation.

The usual operations have been conducted in connection with the destruction of pests and the cleaning of the beds, most attention to constructive work on a major scale having been given to the Kaipara Harbour, where there is most scope for it and the best prospects of profitable results. The details of the work done during the year are shown in the following statement :—

Work done, Area, and Cost :—

I. Bay of Islands : 559,200 borers and 1,690 pupus destroyed ; 12,995 square yards of rock cleared of weed, and 17 square yards of new rock-face exposed by blasting ; 29 square yards of drift bed formed. Cost, £100.

III. Kaipara : 23,250 square yards of clean stone laid down and 1,815 square yards of stone turned. Cost, £499 10s.

IV. Takatu to Gull Point : 206,800 borers and 285 pupus destroyed ; 110 square yards of rock cleared of dead shell. Cost, £2 8s.

V. South Shore, Tamaki Strait : 157,200 borers and 93 pupus destroyed ; 360 square yards of rock cleared of dead shell. Cost, £5 12s.

VI. Coromandel : 337,557 borers destroyed ; 1,500 square yards of rock cleared of weed ; 190 pumice-concrete posts, with transplanted young oysters, erected. Cost, £25.

VII. Kawau : 87,400 borers and 71 pupus destroyed ; 300 pumice-concrete posts erected and 10 re-erected. Cost, £48 17s. 9d.

X. Motutapu : 164,000 borers and 95 pupus destroyed. Cost, £4.

XII. Motuihi : 234,000 borers destroyed. Cost, £4 16s.

XIII. Waiheke : 880,200 borers and 1,133 pupus destroyed ; 2,654 square yards of rock cleared of weed and 2,373 square yards of dead shell. Cost, £36 16s.

XIV. Ponui: 727,000 borers and 609 pupus destroyed; 360 square yards of rock cleared of weed. Cost, £16.

XVI. Great Barrier: 1,907 square yards of oyster-bearing rock shifted to better position; 1,439 square yards of clean stone laid down, and 2,233 square yards of mixed oyster-bearing and clean stone laid down; 97,500 borer destroyed; 6,594 square yards of rock cleared of weed. Cost, £86 8s.

All Areas: 1,907 square yards of oyster-bearing rock shifted to better position; 24,698 square yards of clean stone laid down; 2,233 square yards of mixed oyster-bearing and clean stone laid down; 3,450,857 borers and 3,976 pupus destroyed; 24,103 square yards of rock cleared of weed and 2,843 square yards cleared of dead shell; 29 square yards of drift bed formed; 17 square yards of new rock-face exposed by blasting; 190 pumice-concrete posts transplanted from Kawau to Coromandel and 300 new pumice-concrete posts erected and 10 old posts re-erected. Cost of labour and material, £829 7s. 9d.

Judging from results obtained from similar work previously carried out, the 23,250 square yards of clean stone laid down on a beach in the Kaipara Harbour should yield good results when the oysters that are expected to settle thereon come to marketable size. Since the operations of transporting and laying down the new stone were dependent upon seasonal labour there were more difficulties to be overcome in getting suitable employees than usual owing to the increase of steady employment in the district, and the costs of the work were somewhat increased for the same reason. The prospects of getting an early and abundant "spatfall" are better here than in most areas, though growth to marketable size is somewhat slow.

Captain Daniel's transplantation experiment, in which oysters bred in Bon Accord, Kawau (where oyster propagation, as in Kaipara, is usually on a more generous scale than average), and carried across the Hauraki Gulf to be planted on the Coromandel side (where oyster-spawning is precarious and sparse but individual growth is good) has been continued with modifications. This year 190 posts encrusted with young Kawau oysters were transplanted to the Coromandel area and 300 new posts of a similar kind were erected on Kawau beaches.

Dredge Oysters.

The Bluff fleet of oyster-dredgers showed an increased activity, in comparison with the previous year, during the season (February to September inclusive) of 1936. An additional vessel was in operation for the last five months of the season; the total number of landings made was increased from 772 to 1,078, and the total quantity of oysters marketed was 63,412 sacks, valued at £39,632, as against 49,712 sacks, valued at £31,070, for the season of 1935.

Exports of fresh oysters from Bluff amounted to 132,236 dozen (equalling approximately 2,200 sacks, or 6,600 bushels), which was less than the 1935 total by 63,878 dozen. On the other hand, the export of canned oysters reached the high figure of 331,747 lb., valued at £12,974, as compared with 172,855 lb., valued at £6,444, for the previous year.

Toheroas.

The total quantity of toheroas packed during the year at the two canneries in North Auckland was 104,936 lb., and the export statistics show that 32,979 lb. was exported during the same period, both figures being substantially higher than those for the previous year (75,288 lb. and 24,836 lb. respectively).

The extensive areas of toheroa-beds on the Ninety-mile and North Kaipara beaches are reported to be well maintaining their stocks except in proximity to roads and holiday camps. The more southern beds, which are naturally less extensive and generally more accessible, appear to have depreciated in the last few years. The amount of protection that the Department has been able to give them up to the present does not seem to be sufficient to ensure conservation in the face of the growing popularity of the toheroa as a food and the increasing numbers of motor-cars that visit the beaches. It has been suggested that the present limit of fifty that may legally be taken per person per day is too high, and it may be necessary to reduce this limit, at least in some districts. The necessity of more attention on the part of the Department is indicated not only in regard to "ranging," but also in connection with surveys of available stocks so that a knowledge of their adequacy or inadequacy in relation to exploitation may be obtained in time to ensure that suitable measures for conservation may be taken.

So far as is possible, with our limited staff and many duties over a wide area, we have endeavoured to keep the various toheroa-beds under periodical observation, and the marine biologist has continued to collect occasional data in this connection. A study of the food and of the reproductive phenomena has also made some progress. The beds in the Wellington Province have naturally received most attention and would appear to need most attention since a remarkably small proportion of young toheroas is found among the stock. The indications are that good years for reproduction are few and far between in this area.

Whitebait.

Comprehensive information concerning the whitebait fishing throughout the Dominion is impossible to obtain under present conditions, but a summing-up of the season as the worst on record for most places appears to be closely in accordance with the facts in regard to the year 1936.

The information obtained as to the fishing and its productivity from the principal centres is summarized below :—

Whitebait Fishery.

Inspector's Centre.	Rivers fished.	Method of Fishing.	Fishing began	Best Month.	Number of Fishermen. (Approximately.)		Total Quantity caught. (Approximate.)
					Whole Time.	Part Time.	
							Cwt.
Auckland ..	Waikato	Hand-nets ..	July ..	September ..	70	50	1,029
Auckland ..	Kaituna	Hand-nets ..	July ..	September ..	10	12	45
Auckland ..	Tarawera and Rangitaiki	Hand-nets ..	Late July	August – September	30	30	39
Napier ..	Tukituki and Ngaruroro	Set-nets ..	July ..	October ..	25	50	31
New Plymouth	Mimi, Urenui, Waitara, Waiwakaiho, &c.	Hand and set nets	July ..	August ..	..	100	13
Foxton ..	Manawatu ..	Set-nets ..	July ..	October ..	..	20	17
Wellington ..	..	..	..	..	..	..	..
Blenheim ..	Wairau, Opawa, Tuamarina, and Rose's Overflow	Hand-nets ..	September	November ..	5	50	25
Karamea ..	Karamea and Little Wanganui	Hand-nets ..	August ..	September ..	..	40	23
Westport ..	Buller, Totara, and Ngakawa	Hand-nets ..	August ..	..	..	50	125
Greymouth ..	Teremakau, Grey, and New Rivers	Set and hand nets	August ..	November ..	20	100	121
Hokitika ..	Hokitika, Mahinapua Creek, Waimea, Totara, and Waitaha	Set and hand nets	August ..	October ..	61	40	243
Matainui ..	..	..	..	..	..	..	..
Christchurch ..	Styx, Ashley, Waimakariri, and Avon	Set and hand nets	September	November ..	53	24	93
Dunedin ..	Mataura, New River, Waikini, Oreti, Molyneaux, Taieri, and Waikouaiti	Hand-nets ..	September	October ..	..	..	44
Invercargill ..	Mataura, Oreti, Aparima, and Makarewa	Hand and set nets	September	..	..	150	40
							1,888

Compared with the previous year, all the chief sources of commercial whitebait-supplies show a considerable decline, except the Waikato (Auckland), from which the estimated yield was 1,029 cwt., as against 804 cwt. for the 1935 season. It should be noted, however, that the Waikato whitebait do not consist entirely of young *inanga* (*Galaxias attenuatus*), but contain an admixture of young smelts or "silveries" (*Retropinna retropinna*); and this season the proportion of smelts was unusually high, amounting, according to a competent judge on the spot, to more than 60 per cent. of the total. Young smelts are also taken with whitebait in the southern rivers, but it is doubtful whether the proportion caught and marketed ever reaches as much as 6 per cent. They are perfectly palatable and nutritious, and young fish belonging to the same family constitute a large part of the mixture of species that is covered by the commercial name of "whitebait" in other parts of the world. However, the connoisseur of New Zealand whitebait considers that their presence among the true *Galaxias* species depreciates its high gastronomic quality. The opinion has been expressed by a resident observer of whitebait conditions on the Waikato that the small run of *Galaxias* whitebait in the spring of 1936 was a consequence of the abnormal flood during February, which left a heavy deposit of silt on the herbage of the river-banks at the time when the spawn would be lying there. The report from the local Inspector of Fisheries for the Napier district describes the fishing in the Ngaruroro and Tukituki Rivers as fair, the total yield being estimated at 31 cwt., as against 32 cwt. for the previous season. In most other places, and particularly on the West Coast of the South Island, the prevalence of wet weather and continual floods were generally regarded as responsible for the greatly reduced catches; but there seems little doubt that in several rivers the quantities of fish running were well below the average. No estimate was obtained from Matainui as to the catches of whitebait in southern Westland this season. It is known, however, that the fishery in that remote and comparatively virgin region was disappointing. Two enterprises may be noted in connection with the whitebait fishery of this territory, one being the location, not for the first time, however, of a mobile cannery plant at Parenga; the other the transport of whitebait from Big Bay by aeroplane to Invercargill. This will doubtless be continued in subsequent seasons so long as the virgin resources are maintained in this region, which had been unexploited up to this time and which is apparently the only part of New Zealand where the whitebait stocks have not been deteriorated by the effects of human settlement and human interference with the primeval natural conditions. Poor as was the 1936 total catch of whitebait compared with those of earlier years, it nevertheless represented a total value of nearly £18,000 to the fishermen, without regarding the numerous "feeds" of this delicacy secured by amateur whitebaiters.

In order to save the fishery from continuing still further in the general decline that has been shown over the last twenty years it is essential that action should be taken of a more thorough-going kind than is represented by the additions and amendments to fishery regulations that have been the sum total of the Department's reactions up to the present. This is far from implying that the last word has been said on the subject of whitebait regulations of the conservation all kind, but in addition I would recommend that definite provision should be made—

(*a*) For the further investigation of the life-history of the species, especially the location of spawning-places not yet determined :

(*b*) For the protection of known spawning-places which have been shown to be subject to known and preventable causes of damage.

(*c*) For the protection and, if possible, the extension of such waters as can be shown to be important feeding-places for the adult *inanga*, and for the prevention of the further reduction or destruction of such bodies of water :

(*d*) For the more adequate " ranging " of whitebait-fishing waters.

All these measures would involve expenditure and necessitate additional appropriations from the public funds. To meet this, and also to facilitate administrative contacts with and control of the fishery, it is desirable that a licensing system should be set up for whitebait-fishing. This step is approved by the great majority of those who are seriously interested in both the catching and the commercial utilization of whitebait.

Quinnat Salmon.

With a good run of salmon into the Waitaki River during the late summer months and access to the upper waters prevented by the dam at Waikino, there was no difficulty in getting all the ova required for the Hakataramea Hatchery for the winter of 1936. The rack across the lower Hakataramea was in position on 11th April, and the first fish came into it four days later. Only a portion of those which came into the trap were used for stripping, the rest being put over the rack to continue their progress and to spawn naturally. The numbers of fish trapped and of eggs taken each month were as follows :—

——	Males.	Females.	Ova.
April (1st to 30th)	256	142	306,000
May (1st to 5th)	157	107	309,000
	413	249	615,000

On 9th May the rack was opened and the fish allowed to go through. The run this season continued into July, which is very exceptional.

Of the fry that hatched out, 10,000 were retained for the ponds, 15,000 were shipped to Victoria, and the rest were planted in the Hakataramea at intervals between six and twenty-five miles above the hatchery. The salmon which passed the site of the rack (a few chains above the mouth of the Hakataramea River) spawned in considerable numbers in the lower two or three miles of its course. Many also spawned in the main Waitaki River below the dam and, according to reports, to within a relatively short distance of the sea. A number of female salmon were found dead, with ova unshed, between the dam and Kurow. It would appear that the presence of this obstruction must inevitably bring about a considerable reduction in the total salmon-propagation capacity of the Waitaki River system in the near future. The spawning potentialities of the Hakataramea, the only tributary now available, seem to be very limited. The planting with artificially hatched fry of its upper waters, which are not naturally " seeded " by quinnat salmon, may serve to maintain an adequate run each season into this river and provide a sufficient quota of parent fish for hatchery purposes. The extent of suitable bottom for spawning in the main river and the capacity of its waters for the sustenance of salmon fry are factors about which, with our present knowledge, we can only guess. All that can be said is that the construction of the Waitaki Dam has staged an experiment in salmon and trout ecology which, though unsought, will yield some valuable practical information when there has been time for the results of the physical change to be demonstrated in the biological conditions. If there should be shown a definite decline in the fish-producing capacity of the Waitaki system with regard to both salmon and trout, which for the present remains an open question, there will still be the further question as to whether it would be practicable to construct an effective fish-pass at the dam at a cost commensurate with the expected increase in the value of the fishery.

The usual inspection by Mr. Main, of Deep Creek, Mesopotamia, which was formerly a very productive quinnat-spawning tributary of the Rangitata River, again showed a sub-normal number of fish in the creek in the middle of May, 1936. The main river run had been better than usual and the deficiency of salmon in the creek may be ascribed to the shallowing of the mouth of the creek at its confluence with the Rangitata.

The fishing-season of 1937 showed unusual disparity in the runs in different rivers. For the Waimakariri River no anglers took out selling-licenses, and thus for the first time for many years there are no rod-fishing data for this river. The season was unquestionably a most disappointing one on this river. It is possible that the abnormal flooding in the headwaters during the spawning-season of 1933 had an appreciably depressing effect on the propagation of the year-class that would provide the majority of the 1937 run.

The South Canterbury rivers, however, provided numerous anglers with excellent sport and produced many fish of fair size and good quality. The Rakaia fishing was better than in the previous season, and the Rangitata River gave anglers the best season they had had for many years. A record provided by Mr. F. W. Pellett gives a total of 601 salmon caught at the mouth of this river up to the end of March, and probably more than four hundred were taken in the higher parts of its course. The Opihi fishing was affected by frequent floods and did not produce such a high total as in the previous season. A summary view of the incidence of the catches and some idea of the runs may be gathered from the following statement, which gives the catches recorded for (approximately) each third of the month.

——	January.			February.			March.			April.		
	1st to 10th	11th to 20th	21st to 31st	1st to 10th	11th to 20th	21st to 28th	1st to 10th	11th to 20th	21st to 31st	1st to 10th	11th to 20th	21st to 30th
Rangitata River	..	..	..	47	42	107	84	264	57	..	..	..
Opihi River ..	..	1	2	2	4	8	42	44	41	3	3	..

The Waitaki anglers also had a good season. The fish did not appear in considerable numbers till the end of February, with the peak of the run towards the end of March. An angler who took out a selling-license for the last fortnight of the season reported a catch of twenty-one fish, taken on the 4th, 7th, and 11th of May between Duntroon and the Waitaki Dam. The average weight of these salmon was 16·7 lb.

The returns sent in by holders of selling-licenses have been tabulated in the usual form and with the net-fishing returns are summarized in the table that follows.

Quinnat Salmon, 1937.

——	Males.	Females.	Sex not given.	Totals.
Return from Rods.				
Rakaia River, 1/2/37 to 29/3/37 (five rods)—				
Number of fish caught	83	114	6	203
Total weight	1,263 lb.	1,597 lb.	92 lb.	2,952 lb.
Average weight	15·2 lb.	14·0 lb.	15·3 lb.	14·5 lb.
Rangitata River, 3/2/37 to 28/3/37 (six rods)—				
Number of fish caught	82	94	20	196
Total weight	1,210 lb.	1,500 lb.	328 lb.	3,038 lb.
Average weight	14·8 lb.	16·0 lb.	16·4 lb.	15·5 lb.
Combined Rivers, 1/2/37 to 29/3/37 (eleven rods)—				
Number of fish caught	165	208	26	399
Total weight	2,473 lb.	3,097 lb.	420 lb.	5,990 lb.
Average weight	15·0 lb.	14·9 lb.	16·1 lb.	15·0 lb.
Return from Net-fishing.				
Waimakiriri River, 9/3/37 to 11/4/37 (two nets)—				
Number of fish caught	57	49	..	106
Total weight	524 lb.	525 lb.	..	1,067 lb.
Average weight	9·2 lb.	10·2 lb.	..	10·1 lb.

It will be noticed that the figures for the net-fishing in the Waimakariri show the lowest total catch since netting began. The poor runs this season, to which reference has already been made, may have had something to do with this, but a further and probably more potent cause of non-success was the considerable changes that have taken place in the conformation of the bed of the river since the previous year. In the mile or two of the lower course of the Waimakariri that is open to net-fishing there were only two places where it was both practicable and profitable to drag a net. For several years one netsman had operated at the "draft" by the Styx mouth and the other three at the "draft" abreast of Kairakei, each following in turn over the same water. The great flood of October, 1936, in combination with the operations of the Waimakariri River Trust, has completely wiped out the salmon pool near the Styx mouth and greatly reduced the fishing value of the other by altering the bottom contour. Consequently only two licenses for salmon-netting were taken out, and the licensees between them secured only 106 fish.

An application for a netting-license for the Rakaia was granted this season, but the licensee was not able to overcome the physical obstacles to successful netting and caught only three fish.

Atlantic Salmon.

For the trapping of Atlantic salmon for the supply of ova to the Te Anau Hatchery the usual rack was constructed in the Upokororo River and being completed on the 10th of March was entered by the first salmon on the following day. The numbers of fish taken each month during the season were as follows:—

——	Males.	Females.	Totals.
March	23	14	37
April	59	58	117
May	63	95	158
June	40	62	102
July	29	52	81
August	5	7	12
September (1st to 2nd) ..	..	1	1
	219	289	508

The hatchery was supplied, to the full extent of its accommodation, with 422,000 ova, which were obtained from 156 female parent fish. Seventy-eight females escaped from the pen when an exceptionally heavy flood came over the stockade, and 133 were liberated above the rack to proceed to their natural spawning-places. The river was frequently in spate, but only one big flood, in which the river rose nearly a foot above the highest level that had been recorded for many years, caused any serious damage to the rack-structure or loss of fish.

The fry produced were particularly healthy and vigorous, and, with practically no loss during incubation, the output was estimated at not less than 422,000. The majority of the parent fish were unusually small, some being no more than 2 lb. and about half of them under 4 lb. The largest fish were among the latest of the run. 36,000 fry were liberated in the Eglinton River and the rest at various places in the Upokororo River and its tributary creeks.

The building and most of the accessories of the Hatchery at Te Anau are now in a very dilapidated condition and the question of their renewal is one that calls for early attention. There is much to be said in favour of a well-built permanent establishment of such dimensions that full use could be made of the available supply of spring-water, that is of particularly good quality for hatchery purposes.

Scientific Investigation.

In the report on fisheries for the year 1927–28 a section under this heading appeared, for the first time, in which was briefly recorded the progress made in our understanding of the biological basis of fishery problems; and, since fishes are living organisms, every fishery problem has a biological basis, the fundamental factors of which must be understood before the problem can be elucidated or appreciated. The modest efforts that were being made in this direction were held up by lack of funds during the years of financial depression, and for the last four years this section has been missing from the fisheries report. It now reappears, with a fair prospect of becoming increasingly substantial and useful; at least that is the hope of the writer.

Marine Fisheries.

The fishery departments of most countries both pursue and encourage other institutions to pursue the study of marine biology, of which the natural history of food-fishes constitutes a part. They do so because it is recognized that an understanding of the nature of the many factors, both physical and organic, that pertain to the environment of fishes is necessary before one can have a complete understanding of the fishes themselves.

Science as applied to the art of fish conservation consists mainly of the study of the factors that may be classed as favourable or inimical as they affect the existence of any particular species of useful fish. Common experience has shown that, so far as our commercial New Zealand fishes are concerned, they were more abundant in the earlier days—even so recently as under twenty years ago—than they are to-day, and that fishery operations are the new factors that have come into play to account for the reduction. The systematic or scientific study of the effects of the human factor upon fish-life is therefore an important part of fishery investigation; and fishery statistics are the means whereby this line of investigation is carried on. But having, by statistical or other methods, reached the conclusion that a certain fishery is in need of regulation—which usually implies restrictions—the question arises as to the most suitable form of restriction to apply. The most suitable form is what will give the greatest help to the fish with the least hindrance or loss to the fishermen. It is here that a more purely biological understanding of the conditions is necessary, among which may be mentioned such matters as when and where the fish spawn, how long it takes them to mature, the size at which they mature, the rate of growth, and the rate of survival of the several generations that constitute the bulk of the stock. It is only on the basis of some knowledge of these matters that intelligent control of fishery operations can be attempted. With no immediate prospect of pursuing fishery research on an extensive scale, it is on these lines that our inquiries should be directed, and on these lines, with the understanding assistance of members of the fishing industry, it is possible to make

progress with the modest material equipment that is within the scope of reasonable financial resources so long as staff is available; for it is a specialist's job for which workers have to be qualified scientifically and for which special training is essential.

With the diversion of Mr. M. W. Young to more purely administrative duties, the investigational work of a biological nature has been carried on by Mr. A. M. Rapson, B.Sc., who has paid special attention to the stocks of flatfish in Tasman and Admiralty Bays. He has studied the effects of using nets of different-sized mesh on the size-distribution of the fishes in the catch and has obtained data on the age-composition of the fauna of dabs and lemon soles on some of the fishing-grounds. He has also collected and identified the pelagic eggs and larvæ of these and other species with a view to locating spawning-places and nursery grounds. Similar investigations have been made with regard to the blue cod, together with preliminary attempts at elucidating the spawning phenomena of butterfish and the growth-rate of hapuku. These observations have been carried out on commercial fishing-boats and require to be continued and, if possible, extended before definite conclusions can be drawn in relation to the control of fishing-operations. Mr. Rapson has also continued observations on the composition by size (and age) of toheroa stocks, combining with this work observations on the contents of the alimentary canal and on the sexual condition.

Fresh-water Research.

Reference has been made in previous reports to the work carried out under the auspices of the Fresh-water Research Committee of the Acclimatization Societies' Association and to the difficulties encountered in developing the work owing to uncertainty of finance under the system of voluntary contributions from member societies.

On 18th September, 1936, a Fisheries Amendment Act was passed which provided for the contribution by acclimatization societies, out of license fees received by them, towards the cost of research undertaken in relation to fresh-water fisheries; and subsequently, on 1st October, 1936, regulations were made pursuant to this Act by which one-tenth of the aggregate fees chargeable for fishing-licenses issued by acclimatization societies should be paid into the Consolidated Fund. At the same time the Government took over the responsibility for continuing research work and arranged that it should be administered by the Marine Department. Owing to the difficulty of obtaining premises to serve as a laboratory the transfer did not take place till the year now under review had terminated, the Marine Department meanwhile assuming financial responsibility for the continuance of the work at Canterbury College, Christchurch, and in the field.

During the final year of their service under the Committee the two biologists continued the collection and examination of material obtained for the purposes of the two main lines of investigation that were already in train.

Mr. Parrott examined and reported on a sample of rainbow-trout scales from Lake Pearson and a small sample of brown-trout scales collected in the Waipori River system (Otago) in 1932.

In continuing his investigation of trout-reproduction Mr. Hobbs aimed at studying redds in as many different types of environment as possible, sharing the available time between the rainbow-trout waters of the Auckland Acclimatization District and the brown-trout waters of Southland and the Kakanui River, North Otago. Studies of the food and other factors affecting the early growth of trout were also made.

Professor Percival, of Canterbury University College, continued his personal investigation of fresh-water plankton, reporting to the Committee on the preliminary sampling of thirty-seven lakes in the South Island, with special reference to the variation in the abundance of minute organisms in the water of different types of lake.

By way of historical record it is appropriate to quote Professor Percival's general *résumé* of the work of the New Zealand Fresh-water Research Committee which he gave at its winding-up meeting on 3rd June, 1937, in which he said:—

> "At this final meeting of the Committee it is worth while to look back at the activities of the body set up by the Acclimatization Societies' Conference of 1929. At that time there was a feeling that insufficient knowledge existed about the inland fisheries of this country to enable administrators and anglers to understand the situation which had arisen in various parts where the return in average weight was said to be declining. The conflicting explanations at that time offered were unsatisfactory, and the Committee was charged with the 'investigation of the well-being of trout and other acclimatized fish.'
>
> "Two avenues of work offered themselves, one being an inquiry into possible causes of the alleged decline in fishing quality, the other being an attempt to determine the nature of stocks in age, length, and growth-rate with the object of providing a picture of present conditions and of accumulating facts which might be of comparative value in the future. The first of these inquiries resulted in the Fisheries Bulletin No. 5, the second in a preliminary paper in Fisheries Bulletin No. 4. Since then an examination of the fauna and environmental conditions of numerous fishing-waters throughout the Dominion has taken place, while large quantities of samples of scales from fish of known lengths and weights have been collected. Many of these have been read and many remain to be read.
>
> "Five years ago Mr. Hobbs voluntarily offered to undertake the study of natural regeneration of brown and rainbow trout and quinnat salmon. This work is still in progress and has meanwhile given a large amount of information about the value of natural reproduction in maintaining stocks. It has led in various directions to the consideration of the relation between young salmonids and between them and other species, to the consideration of factors controlling growth-rate and migration, and to an examination of the absolute productivity

of females in terms of eggs produced. The work has opened up possibilities of fishery management which did not appear before and should be considered as providing the most important contribution made with the Committee's facilities.

"Arising out of this work is the question of the reliability of the scale-reading method and of its limitations, and the indication that, while the laboratory must play an active part in elucidating problems, work in the field must always provide a test of conclusions derived in the laboratory, and *vice versa*.

"Collaboration with some societies has been successful in the carrying out of long term observations. Among these may be mentioned the experiment in the Kakanui River, North Otago. Here, alternation of stocking and non-stocking with hatchery fry is proceeding with the object of determining the effect on the year class composition of anglers' catches, based on analyses of catches in the past several years. The first batch of material to be collected for this purpose should come in 1937–38. Southland has also taken part in collecting material to show migration changes in the Oreti and Aparima Rivers, and in trapping streams for productivity determinations.

"During the existence of the Committee there has been a considerable amount of contact with societies all over the country for the purpose of explaining the aims and objects of the work and to inform them of the progress achieved.

"In sum, the Committee may go out of existence knowing that knowledge has been obtained and understanding gained about a variety of matters which eight years ago were nebulous, and that a mass of raw fact is collected which may be of use to its successors."

It is also fitting to include in the report the following extract from the minutes of its meeting of 3rd June, 1937:—

"The Committee decided respectfully to communicate to the Hon. the Minister of Marine the following recommendations as to the course the investigations should follow:—

"(1) This Committee considers the continuation of the investigation of the natural reproduction of salmonidæ and of subsequent survival to be of fundamental importance and recommends that this work should be continued, as one of the principal lines of research.

"(2) This Committee recommends that the general survey of the age and growth of stocks of salmonidæ be continued.

"(3) This Committee recommends the continuation of both general and special investigations of lake plankton and also on general stream and lake fauna.

"(4) This Committee recommends that when possible grants-in-aid be made to qualified persons, other than members of the staff, to enable approved special investigations to be carried out."

The members of the Fresh-water Research Committee of the New Zealand Acclimatization Societies' Association were Dr. G. F. V. Anson, Wellington Acclimatization Society (appointed *vice* Mr. L. O. H. Tripp, who retired in 1932); Mr. M. H. Godby, North Canterbury Acclimatization Society; Mr. G. Howes, Otago Acclimatization Society; Professor E. Percival, Canterbury University College (Honorary Director of Research); Mr. E. J. C. Wiffen, Wellington Acclimatization Society (Secretary). Mr. D. F. Hobbs was co-opted to act as Honorary Research Secretary at Christchurch, where the research headquarters were located in the Biology Department of Canterbury University College.

As Chairman of the Committee during its existence, and as the only member with an official or professional interest in fishery matters, I would like to take this opportunity of placing on record my sincere appreciation of the substantial services gratuitously but steadily and earnestly given by the above-named gentlemen to the task of the advancement of fresh-water-fishery science in New Zealand; also to express the hope and belief that the co-operation with them and with acclimatization societies will continue and develop, for, although the fresh-water research organization has changed its name and its address, it will still work in the general interest of all New Zealand anglers.

A. E. Hefford,
Chief Inspector of Fisheries.

TABLE SHOWING THE NUMBER OF SEAMEN ENGAGED AND DISCHARGED IN NEW ZEALAND, AND THE FEES RECEIVED, FOR THE YEAR ENDED 31ST MARCH, 1937.

Port.	Engagements and Discharges, Foreign and Intercolonial Trade.				Engagements and Discharges, Home Trade.				Total Engagements.		Total Discharges.		Grand Totals.	
	Engagements.		Discharges.		Engagements.		Discharges.							
	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.	Number.	Amount.
		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.
Auckland	1,907	189 9 0	2,008	193 15 0	1,337	117 19 0	1,347	116 19 0	3,244	307 8 0	3,355	310 14 0	6,599	618 2 0
Dunedin	442	43 4 0	332	32 2 0	173	15 19 0	170	15 15 0	615	59 3 0	502	47 17 0	1,117	107 0 0
Gisborne	1	0 2 0	2	0 4 0	263	21 15 0	271	23 13 0	264	21 17 0	273	23 17 0	537	45 14 0
Greymouth	36	3 10 0	33	3 4 0	33	2 14 0	33	2 14 0	69	6 4 0	66	5 18 0	135	12 2 0
Hokitika	..	..	..	..	10	0 12 0	11	0 15 0	10	0 12 0	11	0 15 0	21	1 7 0
Invercargill	22	2 2 0	24	2 6 0	42	2 13 0	40	2 19 0	64	4 15 0	64	5 5 0	128	10 0 0
Lyttelton	234	22 0 0	232	22 16 0	312	23 1 0	318	23 13 0	546	45 1 0	550	46 9 0	1,096	91 10 0
Napier	37	3 10 0	34	3 6 0	231	19 5 0	211	21 6 0	268	22 15 0	245	24 12 0	513	47 7 0
Nelson	3	0 6 0	1	0 2 0	484	32 8 0	490	32 12 0	487	32 14 0	491	32 14 0	978	65 8 0
New Plymouth	12	1 6 0	9	0 16 0	18	1 8 0	24	2 0 0	30	2 14 0	33	2 16 0	63	5 10 0
Oamaru	2	0 4 0	4	0 8 0	2	0 4 0	2	0 4 0	4	0 8 0	6	0 12 0	10	1 0 0
Onehunga	..	..	..	..	189	16 14 0	182	16 0 0	189	16 14 0	182	16 0 0	371	32 14 0
Patea	..	..	..	..	68	3 8 0	67	3 8 0	68	3 8 0	67	3 8 0	135	6 16 0
Picton	..	..	..	..	20	1 6 0	21	1 6 0	20	1 6 0	21	1 6 0	41	2 12 0
Tauranga	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Te Kopuru	..	..	..	..	1	0 2 0	..	..	1	0 2 0	..	..	1	0 2 0
Timaru	3	0 6 0	2	0 4 0	45	4 1 0	47	4 3 0	48	4 7 0	49	4 7 0	97	8 14 0
Wairau	..	..	..	..	5	0 10 0	3	0 6 0	5	0 10 0	3	0 6 0	8	0 16 0
Wanganui	11	1 4 0	4	0 10 0	54	4 14 0	42	3 15 0	65	5 18 0	46	4 5 0	111	10 3 0
Wellington	3,802	359 18 0	3,609	338 4 0	1,933	163 4 0	1,875	160 13 0	5,735	523 2 0	5,484	498 17 0	11,219	1,021 19 0
Westport	14	1 8 0	24	2 8 0	41	3 14 0	41	3 12 0	55	5 2 0	65	6 0 0	120	11 2 0
Foxton (Post-office)	..	..	..	..	16	1 12 0	20	2 0 0	16	1 12 0	20	2 0 0	36	3 12 0
	6,526	628 9 0	6,318	600 5 0	5,277	437 3 0	5,215	437 13 0	11,803	1,065 12 0	11,533	1,037 18 0	23,336	2,103 10 0

TABLE SHOWING TOTAL COST OF MAINTENANCE (EXCLUDING INTEREST ON CAPITAL AND DEPRECIATION) OF NEW ZEALAND COASTAL LIGHTHOUSES FOR THE YEAR ENDED 31ST MARCH, 1937.

Name of Lighthouse.	Salaries and Wages.	Fuel.	General Maintenance.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Akaroa Head	468 13 8	43 17 4	172 18 1	685 9 1
Baring Head*	776 5 0	29 18 8	744 19 1	1,551 2 9
Brothers	855 10 1	48 19 9	193 3 7	1,097 13 5
Cape Brett	689 12 10	41 12 8	290 11 0	1,021 16 6
Cape Campbell	522 7 0	44 12 8	152 8 5	719 8 1
Cape Egmont*	254 10 3	34 0 4	101 3 1	389 13 8
Cape Maria	795 8 1	55 7 5	394 17 6	1,245 13 0
Cape Palliser	462 8 10	39 19 1	188 6 0	690 13 11
Cape Saunders	491 10 10	52 18 10	163 18 6	708 8 2
Castlepoint	471 6 9	43 1 1	211 2 0	725 9 10
Centre Island	734 2 3	65 15 11	129 10 8	929 8 10
Cuvier Island	716 14 0	48 18 8	290 19 6	1,056 12 2
Dog Island	523 16 4	69 10 11	126 5 7	719 12 10
East Cape	524 7 1	42 8 0	341 15 8	908 10 9
Farewell Spit	678 0 11	58 4 0	196 5 8	932 10 7
French Pass	206 6 8	7 4 10	64 17 4	278 8 10
Godley Head*	270 12 8	37 7 11	315 14 2	623 14 9
Kahurangi Point*	244 0 3	18 15 6	325 19 0	588 14 9
Kaipara Heads	734 13 9	54 1 2	305 10 9	1,094 5 8
Manukau South Head*	244 0 3	15 1 9	222 12 7	481 14 7
Moeraki	458 13 7	48 13 8	86 17 2	594 4 5
Moko Hinou	766 7 8	45 8 4	625 14 8	1,437 10 8
Nugget Point	493 9 11	50 2 9	128 1 4	671 14 0
Portland Island	784 5 11	50 14 2	415 7 8	1,250 7 9
Puysegur Point	798 8 2	73 3 4	285 19 4	1,157 10 10
Stephens Island	797 4 1	57 6 4	254 11 5	1,109 1 10
Waipapapa Point	525 19 7	62 4 8	108 13 0	696 17 3
Marine Store	662 2 6	..	42 1 8	704 4 2
Automatic lights (unwatched)	..	296 18 10	651 15 5	948 14 3
Fog signals	596 7 11	65 4 2	737 4 6	1,398 16 7
Government steamer	12,558 18 10	3,738 17 9	6,064 10 2	22,362 6 9
Radio beacons	..	..	68 14 3	68 14 3
	29,106 5 8	5,340 10 6	14,402 8 9	48,849 4 11

* Watched automatic lights.

RETURN OF ESTATES OF DECEASED SEAMEN RECEIVED AND ADMINISTERED IN PURSUANCE OF THE PROVISIONS OF THE SHIPPING AND SEAMEN ACT, 1908, DURING THE YEAR ENDED 31ST MARCH, 1937.

Name of Seaman.	Balance to Credit of the Estate on 1st April, 1936.	Amount received.	Amount paid.	Balance to Credit of the Estate on 31st March, 1937.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Blaney, F.	22 0 4	1 6 9	23 7 1	..
Broadbent, W.	..	24 13 1	24 13 1	..
Carle, W. H.	3 0 7	0 19 0	0 2 0	3 17 7
de Faire, C.	..	7 12 0	..	7 12 0
Fulton, A.	..	21 7 6	21 7 6	..
Gillies, J.	29 10 11	9 10 0	30 0 11	..
Helgesen, H.	..	8 0 0	..	8 0 0
Henry, J. R.	..	17 18 8	1 0 0	16 18 8
Kenny, W.	..	61 8 3	6 4 0	55 4 3
Kitto, A.	..	2 10 1	2 10 1	..
Laine, J.	..	26 1 1	..	26 1 1
Larseni, C.	..	22 0 3	22 0 3	..
Larsen, O.	..	40 17 10	40 17 10	..
Leadon, G.	..	7 4 0	7 4 0	..
Miki, H.	..	17 18 9	17 18 9	..
Nash, D.	..	12 6 9	0 5 1	12 1 8
Robinson, W. D.	..	2 10 0	..	2 10 0
Whitmore, J. G.	..	196 7 2	196 7 2	..
	45 11 10	480 11 2	393 17 9	132 5 3

RETURN SHOWING AMOUNTS RECEIVED PRIOR TO 1ST APRIL, 1936, STANDING TO CREDIT OF ESTATES OF DECEASED SEAMEN AND FOR WHICH CLAIMS HAVE NOT BEEN PROVED.

	Balance to Credit of the Estate on 31st March, 1937.
	£ s. d.
Banks, G., late seaman, s.s. "Marama"	6 16 6
Linton, P. A., late seaman, s.s. "Koonya"	0 1 0
McEvoy, J., late trimmer, s.s. "Koromiko"	0 1 3
Stevens, F. G., late fireman, s.s. "Kaitangata"	4 5 9
Wareline, F., late seaman, s.s. "Koromiko"	0 1 2
Wassel, R., late seaman, s.s. "Elsie Mary"	0 1 3
	£11 6 11

SUMMARY OF EXAMINATIONS FOR CERTIFICATES OF COMPETENCY AS MASTERS AND MATES FOR THE YEAR ENDED 31ST MARCH, 1937.

Class of Certificate.	Auckland.				Wellington.				Totals.				Total Examinations.
	Final Pass.	Partial Pass.	Failed.	Partial Failure.	Final Pass.	Partial Pass.	Failed.	Partial Failure.	Final Pass.	Partial Pass.	Failed.	Partial Failure.	
Foreign-going, masters and mates	11	9	..	3	..	..	..	..	11	9	..	3	23
Home-trade, masters and mates	8	2	1	1	2	..	..	..	10	2	1	1	14
Master, river (steam)	9	..	1	..	4	..	2	..	13	..	3	..	16
Yacht-master, New Zealand waters	2	..	1	..	1	..	..	..	3	..	1	..	4
Voluntary examination, compass deviation	..	..	4	..	..	..	..	..	..	..	4	..	4
Voluntary examination, signals	1	..	..	..	..	..	..	..	1	..	..	..	1
Signals only	6	..	..	..	..	..	..	..	6	..	..	..	6
Fore and aft endorsement	1	..	..	..	..	..	..	..	1	..	..	..	1
Sub-Lieutenant, R.N.V.R.	3	..	..	..	..	..	..	..	3	..	..	..	3
Totals	41	11	7	4	7	..	2	..	48	11	9	4	72

SUMMARY OF EXAMINATIONS FOR CERTIFICATES OF COMPETENCY AS MARINE ENGINEER FOR THE YEAR ENDED 31ST MARCH, 1937.

Class of Certificate.	Auckland.			Wellington.			Christchurch.			Dunedin.			Other Centres.			Totals.		
	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.
HIGHER-GRADE CERTIFICATES.																		
First and second class (steam)	1	1	2	8	4	12	..	..	..	..	..	..	..	..	..	9	5	14
First and second class (motor)	2	..	2	3	3	6	..	..	..	..	..	..	..	..	..	5	3	8
First and second class (motor, endorsement)	..	1	1	4	2	6	..	..	..	..	..	..	..	..	..	4	3	7
Second class (steam, endorsement)	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1
Third class (steam)	3	7	10	8	6	14	7	6	13	5	4	9	..	..	..	23	23	46
Total	6	9	15	24	15	39	7	6	13	5	4	9	..	..	..	42	34	76
LOWER-GRADE CERTIFICATES.																		
Sea-going engineer, P.V.O.S.	18	11	29	13	3	16	4	..	4	1	2	3	16	2	18	52	18	70
Restricted-limits engineer, P.V.O.S.	7	2	9	3	..	3	3	1	4	1	1	2	17	1	18	31	5	36
River engineer (steam)	1	1	2	1	..	1	1	..	1	..	..	..	2	1	3	5	2	7
Total	26	14	40	17	3	20	8	1	9	2	3	5	35	4	39	88	25	113
Grand total	32	23	55	41	18	59	15	7	22	7	7	14	35	4	39	130	59	189

Return of Wrecks and Casualties to Shipping reported to the Marine Department from 1st April, 1936, to 31st March, 1937.

Date of Casualty.	Vessel's Name, Class, and Age.	Rig.	Register Tonnage.	Number of		Nature of		Number of Lives lost.	Place where Casualty occurred.	Wind.		Remarks, or Finding of Court of Inquiry.	Name of Master.
				Crew.	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1936.													
April 3	Paroto, aux.; 22 years ..	Schooner ..	48	7	Nil	25 tons general ..	Fire	..	Auckland Harbour ..	S.W.	..	Blow-lamp pipe exploded, causing fire in engine-room, damaging paintwork and burning electric wiring	G. Hartley.
,, 3	Storm, s.s.; 13 years ..	Schooner ..	370	17	..	300 tons general ..	Stranding	..	Wanganui River ..	Light northerly	1	Vessel's propeller struck some object at the bend on Mitchell's Reach, and was repaired after vessel reached wharf	W. Williams.
,, 5	Hawera, m.v.; 24 years	Schooner ..	92	10	..	120 tons general ..	Leaking	..	Wellington	Northerly	..	On arrival from Patea, vessel found to be leaking; repairs carried out	P. McLauchlin.
,, 18	Salvus, s.s.; 8 years ..	Schooner ..	2,948	33	..	3,200 tons newsprint ..	Stranding	..	Whangarei Harbour ..	E.N.E.	5	Vessel stranded on starboard side of channel when about one mile from Railway Wharf, Kioreroa, owing to pilot misjudging distance from beach on port side, due probably to strong wind from E.N.E.	Wm. Chas. Smith.
,, 30	Tongariro, s.s.; 10 years	Schooner ..	5,472	51	..	3,960 tons refrigerated and general	Stranding	..	Nelson Harbour ..	S.S.W.	5	Whilst proceeding out of harbour, being towed by s.s. "Kaitoa," vessel failed to turn into channel and took the Inner Mole bank forward on port side, but was immediately afterwards all clear	P. B. Clarke.
,, 30	James Cook, s.s.; 15 years	Schooner ..	1,289	30	..	2,800 tons timber and general	Damaged port hawse-pipe flange	..	Auckland Harbour ..	S.W.	6–7	Whilst berthing at Central Wharf, vessel was caught by squall, and struck outer end of wharf, cracking port hawse-pipe flange	C. G. Turner.
May 1	Holmglen, m.v.; 8 years	Schooner ..	290	12	..	About 500 tons general ..	Damage to bulwarks, &c.	..	Cook Strait	Heavy westerly	Gale	Gale forced vessel to seek shelter, when damage to portholes, bulwarks, stays, handrails, &c., was found	M. M. McArthur.
,, 2	Kawau, s.s.; 37 years ..	Schooner ..	52	10	8	..	Damaged rail and bulwarks	..	Great Barrier Island ..	S.W.	10	While vessel sheltering at Whangaparapara Wharf, gale carried away fairlead and 3 ft. of rail, and tore away windlass on port side	W. Raynes.
,, 2	South Sea, s.s.; 23 years	Schooner ..	127	20	Nil	Fish	Damaged	Nil	Lat. 42° 30′ S.; Long. 177° 0′ E.	S.W.	10–11	During heavy gale with cross-sea, vessel hove to and shipping seas, which smashed two dinghies and window in wheel-house, with other minor damage	A. P. Dowell.
,, 24	Kalingo, s.s.; 8 years ..	Schooner ..	1,154	28	Nil	Nil	Stranded	Nil	Greymouth	N.E.	5	Owing to sea and wind and the outflowing tide, the vessel grounded close to the seaward side of the signal-station. Two leaks were subsequently discovered	C. W. Ostenfeld.
,, 25	Hauturu, m.v.; 9 years..	Schooner ..	162	12	Nil	91 tons	Engine trouble.	Nil	Off Manukau Bar ..	S.	2	Just after crossing the Manukau Bar the port engine developed a hot bearing, whichwas remedied on return to Onehunga	E. J. Keatley.
June 5	Wahine, s.s.; 23 years ..	Schooner ..	1,798	98	210	200 tons	Stranded	Nil	Pipitea Wharf, Wellington	Calm	..	The Court found that the Master was guilty of error of judgment in two respects: (1) In steering the course which he did from abeam of Point Jerningham, which he did not see: (2) in approaching the vicinity of the wharves in such a fog at excessive speed. The Master, Officers, and crew were commended for the promptitude with which they acted in the emergency which arose. The Master's certificate was returned to him and no order was made as to costs	B. B. Irwin.
,, 9	Alma, aux. m.v.; 34 years	Ketch ..	21	4	Nil	Nil	Stranded	Nil	Waihou River ..	W.	5	When passing through bridge-opening the vessel touched piles on port side, damaging them and a short length of the ship's rail	S. Hakanson.
,, 12	Foxton, m.v.; 6 years ..	Ketch ..	100	9	Nil	160 tons	Stranded	Nil	Foxton	W.	1	Vessel grounded on a sand-bank owing to the leading lights being obscured while vessel was entering the Manawatu River. After repeated attempts and the discharge of a portion of the cargo the vessel was refloated, apparently undamaged	I. Dalzell.

RETURN OF WRECKS AND CASUALTIES TO SHIPPING REPORTED TO THE MARINE DEPARTMENT FROM 1ST APRIL, 1936, TO 31ST MARCH, 1937—*continued*.

Date of Casualty.	Vessel's Name, Class, and Age.	Rig.	Register Tonnage.	Number of		Nature of		Number of Lives lost.	Place where Casualty occurred.	Wind.		Remarks, or Finding of Court of Inquiry.	Name of Master.
				Crew.	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1936. June 22	Kapua, aux.m.v., 24 years	Ketch ..	6	3	Nil	85 yards shingle ..	Stranded; total loss ..	Nil	Wanga Point, Hauraki Gulf	S.	2	Owing to the helmsman altering the course before the vessel cleared Wanga Point, and without reporting such change of course to the Master, the vessel stranded and became a total loss	F. S. Wyatt.
,, 29	A.N. 2, s.s., 10 years ..	Schooner ..	96	12	..	Nil	Stranded	Nil	Off Fraser Island, West Coast of Australia	Various	2	The vessel struck submerged coral reef one mile seaward of nearest breakers and was held fast for a few minutes. On examination a slight leak was discovered in the bunkers	K. Bordal.
July 4	Waimarino, s.s., 6 years..	Fore and aft	1,752	31	Nil	745 tons	Stranded	Nil	Bluff Harbour ..	W.S.W.	8	When approaching the wharf the strong wind caught the vessel, swinging her head on to the wind. Although nothing was felt apparently vessel touched bottom, as a scraping sound was heard. Examination revealed no damage to the ship	J. Bruce.
,, 6	Piako, s.s.; 16 years ..	..	5,114	65	Nil	Meat and general ..	Lost cable	Nil	Tokomaru Bay ..	W.	Gale	During a westerly squall of gale force the port anchor cable parted at the studless link connecting the anchor shackle	H. E. Reilly.
,, 16	Owhiti, aux.m.v.; 12 years	Ketch ..	6	4	Nil	75 yards shingle ..	Stranded	Nil	Near Matheson's Beach, Hauraki Gulf	N.E.	Strong	While going through channel after leaving beach, the vessel was caught by a strong puff of wind which swept the vessel down on the rocks at the entrance, damaging a propeller and fracturing a plank	J. C. Ipsen.
,, 18	Abel Tasman, s.s.; 19 years	Schooner ..	1,175	29	..	Timber and general ..	Stranded, total loss ..	..	Greymouth Bar ..	N.W.	Moderate	The Court found that the vessel was moored to the wharf in accordance with the usual practice and moored to the satisfaction of the Harbourmaster. Without warning the moorings parted, and the vessel was swept down the river and drifted on to the North Beach, becoming a total loss. Everything was done to save the vessel, and no apparent defect appeared in the mooring-equipment, but it is possible that there was a latent defect in some of the equipment, and the banking-up of debris and logs under the wharf may have been a contributing cause, but the evidence, in the opinion of the Court, was not conclusive enough for it to find that the casualty was due to a cause other than misadventure. The Court found that the casualty was not caused or contributed to by the wrongful act or default of the Master or any of his crew or of the Harbour Board and its officials or any other person. The Master's and First Mate's certificates were returned to them. The Court made no order as to payment of the costs of the inquiry	W. D. Archibald.
,, 20	Waipiata, s.s.; 10 years	Schooner ..	1,063	30	Nil	3,000 tons general ..	Cracked hawse-pipe ..	..	Between Wellington and Auckland	S.W.	3	A slight leak was discovered into deck locker under forecastle head on the 18th July, and on vessel's arrival at Auckland a crack was found in the port hawse-pipe, the cause and time of which were unknown	W. Whitefield.
,, 30	Hertford, s.s.; 18 years..	Schooner ..	6,888	57	..	1,939 tons general ..	Leaky boiler	..	Auckland	..	Calm	Boiler was observed to be leaking at the weld; opened up and repairs completed	E. Wilson.
Aug. 22	Pukeko, m.v.; 8 years ..	Schooner ..	388	15	1	170 tons general ..	Struck wharf	..	Tolaga Bay	N.E.	5	When berthing, the vessel's anchor came in contact with a spring pile, with the result that the hawse-pipe, spurling-pipe, and hawse-pipe collar were broken	F. S. Bates.

,, 25	Limerick, m.v.; 11 years	Schooner ..	5,479	57	..	12,000 tons oil and general	Wire rope fouled propeller	..	Lat. 26° 01′ S.; long. 171° 41′ W.	E.N.E.	10	A heavy sea swept a 2½ in. wire rope overboard, which fouled the starboard propeller. Wire eventually cut away, and apparently no damage to ship	A. T. Norton.
,, 26	Endeavour, aux. ..	Ketch ..	42	5	Nil	Nil	Struck viaduct	Nil	Auckland	N.E.	Moderate	When three lengths off the opening of the viaduct bridge the keel of the vessel touched the mud, causing the vessel to be unsteady at the head, with the result that the jib-boom struck the control shed on the viaduct and splintered several boards. No damage to the vessel	T. Stephens.
Sept. 3–5	Waimarino, s.s.; 6 years	Schooner ..	1,752	35	..	500 tons general ..	Leaking		Between Bluff and Dunedin	S.W.	8	Vessel found to be leaking, which was caused by vessel pounding in heavy seas and straining of rivets in No. 1 tank	J. Bruce.
,, 11	Port Whangarei, m.v.; 30 years	Schooner ..	286	14	..	General	Leaking		Between Auckland and Wellington	S.	9	On a voyage between Auckland and Wellington it was found that vessel was leaking, apparently caused through sprung rivet	F. Chapman.
,, 15	Matua, m.v.; 1 year ..	Schooner ..	2,106	59	33	420 tons	Stranded		Aitutaki, Cook Islands ..	E.	Light	When leaving Arutunga anchorage at Aitutaki Island the vessel touched on a pinnacle of coral (uncharted), causing damage to both propellers, shaft, and rudder.	A. H. Prosser.
,, 16	Gael, m.v.; 32 years ..	..	46	7	..	60 tons cement ..	Stranded		Westhaven Bar ..	N.W.	3	Vessel struck the bar, lifting the rudder post 1½ in., which caused her to leak around the post	A. D. Tregidga.
,, 20	Kapiti, m.v.	Schooner ..	122	12	..	50 tons	Cracked piston		Off Barrett's Reef ..	N.	4	When entering Wellington Heads the main engines stopped owing to a cracked piston, No. 1 cylinder; proceeded on voyage under four cylinders	V. E. Johansen.
,, 26	Tamahae, aux.; 32 years	Scow ..	6	3	..	20 yards sand	Foundered		2½ miles south of Whangaparoa Peninsula	S.W.	Light	The Court found that the vessel foundered shortly after midnight on the morning of the 26th September, 1936, 2½ miles south of Whangaparoa Peninsula; that the vessel was quite unseaworthy and inadequately manned; that the ship foundered through the neglect and lack of seamanship of the engineer in charge, E. H. Jones, who, though probably a good engineer, was unsuited to command a vessel. The Court further found that the ship was manned according to law, but considered that the law should be amended so as to ensure that an engineer in charge of a vessel under 6 tons register had a good knowledge of seamanship. The Court returned Mr. Jones' certificate to him, but ordered him to contribute £10 10s. towards the costs of the investigation	R. H. Jones.
,, 29	Wingatui, s.s.; 22 years	Schooner ..	1,344	30	..	4,200 tons	Fire	..	Off Napier	S.	8	Fire discovered in fore-end of No. 3 tween decks, probably caused through combustion in some unslacked lime. Cargo damaged, but none to vessel.	G. W. Evans.
Oct. 6	Canadian Challenger, s.s.; 14 years	Schooner ..	3,331	35	..	1,939 tons	Leaky boiler	..	Auckland	..	Calm	Boiler was found to be leaking at the weld. Boiler opened up and repairs effected	E. Wilson.
,, 9	Margaret W., m.v.; 17 years	Schooner ..	290	12	..	420 tons	Propeller trouble		Gisborne entrance ..	N.W.	6	It was found that the propeller stop had gone and the nut had worked loose; repairs subsequently effected	B. Burk.
,, 13	Kaimiro, s.s.; 7 years .. / Kapuni, m.v.; 27 years	.. / ..	1,330 / 95	34 / 10	.. / ..	Nil .. .. / 100 tons ..	Collision	..	Westport	S.W.	4	While the "Kaimiro" was moving downstream the wind and current caught the vessel on starboard bow, causing her to collide with the "Kapuni," which vessel was slightly damaged	G. A. Grey. / W. McKinnon.
,, 14	Wetere, s.s.; 23 years ..	..	37	..	..	.. ..	Burnt; total loss ..	..	Wanganui	..	..	Vessel destroyed by fire while lying at the Imlay Wharf; cause unknown; vessel abandoned to underwriters	D. Bonner.
,, 29	Hokitika, m.v.; 10 years	Schooner ..	81	9	..	160 tons	Struck wharf	..	Wellington	N	5	Vessel collided with wharf, damaging hawsepipe and plate adjoining, also anchor stock bent	A. M. Nalder.

RETURN OF WRECKS AND CASUALTIES TO SHIPPING REPORTED TO THE MARINE DEPARTMENT FROM 1ST APRIL, 1936, TO 31ST MARCH, 1937—*continued*.

Date of Casualty.	Vessel's Name, Class, and Age.	Rig.	Register Tonnage.	Number of		Nature of		Number of Lives lost.	Place where Casualty occurred.	Wind.		Remarks, or Finding of Court of Inquiry.	Name of Master.
				Crew.	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1936.													
Nov. 4	Thomas Currell, s.s.; 17 years	Ketch ..	84	10	..	..	Propeller fouled ..	..	Hauraki Gulf ..	..	Calm	While shooting gear, a strong ebb tide caused the gear to drift under vessel, fouling the propeller and rendering the vessel helpless; vessel towed to Auckland	J. Christofferson.
,, 6	Rotorua, s.s.; 25 years ..	..	6,826	116	3	3,500 tons	Leaking	..	Gisborne	S.	3	It was found that six nuts on starboard side amidships, 4 ft. below load-line, were leaking considerably.	C. B. Lamb.
,, 10	Kapuni, m.v.; 27 years..	Schooner ..	95	10	..	Small quantity ..	Stranded	..	Cook Strait, off Terawhiti	..	Calm	During foggy weather, vessel stranded on a rock off Terawhiti and held for about an hour, eventually coming off astern; apparently no damage to vessel	W. McKinnon.
Dec. 15 (approx.)	Ramsay, s.s.; 7 years ..	Schooner ..	2,993	35	..	6,600 tons slag ..	Leaking rivets	..	"Chops," English Channel	S.W.	8–9	Vessel encountered fierce south-west gale with high, dangerous cross-sea and shipped heavy water fore and aft, causing her to roll and strain heavily; leaky rivets in Nos. 1 and 2 holds	W. S. Wickman.
Dec. 24	Waikouaiti, s.s.; 23 years	Fore and aft	2,379	43	..	General	Stranded	..	Otago Harbour ..	E.N.E.	2	Strong ebb tide caught the vessel on starboard bow causing her to sheer to port, with the result that the vessel grounded; vessel came off on the first of the flood tide with assistance of a tug; apparently no damage	J. Bruce.
1937.													
Jan. 1	Westmoor, m.v.; 12 years	Schooner ..	2,638	28	..	6,925 tons slag ..	Leaking rivets	..	Lat. 38° 42′ N.; Long. 26° 55′ W.; Atlantic Ocean	S.W.	7	Six rivets were found to have been started owing to vessel straining during heavy weather; a cement-box was placed over the rivets to stop leaking	W. A. Scott.
,, 6	Remuera, s.s.; 25 years	Schooner ..	7,246	123	140	5,800 tons	Engine trouble	..	Lat. 21° 40′ S.; Long. 123° 40′ W.	E.N.E.	3	Starboard H.P. junk-rings and piston-rings fractured and piston-rod bent; no other damage to ship or cargo	F. W. Robinson.
,, 9	Esme, m.v.; 29 years ..	Cutter ..	16	4	..	60 tons shingle..	Collision	..	Auckland Harbour ..	N.W.	1	The collision could have been avoided if the "Lancia" had gone to starboard instead of to port; slight damage to the "Esme"; no damage to the "Lancia"	E. J. Grogan.
	Lancia, m.v.; 16 years..	Cutter ..	6	2	..	..							E. C. Lannam.
,, 14	Taranaki, m.v.; 8 years	Schooner ..	5,140	63	1	600 tons	Lost anchor	..	Auckland Harbour ..	E.N.E.	9	Owing to rough weather, the vessel anchored in the stream for the night; when heaving up anchor next morning, it was found that the end link to anchor shackle had parted	S. Oswald.
,, 14	Canadian Highlander, s.s.; 17 years	Schooner ..	3,260	34	..	3,000 tons	Lost propeller blade ..	..	15° 17′ S.; 127° 21′ W.; Pacific Ocean	S.E.	4	It was found that one blade of the propeller had broken off; cause unknown	S. F. Cameron.
,, 14	Rangi, sail; 37 years ..	Schooner ..	86	6	..	90 tons logs	Capsized, total loss ..	4	Between Rakino Island and Whangaparoa Peninsula	S.E.	8–9	The Court found that the casualty was caused through the vessel encountering a gale of unusual severity after she had rounded Cape Colville, and that the casualty and resulting loss of life was not contributed to by the wrongful act or default of the Master or any of his crew or of the owners; no order was made as to costs	P. J. Petersen.
,, 23	Huanui, m.v.; 27 years..	Aux. ketch	58	6	..	111 tons coal	Stranded	..	Manawatu River bar ..	W.	5–6	When entering the river a strong set was encountered and the vessel's head could not be maintained, with the result that she stranded on the bar and sustained severe straining	T. C. Thomsen.
,, 28	Wakanui, m.v.; 32 years	Schooner ..	29	5	..	50 tons ..	Broken crank-shaft ..	..	1½ miles S. of Rakino Island, N.Z.	..	Calm	It was found that the crank-shaft had broken; cause unknown	R. A. Roff.
,, 31	Wanganella, m.v.; 6 years	Schooner ..	5,625	146	324	2,400 tons	Leaky piston	..	Tasman Sea	E.	4	Owing to a leaky piston, the port engine was stopped and was worked as necessary	G. B. Bates.

Feb.	1	Margaret W., m.v.; 18 years	Fore and aft	290	12	..	300 tons	Fractured crank-shaft	..	Auckland	W.S.W.	3	In the course of ordinary inspection while vessel was at wharf it was found that the crank-shaft had been fractured	J. R. Owen.
,,	5	Hurunui, s.s.; 15 years ..	Schooner ..	5,803	73	..	..	Fire	..	Wellington	..	Light, variable	When replenishing bunkers, smoke was discovered issuing from the forward ventilator of the permanent cross-bunker; coal discharged and fire extinguished; slight damage to bulkhead only	F. C. Pretty.
,,	24	Margaret W., m.v.; 18 years	Schooner ..	290	12	..	445 tons general ..	Engine trouble	..	Hauraki Gulf ..	N.	Fresh	Number one bearing ran out and engineer deemed it advisable to return to port for repairs	J. R. Owen.
Mar.	2	Tamahine, s.s.; 12 years	Schooner ..	803	49	637	128 tons general ..	Collision	..	Queens Wharf, Wellington	W.	3	As the "Tamahine" was berthing, with engines stopped and no way on and headline ashore, vessel drifted before stern line could be made fast. The quarter belting of the "Tamahine" came in contact with the side of the "Kapiti" berthed at wharf, slightly denting the plates and cracking paintwork of cabin of the latter vessel; no damage to the "Tamahine"	C. Sharpe.
		Kapiti, m.v.; 35 years	Schooner ..	122	12	..	..							V. E. Johansen.
,,	5	Niagara, s.s.; 24 years ..	Schooner ..	7,582	260	..	3,500 tons general ..	One blade of midship propeller lost	..	Between Suva and Auckland	..	Light to moderate	The Chief Engineer reported some slight defect in midship propeller on 5th March; on investigation at Auckland it was found that one blade of midship propeller was missing; blade to be replaced at Sydney	W. Martin.
,,	11	Marina, s.s.; 41 years ..	Schooner ..	10	7	..	..	Stranded	..	Poverty Bay ..	S.	..	Vessel put in for shelter, and the Master being unfamiliar with harbour and using an old chart, missed the harbour-entrance, with the result that the vessel got into the breakers and became unmanageable; vessel run ashore to save life; casualty due to failure of Master to provide and acquaint himself with the latest information regarding harbour lights	A. F. Johnson.
,,	25	Bosworth, s.s.; 17 years	..	4,140	42	..	8,500 tons slag ..	Leaking rivets	..	Auckland	..	Calm	Several leaky rivets discovered on port forward end of No. 5 hold; apparently caused by vessel straining; repairs effected	W. Savage.

Summary of Casualties to Shipping reported to the Marine Department during the Financial Year ended 31st March, 1937.

Nature of Casualty.	On or near the Coasts of Dominion.			Outside the Dominion.			Total Number of Casualties reported.		
	Number of Vessels.	Tonnage.	Number of Lives lost.	Number of Vessels.	Tonnage.	Number of Lives lost.	Number of Vessels.	Tonnage.	Number of Lives lost.
Strandings—									
Total loss	4	1,273	4	..	..	..	4	1,273	4
Damaged	11	4,032	..	2	2,202	..	13	6,234	..
Undamaged	6	12,688	..	..	..	..	6	12,688	..
Total strandings	21	17,993	4	2	2,202	..	23	20,195	4
Fires—									
Total loss	1	37	..	..	..	..	1	37	..
Damaged	2	5,851	..	..	..	..	2	5,851	..
Undamaged	1	1,344	..	..	..	..	1	1,344	..
Total fires	4	7,232	..	..	..	..	4	7,232	..
Collisions—									
Total loss	..	..	..	..	..	..	..	..	..
Damaged	4	1,447	..	..	..	..	4	1,447	..
Undamaged	2	925	..	..	..	..	2	925	..
Total collisions	6	2,372	..	..	..	..	6	2,372	..
Miscellaneous, including damage by heavy seas to hull and cargo, breakdown of machinery, &c.	19	30,642	..	9	41,838	..	28	72,480	..
Total number of casualties reported	50	58,239	4	11	44,040	..	61	102,279	4

Return of Land Boiler and Machinery Inspections during the Year ended 31st March, 1937.

Boiler inspections—	
Stationary, portable, and traction boilers	4,834
Steam-pressure vessels	3,370
Air-receivers	775
Total boilers	8,979
Machinery inspections—	
Lifts	3,328
Cranes	336
Hoists	1,329
Machines driven by steam power	13,316
Machines not driven by steam power	64,214
Electric power supply station units	154
Tractors	311
Total machinery	82,988
Grand total	91,967

Return of New Boilers inspected for the Year ended 31st March, 1937.

Class.	Made in Dominion.		Imported.		Total.	
	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.
Stationary, portable, and traction	85	1,527	37	655	122	2,182
Digesters, jacketed pans, sterilizers, vulcanizers, and other steam-receivers	168	..	179	..	347	..
Air-receivers	41	..	50	..	91	..
	294	1,527	266	655	560	2,182

RETURN OF THE NUMBER OF CERTIFICATES ISSUED TO LAND ENGINE-DRIVERS AND ELECTRIC TRAM DRIVERS DURING THE YEAR ENDED 31ST MARCH, 1937.

Class.	Number.	Class.	Number.
Service—		Competency—*continued.*	
First-class engine-driver	8	Locomotive and traction engine driver ..	55
Competency—		Locomotive engine driver	8
Extra first-class stationary engineer ..	2	Traction-engine driver	20
First-class engine-driver	23	Electric-tram driver	130
Second-class engine-driver	228	Electric-tram driver (one-man car) ..	2
Steam-winding-engine driver	2		
Electric-winding-engine driver	5	Total	483

RETURN OF LAND ENGINEERS, ENGINE-DRIVERS, AND ELECTRIC-TRAM DRIVERS' EXAMINATIONS HELD THROUGHOUT NEW ZEALAND DURING THE YEAR ENDED 31ST MARCH, 1937, SHOWING THE NUMBER OF SUCCESSFUL AND UNSUCCESSFUL CANDIDATES.

Place.	Extra First Class.		First Class.		Second Class.		Locomotive and Traction.		Loco-motive.		Traction.		Winding.				Electric-tram Driver.		Total.		Grand Total.
													Steam.		Electric.						
	P.	F.	P.	F.	P.	F.	P.	F.	P.	F.	P.	F.	P.	F.	P.	F.	P.	F.	P.	F.	
Auckland ..	..	1	3	8	36	7	1	..	..	..	..	..	..	..	..	..	71	6	111	22	133
Blenheim ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Christchurch ..	..	1	2	2	19	6	4	1	..	..	9	3	..	..	..	..	8	1	42	14	56
Dunedin ..	..	..	1	4	10	11	..	..	..	..	2	..	..	..	..	..	12	..	25	15	40
Gisborne ..	..	..	..	..	4	1	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5
Greymouth ..	..	..	6	7	21	9	8	1	4	1	..	..	2	..	4	..	..	..	45	18	63
Hamilton ..	..	..	4	2	14	12	4	..	1	..	..	..	..	..	1	..	..	..	24	14	38
Invercargill ..	..	..	..	2	10	9	..	..	..	..	..	1	..	..	..	..	1	..	11	12	23
Lowburn Ferry	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Napier ..	..	..	..	..	10	1	..	..	1	..	..	..	..	..	..	..	..	..	11	1	12
Nelson ..	1	..	..	..	16	6	1	..	..	1	1	..	..	..	..	..	..	..	19	7	26
New Plymouth	..	..	1	4	26	10	2	..	..	..	..	..	..	..	..	..	..	..	29	14	43
Oruru ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Palmerston N.	..	..	1	1	11	3	1	..	..	..	..	..	..	..	..	..	..	..	13	4	17
Picton ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Timaru ..	..	..	..	..	2	2	..	..	..	..	4	2	..	..	..	..	..	..	6	4	10
Waipapakauri	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Wanganui ..	..	..	..	..	4	3	1	..	..	..	..	..	..	..	..	..	1	..	6	3	9
Wellington ..	1	3	..	3	17	2	3	..	2	..	..	..	..	..	..	..	39	3	62	11	73
Westport ..	..	..	1	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	2	2	4
Whangaparapara	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Whangarei ..	..	..	1	..	3	2	..	..	..	..	..	..	..	..	..	..	..	..	4	2	6
	2	5	20	33	208	86	25	2	8	3	18	6	2	..	5	..	132	10	420	145	565

TABLE I.—SHOWING THE NUMBER OF FISHING-VESSELS AND THE NUMBER OF FISHERMEN AND OTHER PERSONS ENGAGED IN THE FISHING INDUSTRY AT EACH PORT FOR THE YEAR ENDED 31ST MARCH, 1937.

Name of Port.	Vessels engaged in Fishing for Wet Fish.										Vessels engaged in Shell-fishery.						Number of Persons employed.					
	Steam Trawlers.		Motor Trawlers.		Motor-vessels Danish-seining.		Motor-vessels, Set-net and Line Fishing.		Rowing-boats.		Oyster-dredging Vessels.		Mussel-dredging Vessels.		Crayfishing Vessels.		Fishermen.		Others.		Total.	
	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.	Whole Time.	Part Time.
Awanui	..	..	..	..	..	..	..	5	..	1	..	..	..	..	..	..	..	7	..	..	..	7
Mangonui	..	..	..	..	..	..	..	4	..	3	..	..	..	..	..	..	..	10	..	..	..	10
Hokianga	..	..	..	..	..	..	1	3	..	15	..	..	..	..	..	..	2	30	..	..	2	30
Whangaroa	..	..	..	..	..	..	1	..	..	4	..	..	..	..	1	..	2	5	..	..	2	5
Russell	..	..	..	..	..	..	6	12	2	4	..	..	..	..	..	3	14	30	..	3	14	33
Kaipara	..	..	..	..	..	..	20	7	..	..	..	..	..	..	..	..	20	7	..	..	20	7
Whangarei	..	..	..	..	..	..	6	3	..	3	..	..	..	..	..	..	12	9	..	6	12	15
Auckland (including Manukau and Coromandel)	2	1	..	..	20	12	82	32	8	50	..	..	1	2	4	6	210	60	50	50	260	110
Thames	..	..	..	..	2	..	29	..	11	..	..	..	3	..	..	..	92	..	18	2	110	2
Mercury Bay	..	..	..	..	..	..	3	4	..	2	..	..	..	..	3	..	13	7	1	..	14	7
Tauranga	..	..	..	..	3	..	14	..	..	..	..	..	..	..	..	10	25	..	4	..	29	..
Opotiki	..	..	..	..	..	..	..	1	..	4	..	..	..	..	..	..	..	5	..	..	..	5
Whakatane	..	..	..	..	1	..	1	..	..	1	..	..	..	..	..	..	6	2	..	..	6	2
Raglan	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	4	2	..	..	4	2
Kawhia	..	..	..	..	..	..	3	4	..	1	..	..	..	..	..	..	6	12	..	..	6	12
Gisborne	..	1	3	..	..	..	3	6	2	8	..	..	..	..	2	3	16	23	3	..	19	23
Napier	3	4	3	2	2	1	2	9	..	7	..	..	..	..	..	1	50	34	9	3	59	37
New Plymouth	..	..	..	..	..	..	11	7	..	10	..	..	..	..	..	..	25	27	6	..	31	27
Wanganui	..	..	..	..	..	..	..	10	..	5	..	..	..	..	..	..	..	27	..	..	..	27
Wellington and district	2	..	..	..	..	..	55	19	9	37	..	..	..	..	2	46	165	137	46	18	211	155
Picton and Havelock	..	..	..	..	..	..	28	8	..	3	..	..	..	..	..	2	57	19	..	..	57	19
Blenheim (Wairau)	..	..	4	..	..	..	1	..	..	1	..	..	..	..	..	4	8	6	..	..	8	6
Nelson and district	..	..	..	..	3	3	12	12	..	5	..	..	..	..	..	1	23	32	6	3	29	35
French Pass	..	..	..	..	..	4	..	26	..	..	..	..	..	..	..	..	..	35	..	..	..	35
Westport	..	4	..	..	..	..	..	6	..	..	..	..	..	..	..	3	..	27	..	..	..	27
Greymouth	3	..	..	..	..	..	7	1	..	3	..	..	..	..	..	..	17	8	..	..	17	8
Hokitika	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	5	..	..	..	5
Kaikoura	..	..	2	..	..	..	14	..	7	..	..	..	..	..	6	..	30	..	1	..	31	..
Akaroa	..	..	3	1	..	..	3	3	..	2	..	..	..	..	..	2	11	9	1	..	12	9
Lyttelton	2	..	7	..	2	..	32	14	22	12	..	..	..	..	4	2	130	27	12	1	142	28
Timaru	..	..	1	9	2	3	15	4	..	..	..	..	..	..	..	..	36	16	3	..	39	16
Oamaru and Moeraki	..	..	..	..	..	..	29	8	..	..	..	..	..	..	..	8	34	22	5	5	39	27
Dunedin and Otago district	2	..	17	..	..	1	49	8	11	10	..	..	..	..	..	9	159	19	39	..	198	19
Invercargill, Bluff and district, also Stewart Island	..	..	..	..	..	..	58	13	1	1	9	1	..	..	..	..	173	30	59	47	232	77
Chatham Islands	..	..	..	..	..	..	9	8	..	..	..	..	..	..	..	..	41	22	12	..	53	22
Totals	14	10	40	12	35	24	496	240	73	192	9	1	4	2	22	100	1,381	711	275	138	1,656	849

TABLE II.—SHOWING THE VARIOUS KINDS OF FISH CAUGHT AND APPROXIMATELY THE TOTAL QUANTITIES OF FISH* AND SHELL-FISH LANDED AT THE CHIEF FISHING-PORTS FOR THE YEAR ENDED 31ST MARCH, 1937.

Name of Port.	Principal Kinds of Fish caught.	Quantity landed (Fish).	Total Value (Fish).	Shell Fishery (excluding Toheroa).							Grand Total Value.
				Oysters.	Value.	Mussels.	Value.	Crayfish.	Value.	Total Value (Shell-fish)	
		Cwt.	£	Sacks.	£	Sacks.	£	Cwt.	£	£	£
Awanui	Snapper, mullet, groper, flounder	924	768	..	..	..	..	..	..	..	768
Mangonui	Snapper, flounder, groper, mullet, tarakihi	208	332	..	..	..	..	..	..	..	332
Hokianga	Mullet, soles, flounder	841	445	..	..	..	..	..	..	..	445
Whangaroa	Mullet, snapper, groper	143	96	..	..	..	..	218	129	129	225
Russell	Snapper, mullet, flounder, groper, crayfish, kingfish, tarakihi, gurnard, maomao	1,481	1,227	..	..	..	..	44	102	102	1,329
Kaipara	Flounder, snapper, mullet	1,912	3,852	..	..	..	..	..	..	..	3,852
Whangarei	Snapper, groper, mullet, blue cod, flounder	1,241	1,732	..	..	..	..	..	..	..	1,732
Auckland (including Manukau and Coromandel)	Snapper, flounder, tarakihi, groper, gurnard, pioke, dory, mullet, crayfish, blue cod, kingfish, trevally, frost-fish, barracouta, piper, oysters (rock), mussels, sardines	159,371	117,950	4,033	4,840	7,019	1,827	1,325	1,554	8,221	126,171
Thames	Snapper, flounder, dab, mullet, gurnard, dory, pioke, mussels	15,447	16,690	..	..	3,396	982	7	8	990	17,680
Mercury Bay	Snapper, tarakihi, groper, gurnard, blue cod, flounder, kingfish, crayfish	1,829	1,345	..	..	..	..	1,176	1,304	1,304	2,649
Tauranga	Snapper, tarakihi, groper, mullet, blue cod, kingfish, trevally, pioke	3,988	3,143	..	..	..	..	..	..	..	3,143
Whakatane	Snapper, tarakihi, groper	2,403	2,087	..	..	..	..	..	..	..	2,087
Opotiki	Snapper, flat fish, groper, gurnard, tarakihi	146	270	..	..	..	..	..	..	..	270
Raglan	Snapper, flounder	595	794	..	..	..	..	..	..	..	794
Kawhia	Snapper, flounder, mullet	605	600	..	..	..	..	..	..	..	600
Gisborne	Tarakihi, gurnard, snapper, groper, sole, flounder, kahawai, crayfish	4,219	4,136	..	..	..	..	260	334	334	4,470
Napier	Tarakihi, gurnard, sole, snapper, groper, flounder, barracouta, crayfish	15,585	15,522	..	..	..	..	108	118	118	15,640
New Plymouth	Snapper, groper, crayfish, tarakihi, cod, gurnard, kingfish, kahawai	2,070	2,581	..	..	..	..	3	3	3	2,584
Wanganui	Snapper, groper, blue cod, flounder, kahawai	304	408	..	..	..	..	..	..	..	408
Wellington and district	Tarakihi, blue cod, groper, ling, hake, snapper, barracouta, moki, butterfish, skate, warehou, crayfish, flounder, sole, kahawai, trevally, red cod, kingfish, gurnard, conger-eel	54,842†	68,721	..	..	..	..	2,049	2,166	2,166	70,887
Picton and Havelock	Flounder, butterfish, moki, blue cod, groper, crayfish	3,313	4,866	..	..	..	..	491	267	267	5,133
Blenheim (Wairau)	Sole, flounder, moki, tarakihi, red cod, snapper, butterfish, groper, gurnard, crayfish	2,316	2,462	..	..	..	..	111	95	95	2,557
Nelson and district	Snapper, flounder, dab, groper	5,603	6,397	..	..	..	..	15	19	19	6,416
French Pass	Blue cod, groper, sole, flounder, snapper, butterfish, gurnard	2,545	3,334	..	..	..	..	..	..	..	3,334
Westport	Sole, snapper, groper, ling, flounder, crayfish, gurnard, turbot, red cod	544	969	..	..	..	..	4	4	4	973
Greymouth	Sole, groper, snapper, flounder, turbot, tarakihi, kingfish, red cod, ling	1,872	1,970	..	..	..	..	..	..	..	1,970
Hokitika	Groper, ling, snapper	40	74	..	..	..	..	..	..	..	74
Kaikoura	Groper, trumpeter, hake, ling, tarakihi, bass, blue cod, crayfish	3,743	5,594	..	..	..	..	204	187	187	5,781
Akaroa	Flounder, sole, groper, brill, red cod, blue cod, crayfish, barracouta, kingfish, kahawai, butterfish, moki	3,420	4,534	..	..	..	..	354	214	214	4,748
Lyttelton	Flounder, dab, groper, tarakihi, ling, gurnard, red cod, elephant-fish	15,258	18,475	..	..	..	..	250	248	248	18,723
Timaru	Flounder, sole, groper, ling, red cod, blue cod, kingfish, elephant-fish, gurnard, brill, barracouta	12,776	16,757	..	..	..	..	..	..	..	16,757
Oamaru and Moeraki	Groper, blue cod, red cod, ling, barracouta, crayfish	3,313	3,937	..	..	..	..	472	183	183	4,120
Dunedin and Otago district	Sole, groper, flounder, snapper, red cod, blue cod, trevally, ling, moki, brill, barracouta, crayfish, gurnard, mullet, garfish, tarakihi, red perch, kingfish, trumpeter, skate, kahawai	21,968	29,353	..	..	..	..	1,777	913	913	30,266
Invercargill, Bluff, and district	Blue cod, groper, flounder, sole, green-bone, trevally, ling, kingfish, crayfish	3,200	4,479	63,412	39,632	..	..	..	..	39,632	44,111
Stewart Island	Blue cod, groper, trumpeter, green-bone, moki	8,690	10,001	..	..	..	..	..	..	..	10,001
Chatham Islands	Blue cod, groper	6,373‡	4,565	..	..	..	..	..	..	..	4,565
	Totals	363,128	360,466	67,445	44,472	10,415	2,809	8,868	7,848	55,129	415,595

* Not including whitebait.

† Includes 8,721 cwt. blue cod, 12 cwt. groper, and 6 cwt. mixed fish caught at the Chatham Islands and landed at Wellington.

‡ Exclusive of fish shipped direct to Wellington from fishing-boats by s.s. "South Sea."

TABLE IIA.—SHOWING APPROXIMATELY THE QUANTITIES OF DIFFERENT KINDS OF FISH LANDED AT CERTAIN PORTS DURING THE YEAR ENDED 31ST MARCH, 1937.

—	Russell.	Kaipara.	Whangarei.	Auckland.*	Thames.	Mercury Bay.	Tauranga.	Opotiki.	Gisborne.	Napier.	New Plymouth.	Wellington.	Blenheim.	French Pass.	Nelson.	Westport.	Greymouth.	Lyttelton.	Oamaru-Moeraki.	Bluff-Invercargill.	Chatham Islands.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Barracouta ..	..	..	..	..	..	4	..	..	..	..	..	1,154	..	9	..	..	..	47	25	..	..
Blue cod	..	..	..	28	..	23	..	..	1	3	2	8,851	6	1,094	96	..	..	17	573	2,162	6,143
Butterfish (greenbone)	..	..	..	..	1	..	..	..	..	..	..	687	2	242	..	..	..	4	5	52	..
Elephant-fish ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29	1,553	..	363	..
Flounder ..	39	1,413	14	2,903	2,165	15	2	40	..	129	4	53	18	..	481	5	12	1,259	..	..	..
Gurnard	..	..	1	1,694	519	..	4	..	190	3,857	..	278	9	..	441	26	75	606	..	..	..
Hake	..	..	..	..	..	..	..	..	..	..	..	1,826	..	36	..	..	..	248	..	..	..
Hapuku (groper) ..	94	..	24	1,916	3	103	230	..	984	1,383	151	8,996	16	886	227	128	226	349	2,136	361	230
John Dory ..	..	..	..	2,061	6	..	..	..	..	..	..	71	..	..	20	..	..	..	..	..	..
Ling	..	..	..	..	..	..	..	..	3	..	..	3,724	69	..	..	..	18	1,885	166	..	..
Moki	..	..	..	1	..	..	1	..	4	..	..	1,544	327	..	..	..	..	148	65	27	..
Mullet	328	164	83	973	6	8	5	6	2	..	..	..	..	..	..	..	..	..	..	..	..
Pioke	..	..	..	1,209	228	..	..	..	..	..	..	4	..	..	..	..	..	162	..	..	..
Red cod	..	..	..	..	..	..	..	..	..	3	..	620	27	..	..	2	1	297	268	..	..
Snapper	997	204	1,020	112,656	11,356	1,484	3,375	67	75	400	1,831	1,063	14	56	3,725	12	20	..	..	..	..
Sole	..	..	..	..	..	..	..	..	..	1,559	..	34	121	..	115	80	703	431	..	..	..
Tarakihi	..	..	..	24,966	..	138	342	..	194	13	2	21,068	347	..	..	1	47	5,578	..	..	..
Trumpeter ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	94	..	..	..
Warehou	..	..	..	..	..	..	..	..	..	..	..	1,548	..	..	..	..	..	..	..	..	..
Whiting	..	..	..	..	..	..	..	..	..	..	..	292	..	..	..	..	..	352	..	..	..
Mixed flat fish ..	1	129	..	840	1,051	..	1	..	317	399	..	12	300	..	412	212	371	561	3	..	..
Mixed round fish and kinds not specified	22	2	99	10,124	112	54	28	33	2,449	7,839	80	3,017	1,060	222	86	78	370	1,667	72	235	..
Total ..	1,481	1,912	1,241	159,371	15,447	1,829	3,988	146	4,219	15,585	2,070	54,842†	2,316	2,545	5,603	544	1,872	15,258	3,313	3,200	6,373‡

* Includes Coromandel. † Total includes the following fish landed at Wellington by fish-carrier "South Sea" from Chatham Islands: Blue cod, 8,721 cwt.; groper, 12 cwt.; mixed, 6 cwt. ‡ Exclusive of fish shipped direct to Wellington from fishing-boats by s.s. "South Sea".

TABLE IIB.—SHOWING THE QUANTITIES OF DIFFERENT KINDS OF FISH* CAUGHT BY THE DIFFERENT METHODS OF FISHING FOR THE YEAR ENDED 31ST MARCH, 1937.

—	Trawl.						Danish-seine.		Other Nets.						Lines.								Grand Total.	
	Steam.		Motor.		Total.		Motor.		Motor.		Row-boat.		Total.		Steam.		Motor.		Row-boat.		Total.			
	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£	Cwt.	£
Barracouta	1,176	438	6	2	1,182	440	..	..	1	1	..	..	1	1	..	..	690	254	..	..	690	254	1,873	695
Blue cod	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27,396	34,404	7	11	27,403	34,415	27,403	34,415
Butterfish (greenbone) ..	..	..	..	..	..	..	..	..	1,498	2,576	6	9	1,504	2,585	..	..	..	..	..	..	..	..	1,504	2,585
Elephant-fish	647	835	873	718	1,520	1,553	730	644	2	2	..	..	2	2	..	..	35	38	..	..	35	38	2,287	2,237
Flounder	108	230	967	2,149	1,075	2,379	2,375	5,685	5,620	12,402	1,922	3,811	7,542	16,213	..	..	..	..	..	..	..	..	10,992	24,277
Gurnard	2,296	1,560	1,380	1,000	3,676	2,560	5,129	3,137	263	118	6	4	269	122	..	..	213	86	7	4	220	90	9,294	5,909
Hake	772	906	8	14	780	920	..	..	14	15	..	..	14	15	..	..	1,368	1,074	..	..	1,368	1,074	2,162	2,009
Hapuku (groper) ..	1,905	3,013	530	637	2,435	3,650	276	388	..	..	..	..	..	..	12	22	28,818	41,846	132	214	28,962	42,082	31,673	46,120
John Dory	1,947	1,733	..	..	1,947	1,733	211	220	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,158	1,953
Ling	2,249	1,775	511	339	2,760	2,114	67	52	1	1	..	..	1	1	..	..	9,890	7,162	5	5	9,895	7,167	12,723	9,334
Moki	1,538	1,518	340	186	1,878	1,704	..	..	390	293	9	13	399	306	..	..	..	..	..	..	..	..	2,277	2,010
Mullet	..	..	..	..	..	..	..	..	2,440	1,752	226	170	2,666	1,922	..	..	..	..	..	..	..	..	2,666	1,922
Pioke	..	..	..	..	..	..	719	72	849	202	..	..	849	202	..	..	9	1	26	2	35	3	1,603	277
Red cod	950	644	858	459	1,808	1,103	728	394	275	117	104	95	379	212	..	..	1,160	600	7	8	1,167	608	4,082	2,317
Snapper	25,628	16,196	73	85	25,701	16,281	90,255	70,476	7,064	6,258	110	87	7,174	6,345	..	..	18,806	16,844	489	433	19,295	17,277	142,425	110,379
Sole	1,638	2,827	8,520	12,933	10,158	15,760	1,778	3,569	33	71	2	4	35	75	..	..	..	..	..	..	..	..	11,971	19,404
Tarakihi	47,574	47,448	566	554	48,140	48,002	4,337	2,985	26	28	10	11	36	39	..	..	567	430	34	36	601	466	53,114	51,492
Trumpeter	30	42	229	185	259	227	..	..	..	..	..	..	..	..	..	..	137	225	..	..	137	225	396	452
Warehou	32	22	..	..	32	22	..	..	1,514	1,299	..	..	1,514	1,299	..	..	..	..	..	..	..	..	1,546	1,321
Whiting	292	272	..	..	292	272	..	..	350	468	2	1	352	469	..	..	..	..	..	..	..	..	644	741
Mixed flat fish ..	761	1,607	2,895	4,448	3,656	6,055	1,910	4,910	1,603	3,581	374	749	1,977	4,330	..	..	..	..	..	..	..	..	7,543	15,295
Mixed round fish and kinds not specified	12,849	8,649	7,563	6,998	20,412	15,647	6,394	3,723	965	729	351	257	1,316	986	1	1	4,587	4,934	82	31	4,670	4,966	32,792	25,322
Total	102,392	89,715	25,319	30,707	127,711	120,422	114,909	96,255	22,908	29,913	3,122	5,211	26,030	35,124	13	23	93,676	107,898	789	744	94,478	108,665	363,128	360,466

* Not including whitebait.

TABLE III.—SHOWING THE NUMBER OF SACKS AND VALUE OF THE OYSTERS OBTAINED IN THE DOMINION DURING THE YEAR ENDED 31ST DECEMBER, 1936.

Locality.	Quantity.	Value (Wholesale).
DREDGE OYSTERS.		
	Sacks.	£
Foveaux Strait	63,412	39,632
ROCK OYSTERS.		
Bay of Islands	1,197	4,840
Whangarei Harbour	..	
Kaipara Harbour	350	
Hauraki Gulf*	1,583	
Coromandel	403	
Great Barrier Island	500	
Total	4,033	
Grand total	67,445	44,472

* Takatu to Gull Point, 138; Kawau, 120; Rakino, 89; Rangitoto, 368; Motutapu, 122; Waiheke, 353; Ponui, 365; Crusoe's Island, 21.

TABLE IV.—SHOWING THE NUMBER AND SPECIES OF WHALES TAKEN OFF THE NEW ZEALAND COAST, WITH QUANTITY OF PRODUCTS FOR THE YEAR ENDED 31ST MARCH, 1937.

Whaling-station.	Number of Whales taken.	Species.	Yield of Oil.	Quantity of Bonedust and Fertilizer.
			Tons.	
Marlborough Sounds (Picton)	69	Humpback ..	280	Nil.

TABLE V.—SHOWING THE TOTAL QUANTITY AND VALUE OF FISH AND SHELL-FISH IMPORTED INTO AND EXPORTED FROM NEW ZEALAND DURING THE YEAR ENDED 31ST MARCH, 1937.

Fish and Shell-fish imported.

Description of Fish.	Quantity.	Value.
		£ (N.Z.).
Anchovies, salted, in containers of 28 lb. or over	67 cwt.	291
Other fish—		
Frozen, smoked, pickled, dried, or salted	1,339 cwt.	4,050
Potted and preserved in tins	4,626,482 lb.	174,105
		178,446

TABLE V (*continued*). — SHOWING THE TOTAL QUANTITY AND VALUE OF FISH AND SHELL-FISH IMPORTED INTO AND EXPORTED FROM NEW ZEALAND DURING THE YEAR ENDED 31ST MARCH, 1937.

Fish and Shell-fish exported.

Description of Fish.	Exporting Ports.	Quantity.	Value.
Produce of New Zealand.			£ (N.Z.)
Oysters, fresh	Auckland	1,190 doz.	37
	Wellington	2,107 doz.	34
	Invercargill (Bluff)	132,236 doz.	1,376
	Total	135,533 doz.	1,447
Blue cod, frozen	Auckland	4 cwt.	11
	Wellington	9,422 cwt.	26,550
	Lyttelton	56 cwt.	170
	Dunedin	211 cwt.	596
	Invercargill	8,735 cwt.	18,761
	Total	18,428 cwt.	46,088
Snapper, frozen	Auckland	15,185 cwt.	44,384
	Wellington	327 cwt.	590
	Total	15,512 cwt.	44,974
Flounder, frozen	Auckland	1,510 cwt.	5,388
	Wellington	472 cwt.	1,295
	Lyttelton	91 cwt.	305
	Dunedin	462 cwt.	1,443
	Invercargill	294 cwt.	887
	Total	2,829 cwt.	9,318
Other kinds, frozen*	Auckland	4,406 cwt.	11,931
	Wellington	2,923 cwt.	5,520
	Lyttelton	1,522 cwt.	2,315
	Dunedin	3,184 cwt.	7,584
	Invercargill	689 cwt.	1,762
	Westport	2 cwt.	..
	Total	12,726 cwt.	29,122
Total exports of frozen fish from Dominion	„	50,727 cwt.	132,401
Smoked, dried, pickled, or salted	„	3,724 cwt.	12,069
Preserved in tins—			
Crayfish	„	23,783 lb.	1,697
Oysters	„	331,747 lb.	12,974
Toheroas†	„	32,979 lb.	2,425
Whitebait†	„	104,232 lb.	12,109
Value of total exports of New Zealand fish and shell-fish	„	..	175,122
Re-exports.			
Potted and preserved in tins	„	12,624 lb.	349

* Includes frozen crayfish—

	Cwt.	£ (N.Z.)
Auckland	355	1,214
Wellington	787	1,465
Lyttelton	25	89
Dunedin	37	73
Invercargill	28	58
Total	1,232	2,899

† Exporting Ports.	Toheroas.		Whitebait.	
	Quantity.	Value.	Quantity.	Value.
	lb.	£ (N.Z.)	lb.	£ (N.Z.)
Auckland	32,889	2,417	72,837	9,043
Wellington	..	..	17,039	1,607
Dunedin	90	8	8,243	1,026
Greymouth	..	..	5,844	400
Invercargill	..	..	269	33
	32,979	2,425	104,232	12,109

APPENDIX.

LEGISLATION.

18th September,	1936	Fisheries Amendment Act, 1936, providing for the contribution by Acclimatization Societies, out of license fees received by them, towards the cost of research undertaken in relation to fresh-water fisheries.

ORDERS IN COUNCIL UNDER PARTS I AND II OF THE FISHERIES ACT, 1908.

PART I.

1st April,	1936	Amending Regulations for Danish-seine Netting in Marlborough Sounds.
1st ,,	,,	Restricting the taking of blue cod.
24th June,	,,	Prohibiting trawling in the Bay of Islands.
9th December,	,,	Amending the Salt-water Fishery Regulations *re* fishing statistics.

PART II.

3rd June,	1936	Making additional regulations for perch-fishing in Wellington Acclimatization District.
1st July,	,,	Amending Regulations for Trout-fishing in the Nelson Acclimatization District.
5th August,	,,	Amending Regulations for Trout-fishing in the Waimarino Acclimatization District.
9th September,	,,	Amending Regulations for Trout-fishing in the Buller Acclimatization District.
9th ,,	,,	Amending Regulations for Trout-fishing in the Auckland Acclimatization District.
30th ,,	,,	Consolidating the General Fresh-water Fisheries Regulations.
23rd ,,	,,	Amending Regulations for Trout-fishing in the Otago Acclimatization District.
23rd ,,	,,	Amending Regulations for Trout-fishing in the Waitaki Acclimatization District.
23rd ,,	,,	Amending Regulations for Trout-fishing in the Waimate Acclimatization District.
30th ,,	,,	Amending Trout-fishing Regulations in the Taranaki Acclimatization District.
30th ,,	,,	Consolidating the Fresh-water Fisheries Regulations.
7th October,	,,	Amending the South Canterbury Trout-fishing Regulations.
7th ,,	,,	Amending the Fresh-water Fisheries Regulations, 1936, by prohibiting eel-fishing in Otago Acclimatization District.
8th ,,	,,	Amending the Rotorua Trout-fishing Regulations, 1929.
8th ,,	,,	Amending the Taupo Trout-fishing Regulations, 1929.
14th ,,	,,	Amending Trout-fishing Regulations in the North Canterbury Acclimatization District.
28th ,,	,,	Amending Regulations for Trout-fishing in the Taranaki Acclimatization District.
30th November,	,,	Making Regulations for the Taking of Trout in the Wellington Acclimatization District.
27th January,	1937	Amending Trout-fishing Regulations in the North Canterbury Acclimatization District.

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