SESSION II.
1923.
NEW ZEALAND.

MARINE DEPARTMENT

(ANNUAL REPORT OF THE), 1922–23.

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

MY LORD,— Marine Department, Wellington, 29th June, 1923.

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

I have, &c.,
G. JAS. ANDERSON,
Minister of Marine.

His Excellency Viscount Jellicoe of Scapa, G.C.B., O.M., G.C.V.O.,
Governor-General of New Zealand.

REPORT.

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

SIR,— Marine Department, Wellington, 22nd June, 1923.

I have the honour to make the following report on the work of this Department during the year ended the 31st March last :—

ADMINISTRATION.

Early in the year I was appointed to the position of Permanent Head of the Department, which comprises the following Branches :—

(1.) Mercantile Marine.
(2.) Lighthouses, Harbours, and Government Steamers.
(3.) Inspection of Machinery.
(4.) Fisheries.
(5.) Meteorological.

During last session an amendment to the Shipping and Seamen Act was introduced and passed. Subsequently it received Royal Assent, and is now in operation. One of its principal provisions was to revise various shipping-fees for services performed by the Department, and it is expected that the effect of these will be reflected in the 1923–24 accounts of the Department.

A Harbours Amendment Bill was also introduced and passed, and is now in operation. This provided for a number of matters recommended by the Harbours Association and others.

During the progress of the year it became apparent that many matters of legislation awaited attention, of which the following are the principal :—

(1.) Shipping and Seamen Act and Amendments : A complete revision and consolidation of this is urgently required. So far, however, time has not permitted of this being undertaken. Some urgent matters concerning the examination of engineers and the carriage by sea of His Majesty's mails are being considered in connection with this year's legislation programme.

(2.) Harbours Act and Amendments: A consolidating measure with a few minor amendments is being brought down during this session.

(3.) Oil on Navigable Waters Act: This measure is to provide against the indiscriminate casting of oil on navigable waters within the three-miles limit, and is under consideration for this session's programme.

(4.) Inspection of Machinery Act and Amendments: Several amendments of an administrative character are necessary, together with others of importance, and it is hoped to bring down this legislation during the session.

(5.) Fisheries Act and Amendments: A number of matters involving amendments have been investigated, and the necessary legislation is under preparation.

A complete overhaul of the Department is being made as time permits, and improvements are being effected as weaknesses come to light.

The staff generally has exhibited a spirit of willingness and co-operation, and must be congratulated on results achieved. There is, however, still room for further and greater improvement in many directions, and the continued energy of all officers and employees is enjoined to bring the Department to a stage of high efficiency. This goal can and will be reached by a properly directed and concentrated effort.

I now submit a review on the operations for the year of each of the branches of the Department:—

Mercantile Marine.

Inspection and Adjustment of Ship's Compasses.—The compasses of foreign-going and of home-trade vessels have been adjusted in accordance with the Compass Regulations, and all adjustments that have been performed have been investigated at this office. The adjustments mostly have been performed by licensed adjusters of compasses, and some have been carried out by the masters of vessels in cases where they have been qualified to do so. On the whole, the adjustments have been satisfactorily performed, and the compasses of New Zealand vessels may safely be said to be in the condition which their great importance demands.

It is gratifying to know that in no cases during the year has any vessel been either delayed or restricted in its work owing to its compasses being unsatisfactory.

In some cases the compasses of dredges have required investigation, but this class of vessel, owing to its structure, is necessarily burdened with a mass of superstructure which has its expected effect on the compasses. In such cases artificial compensation is the only existing remedy, but, as these vessels are employed mainly in harbours, the function of their compasses is not important when compared with the function of the compasses of seagoing vessels.

The progress of the gyroscopic compass is closely being watched. Although in use on some European and American vessels, this system of obtaining direction has not yet been installed on any New Zealand vessel. It would appear that for general purposes of navigation it has not yet justified its use in preference to the magnetic compass.

The Department's officers who carry out the duties of Inspectors of Compasses within the Dominion have been alive to the work and have carried out their duties in a very satisfactory manner.

Nautical Almanac and Tide-tables.—The "Nautical Almanac and Tide-tables" was published at the usual time. Its restricted number of pages was continued owing to the necessity for economy. The nautical ephemeris, as used for navigational purposes, was given as formerly. Tidal directions for high and low water throughout the year were given for the ports of Auckland, Wellington, Lyttelton, Dunedin, Bluff, and Westport, and the tidal-stream predictions for French Pass and Tory Channel were included. These latter are given as a result of observations taken some years ago, and it will be necessary to repeat the observations during the coming year with a view to greater accuracy in these predictions, as the streams are found to vary somewhat from the predictions.

The latest important information published by the Imperial Board of Trade concerning mariners, and other information affecting the navigation of vessels when relating to this Dominion, has been reproduced.

The publication, the use of which is essential to local navigators and of much use to overseas vessels, continues to be much used.

The information contained, which is kept up to date with information covering the established ports of the Dominion, is also given an added usefulness by the inclusion of as much information as it is possible to obtain of those ports which are in process of development.

For this latter reason particularly, it is much used by overseas vessels, as some of the information contained is unprocurable elsewhere.

Marine Casualties.—Marine casualties of magnitude have not occurred during the past year, but the usual number of minor casualties, such as strandings, collisions, fires, &c., continue in evidence.

Regarding the latter, it will be seen that fires in bunker coal appear to be of frequent occurrence, and it would seem that much is to be learnt regarding the best method of preventing this.

On the whole, it would appear that those who have custody of this necessary commodity on board vessels are alive to the necessity for vigilance in the direction of minimizing the risk from fire as much as lies in their power.

Of one case under investigation, of a vessel not registered in New Zealand, it appeared that one of the boundaries of a reserve bunker-coal supply was of wood. This was highly dangerous, and nothing short of a catastrophe could have occurred had this fire taken place in mid-ocean. The wooden boundary seemed to have been unavoidable in this particular vessel under the circumstances.

It would seem that temperatures should frequently be taken with a view to early discovery of abnormal heating. This would involve adequate facilities such as temperature-tubes being fitted to enable this to be done satisfactorily.

Fires in cargoes other than coal cargoes have occurred, and the causes of such have been difficult to trace. After much investigation they generally are attributed to spontaneous combustion. Nevertheless, it cannot be denied that some of the outbreaks may have resulted from the liberty enjoyed by the general public to walk and to smoke in the vicinity of vessels and cargoes whilst loading or discharging operations are being performed. Such liberty does not exist in the older countries.

Collisions affecting seagoing vessels have been infrequent, and their infrequency shows, generally speaking, that the Collision Regulations are being well interpreted by those who necessarily have to observe them.

Minor collisions between vessels of the launch class continue to occur, and the time has arrived when an elementary knowledge of the Collision Regulations should be demanded of all persons who have charge of such launches.

At present, launches which are licensed to carry passengers and cargo may be in charge of persons whose only qualification is an ability to drive the engine of such vessels. In the interests of safety to life and property it would appear necessary that such persons should be qualified so as to enable them to take proper action to avoid collision. The same would apply to pleasure-yachts, of which there are a large number, and the persons in charge of which are not at present required to possess any knowledge of the Collision Regulations, or even to show a slight ability to avoid collision if such became imminent.

In some cases where it has been considered necessary further action has been taken by the Department, and in few cases it has been found that casualties have been caused by wrongful act or negligence and might have been avoided by care or prudence.

Notices to Mariners.—Information of importance to vessels affecting the coasts of the Dominion and localities visited by vessels of the Dominion, also information of value to overseas vessels mainly relating to changes in "aids" or obstructions to navigation, has been published.

The various changes which occur in our harbours and the alterations in coastal "aids" to navigation have been promulgated among shipping as has been found necessary.

Radio Direction-finding for Navigational Purposes.—The development of radio direction-finding for the use of vessels has proceeded to great length in Europe and America. At present the development of this important side of radio telegraphy has slackened somewhat owing to divergence of views as to the best manner of its application and use, some favouring the method of position-lines being supplied to vessels on demand; others favouring the method by which a vessel becomes quite independent and may observe its own position-lines.

Examination in Form and Colour Vision.—This examination, which is open to all persons who desire to follow employment at sea, has been performed for seventy-four candidates during the year. Of this number, one candidate failed to pass the form vision part of the test, and two candidates failed in colour vision; one of the latter being quite unable to distinguish the difference between green and red. This examination is carried out by the Department's officers at Auckland, Wellington, and Lyttelton in a manner similar to and with the same instruments as used by the Board of Trade in the United Kingdom.

Examination of Masters and Mates.—At Wellington the examination of masters and mates has been performed by the Principal Examiner monthly, during the first two weeks; at Auckland, by the Examiner at that place when necessary, and at Lyttelton by the Superintendent of Mercantile Marine, who acts as Examiner at that port, monthly during the third and fourth weeks.

Some examinations for restricted limits certificates have been carried out at Napier by the Harbourmaster, and at Dunedin by the Superintendent of Mercantile Marine. This branch of the Department is now in process of reorganization, in the interests of economy and efficiency.

This year has witnessed a slight decrease in the total number of candidates for certificates for seagoing vessels, the total number of candidates being 91; whilst last year the total number was 104; the total number of failures being 52, and of successes 39.

Past records show the percentage of failures to be normal.

Of the total number 55 were candidates for foreign-going certificates, and 14 were candidates for home-trade vessels, and of these 30 passed, whilst 22 were desirous of obtaining certificates for vessels which trade in restricted limits, and 9 passed. The percentage of passes for all grades was 43.

Of the foreign-going total, four examinations were held for the higher certificate of extra master. Two candidates, Captain W. W. Stuart and Mr. W. J. Keane, were successful in passing this examination, the first-named being one of the Department's officers stationed at Auckland. It was pleasing to find that both candidates possessed a good knowledge of the subjects in which they were examined.

The subjects of this examination comprise, in addition to the syllabus for ordinary certificates, advanced questions in stability, naval architecture, magnetism, elementary science, and scientific meteorology. It also embraces an examination in signalling at fair rates of speed. This examination lasts for a whole week, and it is not surprising that few candidates compete for this qualification.

All the examinations have been carried out in conformity with the requirements of the Imperial Board of Trade, and the signalling portion is conducted with automatic signalling instruments similar to those used by that body in the United Kingdom.

Recently the Imperial Board of Trade revised the Regulations governing the Examination of Masters and Mates.

As foreign-going certificates issued in New Zealand are valid throughout the British Empire, it is necessary that the existing regulations in this Dominion should be identical with those issued by the Board of Trade. The Regulations are now under revision.

Examination of Marine Engineers.—During the year 291 candidates passed their examinations and 66 failed. Of those who passed, 130 were engineers of seagoing ships; 12 were engineers of steamers plying within restricted limits; 50 were engineers of seagoing motor-propeller ships; and 99 were engineers of such boats plying within restricted limits.

Provision is urgently necessary for the issuing of certificates to motor engineers that will be of equal value to those now issued by the Imperial Board of Trade. At present in New Zealand steam engineers may have charge of internal-combustion engines. The Board of Trade do not permit the holder of a steam certificate, referred to as an ordinary certificate, to take charge of motor-engines unless they have passed in the appropriate motor-engine examination and can show sea service in motor-engine-propelled vessels. The standard of our marine engineer examinations has been advanced to that set by the Board of Trade. Young engineers would be well advised to make a note of this. It is becoming increasingly difficult for a candidate who has been merely crammed with formulæ and answers to questions to pass the examinations. In any case knowledge acquired in such a fashion is often a bar to progress. At one time a marine engineer with academical training was looked upon rather suspiciously, but this prejudice has now largely disappeared. Owing to the complicated nature of the various modern marine engines engineers with technical training are eagerly sought for. Apprentices should be encouraged to take up study at a technical college simultaneously with their workshop training, so that by the time they have completed their apprenticeship they will have laid a foundation of sound knowledge of the first principles of the science of their profession.

Government Shipping Offices.—In the Government shipping offices the administration of the Shipping and Seamen Act has been efficiently carried out. Appended is a statement showing the number of seamen engaged and discharged at the various ports during the year, and the fees received for such transactions. The total number engaged and discharged was 18,009 and 17,817 respectively, as against 16,925 and 17,575 respectively during the previous financial year. The transactions at the four main ports were as follows (the figures in parenthesis being those of the previous year):—

——	Engagements.	Discharges.	Fees.					
			£	s.	d.	£	s.	d.
Auckland	5,155 (5,139)	5,168 (5,451)	897	7	0	(923	2	0)
Wellington	5,937 (6,059)	6,147 (6,266)	1,068	5	0	(1,059	3	0)
Lyttelton	2,341 (2,111)	2,256 (2,156)	422	13	0	(395	0	0)
Dunedin	1,798 (1,565)	1,622 (1,705)	329	11	0	(297	18	0)

The total amount paid by shipowners to sick and injured seamen, under the provisions of section 6 of the Shipping and Seamen Amendment Act, 1911, was £13,443 18s. 10d., as against £15,228 10s. in the previous year.

Inspection of Seamen.—This service has been maintained. A record of men applying for work is kept for the purpose of filling vacancies as they occur.

Registration of Shipping.—On the 31st December last there were on the register of vessels in the Dominion 139 sailing-vessels, of 21,591 tons register, and 418 steamers, of 70,846 tons register, as compared with 161 sailing-vessels, of 20,301 tons register, and 401 steamers, of 68,705 tons register, at the end of the previous year. The number of seamen and boys employed on board was 3,393, as compared with 3,448 at the end of 1921.

Surveys of Ships.—Certificates have been granted to 282 steamers, 512 oil-engine vessels, and 34 sailing-vessels, as compared with 278, 532, and 51 respectively in the previous year. Attached are returns of seagoing vessels, included in the above, to which certificates were issued.

The regulations governing the inspection and safety of ships and waterside cargo-gear have been well carried out by the Inspectors specially appointed at the four main ports, and by the ordinary Surveyors of Ships at the other ports. A very large number of inspection visits have been made by the officers, and defects found and remedied.

The number of vessels surveyed for the first time was sixty, of which eight were seagoing vessels.

Eighty-six vessels were surveyed for seaworthiness during the year. There was nothing unusual in the nature of the accidents. Considerable progress has been made in the development of the internal-combustion engine, and this type of propelling machinery is increasing in popularity. Many different types of oil-engine are now on the market, and strong claims are being made by various manufacturers regarding the efficiency and suitability of the particular types made by them, resulting in much competition. The internal-combustion engine has formidable competitors in the steam turbine and oil-fired boilers, and some progress is also being made with electrically propelled vessels. However, it is quite evident that the oil-engine has become firmly established as a propelling-medium for ships, and in certain circumstances appears to be the most satisfactory one.

Sixteen Government vessels were surveyed during the year.

Particular attention has been given to spaces utilized for the carriage of petroleum, and to the testing of bulkheads in vessels utilized for this class of cargo. The bulkheads are tested for gas-tightness before certificates are granted.

With reference to cargo-gear, tables of safe working loads for chains and ropes have been prepared, and will be submitted shortly. These tables should be of great assistance to stevedores and waterside workers generally. Lifting-appliances are frequently overloaded because sufficient information as to their capacity has not been available. The workers themselves can greatly assist in the prevention of accidents by more careful handling of lifting-appliances. The catching of a hook on a hatch-coaming, any sudden increase or decrease of the speed when lifting, sudden application of the brake, slipping of slings, slipping of chain on barrel of crane, all increase the stresses in the gear, and should be avoided. It is generally assumed that a load suddenly applied will produce double the stress that the same load will produce when applied gradually, but in some cases the

stress due to sudden application of the load is more than doubled. It is only by the yielding of the stays or derricks that more accidents have not occurred in cases where the lift has been checked suddenly or allowed to surge. Chain slings should not be used round hard material unless the corners have been packed with wood or other material that will prevent the nicking of the chain-links. When chain slings are to be attached to hooks by the slipping of the end link over the point of the hook, care should be taken that the link is large enough to rest freely on the hook. It should not be so small as to jam on the point of the hook and so remain out of plumb with the load.

Finance.—The financial aspects of this branch of the Department were placed on a fresh footing by last session's legislation, and it is now hoped that the services performed herein by the Department will be self-supporting.

Deceased Seamen's Estates.—The estates of twenty-five deceased seamen, amounting to £566 1s., have come into the hands of the Department during the year, and, including estates previously received, thirty-five have been finally administrated. A statement is appended showing the estates dealt with and those outstanding. The sum of £40 3s. 1d. has been paid into the Consolidated Fund, representing estates unclaimed for over six years.

Wrecks and Casualties.—Eighty-two inquiries, involving ninety-two vessels, have been held during the year, of which seventy-five were preliminary and seven magisterial. Those on or near the coast of the Dominion were seventy-five, of 94,441 tons register, as compared with sixty-seven, of 40,470 tons register, for the previous year. No lives were lost, as compared with one in the previous year.

A return of wrecks and casualties to shipping during the year is appended.

Lighthouses, Harbours, and Government Steamers.

Lighthouses.—The duties connected with the maintenance of the various coastal lighthouses have been satisfactorily carried out during the year, the lighthouses being tendered by the s.s "Tutanekai." The transfer of the lighthouse station from East Island to the mainland was completed, and the light in its new position is giving satisfaction. The transfer enabled the Department to reduce the staff from three to two, thus effecting a considerable reduction in cost of maintenance.

A similar saving has been effected at Castlepoint, without impairing the efficiency of the station.

The conversion of the present light on Tiritiri Island to an automatic acetone (unwatched) light has been decided on, and as soon as the apparatus is received in the Dominion the work will be undertaken. A similar conversion at Cape Foulwind is also proposed, and it is hoped to have this work undertaken in the near future also. These changes will enable the Department to effect a reduction of four in the staff, and a very considerable reduction in cost of maintenance.

Arrangements are being made also for the conversion of the Somes Island light to automatic acetone by the Department on behalf of the Wellington Harbour Board, which meets the cost of maintenance.

The erection of an automatic acetone light on Gable End Foreland, which has been recently completed, has given much satisfaction to mariners navigating that part of the coast. The light is of 3,200 candle-power, and has a range of seventeen miles in clear weather.

The erection of an automatic acetone light on Ohena Island, one of the Mercury Group, is practically completed, and will be of much benefit to shipping proceeding to and from Auckland through the Mercury Bay Passage.

It will be seen from the above that there is an increasing tendency towards the adoption of these automatic lights in the case of new lights, and to the conversion of the present watched lights to automatic where it can be done without loss of efficiency. From the Department's experience of these lights it is found that they function most efficiently, and the reduction in cost of maintenance is very considerable, but at the same time I desire to impress that, in consideration of the questions of installing these automatic lights, the factor of safety to shipping is the paramount one.

At Stephen Island oil-engines are being installed, in place of horse-driven whims, for hauling stores from the landing. As all the supplies for this light and for the lightkeepers' families have to be transported over two separate inclines, it is anticipated that this work will greatly improve conditions at the station, in addition to facilitating the despatch of the lighthouse tender.

The question of installing compressed-air fog-signals at Godley Head and Pencarrow Head, in substitution for the present explosive signals, which are out of date and expensive, is under consideration.

The question of a light on the Three Kings Islands was again gone into very carefully. The Marine Engineer, accompanied by a survey party, visited the islands, spent some days there, and surveyed a train route two miles in length from the only practicable landings on the main island to the site which was selected as most favourable for a lighthouse on the western corner, and this was also surveyed. The Western King, which was suggested for the proper site for the light, was also closely examined, and as a result of this survey and examination alternative estimates were prepared, either for a fully equipped watched light-station, with a radio beacon on the main island, or, alternatively, for a duplicate automatic unwatched light on the Western King. Later on the Department, with the assistance of the Post and Telegraph Department, carried out a number of experiments with a radio-beacon apparatus on the Great King to ascertain whether there would be any undue interference with the wireless-waves by reason of the shape or constitution of the ground. The results were quite satisfactory.

In view of the very high cost of either of the alternatives mentioned above it is proposed to go further into the question of providing a radio-beacon at the lighthouse on Cape Maria van Diemen before deciding what aid or aids to navigation are necessary at the Three Kings. The question of automatic lights is also being considered.

At the Brothers Lighthouse, which is a rock station, the lightkeepers are supplied by the Department with provisions. The average daily cost of this, per head, for the year was 2s. 3d.

Signalling.—A regulation was recently made requiring the examination of lightkeepers in regard to their ability to perform signalling duties at the various lighthouse stations, and these examinations are being held as opportunity offers. Several lightkeepers have submitted themselves for examination, with successful results.

First Aid.—A further regulation requiring light-keepers to qualify in first aid as a condition precedent to promotion was also adopted, it being considered that such knowledge is essential to the lighthouse service.

I regret to state that two principal light-keepers died during the year. Principal Keeper A. Duncan was killed at Castlepoint through falling from a ladder, and Principal Keeper W. N. Edmonds died from an attack of pneumonia. Both were very efficient officers, and their loss is deeply regretted.

During the year two light-keepers retired on superannuation, one resigned, and three were transferred to other branches of the service. Appointments were made to fill seven of the vacancies, the other two not being filled owing to reduction in staff at Castlepoint and East Cape.

A special inspection of lighthouses has been carried out during the year. This has not been done for some few years owing to shortage of staff and pressure of work, but will be done periodically in the future. Good results from the inspection have already manifested themselves. Regular inspection by a senior officer from Head Office is necessary.

The sum of £39,668 15s. has been received as light dues on shipping during the year. Such dues have not been increased at anything like a reasonable rate in proportion to the additional capital cost that has been undertaken in new lights. An increase has now been made which is moderate in comparison with some levied in other countries.

Harbours.—The work of overhaul and maintenance of navigation aids in harbours under the control of the Department has been satisfactorily carried out by the various Harbourmasters and by the master of the s.s "Tutanekai." The latter has also attended to the coastal buoys and beacons under the control of the Department during the vessel's periodical trips.

The sum of £746 14s. 6d. has been collected as pilotage and port charges in respect of harbours under the control of the Department, as compared with £647 15s. 6d. during the previous year.

The following works were carried out under the direction of the Marine Engineer:—

Little Wanganui.—A survey was made and plans and estimates for the improvement of the harbour were prepared. New beacons were erected, the flagstaff renewed, and a tide-gauge erected.

Okuru.—Repairs were effected to the wharf and new mooring-piles driven.

Bruce Bay.—Plans were prepared and the work commenced of a landing and goods-shed on Flowerpot Rock, together with an approach bridge and road.

Karamea.—A considerable amount of repair work was carried out on the training-wall, a number of piles being driven and sheathed to strenghten the wall, and to prevent wave-action at the back.

Kaikoura.—The various works in hand towards the improvement of the boat-harbour have been completed, the principal works being the provision of a new slip and repairs to the old one; repairs to the wharf, construction of dinghy-landing, skids, &c. Certain works in connection with the removal of rocks from the berthing-area were also taken in hand, the services of some of the Defence staff used to submarine mining being secured.

Mokau.—The construction of a snagging-punt out of funds provided by the Government has been completed, and the punt is operating satisfactorily.

General.—As usual, a large number of applications were received from local bodies and private individuals for approval of works involving maritime interests. These have all been carefully investigated and dealt with, a few of the principal items being,—

Wharves: Prince's Wharf, Auckland; Castlecliff, Wanganui; Hicks Bay; Holmes Wharf, Oamaru; Bradley's Landing, Kaipara; Kawakawa Bay; Kennedy Bay; Mangarewa, Wairoa River; Manukau; New Plymouth; Onakaka; One Tree Point, Whangarei; Opua, Bay of Islands; Tolaga Bay; Rona Bay; Aka Aka Landing and goods-shed; Kaikoura Wharf, goods-shed.

Foreshore Leases: Awanui River; Half-moon Bay; Mangamuka; Napier Harbour; Nelson, power-house; Paremata; Paterson's Inlet; Picton; Purakanui; Half-moon Bay; Waikiki Bay; Waikawa; Wairoa River; Wanganui, power-house.

Reclamations: Dargaville; Hutt River; Kawau Island; Moturoa (New Plymouth).

Harbour-works: Gisborne Harbour; Napier; Castlecliff, wall; Whangarei Harbour; Wade River.

Westport Harbour.—During the year 546 steamers and 7 sailing-vessels entered the port, 332,401 tons register, as against 469 steamers and 4 sailers, 273,706 tons register, for the previous year—an increase of 80 vessels and 56,695 tons register.

The average depth of the bar for the year was 25 ft. 1 in. at high-water ordinary spring tides, as against 25 ft. 3 in. for the previous year.

The depth of the river fairway from the wharf to the bar has been well maintained, showing an average increase of 4 in. for the year

The largest vessel to visit the port for the year was the R.A.F.A. "Biloela," of 3,366 tons net register.

Vessels drawing 22 ft. have left the port during the year.

The port facilities are well in advance of requirements; the equipment is in good order and capable of dealing with an output of 40,000 tons of coal per week.

The average weekly output for the year was 11,007 tons.

The dredger "Eileen Ward" has been kept in commission throughout the year, dredging at the entrance at a cost of £7,461 3s. 9d. During the period the vessel lifted approximately 433,610 cubic yards of material.

Owing to the excessive cost of repairs and upkeep, the dredger "Erskine" and the steam-hoppers "Heathcote" and "Sumner" were laid up at the end of September, 1922. Prior to this date the former had lifted approximately 7,386 cubic yards of material from the berthing-area.

The quarry was reopened on the 1st October, 1922, to obtain stone to strengthen the last section of the Western Breakwater, which was showing signs of weakness; 7,000 tons of stone was tipped at the Western and 500 tons at the Eastern Breakwater, and these are now in first-class order. Quarrying was discontinued on the 31st March, 1923.

During the year 572,342 tons of coal were shipped, as against 480,873 tons for the previous year —an increase of 91,469 tons.

During the year the Westport Harbour Board's Superannuation Fund was transferred to the Public Service Superannuation Fund, as provided by section 6 of the Westport Harbour Act, 1920.

The Consultative Committee appointed in June, 1922, met during the year and rendered valuable assistance and advice.

The total staff employed on the 1st April, 1922, was 71, as against 41 on the 1st April, 1923—a reduction of 30.

All buildings, tools, plants, &c., under the jurisdiction of the Department have been maintained in good order and repair.

Shingle and Sand Beaches and Foreshores.—The question of effective control of these areas has been given careful consideration during the year, and steps are being taken to place effective supervision over the removal of material from, and the construction of wharves and other structures on, these areas.

A good deal of ignorance in respect to the provisions of the Harbours Act both concerning the removal of sand, shells, gravel, &c., and the erection of structures on foreshores has manifested itself, and a policy of appointing Honorary Inspectors of Beaches is being put into operation.

In view of the increasing demand for sand and gravel as the result of lessening of timber-supplies, it is intended to strictly enforce the provisions of the Act in regard to any unauthorized cases of removal of materials from foreshores that may come to light.

Government Steamers.—The s.s "Tutanekai" has efficiently carried out the work of tendering the coastal lighthouses and departmental harbours during the year, and has visited the southern islands in search of castaways, and to replenish the provision-depots there. The average daily cost per head of provisioning the s.s. "Tutanekai" during the year was 3s. 10d.

The training-ship "Amokura," which was of no further use to the Department, has been sold, and it is also proposed to sell the s.s. "Hinemoa," which is now out of commission.

Inspection of Machinery and Examination of Land Engineers, Engine-drivers, etc.

Considerable want of knowledge on the part of many owners of machinery and boilers concerning the provisions of the Inspection of Machinery Act, 1908, is apparent.

Notifications of change of ownership are not sent to Inspectors as they should be, and certificates are not lifted promptly.

The Department has no special wish to prosecute owners, but is occasionally forced to do so to impress on them their obligations under the Act.

Boilers.—The number inspected during the year was 8,158, as compared with 8,188 during the previous year. The total number of defects discovered was 1,366, of which 366 were considered dangerous.

The inspection of boilers has been kept up to date. Several boilers of the multitubular type have been found bulged at the bottom of the shell plating. Such defects are generally caused by the overheating of the plates, due to an accumulation of a deposit of scale or other sediment. Feed-water often contains solid matter in solution or suspension. In the process of evaporation the solid matter is deposited on the heating-surfaces. These deposits have a low conductivity, the heat is not conducted readily to the water, the plate becomes overheated and weakened and is distorted in consequence.

There are several methods of preventing the accumulation of scale: (1) By using a pure water-supply; (2) by systematic cleaning of the boiler and removal of deposits, or by blowing-off regularly to carry away the deposits; (3) by treating the feed-water with a suitable solvent either before or after it enters the boiler.

Care should be exercised in choosing a boiler-composition. It is desirable that an analysis of the feed-water should first be made. The composition should only be used under expert supervision. Muddy deposits are often removed by blowing-down. The blow-down will remove the mud in the vicinity only of the blow-down pipe, and therefore frequent blowing-down at short intervals is necessary to ensure the removal of the whole of the deposit.

Boilers should be examined and cleaned at definite intervals, even though solvents or the blow-down are being used. The length of period between cleanings cannot be stated as it depends upon a number of circumstances the principal of which is the quality of the feed-water. Frequent examinations should be made until a proper period of thorough cleaning has been ascertained. When a boiler has been lying idle it might be considered that the period between cleanings should be extended, but in many cases a boiler will deposit more solid matter when standing filled or under banked fires than when under steam-pressure.

New Boilers inspected.—The number of new boilers inspected during the year totals 274. The number of designs examined exceeds this number. Many inquiries are made, especially from abroad, for rulings on design or pressure of boilers which are never submitted for inspection. New rules for land-boilers are urgently needed. The present rules have been in use for many years, considerably over twenty years at least, and are therefore quite out of date. The rules for marine boilers are quite up to date. The difference between the rules for marine and land boilers is so marked at present as to be confusing, especially to junior Inspectors. Whilst the rules for land-boilers cannot be made

quite the same as those for marine boilers owing to the different circumstances under which these boilers are used, and also on account of the wide variety in the type of boiler in use on land, the general principle of the rules can be the same. New rules would, generally speaking, permit lighter scantlings, which would cheapen the cost of the construction of boilers.

Inspection of Machinery.—The number of inspections of machinery carried out during the year totals 24,963, as compared with 23,688 inspections last year. There were found 1,535 ordinary defects, and 619 dangerous defects. Written notices to repair were issued in 474 instances.

Notwithstanding particular attention on the part of the Inspectors, several serious accidents have occurred. Many of these accidents have been due to the carelessness of the operator. It is impossible to eliminate all risks of accident by guarding machinery. Machinery, however, that is unguarded and within reach of workmen is in most cases extremely dangerous, and it is surprising with what contempt many people treat machinery in notion, such as revolving shafting or pulleys and belts. All unguarded shafting to which workers may have access is dangerous. Even a slow-running shaft has been known to cause a fatal accident. Aprons and frayed garments, torn sleeves and pockets, are liable to become entangled round shafting. Operators should wear tight-fitting clothing. Females should wear their hair up or have it enclosed in suitable caps. The hair is so light that it is easily drawn towards shafts, belts, or pulleys by the current of air always present in the vicinity of moving machinery. When it becomes entangled round shafts the consequences are extremely serious, as in many cases the scalp is torn off. When belts are thrown off pulleys they should not be permitted to rest on revolving shafting. No one should take hold of with the hand any belt in such a position. Care should be taken to keep clear of belts with projecting metal fasteners. Perches should be provided for belts, or shafts should be covered with a sleeve of metal to support belts. When belts are required to be placed on revolving pulleys, a belt-pole should be used or mechanical belt-striking gear employed. Oiling or cleaning of machinery in motion should only be done by properly trained workmen specially authorized to do so. Waste, rags, or emery-cloth, held in the hand, should not be used for cleaning machinery in motion. In every workroom there should always be some one available who has been instructed how to stop the machinery promptly. The Department now requires all buzz planing-machines to be fitted with heads of the circular type. Objection was made by some woodworkers to this regulation, but the opinion of the majority is that the circular head is a much less dangerous appliance than the square head. A worker caught by the square head would surely lose the whole of his finger or fingers, and perhaps his hand also. With the circular block only the tips of the fingers and the finger-nails can be caught, and since the enforcement of this regulation no accidents of a serious nature have been reported.

Special consideration has been given to machinery employed in farming industries, and it is proposed to provide certain exemptions in this repsect.

Examination of Land Engineers and Engine-drivers.—These examinations were held at the various offices of Inspectors of Machinery throughout the Dominion in the months of May, August, November, and February, which are the dates prescribed by regulations. Also, to suit the convenience of candidates, occasional special examinations took place at these centres and at various country places visited by Inspectors on their periodical tours. The full list of places where examinations took place is shown in an appended return, as also is the number of candidates examined at each place.

The examinations held were for extra first-class engineers, first-class engine-drivers, second-class engine-drivers, winding-engine drivers (steam and electric), locomotive-engine drivers, traction-engine drivers, and locomotive- and traction-engine drivers. The total number of candidates examined was 591; of this number 459 passed, and 132 failed in their examinations. For each quarterly examination throughout the year new examination-papers for first-class engine-drivers were prepared at Head Office and issued to the various District Offices.

Recognition of Certificates from Abroad.—Under section 49 of the Inspection of Machinery Act, 1908, certificates of the appropriate grade were granted, without examination, to holders of certificates from abroad, as follows: South Africa, 1; United Kingdom, 2; Canada, 3; Western Australia, 1; South Australia, 1; Tasmania, 5; Victoria, 1; New South Wales, 1.

Examination of Electric-tram Drivers.—Examinations were held at Auckland, Christchurch, Dunedin, Invercargill, New Plymouth, Wanganui, and Wellington. Generally, the examinations were held at the regular intervals provided for in the regulations—namely, during the months of May, August, November, and February—but some special examinations were held at other dates to suit the convenience of candidates and of tramway services. A total of 48 candidates submitted themselves to examination; of these, 42 were successful, and 6 failed.

Accidents.—During the year 3 fatal and 58 non-fatal accidents in connection with machinery were reported to the Department. In most cases the non-fatal accidents were of a minor nature, and in a great many instances were due to lack of care on the part of persons operating machines. It is not always practicable to so guard machines that they will be absolutely secure against accident; proper skill and attention on the part of operators are essential.

Fisheries.

The administratign of the Fishing Industry Promotion Act, 1919, governing advances to fishermen for purchase of boats and gear and for installation of fish-freezers, has during the year been transferred to the State Advances Department, under the policy of amalgamation of State-lending activities.

An interesting report by the Hon. G. M. Thomson, M.L.C., Chairman of the Portobello Fish-hatchery Board, on the operations of the hatchery during the year, is appended.

During the year visits of inspection have been made by the Chief Inspector to the following fishing-grounds and fishing-ports, viz.: Mangonui, Whangaroa, Bay of Islands, Kaipara, Hauraki Gulf, and Great Barrier. The coast from Cape Colville to Slipper Island, Gisborne, Port Ahuriri, Marlborough Sounds, Lyttelton, Timaru, Oamaru, Dunedin, and Bluff.

Special inspection was also made of the oyster-beds at Mangonui, Whangaroa, Bay of Islands, Whangarei, and Hauraki Gulf, and the toheroa beds on the beach north of Kaipara Heads. The Chief Inspector assisted with the hatching and liberation of quinnat salmon in the Wairau River (Marlborough), and made a special visit to Te Anau in connection with the run of Atlantic salmon in the Upokororo and other tributaries of the Waiau, and also made three visits of inspection to the Government quinnat-salmon hatchery at Hakataramea.

From the annual reports supplied by the Collectors of Customs and Inspectors of Fisheries at the various ports it appears that stormy weather on the east coast of both Islands hindered fishing operations at intervals during the year, and at such times the supply coming forward was quite insufficient for market requirements, and the price of fish both wholesale and retail ruled very high. Fish on most of the fishing-grounds have been plentiful, and when weather conditions were favourable the markets were well supplied. During the year the fishing-fleet has been increased by the addition of another up-to-date steam trawler brought out from England by Monro Bros., of Auckland.

The total quantity of oysters marketed from the Foveaux Strait beds was 27,280 sacks, the wholesale value of which was £17,467. The quantity picked from the rock-oyster beds in the Auckland District was 7,323 sacks, valued at £7,702 10s.

The total quantity of oysters taken from all beds was 34,450 sacks. Of these, 2,390 sacks of Foveaux Strait oysters were exported, and the balance, 32,060, was consumed in the Dominion.

The following proceedings were taken for breaches of the Fisheries Act, viz.: The owners of the s.s. "Kapui" were fined £1 and costs for breaches of the Act; H. C. Wilkins was convicted and ordered to pay 7s. costs for fishing without a license; F. Quintal was convicted and fined £5, and costs 7s., for using explosives to kill fish; George A. Macdonald, taking oysters at Russell, fined £5 and 17s. costs; A. C. Harding, taking oysters at Mill Island, fined £3 and 7s. costs; Mrs. Jane Purser, Mrs. A Purser, Joan McNeil, and Alice Lumberg, taking oysters from Beasons Island, each fined £1 and £1 18s. costs; E. Craddock, fishing from an unlicensed fishing-boat, catching whitebait in an illegal manner, fined £1 and 7s. costs on each charge; Thompson, Milicich, and Alderton, for taking undersized fish, each fined £1; and for using undersized trawl—Thompson fined £2, Milicich and Alderton fined £1 each; Thompson, for not having the number of port of registry on fishing-vessel, fined £2 and £3 12s. expenses.

Foveaux Strait Oyster-beds.

The Inspector of Fisheries at Bluff reports that oysters were plentiful on the beds. The quantity taken for the year exceeds the total of the previous year by 2,734 sacks. The quantity exported shows an increase of 770 sacks; and the quantity sold in the Dominion exceeds the previous year by 1,964 sacks.

Rock-oysters.

The beds picked in the Hauraki Gulf last season were part of Waiheke, Ponui, Pakihi, Motutapu Islands, and part of the Cabbage Bay section and of the Coromandel coast. At Bay of Islands the beds picked were part of Kerikeri, Te Mongonui, Purirua, and Manowaru. The beds at Whangaruru, Whangarei, and Great Barrier were also picked. As will be seen by the return of oysters picked and marketed, the total quantity picked for the season was 7,323 sacks, which shows an increase of 163 sacks on the previous season.

A number of oyster-pickers were again taken from the Bay of Islands to assist in picking the beds in the Hauraki Gulf, and Mr. Edmonds from Bay of Islands was in charge of the work.

Oyster-cultivation work was continued at Bay of Islands during the summer months. A total of 2,587 yards of rock walls was built in suitable bays in the Kerikeri estuary, and the rocks of the walls built in Kerikeri and Orokawa in 1920, 1921, and 1922 were turned. The amount spent on cultivation work for the season amounted to £384 7s. 9d.

At Bay of Islands there was a very good "fixing" of spat on the under-side of the rock walls which were built during the previous three years, but in Te Kumu Bay the "fixing" during the last two seasons, both on the natural beds and also on the rock walls which were built there, was poor.

The beds in the Whangarei Harbour and part of the Coromandel coast, which had been closed for over twenty years, were picked and yielded a good quantity of oysters of first-class quality.

In previous reports I have referred to the increasing difficulty of protecting the beds, particularly in the Hauraki Gulf.

During the last five years there has been a very great increase in the number and size of pleasure-launches in Auckland, in the number of public picnics, summer boardinghouses, and summer residences, and this all means a tremendous increase in the number of people who roam about the gulf and live in the vicinity of the oyster-beds, and consequently a yearly increase in the quantity of oysters which are poached every year. At Ostend and some other parts on Waiheke Island, where summer and week-end villages have come into existence during the last few years, the beds in the vicinity are fast being depleted. The question of providing additional staff for inspection and protective work is at present receiving attention.

Atlantic Salmon.

The Atlantic salmon are now solidly established in the Waiau River, and during the past angling season they have provided good sport for visiting anglers, particularly in the Upokororo and Eglington tributaries.

From these rivers a total of fifty-six salmon were caught. The Department's hatchery near the lower end of Lake Te Anau has been put into working-order, and at the present time the Manager of the Hakataramea Salmon-hatchery and an assistant are engaged in collecting salmon-eggs. So far, about fifty thousand eggs have been collected, and there are good prospects of securing a large quantity.

The Department has decided to commence the systematic stocking of the Wanganui River. The erection of a hatchery is to be put in hand at once, and the eggs collected at Te Anau will be sent there and hatched out, and the young fish when ready will be liberated in the upper tributaries of that river.

There is no doubt but that the successful stocking of the Wairau and its tributaries with the "king of sport fish" will mean a great increase in the yearly number of visitors and tourists to Te Anau and Manapouri Lakes. The combination of salmon-fishing with the magnificent scenery of this region should in a short time make it the most-favoured resort in the Dominion for tourists.

In the same way stocking the Wanganui will undoubtedly mean a great increase in the number of visitors and tourists to the Tongariro National Park and district.

Quinnat Salmon.

The quinnat salmon continue to increase steadily and rapidly. The run this season (1922–23) shows a very large increase on the previous year, which was the largest on record up to that time.

The first run came in to the Waitaki early in January, but, on account of the river being high and dirty, none were caught by anglers until well on in February. The largest runs came up from about the end of February to the end of April.

The snow-fed rivers along the coast from the Waitaki north to the Waiau (North Canterbury) were in good fishing-condition during most of that period, and anglers had splendid sport. The largest catches were made in the Rangitata and Rakaia Rivers, but on all the rivers anglers speak enthusiastically of the sport they have had. I append with this copies of reports which have been received from Constable Berry (of Glenavy), Inspector Main (of Temuka), Mr. Pigott (of Timaru), and Mr. Hope (of Christchurch). These reports give very interesting information regarding the run of salmon this season and the splendid sport which they had afforded to the large number of anglers who have fished for them in the different rivers.

Recognizing that these salmon were sufficiently plentiful to allow them to be taken for market, the Department made it legal for sea fishermen to take them for market at sea, with the exception of the close season from the 1st May to the 30th September.

It was also made legal for anglers holding a trout license to catch salmon in rivers, and, if they wished, to sell their catch. The Department also hired a vessel for a week to do some experimental "trolling" off the North Otago and Canterbury coast. The weather proved unfavourable, and no salmon were caught. Very few were taken by the sea fishermen during the autumn, but a good many of the men are sanguine of getting them in quantities during the early summer months.

A number of anglers took advantage of the regulations permitting them to sell their catches, and New Zealand salmon were sold in the market and shops of Christchurch, Timaru, and Dunedin for the first time. The wholesale price in Christchurch varied from 10d. to 1s. 4d. per pound, and the retail price averaged about 1s. 6d. for fresh and 2s. for smoked salmon.

These salmon now run up the rivers on the Otago and Canterbury coast in large numbers in the late summer and autumn months, and where it is possible quantities should be taken for market. This matter will receive attention before next fishing season.

The Dobson, Ahuriri, Hakataramea, and Otamatata Rivers were netted last spawning season. A total of 1,510,000 eggs were collected, and these were allotted as follows, viz.: The Wairau River, Marlborough, 600,000; Hokitika River, West Coast, 400,000; Upper Clutha, 200,000; Queenstown, 150,000; Tasmanian Government, 100,000; and the balance was hatched out at the Hakataramea hatchery.

The following is a summary of the information supplied by Collectors of Customs and Inspectors of Fisheries in their reports for the year:—

Whangaroa.—The principal market fish were plentiful throughout the year, and fishermen found a ready market for their catches both locally and at Auckland.

Mangonui.—Fishing locally is carried on only in a small way, but fish have been plentiful on all the fishing-grounds.

Hokianga.—On the fishing-grounds inside the Heads the usual market fish have been plentiful, and good catches made during the year, all the fish caught being sold locally.

Russell.—During the year market fish were plentiful on all the fishing-grounds, and fishermen found a ready market for their catches locally, and in the inland townships and also at the Auckland market. As a rule, satisfactory prices were obtained by fishermen for their catches, flounders and mullet bringing from 2s. 6d. to 3s. a dozen, snapper 4s. to 5s., and crayfish from 10s. to 12s. a dozen. The mullet-canning factory at Porerua has operated throughout the year, and the output both for quantity and quality has in every way been satisfactory. The number of whales killed at the Whangamumu whaling-station was considerably below the average of the last five seasons. The oyster-beds at Bay of Islands continue in a healthy condition. Last season 3,430 sacks were picked for market. Of these, 309 sacks were sold locally, and the balance was forwarded to the Government oyster-depot at Auckland. With the annual-increasing demand for oysters it is necessary that oyster-cultivation work should be continued year by year. During the summer months over three miles of rock walls were built in suitable bays in the Kerikeri. On the walls built the previous year there has been a good "fixing" of oyster-spat, and the result of the work done will in a few years give a substantial increase in the quantity of oysters from the Bay of Islands. The oyster-cultivation work which has been carried on at Whangaroa since 1917 is now showing very satisfactory results, and with strict protection these beds will in a few years yield a considerable quantity of oysters of the best quality for market.

Whangarei.—There has been a considerable decrease in the number of fishing-boats employed during the year. Fish have been plentiful on all the fishing-grounds, both inside the harbour and on the outside fishing-grounds as well, and the quantity of fish caught in proportion to the number

of boats operating has been satisfactory. The quantity of fish brought in by the local fishermen does not, however, meet the demand, which is growing all the time, and considerable quantities have to be obtained from Bay of Islands.

Kaipara.—The local Inspector reports that during the year the usual market fish have been plentiful. Flounders have been caught in larger quantities than formerly, and satisfactory prices have been obtained for all kinds of fish both locally and in the Auckland market. The mullet-cannery at Batley has had a satisfactory season, and the toheroa-cannery at Tikinui has also had a good season. The quantity put up for the season is considerably in excess of any previous year.

Auckland.—The local Inspector of Fisheries reports that the fish-supply has not been so regular as in previous years owing to the trawlers which bring in the most regular supply having to go farther out to secure payable catches. Some of the larger trawlers have been operating on the west coast and others in the Bay of Plenty. Some of the masters of the trawlers complain that there is considerable decrease in the supply of fish obtainable on the local trawling-grounds in the Hauraki Gulf. The Inspector states that these grounds are fast becoming depleted, and several of the masters suggest a close season, and the Inspector recommends that this should be given effect to. The oyster-beds in the Hauraki Gulf and at Great Barrier Island were picked during last season, and yielded 3,890 sacks of first-class oysters for market.

Thames.—Fish have been plentiful on all the fishing-grounds, and good catches have been made by fishermen. After supplying the local demand fish are forwarded to Rotorua and other inland towns in the Auckland District, and as far south as Palmerston, Feilding, and Wanganui. The total quantity of fish caught during the year by the local boats is given as 27,957 cwt., and the value £32,080.

Tauranga.—Fish of all kinds have been fairly plentiful during past year. Deep-sea fishing has provided excellent sport to visitors, who speak highly of the local fishing-grounds, and several splendid specimens of swordfish, kingfish, and mako-sharks were landed during the season.

Gisborne.—Bad weather caused a good deal of lost time during the year, but fish were plentiful on the usual fishing-grounds, and altogether the men employed in the industry have had a fairly successful year.

Napier.—The past year in the Hawke's Bay District has been of an average character in the fishing industry. During the period from the 1st April to the 31st December, 1922, fish were plentiful, and good catches were made by the trawlers and also by the small boatmen, but from the 1st January to the 31st March, 1923, the catches have been exceptionally poor, and this has rendered what otherwise would have been a good year into only a fair average one. The Inspector states that the fishermen have not been enabled to benefit when the fish were plentiful owing to their being unable to dispose of them, a condition brought about by the cheaper prices of meat, eggs, bacon, &c., notwithstanding that the price of fish was lowered for retail purposes by 3d. per pound. This entailed their having to cease fishing until such time as the local glut was cleared off.

New Plymouth.—The report shows an increase of seven fishing-boats during the year, and also an increase in the quantity of fish caught. On account of the exposed coast-line where the fishing-launches operate, the men lose a great amount of time, and on that account a number only fish part of the year and find other employment during certain months.

Wanganui.—The Inspector states that there is very little fishing carried on at this port. The amount of fish caught during the past year is much less than has been taken during previous years. He states that the great drawback to fishermen is the rough bar harbour. Very often the fishermen are unable to get out for a fortnight at a time, and sometimes when they get out over the bar the weather becomes rough, and they are unable to get back in time to dispose of their fish before they go bad. Considerably more than half the fish used in this town is brought from Napier, Auckland, Thames, and other places.

Foxton.—The quantity of fish caught in the local grounds shows very little variation to the previous year's catch. The season for whitebait showed an improvement on previous year's catches.

Wellington.—A great amount of lost time owing to unfavourable weather has affected the quantity of fish brought in, and also the earnings of the fishermen. Fish, particularly hapuka and blue cod, have been scarce on some of the grounds, and the boats have had to go farther afield to get good catches.

Picton.—The quantity of fish taken was equal to previous years, the most of which were sold locally and the balance forwarded to inland towns. At the Tory Channel whaling-station seventeen humpback and one " right " whale were killed, yielding 62 tons of oil and 6 cwt. of whalebone, valued at £1,340.

Blenheim.—The catches of fish on the local fishing-grounds shows a decrease on the previous year's catch. Fish were plentiful, and the cause of the decrease in quantity is accounted for by unfavourable weather conditions during the spring and early summer months.

Nelson.—For several years there has been no development in the industry. Nelson has a great extent of well-sheltered fishing-grounds with a splendid variety of fish, yet there is little or no increase in the quantity of fish brought in. Fish of all the usual varieties have been plentiful during the past year.

Westport.—The fishing season just ended has proved very satisfactory, and has equalled the previous season's good returns. The whitebait season showed a marked increase on the two previous years' returns. The fishermen consider that the fishing-grounds are good, and all fish are fairly plentiful, especially flat fish.

Greymouth.—Extensive fishing-grounds exist off the coast, but, on account of the uncertain bar, fishermen are unable to make full use of these, and on account of so much lost time there are no fishermen now who follow up fishing as their regular occupation. Any fishing which is done is more as a side line and not as a regular employment. The supply of fish for local consumption is obtained principally from the trawlers operating from Westport and from Christchurch.

Hokitika.—During the year there was practically no sea fishing carried on from this port. The fishing which was done consisted of netting for flounders and herrings in the tidal estuary, and whitebaiting. The Inspector reports good catches of whitebait during the season, and about one hundred and twenty persons fished for whitebait during the year.

Kaikoura.—The quantity of fish caught shows an increase on the previous year's operations, and market fish of all kinds were plentiful. The owners of the local whaling-stations have had a poor season, only six humpback whales being taken, against sixteen for the season 1922.

Rangiora.—The Inspector states that fishing for the past year has been very poor. All of the men engaged on the local fishing-grounds, except two, have been out working on farms. Little or no fishing has been done at Salt Water Creek since the whitebait season closed.

Kaiapoi.—The catch of fish for the year shows a considerable increase. Whitebait were fairly plentiful during the season, and fishermen as a rule earned good money.

Southbridge (Lake Ellesmere).—The quantity of fish taken shows an increase on the previous year.

Lyttelton.—The quantity of fish caught on the local fishing-grounds shows a considerable decrease on the two years' previous catches. In 1922 the quantity brought in was 6,200 cwt., as against 2,250 cwt. for the past year.

Akaroa.—Fish have been fairly plentiful. The quantity brought in during the year compares favourably with the three previous seasons.

Timaru.—Fish of all kinds have been plentiful on the usual fishing-grounds during most of the year, but strong easterly gales hindered fishing operations, and affected the fishermen's earnings, and caused a decrease in the quantity of fish brought in.

Oamaru.—The report received from the Collector states that compared with the previous year the past year shows a marked decrease in the total quantity of fish landed. Groper was fairly plentiful, but all other kinds of fish showed a decided decrease, particularly red cod. The fishermen report that the last six months were the worst for fishing for many years. Owing to high winds and rough weather the boats were able to go out only two or three times within the week.

Moeraki.—The total quantity of fish landed shows a slight decrease on the previous year. Groper were not so plentiful, and red cod also showed a marked falling-off, whereas blue cod shows an increase, and ling and crayfish were also more plentiful.

Dunedin.—Fair catches of all round fish have been taken by the line fishermen for the greater part of the year, and on practically every occasion groper and kingfish have brought high prices. Fish have been plentiful throughout the year. The trawling-fleet have taken large quantities of flat and round fish for ten months, but for two months towards the end of the year exceptionally poor catches were taken. The seine fishermen have taken fair quantities of flounders, and on a good many occasions large quantities of trevally. All outlying ports have been visited during the year, and at these places fishermen report having had a good season.

Invercargill.—Fish have been plentiful on the fishing-grounds, but the supply brought in has been somewhat irregular on account of unfavourable weather through the spring and early summer months.

Bluff.—Fishermen report a good season for blue cod, and also other market fish were taken in similar quantities to previous years. Oysters were plentiful, and good catches were made by the dredging-vessels on the Foveaux Strait beds. The re-establishment of a regular intercolonial service has been favourable to the export of fish and oysters to Melbourne.

Stewart Island.—The Inspector at Half-moon Bay reports that the fishing season was a fairly good one for the fishermen. Blue cod were fairly plentiful, and good prices were obtained for their catches.

Chatham Islands.—The Inspector reports that the year has not been a good one for the fishing industry. This, however, was not due to the scarcity of fish, which I am pleased to say were extremely abundant, but to the condition of the market. As a consequence of the bad market and the large supplies of fish on hand, fishing ceased, and the fish-freezing works closed down at the end of July, 1922, and did not recommence until the end of February of the preset year. I am very pleased, however, to be able to report that the period of depression and inactivity in connection with the fishing industry at these islands has only been temporary, and present prospects are far more promising than they have been for several years. This improvement I believe to be due to the stabilization of prices and good demand for the kind of fish caught here.

Returns.

The following returns and reports are appended herewith :—

(1.) The various kinds of fish caught, and approximately the total quantities and value of fish landed at the different ports, for the year ended 31st March, 1923.

(2.) The total quantity of oysters taken from the different beds, the quantity disposed of in the Dominion, the quantity exported, and total value.

(3.) The total quantity and value of fish imported into and exported from New Zealand during the year ended 31st December, 1922.

(4.) The number of steam trawlers, oil-engine trawlers, and other vessels employed in net and line fishing, with the number of fishermen employed, and approximately the total number of persons engaged in the fishing industry at each port, for the year ended 31st March, 1923.

(5.) The number and kinds of whales taken at each whaling-station, and the quantity and value of oil, bonedust, or fertilizer produced.

(6.) Reports with regard to the run and catches of quinnat salmon by anglers from Constable Berry, Glenavy; Inspector Main, Temuka; Mr. Pigott, Timaru; and Mr. Hope, Christchurch.

METEOROLOGICAL BRANCH.

During the year the work of the Meteorological Branch has been under review, and a more definite working basis has been adopted and put into operation.

A large increase in the cost of the services performed by the Telegraph Office necessitated a review of the reporting and receiving stations. After considerable negotiations, but at an increased annual cost, the service was maintained.

An equitable distribution of this cost against the Departments concernd is a matter for further consideration.

The principal functions undertaken in this branch of the Department's operations are,—

(1.) Preparation and distribution of morning and afternoon forecasts.
(2.) Preparation and distribution of daily weather report.
(3.) Forecasting and issuing telegraphic notification of special storm or flood warnings.
(4.) Broadcasting evening weather report to shipping.
(5.) Week-end weather reports furnished to the Press or others as asked for.
(6.) Special or extended weather reports in respect to any locality or district furnished as required.
(7.) Collection and publication of rainfall and climatological statistics.

The staff consists of (1) Meteorologist, (2) Assistant Meteorologist, (3) three clerks, (4) eight paid observers, and (5) 461 honorary observers.

To what extent the present services are capable of improvement, or in what direction they fall short of the Dominion's requirements, is being carefully investigated.

The policy of the Department is to obtain its data per medium of honorary observers—and the thanks of the Department are due to those who undertake the work.

The policy of economy in administration has prevented any general inspection of observation stations, but it is considered this difficulty can be met for the time being by the issue of additional instructions.

Further expenditure will in the near future require to be undertaken to provide new barometers and thermometers at many of the reporting-stations.

The reports from East Cape Lighthouse, which were suspended during the removal of the lighthouse from the island to the mainland at Matarehua, have been reinstated.

The development of radio telegraphy is being carefully watched.

The messages broadcasted nightly from two stations in the Dominion to shipping generally is the adoption of a principle which it is hoped to enlarge. Arrangements are under consideration to supply the wireless stations at Awanui and Wellington daily with general weather data, so as to be able to answer immediately any inquiries from vessels approaching the Dominion's coast-line.

The question of linking up with the weather-reporting services in the southern Pacific under the control of the External Affairs Department is also receiving consideration.

The development of aviation for commercial purposes in the Dominion that was anticipated has not materialized, and a number of instruments purchased therefor in London after the war have not been utilized.

The location of this branch of the Department is under consideration by the Government Office Accommodation Board.

I have, &c.,
A. D. PARK,
Secretary.

The Hon. the Minister of Marine, Wellington.

SIR,— Dunedin, 5th May, 1923.

On behalf of the Board of the Portobello Marine Fish-hatchery I beg to forward herewith the report of the work carried on throughout the year ending 31st March, 1923.

The scope and extent of that work is steadily increasing, and this is partly due to the issue of the circular sent out by the Board at the commencement of the year, which drew attention to the capabilities of the station to supply museums and teaching institutions with zoological material

From the report of Mr. W. Adams, the curator, which shows the regular routine work of the station, the following extracts are taken :—

"Our stock of turbot still stands at fourteen, none having died during the past four years. Although these fish are usually keen for their food, and are in the best of condition, they do not increase in size after reaching 24 in. in length. On several occasions during the summer months the largest fish were taken out of the tank and examined, but no signs of development of the ovaries could be detected in any of them. All are free from fungoid disease.

"The stock of lobsters consists of three males and two females; there have been no deaths during the year. The females were examined early in December, and both were found to be carrying full batches of well-developed eggs. Both broods were hatched out in January, and I estimate the number of larvæ to be 10,000. The male lobsters had cast their shells before the end of November, but so far we have not found the shell of a female since the larvæ were hatched out.

During August practically all our time was taken up in overhauling and fixing the hatching-boxes, and collecting and batching out sole and flounder eggs. The weather during the spawning season was exceptionally stormy, and the flatfish very hard to locate, being continually on the move. The first batch of sole-eggs were brought to the station on the 20th August, and ten days later the fish taken in the trawl had spawned.

"The concrete plates used for the cultivation of the southern rock-oyster (*Ostrea tatei*) were frequently cleaned of slime and mud. On the majority of the plates the under-side was covered with oysters measuring from ¾ in. to 2 in. in diameter, while on the upper side few oysters had become attached. Early in November the plates were reversed, so that during the spawning season the young spat could become attached to the clean side of the plate. On the walls of the pond oysters are increasing, and in some of the small ponds, where until a year ago there were no oysters, there are now several clusters of them. A trial is being made with roofing-slates, which, if satisfactory, will cost less and be more easily handled than the concrete plates. It is probably also that the smooth surface of the slate will not encourage the excessive growth which fouls the rougher surface of the concrete.

"The last of the drift bottles, twenty in number, were liberated on the 1st May. This experiment was commenced in January, 1920, and up to May, 1922, 484 bottles were put out. Seven labels were returned during the year, making a total of sixty-seven returned. Of the labels which came to hand last year one was picked up at the Chathams, one at Cape Turnagain, and another at Nelson. The bottle recovered at Cape Turnagain was liberated in February, 1921, and was not picked up until January, 1923. The remaining four bottles came ashore between Moeraki and Timaru.

"The weather throughout the year has been very unsettled, and in consequence we have been unable to spend as much time as in previous years in line fishing and trawling off Otago Heads. At least twice every month we have hauled the seine net on the banks inside the harbour. The dredge has also been towed several times. . . . Whale-feed has been exceptionally plentiful throughout the summer months. The stomach-contents of fish caught were noted by Mr. Young.

"Mr. Broadley, assistant curator and local Inspector of Fisheries, has paid a visit of inspection to the Dunedin fish-market once every week, and to the outlying fishing-ports twice during the year. The quantities and prices of fish sold on the market during his visits have been recorded.

"Throughout the year numbers of people have visited the station, and all were greatly interested in the exhibit of local fish in the observation-tanks."

From the inception of the work at the hatchery the absolute cleanliness of the tanks and all the fittings has been a main cause of the successes achieved. No station either in Europe or America succeeded in rearing young lobster-fry over a year till the Portobello Station showed they could be kept in confinement from the time of hatching right up to over four years. And the condition of the turbot experiment is equally satisfactory. These fourteen large fish are in a concrete shallow tank, where they have lived for several years under abnormal conditions, but with a plentiful supply of well-aerated sea-water and fresh fish-food. Not one has been lost for over four years, which is surely a record. It shows the care and attention to the smallest detail which characterizes the work of the staff.

Several times during the past year or two your chairman has received apparently well-authenticated reports of large turbot having been taken and sold in the shops. These reports came from many quarters, but three especially—from Invercargill, Christchurch, and Napier—were worthy of careful investigation. This, however, failed to secure identification of the fish as turbot. Unfortunately, in no case was it possible to obtain a specimen of the fish reported to be turbot. The only conclusion which could be come to was that they were probably very large flounders. As considerable public interest attaches to the probable naturalization of the turbot in New Zealand waters, the chairman of the Board addressed a letter to the principal newspapers in the Dominion, giving the history of the introduction of this fish, and especially drawing attention to the fact that the turbot swims on his right side, while all the New Zealand flat-fishes—with the exception of the megrim, a thin bony fish which very seldom appears in the market—swin on the left side. Mr. Gilbert Archey, of the Canterbury Museum, has watched the Christchurch fish-shops, which occasionally report turbot for sale, but all those he has yet seen are native flounders.

In Mr. Maxwell Young's report on his biological work the varied character of this is seen. He has examined the stomachs of all fish caught, and has kept a record of the contents, in some cases preserving the material for future investigation.

"Tow-nettings have been made at regular intervals on an average once every ten days, and the contents of the net carefully preserved for future examination, as soon as this can be arranged with specialists."

As no specialists either in Britain or Australia are free to undertake the examination of the Copepoda and Ostracoda, which form so large an element in the food-supply of all larval fish, and as a very great number of these have now been collected, the chairman has sought to interest Professor G. O. Sars, of Christiania, in the work. Dr. Sars, who is an Honorary Fellow of the New Zealand Institute, is the greatest living authority on these groups of Crustacea, and he has already described many New Zealand species. The chairman himself hopes to be able to work out the species of crab zoœas and larval shrimps which occur very freely in the collections.

The circular sent out last year by the Board has drawn outside attention to the work of the hatchery, and inquiries for zoological material have come from several institutions and individual workers. This has entailed considerable and constant work on Mr. Young. The following are some of the persons to whom specimens have been supplied:—

(1.) Dr. Raynor C. Bell, Professor of Clinical Dentistry, University of Otago. Fish-jaws for research work.

In acknowledging the help received, Dr. Bell, who has written a valuable paper on the development of the teeth of fishes, writes as follows:—

"In order to obtain good sections for microscopic study it is necessary that the tissues of fishes be placed in special fixing solutions immediately the fish is taken from the water. This fact has already been emphasized by Mr. Thornton Carter, England, but it was only after a year's experiment with various specimens that I learned to appreciate Mr. Carter's statements to their full extent. The

difficulty of obtaining a required fish and fixing it immediately, added to those of preparation, which Sir Charles Tomes has described as "almost insuperable," made the undertaking of my research arduous and discouraging. When I found that I could obtain specimens from the fish-hatchery, make use of the library, and the kindness of the staff, a great deal of my difficulties were at an end. For two years I have been able to carry on un uninterrupted study of the development and histology of New Zealand fishes and to place on record in the New Zealand and British dental journals the results of my investigations. In the course of my work I have been able to recognize developmental phenomena which, traced through their evolution to the mammalia, appear to have a definite bearing on the potentialities of the tooth-germs of man.

"From material obtained from the fish-hatchery I have been able to render accounts of the teeth of fish of the families Gadidae, Labridae, Sparidae, Ophididae, Parapercidae, Carangidae, and others.

"To scientific workers on similar lines the fish-hatchery must prove of incalculable value in the supply of the required material."

(2.) Dr. W. B. Benham, F.R.S., Professor of Biology, University of Otago. Dogfishes, starfishes, *Boltenia*, polychaetes, &c.

(3.) Dr. Chilton, Professor of Biology, Canterbury University College. Local Crustacea.

(4.) Mr. Harold J. Finlay, M.Sc., University of Otago. Local mollusca.

Mr. Finlay, at the request of the Board, has undertaken to prepare a catalogue of the mollusca of Otago Harbour and the adjacent sea. As he suffers from physical disability, Mr. Young has arranged to do all the necessary collecting for him, and this is being done not only on shore, but on all occasions when the dredges, trawls, or seine nets are being used.

(5.) Mr. Young is also collecting for his own study the Tunicates and Actinaria of the local waters.

The following inquiries from abroad are being dealt with as opportunity offers:—

(1.) The College of Natural Science of Philadelphia, U.S.A., has given a tentative order for 400 to 500 specimens, comprising all the New Zealand fishes available. Mr. Young has the arrangements for the execution of this order well in hand, and a start has been made on the collection and preservation of the specimens in alcohol. This will take some time.

(2.) The University of West Australia has sent an order in for dogfish (*Mustelus* and *Squalus*), elephant-fish (*Callorhynchus*), and blind-eels (*Eptatretus cirrhatus*). Some difficulty may be found in supplying the latter, of which twelve are required, as fishermen have a great objection to handle them.

(3.) The Australian Museum, through their ichthyologist, Mr. McCulloch, has asked for a specimen of the blue shark (*Carcharias brachyurus*.)

Inquiries have also come from the University of Cape Town.

Otoliths of various fishes are collected from time to time.

The measurement of the rate of growth of various species of fishes in captivity was interrupted last year by the thoughtless and stupid act of some visitor who turned off the water-supply tap of the observation-tank, which resulted in the loss of all the fish through lack of aeration. The observations are now being resumed.

Early in the year Mr. Young made a trip to the Chatham Islands for the dual purpose of increasing his knowledge of the life and habits of the blue cod (*Parapercis colias* L.), and of inspecting and reporting on the fishing industry in the islands. A paper on the latter subject is now in the Press; while a second, on the marine fauna of the islands, is in course of preparation.

In the early part of 1922 your Department, acting on the suggestion of the Board, issued a circular offering a bonus of £5 per pair of European lobsters (*Homarus vulgaris*) and edible crabs (*Cancer pagurus*) landed alive at any port in New Zealand. This circular, sent out to all Customs officers and shipping-ports which are visited by overseas steamers, has been handed to masters and engineers of such vessels. Up to the present there has apparently been only one response to the circular from a correspondent, who is seeking further information on the subject.

The library at the hatchery, which is largely the property of the chairman of the Board, is constantly being supplemented from abroad. The following were the principal additions during the year, most of them representing publications which are forwarded regularly: "Transactions of the New Zealand Institute"; "Journal of the British Marine Biological Association"; Reports of the Scottish Fishery Board; Report of the Canadian Arctic Expedition, 1913–18 (full set); Bulletins of the United States Fish Commissioner; all publications of the Smithsonian Institution (Washington), dealing with marine biological questions; Bulletin of the Ceylon Fisheries; Report of the Fishery Board of South Africa; "Transactions of the Royal Society of South Australia"; "Transactions of the Royal Society of Tasmania"; Crustacea of Norway (received from Professor Sars); Papers from Dr. Chilton, Dr. L. A. Borradaile, and Miss Marguerite Murray, M.Sc.

Mr. Young has recently commenced a cross-index of the various journals of scientific societies which are on the library shelves. This important work facilitates the use of the library to any one engaged in biological research work.

The Board desires to impress upon the Government the necessity of obtaining a complete catalogue of the fishes of New Zealand; it is one of the most urgent scientific needs of the day. The Board is endeavouring at the present time to make arrangements with the Director of the Dunedin School of Art to utilize the station for the benefit of the students, with the object ultimately of obtaining illustrations of the local fish fauna for incorporation in the work.

I have, &c.,

GEO. M. THOMSON,
Chairman, Marine Fish-hatchery Board.

The Secretary, Department of Marine, Wellington.

Report of Constable E. T. Berry, Inspector of Salmon-fisheries for South Canterbury, on the Salmon-run in the Waitaki River, 1923 Season.

Police Station, Glenavy, 10th April, 1923.

I respectfully report that the first salmon were noticed six miles up the river on the 16th January, 1923, but owing to the river being dirty none were caught until the 17th February. From then until the present date 140 salmon have been caught, weighing 5 lb. to 31½ lb. These fish are in splendid condition, and they are running every day, and I consider there are larger numbers going up this year than in previous years. The Waitaki is getting in splendid order for angling, and the salmon are taking the bait better now, and there is no doubt about their sporting-qualities. There are a very large number of visiting anglers on the rivers every day, and nobody is fishing for trout. They are all after salmon. The fish caught so far average 18 lb. in weight, and they are a splendid food. The majority of the people are just finding out how to cook them. These fish are delicious smoked. There are some tremendous fish going up just now, but they are breaking even the strongest gear. I have made inquires among the anglers, and find that no fish have been sold from the Waitaki. The fishmongers are offering 7d. a pound to the anglers, but so far none have been sold. The Rangitata and Rakaia anglers are selling them, and the prices are—Christchurch, 1s. 6d. a pound fresh, 2s. a pound smoked, and there is a good demand. There are enormous numbers of young salmon making for the sea just now, and several trout that have been caught lately have been full of them, and I am satisfied by the number of young salmon in the river that in a year or two they will exceed the Canadian runs, and there will be enough fish for New Zealand, and export too. I would like to suggest that the angling season be extended for fifteen days, as I consider it would make no difference to the run of fish at the spawning-beds, and the largest runs go up in May.

10th April, 1923. E. T. Berry, Constable.

The Chief Inspector of Fisheries, Wellington.

Timaru, 7th May, 1923.

As I have put in a great deal of time at the Rangitata since the quinnat started to run I thought perhaps a short account of the season's run might be of interest to you. The run commenced on the 20th February, although considerable quantities were seen round the mouth some time before this. In my opinion this year has seen by far the largest run we have ever had in the Rangitata, and they have afforded magnificent sport. My own bag has been seventy-one salmon, and I think it is a low estimate that from one thousand to one thousand two hundred salmon have been caught in the Rangitata between the mouth and the railway bridge. This has chiefly been because the river has remained in good fishing-order the whole of the season. For the last month the river has been very low. The average weight of the salmon I put at 17 lb. My own fish running from 13 lb. to 30½ lb. The fish were not quite as large as last year, neither were they in quite as good condition, but many splendid fish were caught. For the last five weeks the fish have been too near spawning to be fit to catch. They have lost all their silver colour, quite dark and covered with yellow slime, and many of the later run of fish came in from the sea in this condition. I think it was a great mistake extending the season, as numbers of fish were caught that were hardly fit for food and should have been allowed to spawn. I am sure no sportsman worthy of the name wants to catch such fish, and we had a splendid season without the extension. Owing, I think, to the river being so low, numbers of fish are not running up far from the sea, the holes about the railway-bridge are full of fish, and some are spawning there. Another mistake, I think, is allowing private fishermen to sell their fish. This has resulted in some men giving up their usual employment and doing nothing but fish. No sportsman should want to make money out of his sport. The Waitaki was about a fortnight later than the Rangitata, and the Rakaia the same. The Waimakariri was later still, and I hear that most of the fish caught there were dark and near spawning.

Trusting these few particulars may be of interest to you.

I have, &c.,

Chief Inspector of Fisheries. J. Ernest Pigott.

DEAR SIR— North Town Belt, Temuka, 15th April, 1923.

Regarding yours of the 6th April: It is with pleasure that I furnish a report on the salmon-run in the Rangitata for this season, hoping that you will find some of it useful, and if you do my pleasure will be twofold.

I will take your questions in rotation as you have them written out.

First question: About what date did the salmon make their first appearance?

The last days of January there was an odd salmon seen, hooked, and caught. A flood came, and it lasted over a week; when the river became right for seeing salmon and fishing it was the 9th February. The salmon came strong by the 14th February, and there has never been a stop up to this date.

There was a steady moving run that increased at times, but never waned to a poor run until lately, when there was a big decrease but no stop.

Second question: How does the run compare with last season?

The differences are in the double volume of salmon with no extreme waves and stops, an almost steady run that has outlasted for time the 1922 season.

Third question: Approximately what number have been taken?

It is a hard matter to deal with a boundary river and its fish captures, but I have not the slightest hestiation in placing it over a thousand by rod and line.

Fourth question: How does the condition of the fish and average weight compare with last season?

The average weight would be about 17 lb. this season: last season they would not average 14 lb. The run being composed of 20 lb. and over, with the largest numbers being from 10 lb. to 40 lb.

This season it was a rare thing to see a 12 lb. salmon, and there was practically no small salmon of 4 lb. to 10 lb. They ran from 14 lb. to 20 lb., with a large majority of them 18 lb. and 20 lb. While, on the other hand, no large salmon were seen or caught—*i.e.*, 36 lb. to 50 lb.

The condition of the salmon was good, although they were not to be compared with the condition of the salmon last year. The following, taken from the last five salmon I saw caught, will help to give a fair example of the salmon that run the Rangitata: Length, 34 in., 17 lb.; length, 31 in., 14 lb.; length, 35 in., 19½ lb.; length, 29 in., 16 lb.; length, 33 in., 17 lb.

Fifth question: Have any anglers taken advantage of the regulations which allow them to market the salmon they catch? Can you give approximately the number sold and the price?

This is a difficult question for me, but I know of over fifty salmon being sold. The first of these fish sold at 1s. 6d. a pound cleaned. Later they sold at 1s. a pound cleaned.

Sixth question: What is your opinion and the opinion of others regarding the sporting-qualities of the quinnat salmon, and whether they are considered to be a valuable acquisition to the sporting and food fisheries of the Dominion?

My opinion of the quinnat as a sporting fish can be taken as a basis for all the anglers that fish for salmon, and my opinion was based on the literature I had read, and of that as a whole it caused me to be biased on the quinnat as a sporting fish only. This, I may point out, has been the cause of so much antagonism between the anglers and the quinnat, because we were led to believe they would not bite.

Since the quinnat have run in fair numbers this past few seasons and anglers have gone to fish for them, a method of fishing has been found along with a bait that rewards the angler with a creel of salmon that it is impossible to procure on any snow-river at this time of the year with trout.

I say so now that the quinnat salmon is an asset to the acclimatization societies, and a valuable acquisition to the sportsmen of this country, and a food fish superior to trout.

It is only a question of time when a general knowledge will get diffused through the angling communities of the means whereby quinnat salmon can be caught successfully in a sporting manner by rod and line, although at the present time this is not the general opinion owing to that old bias.

Regarding the information I may give which you say you would be pleased to have, I would like to point out that out of every hundred salmon I have seen sixty of them have been cut and marked—some old and healed, some newly healed, some not properly healed, and some with great raw wounds.

This shows the large number of enemies the salmon have to contend with in the open sea, while the death-rate of immature salmon must be appalling. Stroke-hauling accounted for a fair number of salmon. This is not the worst feature of this method. The only salmon they land is the ones hooked in the boney parts of the fish. Think how many wounded, ripped, and torn fish they leave in the pools to get fungus or some other disease in the newly-torn flesh that has no protected covering. If you can strengthen the hands of those members of societies by helping to do away with the bamboo rod I am sure you would do sportsmen a power of good.

A very noticeable feature of the salmon this season was the difference of the sexes. This could not be told last season when they were running up the river.

In my opinion the season for taking salmon should be the same as trout. Three weeks ago 25 per cent. of the salmon running were kipper salmon. Last week they were all kippers. Fins red, belly black, and the fish a dark appearance. The ovaries were well advanced, and between that and their appearances some anglers would not take them home when killed.

I have, &c.,

J. SCOTT MAIN, Ranger.

Chief Inspector of Fisheries, Wellington.

North Canterbury Acclimatization Society,
Acclimatization Gardens, Christchurch, 7th April, 1923.

DEAR SIR,—

I am in receipt of yours of the 6th instant *re* report on quinnat salmon for this season in North Canterbury, and will endeavour to answer your questions in numerical order as asked.

No. 1. The run was somewhat later this season than usual. Although an odd fish was taken in the Rakaia early in February, the main run did not take place until the last week of that month, being about a fortnight later than last season. The same remarks apply to the Waimakariri, and, from what I can gather, the Hurunui and Waiau as well.

No. 2. Speaking from personal observation of the Rakaia and Waimakariri, the run of quinnat this season in all our large show-rivers is easily a record, both in the quantity of fish ascending and the number taken by anglers. As from information supplied, large runs have also occurred in the Hurunui and the Waiau.

No. 3. The number taken at the Rakaia this season by rod and line would probably be between one thousand and twelve hundred fish. From the Waimakariri about two hundred. As the Hurunui and Waiau are very little fished, and by local anglers only, I am unable to give a reliable estimate of the number of fish taken from these rivers.

No. 4. Comparing the condition of the fish with previous runs, I should say they were equally as good, as I have not heard of any poor-conditioned fish being caught. Regarding size, they appear to be more uniform this season than usual. Although I have not heard of any exceptionally large fish being caught, there were not many small ones either, and the whole season's catch would probably average 16 lb.

No. 5. From inquiries made from the fishmongers in Christchurch, and also from the fish-auction rooms, I do not think many anglers availed themselves of the regulations to market their fish, and probably sixty fish would cover the number sold to the public, at 2s. a pound. The price at auction ranging from 10d. to 1s. 4½d. a pound, probably averaging 1s. 2d. a pound for the whole.

No. 6. Regarding the sporting-qualities of the quinnat, there are, of course, conflicting opinions. But I notice the adverse comments are generally from anglers who have not fished for quinnat. Personally, I do not wish for better or more exciting sport, and I am quite willing to neglect the trout during the salmon-run, and I think that the majority of anglers are of the same opinion as myself, judging by the number who line the banks, both on the Rakaia and the Waimakariri, day after day when the salmon are in. There has been quite an epidemic of salmon-fishing this season. Many who never fished before have taken out a license on purpose to fish for salmon, and, curiously enough, have been successful in their first attempt in hooking a twenty-pounder, and after careering up and down the bank with their heart in their mouth, as they saw their line reduced to a few turns on several occasions, and have ultimately landed it on the bank, a glistening bar of silver, their first quinnat, to the envy and admiration of their friends, who have straightway resolved to go and do likewise, and I predict a horde of anglers will be waiting next season the appearance of the silver horde.

Regarding the edible qualities of the quinnat, all those I have caught myself I have cut up and distributed amongst my friends, some of them declaring them equal to the Atlantic salmon as a food fish. Personally, I think their introduction was a triumph in acclimatization work, and if they go on increasing in numbers, as they have done of late years, they will prove a very valuable asset to the Dominion, both as a food-supply and sporting fish, attracting sportsmen from all parts, thus contributing to the revenue.

I have, &c.,
D. HOPE.

Chief Inspector of Fisheries, Wellington.

TABLES.

TABLE SHOWING THE NUMBER OF STEAM TRAWLERS, OIL-ENGINE TRAWLERS, AND OTHER VESSELS EMPLOYED IN LINE AND NET FISHING, WITH THE NUMBER OF FISHERMEN EMPLOYED, AND APPROXIMATELY THE TOTAL NUMBER OF PERSONS ENGAGED IN THE FISHING INDUSTRY, AT EACH PORT, FOR THE YEAR ENDED 31ST MARCH, 1923.

(Compiled from the returns given in the District Inspectors' reports.)

Name of Port.	Steam Trawlers.	Oil-engine Trawlers.	Line and Net Fishing Vessels.	Number of Persons employed.		
				Fishermen.	Others.	Total.
Whangaroa ..	..	..	6	5	..	5
Mangonui ..	..	..	2	2	..	2
Hokianga ..	..	..	14	17	..	17
Russell	..	..	42	125	..	125
Whangarei ..	..	..	10	19	14	33
Kaipara	..	..	36	55	15	70
Auckland ..	8	..	35	130	75	205
Thames	..	..	47	108	23	131
Tauranga ..	..	..	29	20	5	25
Gisborne ..	2	..	25	38	..	38
Napier	12	..	41	110	6	116
New Plymouth ..	..	..	31	45	..	45
Wanganui ..	..	..	9	13	..	13
Foxton	..	..	14	30	4	34
Wellington ..	1	..	70	150	110	260
Picton	1	..	47	86	..	86
Blenheim ..	..	5	5	14	..	14
Nelson	..	..	27	38	..	38
Westport ..	1	5	15	20	10	30
Greymouth ..	2	..	7	15	3	18
Hokitika ..	..	..	1	1	..	1
Kaikoura ..	..	..	18	42	4	46
Rangiora ..	..	..	18	20	..	20
Kaiapoi	..	..	59	59	..	59
Southbridge ..	..	..	14	20	6	26
Lyttelton ..	1	3	21	25	3	28
Akaroa	..	2	13	24	..	24
Timaru	2	15	2	35	..	35
Oamaru	..	..	8	16	1	17
Moeraki	..	..	28	34	1	35
Otago district ..	4	11	87	171	110	281
Invercargill ..	..	..	40	120	..	120
Bluff	2	..	49	100	15	115
Stewart Island ..	..	..	29	73	11	84
Chatham Islands ..	..	..	11	32	9	41
Totals ..	36	41	910	1,812	425	2,237

TABLE SHOWING THE VARIOUS KINDS OF FISH CAUGHT AND APPROXIMATELY THE TOTAL QUANTITIES AND VALUE OF FISH LANDED AT THE DIFFERENT FISHING-PORTS FOR THE YEAR ENDED 31ST MARCH, 1923.

(Compiled from the figures given in the District Inspectors' reports for the year.)

Name of Port.	Kinds of Fish caught.	Quantity.	Total Value.
		Cwt.	£ s. d.
Whangaroa ..	Snapper, hapuku, mullet, kingfish, flounder, and crayfish ..	450	843 15 0
Mangonui ..	Snapper, blue cod, hapuku, flounder, tarakihi, kingfish, and mullet	40	75 0 0
Hokianga ..	Snapper, mullet, kahawai, and flounders	No quantity supplied.	
Russell	Mullet, snapper, flounders, trevally, hapuku, kahawai, and crayfish	15,460	7,600 0 0
,, ...	Oysters	3,277 sacks	3,426 10 0
,, ...	Whale products	..	7,400 0 0
Whangarei ..	Tarakihi, flounders, mullet, snapper, hapuku, blue cod, crayfish and garfish	3,875	1,715 10 0
Kaipara ..	Flounder, snapper, and mullet	6,000	9,550 0 0
,, ..	Canned toheroa	1,368 cases	5,000 0 0 (about).
Auckland ..	Snapper, mullet, trevally, tarakihi, kahawai, gurnard, hapuku, blue cod, barracouta, flounders, kingfish, butterfish	65,500	82,861 0 0
Thames ..	Flounders, hapuku, butterfish, kingfish, mullet, barracouta, gurnard, and crayfish	27,957	32,080 0 0
Tauranga ..	Snapper, hapuku, trevally, flounders, gurnard, blue cod trumpeter, kingfish, mullet, and garfish	2,080	4,200 0 0
Gisborne ..	Flounders, gurnard, hapuku, red cod, soles, tarakihi, and moki	2,500	4,410 0 0
Napier	Flounders, soles, turbot, hake, snapper, tarakihi, gurnard, moki, trevally, hapuku, and kingfish	15,832	22,525 12 6
New Plymouth ..	Snapper, hapuku, blue cod, flounders, gurnard, kahawai, and crayfish	1,120	1,660 0 0
Wanganui ..	Flounders, mullet, kahawai, gurnard, snapper, blue cod, and barracouta	108	256 0 0
Foxton	Flounders, snapper, kahawai, hapuku, and whitebait ..	440	1,530 0 0
Wellington ..	Hapuku, moki, warehou, snapper, tarakihi, gurnard, flounders, soles, blue cod, butterfish, and crayfish	Not available.	
Picton	Blue cod, flounders, butterfish, moki, red cod, and crayfish ..	3,000	3,750 0 0
Blenheim ..	Flounders, soles, snapper, tarakihi, gurnard, kahawai, butterfish hapuku, kingfish, red cod, and whitebait	861	1,640 0 0
Nelson	Flounders, hapuku, blue cod, red cod, butterfish, snapper, gurnard, kahawai, moki, and crayfish	1,100	1,200 0 0

TABLE SHOWING THE VARIOUS KINDS OF FISH CAUGHT ETC.—*continued.*

Name of Port.	Kinds of Fish caught.	Quantity.	Total Value.
Westport ..	Herring, hapuku, soles, flounders, snapper, red cod, kahawai, gurnard, ling, barracouta, blue cod, turbot, and whitebait	970	2,754 0 0
Greymouth ..	Blue cod, snapper, flounders, and whitebait	71	400 0 0
Hokitika ..	Herring, flounders, snapper, and whitebait	554	2,000 0 0
Kaikoura ..	Hapuku, trumpeter, kingfish, butterfish, tarakihi, blue cod, and soles	7,234	11,860 0 0
Rangiora ..	Herring, flounders, and whitebait	57	350 0 0
Kaiapoi ..	Kahawai, herring, flounders, and whitebait	480	2,800 0 0
Southbridge ..	Flounders, herring, and red cod	400	2,000 0 0
Lyttelton ..	Soles, flounders, hapuku, gurnard, red cod, trevally, ling, and tarakihi	2,250	5,000 0 0
Akaroa	Blue cod, red cod, flounders, hapuku, trevally, moki, butterfish, garfish, ling, barracouta, trumpeter, and hake	4,000	3,000 0 0
Timaru	Hapuku, ling, red cod, gurnard, kingfish, flounders, soles, brill, tarakihi, and barracouta	No return of value and quantity supplied.	
Oamaru	Blue cod, red cod, warehou, ling, moki, barracouta, hapuku, and crayfish	1,495	1,692 0 0
Moeraki	Hapuku, blue cod, red cod, moki, barracouta, crayfish, and ling	3,402	4,635 0 0
Otago District ..	Hakupu, kingfish, ling, barracouta, blue cod, red cod, moki, bream, trumpeter, tarakihi, trevally, mullet, garfish, gurnard, kahawai, flounders, soles, brill, and skate	49,240	44,316 0 0
Invercargill	Flounders, soles, mullet, red cod, hapuku, ling, kingfish, and blue cod	Not available.	
Bluff	Flounders, herring, blue cod, hapuku, moki, and trumpeter ..	6,640	18,598 0 0
Stewart Island ..	blue cod, trumpeter, butterfish, hapuku, moki, red cod ..	7,732	11,870 0 0
Chatham Islands	Blue cod, hapuku, trumpeter, and tarakihi	3,640	6,630 0 0

TABLE SHOWING THE NUMBER OF SACKS AND VALUE OF THE OYSTERS DISPOSED OF IN THE DOMINION AND EXPORTED FOR THE YEAR ENDED 31ST DECEMBER, 1922.

Locality.	Disposed of in Dominion.	Exported.	Total Number.	Total Value.
Dredge-oysters.	Sacks.	Sacks.	Sacks.	£ s. d.
Foveaux Strait	24,890	2,390	27,280	17,467 0 0
Rock-oysters.				
Bay of Islands (including Whangarei and Whanga-mumu)	3,430	..	3,430	3,426 0 0
Hauraki Gulf	3,491	..	3,491	3,853 18 0
Great Barrier	402	..	402	422 2 0
Totals	32,213	2,390	34,603	25,169 10 0

TABLE SHOWING THE TOTAL QUANTITY AND VALUE OF FISH IMPORTED INTO AND EXPORTED FROM NEW ZEALAND DURING THE YEAR ENDED 31ST DECEMBER, 1922.

Fish imported.

Description of Fish.	Quantity.	Value. £	Description of Fish.	Quantity.	Value. £
Anchovies, salted (in bulk)	6 cwt.	32	Fish, preserved in tins ..	2,134,763 lb.	88,105
Oysters, fresh	Nil	Nil	Fish, smoked, dried, pickled, and		
Other fish, fresh or frozen	1 cwt.	6	salted	1,559 cwt.	4,773

Fish exported.

Description of Fish.	New Zealand Produce.		Not New Zealand Produce.	
	Quantity.	Value.	Quantity.	Value.
Anchovies, salted (in bulk)	Nil	Nil	Nil	Nil
Oysters, fresh	163,911 doz.	£1,713	Nil	Nil
Other fish, fresh or frozen	12,612 cwt.	£36,267	5 cwt.	£7
Fish, preserved in tins	73,669 lb.	£6,667	118,515 lb.	£6,924
Fish, smoked, dried, pickled, and salted	186 cwt.	£422	3 cwt.	£9

Table showing Number and Species of Whales taken, and Value of Products.

Whaling-station.	Number of Whales taken.	Species.	Yield of Oil.	Value of Oil.	Quantity of Bone-dust or Fertilizer produced.	Value.	Quantity of Whale-bone produced.	Value.	Total Value.
			Tons.	£	Tons.	£	Cwt.	£	£
Whangamumu	34	Humpback ..	178	7,280	35	280	7	120	7,400
	1	"Right" whale	..	..	..	..	..	..	..
Marlborough Sounds and Cook Strait..	17	Humpback ..	62	1,240	..	..	6	100	1,340
	1	"Right" whale	..	..	..	..	..	..	..
Kaikoura	6	Humpback ..	11	198	..	..	..	..	198
Totals	59	..	251	8,718	35	280	13	220	8,938

Statement of Receipts collected for Year ended 31st March, 1923.

	£ s. d.	£ s. d.
Shipping and Seamen Act—		
Fees for engagement and discharge of seamen and sale of forms ..	4,107 15 6	
Surveys of steamers and sailing-vessels	3,201 19 0	
Measurement of ships	17 2 10	
Examination of masters, mates, and engineers	395 12 6	
Light dues	39,688 15 0	
Fines and forfeitures	987 2 6	
Sundry receipts	99 3 0	
		48,497 10 4
Merchant Shipping Act—		
Sale of forms, &c.	..	185 11 6
Harbours Act—		
Pilotage, port charges	764 14 6	
Foreshore rents and sundry receipts	1,130 17 10	
		1,895 12 4
Fisheries Act—		
Sale of oysters	7,702 9 6	
Sundry receipts	323 19 6	
		8,026 9 0
Inspection of Machinery Act—		
Inspection of boilers and machinery	17,296 0 0	
Examination of engine-drivers	618 0 0	
Sundry receipts	3 12 0	
		17,917 12 0
Tramways Act—		
Examination of electric-tram drivers	..	49 0 0
Grand totals	..	£76,571 15 2

Table showing the Total Payments of the Marine Department during the Financial Year ended 31st March, 1923.

Division of Department.	Salaries, Wages, Bonuses, &c.	Travelling Allowances and Expenses.	Postages, Telegrams, and Telephones.	Rent, Office Equipment, Cleaning, Printing and Stationery.	Miscellaneous and Contingencies.	Totals.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Head Office ..	7,681 5 2	152 11 11	637 13 1	663 16 4	33 16 0	9,169 2 6
Harbours	2,306 7 2	94 13 0	29 3 10	69 0 5	1,716 14 11 (*a*)	4,215 19 4
Lighthouses ..	19,050 3 5	439 18 3	23 18 1	..	8,219 14 7 (*b*)	27,733 14 4
Meteorological Office	1,747 16 6	22 11 4	3,177 3 0	364 15 9	1 10 6	5,313 17 1
Mercantile Marine, &c.	10,496 4 2	179 11 5	248 15 2	701 13 5	274 9 4 (*c*)	11,900 13 6
Inspection of Machinery	19,013 11 9	4,846 8 2	745 5 2	508 18 0	179 14 8 (*d*)	25,293 17 9
Fisheries	2,723 9 11	457 17 5	..	85 3 11	7,189 1 11 (*e*)	10,455 13 2
Government steamers	10,815 13 5	..	..	..	8,859 17 10 (*f*)	19,675 11 3
Miscellaneous services	..	..	..	..	3,445 10 4 (*g*)	3,445 10 4
Totals ..	73,834 11 6	6,193 11 6	4,861 18 4	2,393 7 10	29,920 10 1	117,203 19 3

(*a*.) Includes £120 2s. 9d., boats, buildings, and repairs; £728 7s. 7d., buoys and beacons and harbour maintenance; £61 5s. 1d., renewal of wharves; £799 16s., repairs, Kaipara beacons.

(*b*.) Includes £577 17s., carriage of mails; £771 7s., compensation and funeral expenses to widow of late A. Duncan; £628 12s. 4d., fog-signals, cartridges, and maintenance; £426 15s. 10d., maintenance of automatic lights; £3,769 12s. 6d., oil and stores; £442 15s. 4d., purchase and shoeing of horses and forage for same; £1,435 11s. 1d., repairs to dwellings and maintenance of lighthouses.

(*c*.) Includes £171 8s., administration of Shipping and Seamen Act, &c.; £101 15s. 10d., examination expenses.

(*d*.) Includes £150 collection of inspection fees.

(*e*.) Includes £795 2s. 1d., expenses in connection with salmon-fisheries; £750, maintenance of Portobello Fish-hatchery; £493 7s. 1d., maintenance and working-expenses of launches; £4,819 16s., picking and sale of oysters; £404 12s. 6d., planting oysters.

(*f*.) Stores and general maintenance of Government steamers.

(*g*.) Includes £110, maintenance Waitapu leading-lights; £300, rebuilding boatman's cottage, Rawene; £382 19s. 4d., charts, saleable books, and forms; £369 12s. 9d., checking overcrowding of steamers; £319 12s. 8d., expenses Thames Harbour Commission; £150, grant for assistance to Mokau Harbour Board; £81 5s., maintenance leading-lights, Piako River; £500, subsidy, Motueka Harbour Board; £302 10s., preparation of nautical tables; £182 17s., "New Zealand Nautical Almanac"; £550, preparation of tide-tables.

TABLE SHOWING TOTAL COST OF MAINTENANCE OF NEW ZEALAND COASTAL LIGHTHOUSES FOR THE YEAR ENDED 31ST MARCH, 1923, TOGETHER WITH THE COST OF ERECTION IN EACH CASE.

Name of Lighthouse.	Salaries and Wages.	Oil consumed.		Stores and Maintenance.	Cost of Erection.
		Gallons.	Value.		
	£ s. d.		£ s. d.	£ s. d.	£ s. d.
Akaroa Head	472 15 9	568	40 18 10	107 15 11	7,150 6 5
Brothers	902 3 1	747	56 12 3	216 0 10	6,241 0 0
Cape Brett	719 6 7	674	48 11 9	159 4 0	11,237 3 5
Cape Campbell	439 18 4	722	54 16 2	133 14 11	5,619 2 6
Cape Egmont	488 16 10	707	50 1 9	117 8 3	3,353 17 11*
Cape Foulwind	541 15 11	691	49 16 2	324 13 9	6,955 9 1
Cape Maria	700 10 7	820	59 2 2	248 15 4	7,028 14 8
Cape Palliser	443 1 9	772	58 8 3	209 13 4	6,243 16 1
Cape Saunders	446 12 3	612	44 2 4	112 1 7	6,066 6 3
Castlepoint	688 19 9	703	50 13 6	902 8 4†	9,703 16 10
Centre Island	557 0 10	802	57 16 3	286 3 6	5,785 19 0
Cuvier Island	734 5 4	676	48 14 7	310 9 2	7,406 16 11
Dog Island	613 3 10	551	68 15 5	192 19 5	10,480 12 8
East Cape	791 18 1	250	18 0 5	134 3 4	7,594 8 8
Farewell Spit	700 13 4	746	53 15 6	173 4 6	6,139 11 8
French Pass	383 9 11	186	19 2 2	92 9 10	1,427 17 5
Godley Head	507 2 0	700	50 9 2	211 5 11	4,705 16 4
Jack's Point	282 16 8	304	21 18 4	112 16 10	1,204 10 9
Kaipara Heads	678 17 3	652	47 0 0	443 8 11	5,660 8 0
Kahurangi Point	644 2 5	838	60 8 1	273 11 11	9,528 1 1
Manukau Heads	481 15 8	583	42 0 6	108 19 5	4,975 2 4
Moeraki	544 15 5	585	42 3 5	75 0 11	4,288 13 2
Mokohinou	668 17 10	658	47 8 7	294 0 5	8,186 5 0
Nugget Point	745 2 7	732	52 15 4	223 1 8	6,597 3 7
Pencarrow Head	480 8 11	794	60 0 0	230 9 7	6,422 0 4
Portland Island	680 18 1	795	57 6 2	297 12 0	6,554 14 5
Puysegur Point	642 12 8	755	54 8 6	181 2 0	9,958 19 5
Stephens Island	723 6 3	702	53 7 4	391 4 10	9,349 9 11
Tory Channel	100 0 0	183	13 3 10	3 2 0	..
Tiritiri	429 14 10	622	44 16 9	110 12 3	5,747 7 2
Waipapapa Point	493 0 0	731	52 13 10	127 16 4	5,969 18 11
Totals	17,728 2 9	..	1,479 7 4	6,805 11 0	202,507 4 10

* Cost of iron tower, lantern, and apparatus removed from Mana Island not included in this.
† Includes £767 17s., compensation and funeral expenses of late A. Duncan.

TABLE SHOWING THE NUMBER OF SEAMEN ENGAGED AND DISCHARGED IN THE FOREIGN AND INTERCOLONIAL TRADE, THE HOME TRADE, AND WITHIN RESTRICTED LIMITS RESPECTIVELY, TOGETHER WITH THE AMOUNT OF FEES RECEIVED FOR THE SAME FOR THE FINANCIAL YEAR ENDED 31ST MARCH, 1923.

Port.	Engagements and Discharges in Foreign and Intercolonial Trade.				Engagements and Discharges in Home Trade.				Engagements and Discharges in Restricted Limits.				Total Engagements.		Total Discharges.		Grand Totals.	
	Number of Seamen engaged.	Fees received.	Number of Seamen discharge	Fees received.	Number of Seamen engaged.	Fees received.	Number of Seamen discharged.	Fees received.	Number of Seamen engaged.	Fees received.	Number of Seamen discharged.	Fees received.	Number of Seamen.	Fees received.	Number of Seamen.	Fees received.	Number of Seamen.	Fees received.
		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.		£ s. d.
Auckland	2,141	209 2 0	1,966	199 14 0	2,814	239 10 0	2,935	216 19 0	200	13 2 0	267	19 0 0	5,155	461 14 0	5,168	435 13 0	10,323	897 7 0
Dunedin and Port Chalmers	1,036	102 5 0	977	97 1 0	762	69 6 0	645	60 19 0	..	..	..	..	1,798	171 11 0	1,622	158 0 0	3,420	329 11 0
Greymouth	34	3 8 0	23	2 6 0	24	2 8 0	27	2 7 0	..	..	..	..	58	5 16 0	50	4 13 0	108	10 9 0
Hokianga	4	0 8 0	2	0 4 0	4	0 8 0	4	0 8 0	..	..	..	..	8	0 16 0	6	0 12 0	14	1 8 0
Invercargill	53	5 6 0	54	5 8 0	14	1 8 0	9	0 10 0	..	..	..	..	67	6 14 0	63	5 18 0	130	12 12 0
Kaipara	3	0 6 0	4	0 8 0	7	0 14 0	6	0 12 0	..	..	..	..	10	1 0 0	10	1 0 0	20	2 0 0
Lyttelton	412	40 12 0	406	40 7 0	1,929	174 10 0	1,850	167 4 0	..	..	..	..	2,341	215 2 0	2,256	207 11 0	4,597	422 13 0
Napier	57	6 4 0	71	6 11 0	412	34 16 0	416	34 14 0	62	5 14 0	66	6 2 0	531	46 14 0	553	47 7 0	1,084	94 1 0
Nelson	2	0 4 0	1	0 2 0	823	64 15 0	764	62 10 0	..	..	..	..	825	64 19 0	765	62 12 0	1,590	127 11 0
New Plymouth	19	1 14 0	18	1 10 0	23	2 8 0	25	2 4 0	..	..	..	..	42	4 2 0	43	3 14 0	85	7 16 0
Oamaru	2	0 4 0	1	0 2 0	21	2 2 0	20	2 0 0	..	..	..	..	23	2 6 0	21	2 2 0	44	4 8 0
Onehunga	..	..	..	..	576	50 1 0	543	47 8 0	..	..	..	..	576	50 1 0	543	47 8 0	1,119	97 9 0
Patea	..	..	..	..	22	0 14 0	17	0 14 0	..	..	..	..	22	0 14 0	17	0 14 0	39	1 8 0
Picton	46	5 6 0	38	3 18 0	9	0 18 0	11	1 2 0	..	..	..	..	55	6 4 0	49	5 0 0	104	11 4 0
Poverty Bay	18	1 16 0	16	1 12 0	175	14 6 0	148	12 9 0	..	..	..	..	193	16 2 0	164	14 1 0	357	30 3 0
Russell	1	0 2 0	1	0 2 0	..	..	3	0 6 0	..	..	..	..	1	0 2 0	4	0 8 0	5	0 10 0
Tauranga	..	..	..	..	..	..	1	0 2 0	..	..	..	..	..	..	1	0 2 0	1	0 2 0
Timaru	20	2 0 0	5	0 10 0	37	3 12 0	38	3 16 0	..	..	..	..	57	5 12 0	43	4 6 0	100	9 18 0
Wairau	..	..	..	..	40	2 1 0	35	1 15 0	..	..	..	..	40	2 1 0	35	1 15 0	75	3 16 0
Wanganui	11	1 2 0	11	1 2 0	118	9 8 0	110	8 18 0	..	..	..	..	129	10 10 0	121	10 0 0	250	20 10 0
Wellington	3,137	284 9 0	3,153	281 4 0	2,800	238 3 0	2,994	264 9 0	..	..	..	..	5,937	522 12 0	6,147	545 13 0	12,084	1,068 5 0
Westport	48	4 14 0	52	4 16 0	67	6 14 0	60	5 18 0	..	..	..	..	115	11 8 0	112	10 14 0	227	22 2 0
Whakatane	..	..	..	..	3	0 6 0	3	0 6 0	..	..	..	..	3	0 6 0	3	0 6 0	6	0 12 0
Whangarei	..	..	..	..	4	0 4 0	6	0 4 0	..	..	..	..	4	0 4 0	6	0 4 0	10	0 8 0
Whangaroa	..	..	..	..	4	0 8 0	1	0 2 0	..	..	..	..	4	0 8 0	1	0 2 0	5	0 10 0
Whangape	..	..	..	..	15	1 10 0	14	1 8 0	..	..	..	..	15	1 10 0	14	1 8 0	29	2 18 0
Totals	7,044	669 2 0	6,799	646 17 0	10,703	920 10 0	10,685	899 4 0	262	18 16 0	333	25 2 0	18,009	1,608 8 0	17,817	1,571 3 0	35,826	3,179 11 0

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, 1923.

Name of Seaman.	Balance to Credit of the Estate on 31st March, 1922.	Amount received.	Amount paid.	Balance to Credit of the Estate on 31st March, 1923.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
S. Alexander	..	17 14 2	..	17 14 2
J. R. Bolton	..	36 3 9	36 3 9	..
A. C. Clark	..	4 12 8	4 12 8	..
D. M. M. Clark	..	4 6 0	4 6 0	..
H. C. Davies	..	6 16 0	6 16 0	..
J. C. Devlin	..	8 16 4	8 16 4	..
S. C. Dillon	..	22 7 4	22 7 4	..
G. Doran	18 8 7	..	18 8 7	..
L. P. Fauchelle	13 5 5	..	13 5 5	..
Fasitoa Fohetaha (Tohatata)	15 17 4	44 11 9	60 9 1	..
R. R. B. Gibbons	..	22 9 5	22 9 5	..
P. A. Gilbertson	5 2 8	..	5 2 8	..
C. Hilditch	6 3 5	..	6 3 5	..
E. Holtberg	17 4 4	..	17 4 4	..
S. Hughes	..	2 18 1	..	2 18 1
J. Hunter	1 6 11	..	1 6 11	..
W. Kitto	..	2 1 6	2 1 6	..
B. Knip	..	10 5 0	..	10 5 0
R. Kyle	1 6 1	..	1 6 1	..
J. Larsen	5 2 8	..	5 2 8	..
T. Leigh	11 12 11	2 8 9	14 1 8	..
W. Maguire	8 16 0	..	8 16 0	..
A. Make-atu	2 3 0	..	2 3 0	..
W. Martin	..	9 11	9 11	..
T. Murray	..	77 4 5	8 8	76 15 9
A. McIntyre	42 10 4	..	42 10 4	..
A. McKinnon	12 7 4	8 19 1	21 6 5	..
R. O'Brien	1 15 11	1 7 9	3 3 8	..
Pake	15 17 4	..	15 17 4	..
W. Payne	..	26 5 10	26 5 10	..
A. W. Rawlings	5 12 5	..	5 12 5	..
T. Riley	..	90 17 8	90 17 8	..
A. J. F. Smith	..	110 3 0	110 3 0	..
F. R. Stead	13 16 3	..	13 16 3	..
H. H. Thomas	..	6 15 6	6 15 6	..
J. Thompson	..	11 15 1	11 15 1	..
P. Trainer	..	21 12 0	21 12 0	..
A. Warren	2 17 0	24 0 10	26 17 10	..
J. Warren	..	19 2	19 2	..
	201 5 11	566 1 0	659 13 11	107 13 0

RETURN SHOWING AMOUNTS RECEIVED PRIOR TO THE 1ST APRIL, 1922, STANDING TO CREDIT OF ESTATES OF DECEASED SEAMEN, AND FOR WHICH CLAIMS HAVE NOT BEEN PROVED.

	£ s. d.
Ahlblad, A., late A.B., barquentine "Lyman D. Foster"	13 16 10
Alick, —, late cook, schooner "Jubilee"	17 0 0
Carroll, David, late A.B., s.s. "Joan Craig"	4 14 0
Cossar, B., late cook, s.s. "Karamu"	3 8 5
Devere, A., late boatswain, s.s. "Flora"	15 16 5
Dick, —, late A.B., schooner "Jubilee"	15 17 4
Engdahl, A., late A.B., barquentine "Lyman D. Foster"	13 16 10
Fisher, M., late mate, schooner "Jubilee"	28 6 8
Flynn, W., late trimmer, s.s. "Kamo"	11 13 6
Fowler, Charles, late A.B., s.s. "Kokiri"	5 18 9
Geige, Charles, late A.B., s.s. "Alexander"	20 16 3
Gourlay, John, late fireman, s.s. "Kaiapoi"	3 16 9
Healey, Patrick, late fireman, s.s. "Monowai"	8 14 7
Hogg, W., late cook, barquentine "Lyman D. Foster"	19 18 7
Hopkins, W. H., late brassboy, s.s. "Maori"	1 9 6
Karautu, James, late deck hand, s.s. "Pono"	2 14 0
Kerfontain, P. M., late A.B., s.s. "Kaituna"	4 12 10
Larsen, A., late A.B., s.s. "Queen of the South"	7 16 0
Larseni, Carl, late fireman, s.s. "Manuka"	21 16 7
Linddahl, J., late A.B., s.s. "Kapuni"	5 2 5
Lockyer, Edward, late A.B., s.s. "Wanaka"	71 18 6
Logan, John, late scullion, s.s. "Monowai"	5 11 10
Landgren, V., late A.B., barquentine "Lyman D. Foster"	13 16 10
Lupo, —, late steward, schooner "Jubilee"	15 12 4
Manchin, J., late fireman, s.s. "Maori"	26 12 9
Martin, Santiago, late A.B., barquentine "Antiope"	9 1 10
Millet, D., late A.B., barquentine "Lyman D. Foster"	17 17 2
Mitchelson, F., late A.B., s.s. "Te Teko"	4 14 11
McEvoy, J., late trimmer, s.s. "Koromiko"	0 6 10
McIntyre, A., late A.B., barquentine "Lyman D. Foster"	11 8 7
McKendrick, J., late trimmer, s.s. "Maitai"	0 12 4
McLauchlan, J., late fireman, s.s. "Flora"	3 14 8
O'Flaherty, B., late fireman, s.s. "Whangape"	1 17 8
Puleiki, —, late boy, s.s. "Awanui"	1 7 8
Riley, John, late fireman, s.s. "Poherua"	8 9 0
Saintsbury, F. H., late cook, s.s. "Ngatiawa"	1 1 3
Staw, Charles, late A.B., s.s. "Waihora"	7 1 4
Suskoner, W., late fireman, s.s. "Whangape"	5 7 7
Tautonga, —, late cook, s.s. "Mahurangi"	4 8 0
Tohata, —, late A.B., schooner "Jubilee"	15 17 4
Vasseau, C. R., late lamps, s.s. Tongariro"	8 17 0
Victor, Charles, late cook, s.s. "Kiritona"	17 8 4
Wallace, Robert, late cook, s.s. "Tarawera"	7 8 1
Williams, John, late cook, s.s. "Regulus"	5 17 6
Wold, H., late A.B., barquentine "Lyman D. Foster"	10 5 4
Wright (or Reece), Edward, late A.B., s.s. "Simplon"	18 16 1

Summary of Examinations for Certificates of Competency as Master, Mate, or Engineer.

Class of Certificate.	Auckland.			Wellington.			Lyttelton.			Dunedin.			Other Places.			Totals.		
	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.	Passed.	Failed.	Total.
Foreign-going masters and mates	5	7	12	13	19	32	2	9	11	..	..	..	..	..	..	20	35	55
Home-trade masters and mates	3	3	6	1	2	3	4	1	5	..	..	..	..	..	..	8	6	14
Masters, river steamers ..	5	2	7	3	0	3	..	..	..	1	1	2	0	2	2	9	5	14
Master, cargo-vessel under 25 tons register	0	3	3	1	0	1	0	1	1	..	..	..	..	..	..	1	4	5
Seagoing engineers (steam)	37	18	55	30	16	46	12	4	16	31	4	35	19	12	31	129	54	183
River-steamer engineers ..	6	2	8	1	0	1	..	..	..	..	..	..	4	2	6	11	4	15
Marine engine-drivers ..	..	..	..	..	..	..	..	..	..	..	..	..	1	0	1	1	0	1
Seagoing engineers (mechanical power other than steam)	19	1	20	6	3	9	10	0	10	3	0	3	12	3	15	50	7	57
River engineers (mechanical power other than steam)	42	2	44	6	2	8	5	0	5	1	0	1	45	1	46	99	5	104
Totals ..	117	38	155	61	42	103	33	15	48	36	5	41	81	20	101	328	120	448

Return of Steamers and Oil-engine Vessels to which Certificates of Survey were issued in New Zealand during the Year ended 31st March, 1923. (River-limit Vessels not included.)

Name of Vessel.	Tons Register.	Nominal Horse-power of Steam-engines and Brake Horse-power of Oil-engines.	Indicated Horse-power of Steam-engines.	Nature of Engines.	Nature of Propeller.	Class of Certificate.	Minimum Number of following Classes of Crew Law requires to be carried.			
							Able Seamen.	Firemen.	Trimmers.	Greasers.
Akaroa	24	28	111	Compound	Screw ..	Home trade ..	1	1	..	..
Alexander ..	185	72	360	Compound ..	Twin-screw	Home trade ..	4	3	..	..
Apanui	135	28	231	Triple-expansion	Screw ..	Home trade ..	4	2	..	..
Arahura ..	771	145	1,385	Triple-expansion	Twin screw	Home trade ..	7	6	3	3
Arapawa ..	128	47	270	Triple-expansion	Screw ..	Home trade ..	4	3	..	..
Aupouri ..	220	55	415	Triple-expansion	Twin-screw	Home trade ..	5	3	..	..
Awahou ..	151	74	274	Compound ..	Twin-screw	Home trade ..	4	3	..	..
Baden Powell ..	72	30	182	Compound ..	Screw ..	Home trade ..	2	2	..	..
Baroona ..	54	24	149	Compound ..	Screw ..	Home trade ..	2	2	..	..
Breeze	286	84	375	Triple-expansion	Screw ..	Home trade ..	5	3	..	..
Britannia ..	10	12	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Broxton ..	2,664	249	1,400	Triple-expansion	Screw ..	Home trade ..	10	6	3	3
Canopus ..	835	250	1,161	Triple-expansion	Screw ..	Home trade ..	6	3	2	3
Clansman ..	379	99	561	Compound ..	Screw ..	Home trade ..	5	3	..	..
Claymore ..	119	54	420	Triple-expansion	Screw ..	Home trade ..	4	3	..	..
Corinna ..	791	141	912	Compound ..	Screw ..	Home trade ..	6	3	2	3
Countess ..	57	28	180	Compound ..	Screw ..	Home trade ..	2	2	..	..
Cowan	30	24	140	Compound ..	Screw ..	Home trade ..	1	2	..	..
Cygnet	70	43	217	Compound ..	Screw ..	Home trade ..	2	2	..	..
Daphne ..	100	55	269	Compound ..	Screw ..	Home trade ..	2	2	..	..
Despatch ..	10	20	..	Compound ..	Screw ..	Home trade ..	1	1	..	..
Dredge "222" ..	502	140	897	Compound ..	Twin-screw	Home trade ..	6	3	2	3
Dredge "350" ..	488	117	630	Triple-expansion	Twin-screw	Home trade ..	6	3	..	..
Dunedin ..	125	500	1,053	Triple-expansion	Twin-screw	Home trade ..	4	3	2	3
Echo	98	90	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Elsie	24	30	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Endeavour ..	54	30	..	Oil-engine ..	Screw ..	Home trade ..	2	..	..	..
Express ..	36	25	86	Compound ..	Screw ..	Home trade ..	2	2	..	..
Fanny	55	30	139	Compound ..	Screw ..	Home trade ..	2	2	..	..
*Flora	838	180	908	Compound ..	Screw ..	Foreign trade	6	3	2	3
*Futurist ..	90	385	463	Triple-expansion	Screw ..	Home trade ..	2	3	..	..
Gael	55	20	98	Compound ..	Screw ..	Home trade ..	2	2	..	..
Gale	339	450	358	Triple-expansion	Screw ..	Home trade ..	5	3	..	..
*Glenelg	156	75	275	Compound ..	Screw ..	Home trade ..	4	3	..	..
Hananui ..	44	58	276	Triple-expansion	Screw ..	Home trade ..	2	3	..	..
Hawera ..	92	31	190	Compound ..	Screw ..	Home trade ..	2	2	..	..
*Holmdale ..	295	99	423	Triple-expansion	Screw ..	Home trade ..	4	3	..	..
Houto	88	120	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Huia (Auckland) ..	166	160	..	Oil-engine ..	Screw ..	Foreign trade	4	..	..	..
Huia (Wellington)	65	25	121	Compound ..	Screw ..	Home trade ..	2	2	..	..
Invercargill ..	123	41	225	Compound ..	Screw ..	Home trade ..	4	2	..	..
Isabella de Fraine	76	60	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
James Cosgrove ..	114	61	468	Triple-expansion	Screw ..	Home trade ..	4	3	..	..
Jane Gifford ..	6	19	..	Oil-engine ..	Twin-screw	Home trade ..	1	..	..	..
John	134	90	265	Compound ..	Screw ..	Home trade ..	4	2	..	..
John Anderson ..	34	25	50	Compound ..	Screw ..	Home trade ..	2	1	..	..
Kahika	528	103	661	Triple-expansion	Screw ..	Home trade ..	5	3	..	..
Kaiaia	24	30	..	Oil-engine ..	Twin-screw	Home trade ..	1	..	..	..
Kaiapoi ..	1,246	201	1,003	Triple-expansion	Screw ..	Foreign trade	8	3	2	3
Kaikorai ..	1,860	430	1,517	Triple-expansion	Screw ..	Foreign trade	9	6	3	3
Kaimanawa ..	1,247	213	829	Triple-expansion	Screw ..	Home trade ..	7	3	2	3

* Surveyed twice.

RETURN OF STEAMERS AND OIL-ENGINE VESSELS TO WHICH CERTIFICATES OF SURVEY WERE ISSUED, ETC.—*continued.*

Name of Vessel.	Tons Register.	Nominal Horse-power of Steam-engines and Brake Horse-power of Oil-engines.	Indicated Horse-power of Steam-engines.	Nature of Engines.	Nature of Propeller.	Class of Certificate.	Minimum Number of following Classes of Crew Law requires to be carried.			
							Able Seamen.	Firemen.	Trimmers.	Greasers.
Kaitangata ..	1,195	200	844	Triple-expansion	Screw ..	Foreign trade	7	3	2	3
Kaitoa	141	65	298	Compound ..	Twin-screw	Home trade ..	4	3	..	..
Kaitoke.. ..	1,862	434	1,620	Triple-expansion	Screw ..	Foreign trade	9	6	3	3
Kaituna ..	1,208	200	1,014	Triple-expansion	Screw ..	Foreign trade	7	3	2	3
†Kaiwarra ..	1,847	2,000	1,779	Triple-expansion	Screw ..	Foreign trade	8	6	3	3
Kamo	725	159	740	Triple-expansion	Screw ..	Home trade ..	6	3	2	3
Kamona ..	903	117	741	Triple-expansion	Screw ..	Foreign trade	6	3	2	3
Kapiti	114	35	217	Compound ..	Screw ..	Home trade ..	4	2	..	..
*Kapua	6	31	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Kapuni	97	30	190	Compound ..	Screw ..	Home trade ..	2	2	..	..
Karori	1,194	147	947	Triple-expansion	Screw ..	Foreign trade	7	3	2	3
Katie S. ..	6	12	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Katoa	1,382	335	1,552	Triple-expansion	Screw ..	Foreign trade	8	6	3	3
Kauri	1,830	304	1,247	Triple-expansion	Screw ..	Foreign trade	9	3	2	3
*Kawatiri ..	1,856	429	1,701	Triple-expansion	Screw ..	Foreign trade	8	6	3	3
Kawau	53	20	99	Compound ..	Screw ..	Home trade ..	2	1	..	..
Kennedy ..	131	38	..	Compound ..	Twin-screw	Home trade ..	4	2	..	..
Kerepeehi ..	55	27	137	Compound ..	Twin-screw	Home trade ..	2	2	..	..
Kini	702	135	686	Triple-expansion	Screw ..	Home trade ..	6	3	..	..
Kiritona ..	75	150	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Kittawa ..	708	120	695	Triple-expansion	Screw ..	Home trade ..	6	3	..	..
Koau	77	170	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Kohi	20	60	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Komata ..	1,294	260	1,218	Triple-expansion	Screw ..	Home trade ..	8	3	2	3
Koromiko ..	1,541	313	1,325	Triple-expansion	Screw ..	Foreign trade	8	6	3	3
*Kotare	83	20	138	Compound ..	Screw ..	Home trade ..	2	2	..	..
Koutunui ..	98	26	156	Compound ..	Twin-screw	Home trade ..	2	2	..	..
Kurow	1,564	333	1,387	Triple-expansion	Screw ..	Foreign trade	8	6	3	3
Lady Eva ..	3	120	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Lena Gladys ..	5	27	..	Oil-engine ..	Twin-screw	Home trade ..	1	..	..	..
Loyalty ..	24	35	78	Compound ..	Screw ..	Home trade ..	1	1	..	..
Lyttelton(Auckland)	24	108	294	Compound ..	Paddle ..	Home trade ..	1	3	..	..
Mahoe	14	45	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Mahurangi ..	95	80	208	Compound ..	Screw ..	Home trade ..	2	2	..	..
Mako	247	65	479	Triple-expansion	Screw ..	Home trade ..	5	3	..	..
*Manaia	630	104	908	Triple-expansion	Twin-screw	Home trade ..	7	3	2	3
Maori	1,567	5,600	5,600	Turbine ..	Triple-screw	Home trade ..	9	15	9	3
Marama ..	3,992	1,500	4,872	Triple-expansion	Twin-screw	Foreign trade	13	12	6	3
Mararoa ..	1,329	530	2,784	Triple-expansion	Screw ..	Home trade ..	8	9	6	3
Maunganui ..	4,542	650	4,449	Quadruple expansion	Twin-screw	Foreign trade	14	12	6	3
Motu	109	160	..	Oil-engine ..	Twin-screw	Home trade ..	4	..	..	..
Muriel	22	18	116	Compound ..	Screw ..	Home trade ..	1	2	..	..
Murihiku ..	369	70	497	Triple-expansion	Twin-screw	Home trade ..	5	3	..	..
Navua	1,773	220	1,867	Triple-expansion	Twin-screw	Foreign trade	9	6	3	3
Ngahere ..	556	118	747	Triple-expansion	Screw ..	Foreign trade	6	3	..	..
Ngaio	718	130	1,092	Triple-expansion	Screw ..	Home trade ..	7	3	2	3
Ngakuta ..	944	248	1,081	Triple-expansion	Screw ..	Foreign trade	6	3	2	3
Ngapuhi ..	311	160	817	Triple-expansion	Twin-screw	Home trade ..	5	3	..	..
Ngatiawa ..	220	55	405	Triple-expansion	Twin-screw	Home trade ..	5	3	..	..
Nikau	98	55	281	Compound ..	Twin-screw	Home trade ..	2	3	..	..
Nile	18	12	..	Compound ..	Screw ..	Home trade ..	1	1	..	..
Nora Niven ..	66	35	187	Triple-expansion	Screw ..	Home trade ..	2	2	..	..
Nor' West ..	6	15	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Oban	24	20	..	Oil-engine ..	Twin-screw	Home trade ..	1	..	..	..
Ohinemuri ..	52	30	131	Compound ..	Screw ..	Home trade ..	2	1	..	..
Opawa	59	18	74	Compound ..	Screw ..	Home trade ..	2	1	..	..
Opihi	638	86	542	Triple-expansion	Screw ..	Foreign trade	6	3	..	..
Opua	288	80	523	Triple-expansion	Twin-screw	Home trade ..	5	3	..	..
Orepuki.. ..	224	78	409	Compound ..	Screw ..	Home trade ..	4	3	..	..
Orini	19	120	..	Oil-engine ..	Twin-screw	Home trade ..	1	..	..	..
Otimai	111	160	..	Oil-engine ..	Twin-screw	Home trade ..	4	..	..	..
Pearl Kasper ..	16	22	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Plucky	29	40	264	Compound ..	Screw ..	Home trade ..	1	3	..	..
Pono	30	52	..	Oil-engine ..	Twin-screw	Home trade ..	1	..	..	..
Progress ..	181	28	179	Compound ..	Screw ..	Home trade ..	4	2	..	..
Putiki	168	60	324	Compound ..	Screw ..	Home trade ..	1	3	..	..
Rakanoa ..	1,367	200	917	Triple-expansion	Screw ..	Foreign trade	7	3	2	3
Rakiura ..	13	10	..	Oil-engines ..	Screw ..	Home trade ..	1	..	..	..
Rarawa ..	460	140	1,077	Triple-expansion	Twin-screw	Home trade ..	6	3	2	3
Regulus.. ..	232	150	608	Compound ..	Twin-screw	Home trade ..	4	3	..	..
Rimu	169	95	618	Triple-expansion	Twin-screw	Home trade ..	4	3	..	..
Ripple	187	80	269	Triple-expansion	Screw ..	Home trade ..	4	3	..	..
Ronaki	129	270	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Ruru	62	50	189	Compound ..	Screw ..	Home trade ..	2	2	..	..
Savaii	9	16	..	Compound ..	Screw ..	Home trade ..	1	1	..	..
Simplon ..	69	75	..	Compound ..	Screw ..	Home trade ..	2	1	..	..
Southern Cross ..	403	117	467	Triple-expansion	Twin-screw	Foreign trade	6	3	..	..
Storm	186	70	267	Compound ..	Screw ..	Home trade ..	4	3	..	..
Te Aroha	57	85	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Te Awhina ..	87	99	449	Triple-expansion	Twin-screw	Home trade ..	2	3	..	..

* Surveyed twice. † Surveyed three times.

RETURN OF STEAMERS AND OIL-ENGINE VESSELS TO WHICH CERTIFICATES OF SURVEY WERE ISSUED, ETC.—*continued.*

Name of Vessel.	Tons Register.	Nominal Horse-power of Steam-engines and Brake Horse-power of Oil-engines.	Indicated Horse-power of Steam-engines.	Nature of Engines.	Nature of Propeller.	Class of Certificate.	Minimum Number of following Classes. of Crew Law requires to be carried.			
							Able Seamen.	Firemen.	Trimmers.	Greasers.
Terawhiti ..	102	99	846	Triple-expansion	Screw ..	Home trade ..	4	3	2	3
Theresa Ward ..	9	95	481	Triple-expansion	Screw ..	Home trade ..	1	3	..	..
*Thomas Currell ..	84	75	..	Triple-expansion	Screw ..	Home trade ..	2	3	..	..
Tiare Taporo ..	137	80	..	Oil-engine ..	Screw ..	Foreign trade	4	..	..	..
Tiroa	94	31	130	Compound ..	Screw ..	Home trade ..	2	2	..	..
Titoki	247	86	675	Triple-expansion	Twin-screw	Home trade ..	5	3	..	..
Toiler	22	13	..	Compound ..	Screw ..	Home trade ..	1	1	..	..
Tuatea	58	28	231	Compound ..	Screw ..	Home trade ..	2	2	..	..
Tuhoe	98	120	..	Oil-engine ..	Twin-screw	Home trade ..	2	..	..	..
Wahine ..	1,798	720	7,938	Turbine ..	Triple-screw	Home trade ..	9	18	12	3
Waihora ..	2,993	410	1,797	Triple-expansion	Screw ..	Foreign trade	10	6	3	3
Waikonini ..	6	60	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Waikouaiti ..	2,379	327	2,036	Triple-expansion	Screw ..	Foreign trade	9	9	3	3
Waimea ..	207	100	416	Triple-expansion	Twin-screw	Home trade ..	4	3	..	..
Wainui	411	99	550	Compound ..	Screw ..	Home trade ..	6	3	..	..
Waipori	1,221	180	1,011	Triple-expansion	Screw ..	Foreign trade	7	3	2	3
Waipu	76	50	213	Compound ..	Twin-screw	Home trade ..	2	2	..	..
Wairau	56	20	136	Compound ..	Screw ..	Home trade ..	2	2	..	..
Wairoa	48	16	64	Compound ..	Screw ..	Home trade ..	2	1	..	..
Waitangi (Dunedin)	32	60	..	Compound ..	Screw ..	Home trade ..	2	1	..	..
*Waitomo ..	2,719	372	1,369	Triple-expansion	Screw ..	Foreign trade	10	6	3	3
Wakaiti	15	39	..	Oil-engine ..	Twin-screw	Home trade ..	1	..	..	..
Wakatu	95	30	143	Compound ..	Screw ..	Home trade ..	2	2	..	..
Wanaka ..	1,505	280	1,127	Triple-expansion	Screw ..	Home trade ..	8	3	2	3
Wanderer ..	23	60	..	Oil-engine ..	Screw ..	Home trade ..	1	..	..	..
Waverley ..	93	25	121	Compound ..	Twin-screw	Home trade ..	2	1	..	..
Weka	53	20	75	Compound ..	Screw ..	Home trade ..	2	1	..	..
Whakarire ..	449	120	642	Compound ..	Twin-screw	Home trade ..	5	3	..	..
Whangape ..	1,900	280	1,211	Triple-expansion	Screw ..	Foreign trade	8	3	2	3
Will Watch ..	48	45	..	Oil-engine ..	Screw ..	Home trade ..	2	..	..	..
Wingatui ..	1,344	1,300	1,102	Triple-expansion	Screw ..	Foreign trade	7	3	2	3
Wootton ..	90	33	134	Compound ..	Screw ..	Home trade ..	2	2	..	..
Zita	73	60	..	Oil-engine ..	Screw ..	Home trade ..	2	..	..	..

* Surveyed twice.

RETURN OF SAILING-VESSELS SURVEYED DURING THE FINANCIAL YEAR ENDED 31ST MARCH, 1923, WITH PARTICULARS OF TONNAGE, ETC.

(River-limit Vessels not included.)

Name of Vessel.	Tons Register.	Class of Certificate.	Minimum Number of Seamen required by Law to be carried.		
			Able Seamen.	Ordinary Seamen.	Apprentices or Boys.
Alert	98	Home trade ..	2	1	..
Alma	20	Home trade ..	1	..	..
Altair	57	Home trade ..	2	..	..
Combine	24	Home trade ..	1	..	..
Deveron	26	Home trade ..	1	..	..
Edna	15	Home trade ..	1	..	..
Elsie Mary	99	Home trade ..	2	1	..
Esme	20	Home trade ..	1	..	..
Ethel Wells	19	Home trade ..	1	..	..
Haere	99	Home trade ..	2	1	..
Herald	73	Home trade ..	2	1	..
Hero	25	Home trade ..	1	..	..
Huanui	99	Home trade ..	2	1	..
Huon Belle	25	Home trade ..	1	..	..
Kitty Fraser	25	Home trade ..	1	..	..
Louis Theriault	385	Foreign trade ..	6	1	1
Mapu	247	Foreign trade ..	5	..	1
Moa	99	Home trade ..	2	1	..
Ngahau	85	Home trade ..	2	1	..
Ngaru	66	Home trade ..	2	1	..
Onerahi	25	Home trade ..	1	..	..
Rangi	86	Home trade ..	2	1	..
Rira	99	Foreign trade ..	2	1	..
Rona	610	Home trade ..	8	1	2
Saucy Kate	25	Home trade ..	1	..	..
*Scot	18	Home trade ..	1	..	..
Seagull	25	Home trade ..	1	..	..
Talisman	70	Home trade ..	2	1	..
The Portland	59	Home trade ..	2	..	..
Waikonini (now auxiliary)	23	Home trade ..	1	..	..
Waiti	17	Home trade ..	1	..	..
War Lord	99	Home trade ..	2	1	..
Ysabel	148	Foreign trade ..	4	..	1
Zingara	90	Home trade ..	2	1	..

* Surveyed twice.

Return of Wrecks and Casualties to Shipping reported to the Marine Department from the 1st April, 1922, to the 31st March, 1923

Date of Casualty.	Vessel's Name, Age, and Class.	Rig.	Register Tonnage.	Number of		Nature of		Number of Lives lost.	Place where Casualty occurred.	Wind.		Finding of Court of Inquiry.	Name of Master.
				Crew.	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1922.													
Jan. 25	Ngatiawa, s.s., 16 years	Schooner	220	22	25	General ..	Accident to machinery; £100 damage	..	Bay of Plenty ..	..	Calm ..	Low-pressure piston-head carried away. Engine converted to compound, but cylinder-cover and cylinder broke later	A. Parris.
Feb. 16	Valmarie, 3 years	Schooner	256	12	1	..	Stranded	..	Farewell Spit ..	E.	Moderate	The Court found that the master committed a slight error of judgment in standing in too close when tacking. His chart showed sufficient depth of water, but the "New Zealand Pilot" gave notice that the sands were shifting. Vessel refloated. Certificates of master and mate returned	George Schultze.
Jan. 21	Kapua, aux., 10 years	F. and A.	6	4	..	8,000 ft. kauri	Tail-shaft carried away; £15 damage	..	Hauraki Gulf ..	S.E.	Light ..	The tail-shaft carried away, but vessel continued voyage under sail; propeller not lost	W. H. Stephens.
Feb. 26	Maori, s.s. ..	Schooner	1,567	103	246	..	Collision	..	Forty-five miles north-east from Godley Head	N.W.	Light	The Court found that a good and proper look-out was kept on both ships, but a low-lying haze around the "Zita" reduced the visibility of her side lights; that the chief officer of the "Maori" acted properly in porting his helm, but it would have been better had he indicated his change of course by signal on the whistle, and that the chief officer of the "Zita" acted properly, as he was not aware that the "Maori" had seen him. No order made as to costs.	B. Irwin.
,, 26	Zita, aux. ..	Schooner	73	8	..	..	Collision						H. Johansen.
Mar. 7	Gale, s.s., 10 years	Schooner	453	21	..	..	Stranded; no damage	..	Bar, Wanganui River	W.	Fresh breeze	Owing to a faulty link the steering-chain carried away and the vessel went ashore on the north mole, but was refloated on following tide	A. Robertson.
,, 31	Wairau, s.s. ..	Cutter ..	220	15	..	25 tons ..	Collision; no damage	..	Dargaville Wharf, Kaipara Harbour	S.W.	5	That the collision was due to Captain Sellars's (master of the "Wairau") disregard of the accepted rules of good seamanship, and particularly out of (*a*) a serious breach of articles 20, 23, 24, and especially article 25 of the Regulations for preventing Collisions at Sea in that he did not keep to his own starboard side of channel as directed in said article 25; and (*b*) non-observance of Regulation 31 of the General Harbour Regulations (New Zealand) in that he did not have a helmsman assisting him in navigating his ship, although such ship had a crew of six men	George H. Sellars.
,, 31	Laura, 34 years ..	Barquentine	226	13	..	493 tons coal ..	Collision; no damage						Alex. H. Watchlin.
,, 31	Molly, 15 years ..	Cutter ..	3	1	..	..	Collision; £150 damage						Herbert W. Subritsky.

April 15	Wainui, s.s., 36 years	Schooner	410	30	39	..	Accident to machinery; £400 damage	..	Wellington Harbour..	N.W.	Light ..	Owing to bolts carrying away the high-pressure cylinder-cover and piston were broken and bent	T. B. Sewell.
,, 20	Aupouri, s.s., 17 years	Schooner	220	23	24	General ..	Damaged by heavy sea	..	Manukau Bar ..	..	Calm ..	When crossing the bar vessel shipped heavy sea, which caused considerable damage to deck fittings	B. Burk.
,, 9	Waikonini, 21 years	Schooner	23	4	..	..	Dismantled; £75 damage	..	Whangarei	N.E.	Gale ..	Vessel ran into gale and lost two topmasts ..	E. Norton.
,, 21	Raranga, s.s., 5 years	Schooner	7,956	83	..	General ..	Fire; slight damage	..	Queen Street Wharf, Auckland	..	..	Fire was discovered amongst copra cargo in poop-space. Cause unknown	C. M. Andrews.
,, 22	John, s.s., 23 years	Schooner	134	13	..	General ..	Piston broken ..	..	Pegasus Bay, N.Z. ..	S.E.	Fresh breeze	High-pressure piston broke. No apparent cause	J. Hawick.
,, 25	Tekoa, s.s. ..	Schooner	5,369	79	..	General ..	Blade of propeller lost	..	Lat. 30° 4′ S., long. 152° 1′ W.	S.W.	Moderate	On arrival at Auckland it was found that a blade had been broken off propeller	A. B. MacRae.
,, 30	Tiare Taporo, aux., 8 years	Schooner	173	16	..	General ..	Leaking; £100 damage	..	Long. 175° 45′ E., lat. 35° 20′ S.	N.E.	Strong	Vessel sprung a leak and put back to Auckland as pumps could not keep water down	William Ruth.
,, 30	Tredenham, s.s., 8 years	Schooner	5,369	55	..	Basic slag ..	Blade of propeller lost; £600	..	Lat. 26° 1′ S., long. 134° 34′ W.	W.	Moderate	Blade of propeller was discovered missing. Cause unknown	J. O. Evans.
May 1	Navua, s.s., 16 years	Schooner	1,773	75	86	General ..	Propeller lost; £850	..	Lat 34° 53′, long. 175° 55′	S.E.	Gale ..	Starboard propeller lost in heavy weather ..	A. H. Davey.
,, 2	Tasmania, s.s., 9 years	Schooner	4,688	63	..	General ..	Stranded	..	Bluff Harbour ..	N.W.	Light ..	Vessel was coming in against ebb tide and apparently lost steerage-way, the wind causing her to swing ashore	S. F. Martin.
,, 2	Alert, 20 years ..	Schooner	98	4	..	General ..	Stranded; no damage	..	Ruakaka Beach, Auckland	S.	Light ..	Vessel ran ashore when making port, probably owing to master failing to see that the man at the wheel was attending to his duties	George Mayall.
,, 4	Glenelg, s.s., 42 years	Schooner	156	12	..	Coal ..	Collision; no damage	..	Onerahi Wharf, Whangarei	..	Calm ..	The "Glenelg" was lying at wharf when the "Vixen" in berthing was caused to bump into her by the tide	J. E. Quinn. / George Wigg.
,, 4	Vixen, aux., 42 years	Ketch ..	27	3	..	..	Collision; slight damage						
,, 4	Cygnet, s.s., 37 years	Schooner	70	9	1	General ..	Struck rock; £350 damage	..	Off Point Gibson ..	N.N.E.	Moderate	The Court found that accident was caused through mate steering for about ten minutes by bright binnacle light and thus temporarily losing sight of coastline; also, that vessel's course was affected by set of current caused by north-east wind	A. J. Murray.
,, 13	Tiroa, s.s., 6 years	Schooner	94	10	..	General ..	Collision; £400 damage	..	Auckland Harbour ..	E.N.E.	Moderate	The Court found that the master of the "Tiroa" had committed a breach of the Regulations for preventing Collisions at Sea by omitting to indicate by sound-signals that he was about to alter his course to starboard, thus causing collision, and was ordered to pay the Minister's costs	L. D. Clark. / W. L. K. Bishop.
,, 13	Peregrine, s.s., 29 years	Ferry-boat	162	4	about 150	Passengers ..	Collision; £100 damage						
,, 20	Italy, s.s. ..	Launch	..	2	..	..	Stranded; total loss	..	Whale Island, Bay of Plenty	..	Heavy ..	The launch was employed fishing, and was driven on the rocks and totally wrecked	..
,, 26	Lizette, aux., 41 years	Ketch ..	21	3	..	..	Stranded; total loss	..	Waiheke Island, Auckland Harbour	E.S.E.	Gale ..	A sudden change of wind caused the vessel to miss stays and she was driven ashore, the engines not being sufficiently powerful to keep her off	John Regan.
,, 27	Breeze, s.s., 13 years	Schooner	286	17	..	General ..	Stranded; no damage	..	Otago Harbour ..	S.W.	Strong	Master mistook white riding-light of dredge "222" for one of beacon lights and vessel grounded at upper end of channel	F. W. Venn.

RETURN OF WRECKS AND CASUALTIES TO SHIPPING REPORTED TO THE MARINE DEPARTMENT, ETC.—*continued.*

Date of Casualty.	Vessel's Name, Age, and Class.	Rig.	Register Tonnage.	Number of		Nature of		Number of Lives lost.	Place where Casualty occurred.	Wind.		Finding of Court of Inquiry.	Name of Master.
				Crew.	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1922.													
May 29	Devon, s.s., 7 years	Schooner	6,147	86	..	Produce ..	Fire; no damage ..	..	Lyttelton Wharf ..	W.N.W	Light ..	Smoke was seen coming from bunkers, and coal was found to be heated and smouldering in lower bunker	H. W. Gardner.
,, 29	Canadian Scottish, s.s., 1 year	Schooner	3,242	43	1	Timber ..	Leaking; no damage	..	Tasman Sea ..	..	..	Slight leakage occurred owing to slack rivets, caused by vibration	N. P. Hocking.
,, 31	Wiltshire, s.s., 10 years	Schooner	7,801	103	..	General ..	Stranded; total loss	..	Great Barrier Island, Auckland	E.N.E.	Gale ..	The Court found that the master was guilty of a grave error of judgment in continuing at full speed when according to the course set and the speed travelled he should have picked up Cuvier Light, and also in failing to take immediate action when danger was indicated by a sounding which was taken. The master was ordered to pay the costs of the inquiry	B. G. Hayward.
June 2	Gael, s.s., 19 years	Cutter ..	55	9	..	General ..	Stranded; trifling damage	..	Matakana	E.	Strong	A heavy fresh in river caused vessel to take ground, starting the rudder-post	E. J. Wann.
,, 18	Kennedy, s.s., 55 years	Schooner	131	12	..	General ..	Stranded; trifling damage	..	Manawatu River Bar	N.W.	Light ..	Touched bottom when crossing bar and sagged towards north spit, where she grounded, but floated off on rise of tide	A. M. Stuart.
,, 22	222 (Dredge), s.s., 41 years	Dredge..	502	12	5	..	Collision; no damage	..	Otago Harbour ..	..	Light	When nearing No. 10 black beacon master of "Express" stopped his engines, resulting in his vessel's head swinging off to starboard and striking dredge's quarter with her stern	F. W. Roberts.
,, 22	Express (Trawler), s.s., 40 years	Schooner	36	6	..	Fish ..	Collision; £20 to £30 damage						Edward Ryffel.
,, 25	Firefly, aux. ..	Schooner	8	..	..	Pleasure only..	Total loss by fire; £400 value	..	Matahui Bay, Russell	..	..	Vessel destroyed by fire; total loss. Cause unknown	John P. English (owner).
,, 25	Haere (scow), 19 years	Schooner	99	5	..	Timber, approx. 138 tons	Stranded; damage not stated	..	Scot's Point, seven miles south from Cape Maria Van Diemen	S.W.	Squally	When sheltering from northerly gale about one mile from Scot's Point, the wind changed, and on endeavouring to get out vessel was driven ashore, notwithstanding that anchor had been let go in 30 fathoms	Peter Hyham.
,, 26	Rona, s.s., 4 years	Schooner	3,784	52	..	Sugar, 7,000 tons; molasses, 1,282 tons	Stranded; £11,000 damage	..	Flat Rock, Auckland	N.E.	..	The Court held that a minor part of the blame should fall on the master, who was ordered to pay one-half the costs, and that practically all the responsibility was upon the chief officer, whose certificate was suspended for six months, and he was ordered to pay half the costs of the inquiry	James A. Wallis.
,, 27	Irene (schooner), 33 years	Schooner	24	3	..	..	Stranded; £15 damage	..	Off Brown's Island, Auckland Harbour	W.S.W.	Light ..	The master had left the vessel in charge of an A.B., who attempted to make through Tamaki Passage on a strong ebb tide, but the vessel grounded on a sandbank	J. Johansen.

July 1	Glenelg, s.s., 49 years	F. and A.	150	12	..	Coal, 210 tons	Collision; no damage	..	Auckland Harbour ..	W.	3	When inside Rangitoto Reef the master saw bright light ahead, but weather being thick and squally he was unable to see what it belonged to, when suddenly realizing that raft of logs was being towed, he ported his helm, but too late to avoid striking an outside log with his stem, doing however, no damage. Red light was seen after squall cleared	J. E. Quinn.
„ 15	Pupuke, s.s. ..	Ferry-boat	68	4	250	Passengers ..	Collision; no damage	..	Auckland Harbour ..	..	..	The master committed error of judgment in not altering course to starboard some minutes sooner, resulting in vessels colliding slightly	James Davis.
„ 15	Goshawk, s.s. ..	Ferry boat	102	4	..	One or two vehicles on deck	Collision; no damage	..					William Croll.
„ 20	Gale, s.s., 10 years	F. and A.	453	22	..	Empty crates, 5 tons	Stranded; no damage	..	Wanganui River ..	S.E.	Light ..	When going down river vessel struck in mid-channel owing to p.m. tide	A. Robertson.
„ 22	Arawa, s.s., 15 years	Schooner	5,984	147	..	Frozen and general	Fire	..	Napier Roadstead ..	S.W.	4	Fire discovered in No. 3 hold. Cause unknown. Extinguished with CO_2. Damage consists of some burnt quarters of beef and mutton, and ship's insulation burnt somewhat	Robert S. Lewis.
„ 28	Ruapehu, s.s., 22 years	Schooner	5,746	127	..	Part general (tallow, &c.)	Fire	..	Lat. 44° 24′ S., long. 171° 31′ E., bearing 10′ N. 74° E. off Jack's Point Lighthouse	W. by S.	Light ..	In insulation on after bulkhead No. 3 'tween decks fire occurred, which was extinguished by water. Damage slight. The bulkhead (steel) was found red-hot, and coal on other side thereof on fire, which was put out by water. Bulkhead slightly damaged	A. W. McKellar.
Aug. 1	Kiritona, aux., 13 years	F. and A.	75	9	..	Meat, 15 tons..	Collision	..	Port Ahuriri ..	S.	1	The "Fanny" was moored at West Quay, when the "Kiritona," which came into inner harbour with strong flood tide, collided with "Fanny," although "Kiritona" had been going full speed astern for some time. Accident apparently unavoidable	W. C. Barnes.
„ 1	Fanny, s.s., 38 years	Schooner	55	9	..	..	Collision; £300 damage	..					A. Haroldson.
„ 25	Whakatane, s.s., 22 years	F. and A.	5,277	81	..	General ..	Broken pin of reversing-wheel	..	Auckland Harbour ..	N.	1	On putting engines "Full ahead," after having been going astern from Queen's Wharf, pin of reversing-wheel broke, practically stripping five teeth and chipping off pieces from four teeth of reversing-wheel	J. Burton Davies.
„ 29	Daphne, s.s., 14 years	Schooner	99·9	15	12	Butter and general, 50 tons	Rudder carried away; £22 damage	..	Awanui River ..	S.E.	4	When rounding a bend vessel was going down river about a mile from wharf when the rudder carried away. Passengers were returned to Awanui, and ship put on shingle-bank following tide and damage repaired, after which vessel resumed voyage to Auckland and a new rudder fitted	E. H. S. Goertz.
Sept. 9	Ngakuta, s.s., 9 years	Schooner	943	27	..	Coal, timber, and general	Stranded; no damage	..	Grey River ..	E.	Fresh ..	When starting to swing into river bound for Wellington vessel stranded on a bank formed on off side of river, where she remained fast till next night; apparently no damage was done	James G. Watson.
Oct. 6	Dredge Canterbury (aux. motor-launch Aroha)	Launch	3	..	..	..	Sunk; total loss ..	..	Lyttelton Harbour (inner)	N.E.	Fresh (5)	Launch was alongside the dredge, and as s.s. "Dorset" was leaving No. 7 wharf and not having room to manœuvre the wind took charge of her and she went broadside on to dredge crushing and sinking the launch	..

RETURN OF WRECKS AND CASUALTIES TO SHIPPING REPORTED TO THE MARINE DEPARTMENT, ETC.—*continued*.

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				Crew.	Passengers.	Cargo.	Casualty.			Direction.	Force.		
Oct. 11	Selwyn (sail) ..	F. and A.	82	4	..	120 tons sand..	Chain-plate of ⅛ topmast carried away; £15 damage	..	Two miles off Bream Tail, Whangarei	W.	..	The topmast chain-plate carried away, and topmast broke about 1 ft. below cap caused by chain-plate having completely rusted away inside bulwark-rail	E. Johansen.
„ 13	Montrose, s.s., 17 years	Schooner	2,884	64	..	General ..	Fouled Jerningham light-buoy	..	Wellington Harbour..	N.N.W.	Gale ..	Ship dragged anchor with 75 fathoms of chain and fouled Jerningham Point light-buoy, damaging it slightly, and incurring slight damage to three of propeller-blades. Accident unavoidable	D. Reid.
„ 20	Motu, o.e.v., 2 years	Ketch ..	109	9	..	General, 50 tons	Starboard main bearing of engine broke down; £7 damage	..	Off Waiheke Island, Hauraki Gulf, Auckland	S.W.	Strong	During passage from Kutarere to Auckland starboard main bearing of engines broke down, compelling ship to finish passage with port engine only	William Gash.
„ 27	Kennedy, s.s., 55 years	F. and A.	131	12	..	..	Stranding	..	Foxton Bar ..	W.	Light moderate	Owing to insufficient water when crossing the bar the vessel grounded and remained fast till 4th November, resulting in damage to floors under boiler, rudder-quadrant, and forward winch	A. McP. Stuart.
„ 28	Corinna, s.s., 40 years	Schooner	791	34	..	General, 1,000 tons	Collision with wharf	..	Wharf 16, Wellington	..	Calm ..	When berthing vessel bumped wharf forward, causing chain cable, which was hanging over side, to penetrate plate on after side of hawse-pipe on port bow, the accident being attributed to vessel not reversing quickly enough	Frank H. Hedge.
Nov. 3	Alexander, s.s., 20 years	Schooner	185	16	..	..	Collision	..	Wellington	S.	Breeze	When berthing, wheel-chain carried away, doing no damage to ship, but slightly damaging the wharf	John Maylen.
„ 5	Seagull (sail), 18 years	Schooner	25	4	..	..	Bowsprit carried away; £25 damage	..	Three miles and a half off land, abreast Mangawai	W.	5	Squall struck vessel, causing bobstay to part and carrying away bowsprit at stem just forward of gammoning and disabling all headgear. Accident unavoidable. Examination showed inch chain on bobstay perished	F. Jensen.
„ 12	Breeze, s.s., 13 years	Schooner	286	16	..	General ..	Fractured shaft ..	..	Off Moeraki Lighthouse	S.	8	When about a mile off lighthouse fracture discovered in second length of tunnel shafting, and after temporary repairs were effected vessel reached Timaru	A. Robertson.
„ 14	Eileen Ward, s.s., 13 years	Cutter ..	472	16	..	Spoil, about 900 tons	Stranded; no damage	..	Entrance, Buller River	W.S.W.	Strong	When straightening up to go to sea to discharge spoil, vessel was caught by strong W.S.W. wind and strong easterly set, and having insufficient steam-pressure drifted on to sand-bank, where, after remaining about four hours, vessel with assistance of s.s. "Nile" was worked off again, apparently sustaining no damage	Leonard W. Crowe.

Nov. 22	Doris (oil launch), 18 years	..	2	2	..	..	Collision	..	Iron Pot, Inner Harbour, Napier	..	0	The "Koau" was returning to port and whistled on approaching entrance, but the "Doris," which was leaving the Iron Pot, did not hear whistle, resulting in vessels meeting at the entrance, and, owing to strong flood tide and very troublesome eddy, unavoidably colliding	A. Thos. Day.
„ 22	Koau, aux., 5 years	Cutter ..	77	8	..	..	Collision						A. McNabb.
Dec. 2	Zita, aux., 44 years	Schooner	73	7	..	Timber, 140 tons	Stranding	..	Kaipara Harbour ..	W.	5	When vessel was going down Northern Wairoa River rather close to shore, she sheered and struck a sandstone ledge, on which she remained fast for six hours, slightly damaging her forefoot	Amo. M. G. Taylor.
„ 3	Trelyon, s.s., 3 years	Schooner	3,231	42	..	General ..	Fire in bunkers; no damage	..	Timaru Wharf ..	N.E.	4	The side bunkers were found to be on fire, but after discharging about 100 tons coal crew were able to extinguish fire with hose. Cause of fire unknown	W. G. Davis.
„ 3	Waiotahi, s.s., 32 years	Schooner	168	18	..	General, 100 tons	Broken piston-rod ..	..	Entrance to Houhora	S.W.	Light ..	The high-pressure piston-rod of port engine carried away, breaking the cylinder-cover, but the ship proceeded under starboard engine to Houhora and subsequently to Auckland	John Wilson.
„ 5	Matoppo, s.s., 17 years	Schooner	3,420	56	..	General ..	Stranding	..	Otago Harbour ..	S.W.	7	When proceeding down Victoria Channel vessel did not readily answer helm, necessitating its being put over further than usual in narrow channel, resulting in vessel taking sheer to starboard, in correcting which she sheered in opposite direction and grounded on port side of channel; but no damage was done to either ship or cargo	W. S. Paynter.
„ 11	Kapuni, s.s., 13 years	Schooner	97	12	..	Cheese, 90 tons	Loose web on crank-shaft	..	Four miles south of Patea Bar	W.	Fresh breeze	A loose web was discovered on crank-shaft, which was unavoidable, and after putting into Wanganui was allowed to proceed to Wellington under tow of s.s. "Kapiti," after temporary repairs had been effected	A. P. Gibson.
„ 15	Makora, s.s., 1 year	Ferry-boat	194	4	1,190	..	Struck submerged log	..	Auckland Harbour ..	N.	Calm ..	When leaving Auckland on 4 p.m. trip vessel struck submerged log, damaging forward rudder and tiller. Accident unavoidable, as log or pile had shoe which caused it to float end up	William Croll.
„ 19	Shamrock, aux., 18 years	F. and A.	60	11	..	Wool, 276 bales	Collision; damage, £40	..	Castlecliff Wharf, Wanganui	N.W.	Light ..	On leaving wharf strong ebb tide caught vessel and swept her on port quarter of Harbour Board's dredge "Kaione," which was moored at wharf, damaging structure of bridge and benzine-tank of "Shamrock" and tearing away upper part of its bridge by catching on anchor of "Kaione"	James Irvine.
„ 21	Thistle, o.e.v., 24 years	F. and A.	77	11	..	Cheese, 52 tons	Bent tail-shaft and broken thrust-box; £15 damage	..	Castlecliff Wharf, Wanganui	N.W.	Strong	When leaving wharf vessel's tail-shaft was fouled by dredge "Kaione's" stern mooring-wire, resulting in shaft being bent and thrust-box broken. Accident appeared unavoidable, as "Thistle" was between bow and stern lines of dredge, and between that vessel and wharf, and, besides, there was a strong ebb tide at the time	H. McDermott.

RETURN OF WRECKS AND CASUALTIES TO SHIPPING REPORTED TO THE MARINE DEPARTMENT, ETC.—*continued.*

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				Crew.	Passengers.	Cargo.	Casualty.			Direction.	Force.		
1923. Jan. 1	Karamea, s.s., 23 years	Schooner	3,466	64	..	Ballast ..	Bumped wharf ..	..	Oamaru Harbour ..	N.E.	Fresh (5)	On entering harbour a fresh north-east wind was blowing with increasing force, and the ship, being in very light trim, was driven against wharf, bending two propeller-blades and knocking a small piece off the tip of one	D. Christie.
„ 7	Rama, s.s., 26 years	Schooner	244	22	1	General, 4 tons	Feed-pumps unworkable	..	At sea, 43° 30′ S., 176° E.	E.	3	At 5.30 p.m. engines stopped owing to weir-pump being unworkable, which could not keep water in boiler, and as stokehold-pump was not in good order ship returned to Lyttelton to effect repairs	E. Cartner.
„ 17	Terawhiti, s.s., 22 years (tug)	F. and A.	102	5	..	Nil ..	Collision		Wellington Harbour..	N.E.	Light breeze	The "Kakapo" was shifting berth from Lambton breastworks to No. 2 Wharf and "Terawhiti" was shifting hulk "Coromandel" from No. 4 Queen's Wharf when vessels collided accidentally, the "Terawhiti" sustaining slight damage to her starboard bow	Charles C. Bullock.
„ 17	Kakapo, s.s., 22 years	F. and A. schooner	949	30	..	Sugar, 100 tons, general, 20 tons	Collision						George Knowles.
„ 17	Pukaki, s.s., 36 years	Schooner	917	24	..	Guano fertilizer, 1,700 tons	Bumped slightly ..	..	Outside New Plymouth Harbour	N.	Rough & rising	After vessel had berthed at wharf master states he was signalled to go outside, and in doing so vessel bumped slightly, and afterwards she proceeded to Auckland, where she was docked for repairs	John M. Aitken.
„ 23	Rimu, s.s., 23 years	Schooner	168	23	4	General, 100 tons	Grounded; no damage	..	Manukau Harbour Channel	..	Calm ..	When making Onehunga and navigating channel at top high water mistook beacon for buoy, and on porting helm caused vessel to take the mud	Thomas Donovan.
„ 24	Paroto, o.e.v., 9 years	F. and A.	48	7	..	Coal and benzine	Grounded; £10 damage	..	Flat Rock, Bay of Plenty	N.E.	Light ..	The vessel touched on the western spit with starboard bilges and ran into stone wall on port hand, and then stem struck Flat Rock, splintering stem, but vessel did not make any water	C. W. Cumming.
„ 27	Awahou, s.s., 12 years	Schooner	151	18	..	..	"Smelt the mud"	..	Thames Wharf, Auckland	N.	..	When heaving into wharf vessel "smelt the mud," and could not be got alongside wharf	G. A. Nairn.
„ 29–30	Westmeath, s.s., 20 years	F. and A.	5,914	71	..	General, 8,000 tons	Slight damage to ship by seas	..	Lat. 38° 15′ N., long. 45° W.	S.W.	12	Ship encountered hurricane and phenomenal seas, resulting in slight damage to ship, but not known if cargo injured	Alan Cain.
„ 30	Makura, s.s., 15 years	F. and A.	4,921	170	240	General ..	Fire in forward galley, £3 damage	..	Auckland	..	..	Owing to a leak in oil-supply pipe at the oil-motor a fire occurred in the forward galley, which was extinguished in a few minutes by using patent supply extinguisher, only slight damage being done to the motor	J. F. S. Brown.

Feb.	1	Canadian Pioneer, s.s., 3⅓ years	1 mast	3,549	41	..	General ..	Fire in No. 2 hold and in reserve bunker	..	Queen's Wharf, Auckland	N.E.	..	Fire broke out about 7 a.m., which was got under control about 11 a.m., after which minor outbreaks occurred, extensive damage being done to cargo by fire and water; and several plates, frames, &c., on starboard side buckled; 'tween decks, beams, plates, &c., extensively damaged, and wooden bulkhead on starboard side badly burnt	G. S. A. Robertson.
„	3	Britannia, s.s., 38 years	Paddle-boat	108	4	About 250	..	Stranded on reef ..	..	Auckland Harbour ..	S.W.	Strong	Owing to passengers moving to after end, thus altering her trim, she would not steer properly, and on rounding Horseshoe Reef caused her to sheer in towards reef, where she became fast until evening, when she floated off apparently undamaged	James Davis.
„	8	Baroona, s.s., 19 years	Schooner	54	9	..	..	Broken piston-rod ..	..	Hauraki Gulf ..	W.N.W.	Light breeze	Whilst trawling off Cabbage Bay the high-pressure piston-rod broke, allowing the piston to blow through the cylinder-cover, smashing same. Vessel was towed to Auckland by the s.s. "Countess."	G. Ollson.
„	9	Flora, s.s., 41 years	F. and A.	918	32	..	General, 800 tons	Collided with wharf; no damage to ship	..	Queen's Wharf, Wellington	S.	2	When berthing at Queen's Wharf, Wellington, ship struck wharf, causing minor damage to wharf, but none to ship	A. B. Siser.
„	7 & 9	Hurunui, s.s., 2 years	F. and A.	5,871	79	..	General, 8,000 tons	Ventilator and derrick-crutch damaged by sea; £5 damage	..	Atlantic Ocean ..	W.N.W.	9	Ventilator unshipped, and after being lashed on deck was struck by heavy seas on the 7th February, 1923, and was dented and considerably strained. Next day vessel was rolling heavily when the stay to after-deck derrick-crutch snapped	J. B. Davies.
„	16	Waihora, s.s., 9 years	Schooner	2,993	46	..	Phosphate, 6,600 tons	Wheel-chains and rudder-head damaged, and boats smashed	..	Lat. 21° S., long. 173° E.	N.E.	Hurricane (10)	At 8.30 a.m. heavy hurricane was encountered which parted after wheel-chains, smashed No. 2 port boat, twisted rudder-head on quadrant, and did other damage round decks	E. Harris.
„	17	Wakatu, s.s., 44 years	Schooner	95	11	..	General, 65 tons	Collision	..	No. 3 Jetty, Lyttelton Harbour	S.	..	Whilst lying alongside No. 3 Jetty the heavy range caused the vessel to bump, starting thirteen rivets, which had to be renewed	J. Wills.
„	19	Tuhoe, o.e.v., 4 years	Schooner	98	8	..	General, 50 tons	Fire in engine-room ..	..	No. 4 Jetty, Auckland Harbour	S.W.	Fresh breeze	The blow-lamps burst, setting fire to the containers, resulting in engine catching fire, which was extinguished without material damage to ship	J. R. Kennedy.
„	28	Westmeath, s.s., 20 years	F. and A.	5,914	71	..	General, 8,000 tons	Fire in lower port bunker	..	Pacific Ocean ..	Various	..	A fire was discovered in port lower bunker, and was extinguished without damage being done to ship or cargo	Alan Cain.
Mar.	3	Pakeha, s.s., 12 years	Schooner	5,055	80	..	Frozen and general, 8,000 tons	Fire in insulation; £50 damage	..	Lat. 44° 33′ S., long. 172° 24′ E.	..	Moderate	The insulation in fore part of No. 1 'tween deck was found to be on fire, which was extinguished with fire-hoses. Damage to ship, £50; and to cargo, nil	W. H. Hartman.
„	13	War Lord, sail, 6 years	Schooner	98	7	..	Coal, 180 tons	Masts, &c., carried away	..	Rangitoto Channel, Auckland	..	Moderate	Whilst ship was being stayed the martingale carried away jib-boom, the topmast, main-topmast, and lower topsail broke, and a quantity of rigging damaged	T. E. Thomson.
„	23	Ngoiro, s.s., 10 years	Ferry-boat	139	4	20	..	Grounding ..	..	Kohimarama, Auckland	W.	Light ..	The master feeling ill had to go below, and left the vessel temporarily in charge of a deck hand, and on returning found him steering for wrong light. The helm was immediately "ported," but vessel stranded	William Croll.

Summary of Casualties to Shipping reported to the Marine Department during the Financial Year ended 31st March, 1923.

Nature of Casualty.	Casualties on or near the Coasts of the Dominion.									Casualties outside the Dominion.									Total Number of Casualties reported.		
	Steamers.			Sailing-vessels.			Total within Dominion.			Steamers.			Sailing-vessels.			Total outside Dominion.					
	No. of Vessels.	Tonnage.	No. of Lives lost.	No. of Vessels.	Tonnage.	No. of Lives lost.	No. of Vessels.	Tonnage.	No. of Lives lost.	No. of Vessels.	Tonnage.	No. of Lives lost.	No. of Vessels.	Tonnage.	No. of Lives lost.	No. of Vessels.	Tonnage.	No. of Lives lost.	No. of Vessels.	Tonnage.	No. of Lives lost.
Strandings—																					
Total wrecks	3	7,822	..	..	..	..	3	7,822	..	..	..	..	..	..	..	..	..	..	3	7,822	..
Partial loss	2	3,854	..	1	99	..	3	3,953	..	..	..	..	..	..	..	..	..	..	3	3,953	..
Slight damage	10	6,261	..	3	303	..	13	6,564	..	..	..	..	..	..	..	..	..	..	13	6,564	..
No damage	9	6,454	..	1	98		10	6,552	..	..	..	..	..	..	..	..	..	..	10	6,552	..
Total strandings	24	24,391	..	5	500	..	29	24,891	..	..	..	..	..	..	..	..	..	..	29	24,891	..
Collisions—																					
Total loss	1	3	..	..	..	..	1	3	..	..	..	..	..	..	..	..	..	..	1	3	..
Slight damage	17	8,379	..	..	..	..	17	8,379	..	..	..	..	..	..	..	..	..	..	17	8,379	..
No damage	9	4,632	..	1	226	..	10	4,858	..	..	..	..	..	..	..	..	..	..	10	4,858	..
Total collisions	27	13,014	..	1	226	..	28	13,240	..	..	..	..	..	..	..	..	..	..	28	13,240	..
Fires—																					
Total loss	1	8	..	..	..	..	1	8	..	..	..	..	..	..	..	..	..	..	1	8	..
Slight damage	7	33,309	..	..	..	..	7	33,309	..	..	..	..	..	..	..	..	..	..	7	33,309	..
No damage	3	15,292	..	..	..	..	3	15,292	..	..	..	..	..	..	..	..	..	..	3	15,292	..
Total fires	11	48,609	..	..	..	..	11	48,609	..	..	..	..	..	..	..	..	..	..	11	48,609	..
Miscellaneous, including damage by heavy seas to hull and cargo, loss of masts, sails, &c., and breakdown of machinery	14	7,496	..	3	205	..	17	7,701	..	7	30,531	..	..	..	..	7	30,531	..	24	38,232	..
Total number of casualties reported	76	93,510	..	9	931	..	85	94,441	..	7	30,531	..	..	..	..	7	30,531	..	92	124,972	..

Return of the Number of Land Boilers and Machinery inspected during the Financial Year ended 31st March, 1923.

Boilers.

Class.	Not exceeding 5 Horse-power.	Exceeding 5 but not exceeding 10 Horse-power.	Exceeding 10 Horse-power.	Total.
Stationary	3,034	778	2,545	6,357
Portable	226	1,101	477	1,804
Totals	3,260	1,879	3,022	8,161

Machinery.

Class.	Number.
Hydraulic lifts	263
Gas-lifts	6
Electric lifts	788
Steam-lifts	8
Gas, hydraulic, and electric-motor hoists	923
Water-engines, peltons, turbines, and water-wheels	604

Class.	Number.
Electric motors	8,013
Gas-engines	1,394
Oil-engines	12,964
Total	24,963

Return of New Boilers inspected for the Year ended 31st March, 1923.

District.	Made in Dominion.		Imported.		Total.	
	Number.	Horse-power.	Number.	Horse-power.	Number.	Horse-power.
Auckland	41	533·92	24	649·2	65	1,183·12
Auckland North	..	..	1	5	1	5
Auckland South	..	..	4	30	4	30
Canterbury North	11	160	3	134·25	14	294·25
Gisborne	..	..	2	10	2	10
Hawke's Bay	43	263·75	5	66·5	48	330·25
Nelson	1	23	3	271·5	4	294·5
Otago	22	274	4	20	26	294
Southland	6	187·4	6	347	12	534·4
Taranaki	4	41	12	93	16	134
Taranaki North	..	..	5	31·5	5	31·5
Wellington	30	623·2	17	350·3	47	973·5
Wellington North	3	15·75	1	5·5	4	21·25
Westland	9	95	2	18	11	113·0
Totals	170	2,217·02	89	2,031·75	259	4,248·77

Return of the Number of Service and Competency Certificates issued to Engine-drivers and Electric-tram Drivers during the Year ended 31st March, 1923.

Class.	Number.
Service—	
First-class engine-driver	8
Competency—	
First-class engine-driver	49
Second-class engine-driver	262
Steam-winding-engine driver	15

Class.	Number.
Competency—*continued.*	
Electric-winding-engine driver	3
Locomotive- and traction-engine driver ..	72
Locomotive-engine driver	7
Traction-engine driver	79
Electric-tram driver	43
Total	538

RETURN OF LAND-ENGINE DRIVERS' AND ELECTRIC-TRAM DRIVERS' EXAMINATIONS HELD THROUGHOUT NEW ZEALAND DURING THE YEAR ENDED 31ST MARCH, 1923, SHOWING THE NUMBER OF SUCCESSFUL AND UNSUCCESSFUL CANDIDATES.

Place.	Extra First.		First Class.		Second Class.		Winding.				Locomotive and Traction		Locomotive.		Traction.		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 ..	..	..	12	7	31	6	..	..	..	..	9	1	..	..	6	..	22	1	80	15	95
*Carterton ..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	2	..	..	..	4	..	4
*Christchurch ..	..	..	3	2	6	2	1	..	..	..	8	1	..	..	18	3	5	..	41	8	49
Dannevirke ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
*Dunedin ..	..	..	5	1	19	6	2	..	..	..	2	..	..	..	7	..	..	1	35	8	43
Eketahuna ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
*Gisborne ..	..	2	..	..	5	1	..	..	..	..	2	1	..	..	..	..	..	..	7	4	11
*Greymouth ..	..	..	5	1	16	4	3	..	..	..	5	3	2	..	..	..	..	..	31	8	39
*Hamilton ..	..	..	2	5	23	8	2	..	2	..	2	1	1	..	..	..	..	..	32	14	46
*Invercargill ..	..	..	2	1	17	6	..	..	..	..	3	..	1	..	6	..	1	1	30	8	38
Kaikoura ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Kaitaia ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
*Levin ..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	3
Linton ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Mangonui ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Masterton ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
*Napier ..	..	1	..	4	9	2	..	..	..	..	2	..	..	..	3	..	..	..	14	7	21
*Nelson ..	..	..	1	2	9	2	..	..	..	..	3	..	1	..	8	..	..	..	22	4	26
*New Plymouth ..	..	..	..	..	20	4	..	..	..	..	1	1	..	..	1	..	2	..	24	5	29
Ohakune ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
*Palmerston North	..	..	2	3	18	18	..	..	..	..	2	1	..	..	2	1	..	..	24	23	47
Picton ..	..	..	..	..	3	1	..	..	..	..	..	..	..	..	1	..	..	..	4	1	5
Roxburgh ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
Stewart Island ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
*Taumarunui ..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	2	..	2
*Timaru ..	..	..	..	..	4	..	..	..	..	..	1	..	..	..	19	..	..	..	24	..	24
Waihi	..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	3	..	3
Waimate ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Waipukurau ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Wairoa	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Waiuku ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
*Wanganui ..	..	..	1	1	7	2	..	..	..	..	..	..	..	..	..	..	3	..	11	3	14
*Wellington ..	..	1	4	3	16	6	..	..	..	..	2	..	2	..	2	1	9	3	35	14	49
Westport ..	..	..	..	1	2	..	..	..	..	..	..	1	..	..	..	..	..	..	2	2	4
Whakatane ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
*Whangarei ..	..	..	1	..	12	4	1	1	..	..	5	..	..	..	..	..	..	..	19	5	24
Totals ..	..	4	38	31	236	75	10	1	2	..	48	10	7	..	76	5	42	6	459	132	591

* Places where examinations were held on more than one occasion.

Approximate Cost of Paper.—Preparation, not given; printing (675 copies, including illustrations), £64.

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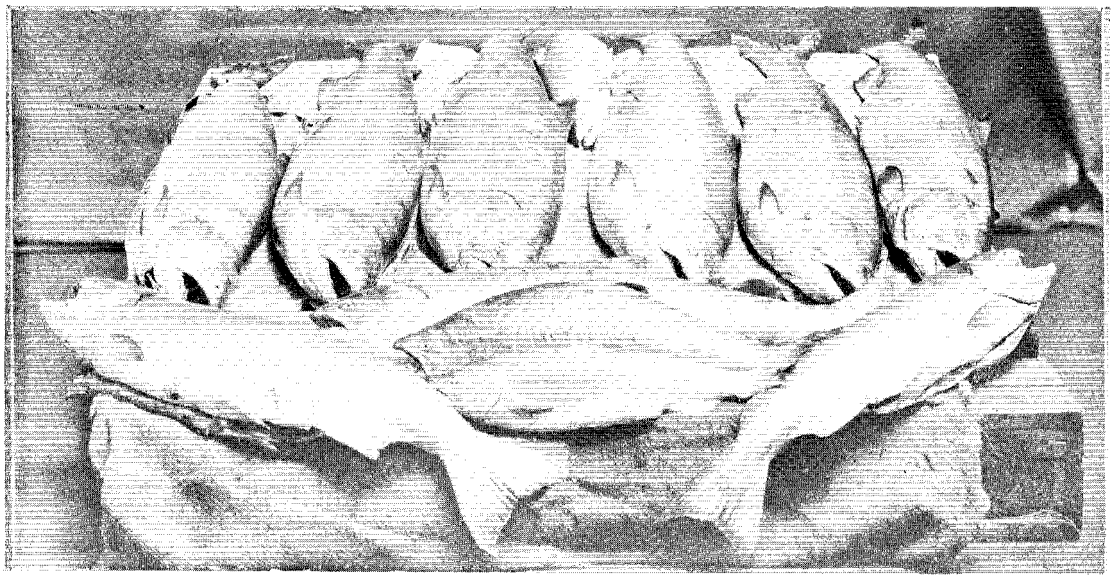
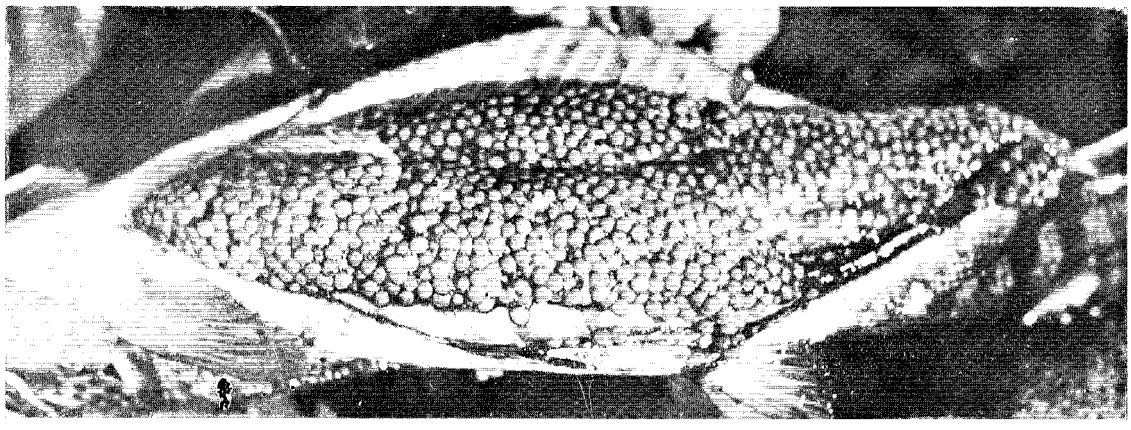
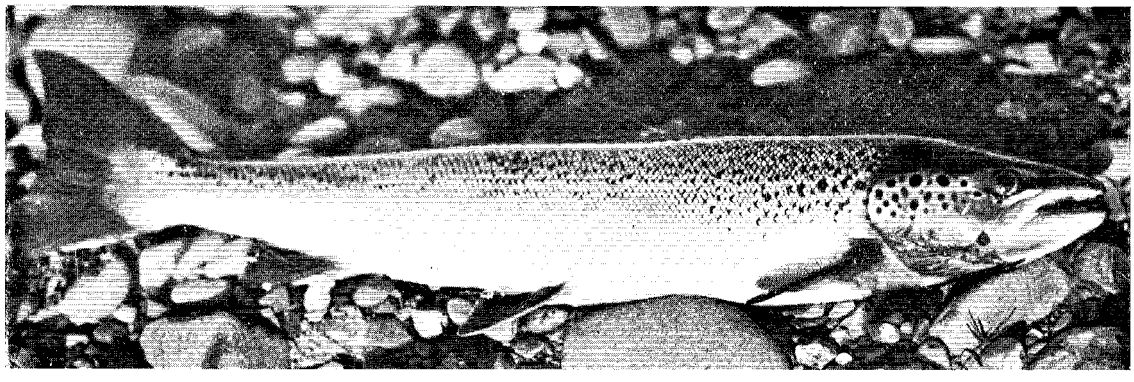


Typical Samples of Quinnat Salmon.

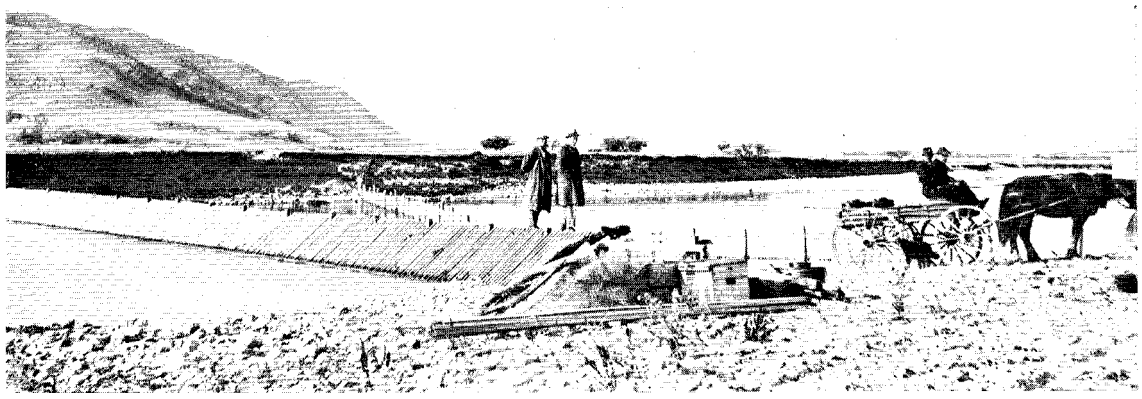


10,000 Atlantic Salmon Eggs from one Fish.

Five Stages of Salmon-culture.

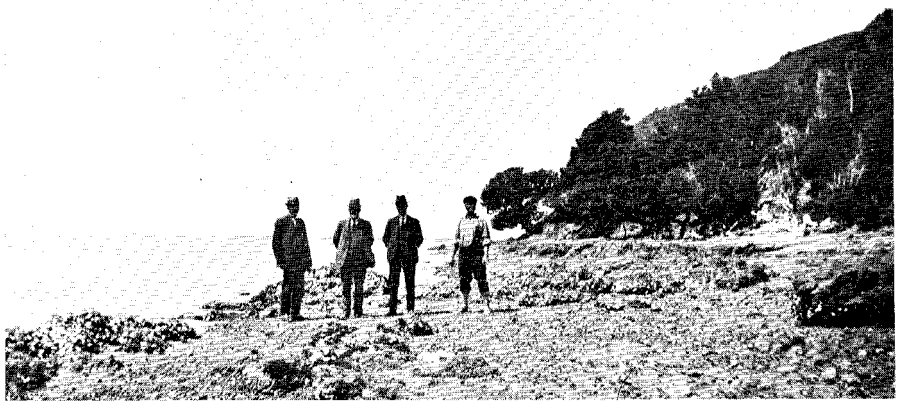


A Typical Sample of Atlantic Salmon

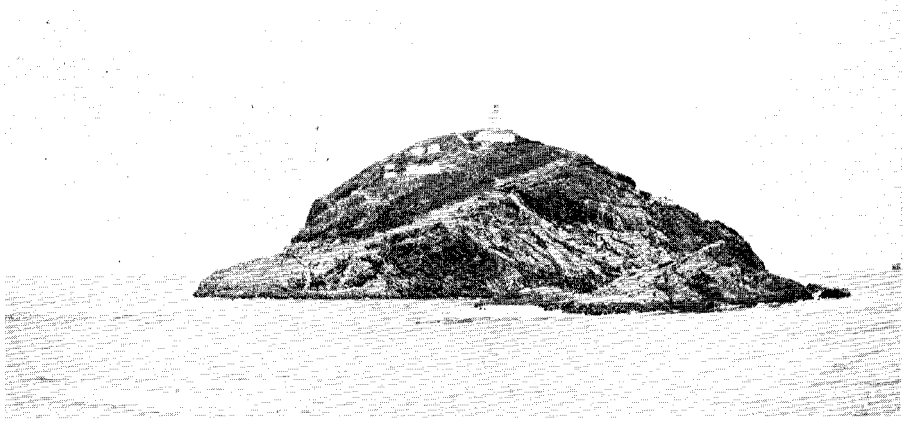


Collecting Quinnat Salmon Eggs.

Rock-oyster Cultivation, Bay of Islands.

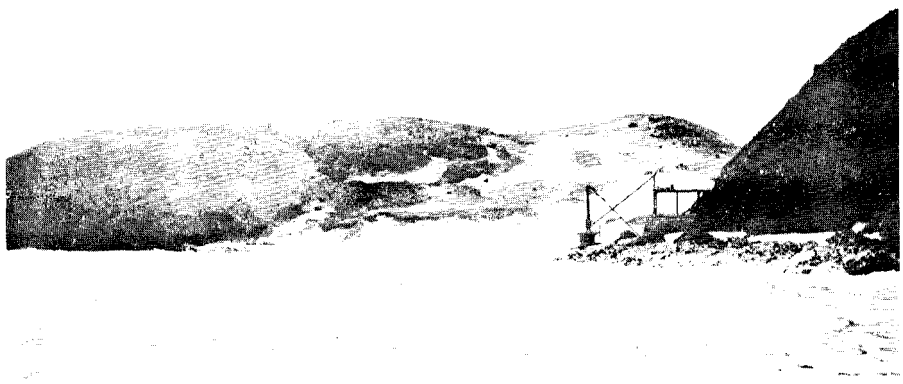


Rock-oyster Beds, Motukione Island, Whangarei Harbour.



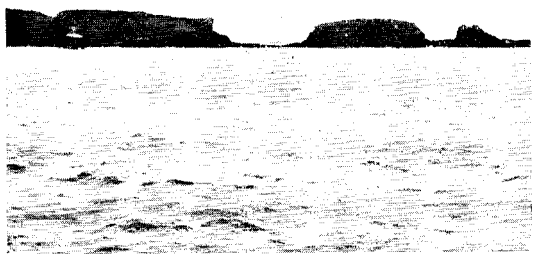
The Brothers Lighthouse. The only Rock Station in the Dominion

Party of Wireless and Navigation Experts who conducted Tests in January, 1923, at the Three Kings with a Radio Beacon and a Wireless Direction-finding Instrument.

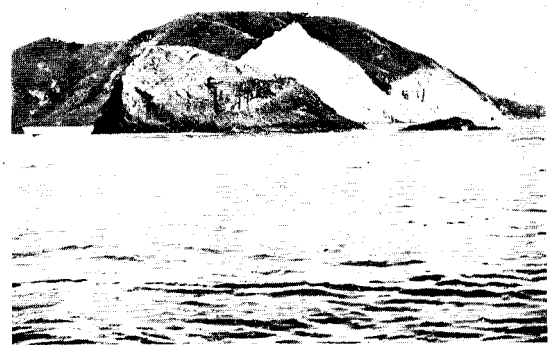


Cape Machia van Diemen Lighthouse, showing Landing and Two New Cottages recently erected.

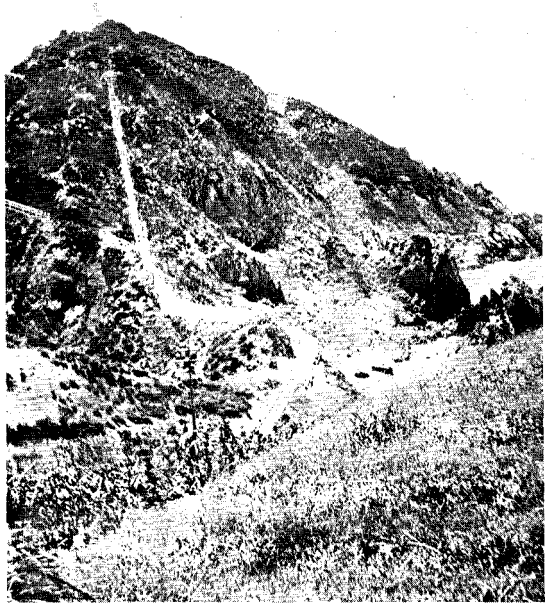
The Great King, showing the Summit enveloped in Fog.



Site for New Automatic Light, Mercury Passage.

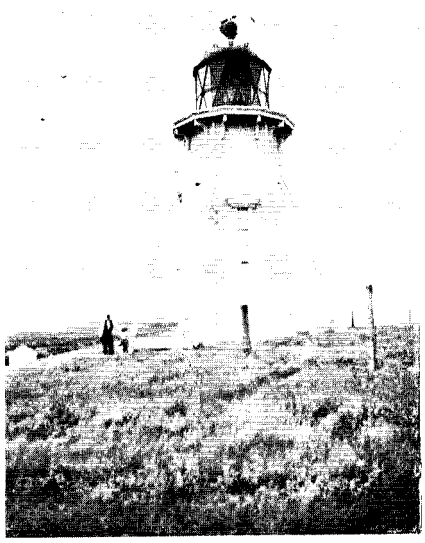


Gable End Island—Site for New Automatic Light.



Cuvier Island Lighthouse.

Temporary Radio Beacon erected on Three Kings.



Portland Island Lighthouse.

Castle Point Lighthouse tendered by G.S.S. "Tutanekai."