1909.

NEW ZEALAND.

MARINE DEPARTMENT:

ANNUAL REPORT FOR 1908-9.

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

MY LORD,— Marine Department, Wellington, 7th August, 1909.

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.,
J. A. MILLAR.

His Excellency the Right Hon. Baron Plunket, Governor of New Zealand.

SIR,— Marine Department, Wellington, 26th April, 1909.

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

Shipping and Seamen Acts.—The Shipping and Seamen Acts, 1903 and 1905, have been consolidated by the Statutes Consolidation Commission, and the consolidated Act was passed by Parliament last session. The Act has since been assented to by His Majesty the King, and a Proclamation of such assent was gazetted on the 11th March last, which brought the Act into force on that date. An amending Bill to embody certain provisions of recent Imperial Acts, and to make certain other amendments, is now being prepared for introduction into Parliament during the coming session.

Mercantile Marine Offices.—The duties connected with the engagement and discharge of seamen have been satisfactorily carried out at the various ports, and everything has worked smoothly. When "The Shipping and Seamen Act, 1903," was passed, provision was made to enable single engagements and discharges to be effected on board ships, subject to their being afterwards ratified at a mercantile marine office. This is a convenience to shipmasters, but cases have occurred in which the certificates of discharge given on board have not been properly filled in, which has prevented men obtaining employment until the matter could be rectified. The only way to prevent this laxity is to make it compulsory that the transactions shall be effected before a Superintendent, and the question of doing so will have to be considered if masters are not more careful in preparing the discharges.

The arrangement under which the Superintendent at Lyttelton received assistance in his office-work from a Customs officer not having proved satisfactory, it has been discontinued, and Captain Wilcox, chief officer of the training-ship "Amokura," has been appointed Assistant Superintendent and Surveyor of Ships at the port. The work at Dunedin and Port Chalmers having increased to such an extent as to render the appointment of another officer necessary, Captain Fraser, master of the Defence steamer "Janie Seddon," has been transferred to the position of Assistant Superintendent and Surveyor of Ships, and he has also been appointed an Inspector of Compasses.

Owing to the increase of the work in the Auckland office another clerk has been appointed.

At the four principal ports the Superintendents have taken over the duty of seeing that sailing-vessels leaving for Australian ports are provided with sufficient provisions, of collecting fees for the survey of steamers and sailing-ships, and of selling charts, &c.

Appended is a return showing the number of seamen engaged and discharged at the various ports, and the fees received therefor.

Returns are also appended showing the accidents to seamen, the amounts paid to disabled seamen under section 119 of "The Shipping and Seamen Act, 1908," the accidents to persons other than seamen employed in connection with ships, and the prosecutions of seamen by masters and others for various offences.

Proceedings have been taken by the Department, and fines imposed, for breaches of the law in the following cases in connection with seamen: viz., the master of the "Saucy Kate," the "Duco," the "Dorset," the "Wimmera," and the "Tutaea," for carrying seamen to sea without entering into an agreement with them; the master of the "Moana" (two masters on two different parts of voyage) and the master of the "Warrimoo," for going to sea with less men than the number required by the Act; the master of the "Rakiura," for discharging the whole crew on board instead of before the Superintendent, and for failing to send his expired articles of agreement to the Superintendent; J. Swindley, for using a discharge as a trimmer which did not belong to him.

In one case a fireman was transferred from the s.s. "Tongariro" to the s.s. "Rimutaka" without being discharged from the former vessel in the presence of a Superintendent. The master of the former vessel was prosecuted for two breaches of the Act, one being for not discharging in the presence of the Superintendent, and the other for not giving the man a certificate of discharge. The Magistrate dismissed the first charge, holding that there had been merely a transfer, but convicted on the second charge. The Department appealed to the Supreme Court against the dismissal, and the appeal was allowed. The Magistrate then entered a conviction, but did not impose a fine.

Masters, Mates, and Engineers.—The examination of candidates has been carried out in a satisfactory manner at the various ports. Appended is the report of the Principal Examiner of Masters and Mates. Candidates for extra masters' certificates are now required to show practical proficiency in both the Morse and movable-semaphore methods of signalling, and this examination is open, as a voluntary examination, to officers holding masters' and mates' certificates, and to candidates for such certificates. Candidates for all grades of foreign-going and home-trade certificates are required to be conversant with the Morse and semaphore alphabets, and with the British Signal Manual, and they must also pass an examination in first aid to the injured. Classes for instruction in first aid are arranged for by the local centres of St. John Ambulance Association, and the examinations are conducted under the auspices of the association. The Imperial Board of Trade has recently made some alterations in the rules for the examination of engineers, and it is proposed to alter the New Zealand rules in a similar manner. Captain W. Cumming, Harbourmaster at Gisborne, has been appointed an Examiner of Masters of river-steamers at that port.

For certificates of competency 338 persons passed their examination, and 176 failed. Of those who passed, 233 were masters, mates, and engineers of sea-going ships, 55 were masters and engineers of steamships plying within restricted limits, 5 were masters of fishing-boats and cargo-vessels up to 25 tons register, 1 was master of fishing-boat under 5 tons register, 23 were engineers of sea-going ships propelled by oil-engines, and 21 were engineers of similar vessels plying within restricted limits. Tables showing the names of the persons who have received certificates, the classes and grades of the certificates, and the certificates of exemption from examination as third-class engineer, are appended. A list of all the New Zealand certificates which have been cancelled and withdrawn has been printed and circulated to the various shipping officers.

The Regulations for the Examination of Masters and Mates have been amended as follows:—

(*a.*) Allowing one and a half years' service as second mate of a coasting-vessel to qualify for examination for a home-trade master's certificate.

(*b.*) Allowing service as master of cargo-boats under 25 tons while holding a certificate of competency for such boats, and allowing service as master in vessels while holding a service certificate to qualify for examination for a home-trade master's certificate of competency.

(*c.*) Providing that candidates must pass in first aid to the injured.

(*d.*) Providing for the recognition of training-ship service as qualifying for examination.

(*e.*) Providing that candidates for restricted-limit certificates are not to be required to be conversant with the Morse and semaphore alphabets and with the British Signal Manual.

Registration of Shipping.—Appended are returns showing the vessels registered in New Zealand and the number of men and boys employed in them.

Survey of Ships.—During the year certificates have been granted to 289 steamers, 73 oil-engine vessels, and 18 intercolonial sailing-vessels, as shown in the appended return. It is proposed to make provision in the Bill which is being prepared to amend the Shipping and Seamen Act to make the annual survey of sailing-vessels engaged in the coastal trade compulsory, as this is advisable in the interests of the safety of life and property. Until January last the whole of the annual survey of steamers and intercolonial sailing-vessels at Lyttelton was carried out by the Engineer Surveyor, but on the appointment of Captain Wilcox at the time mentioned arrangements were made for him to make the deck-surveys, as is done by the Nautical Surveyors at Auckland, Wellington, and Dunedin. Most of the deck-survey work at Dunedin and Port Chalmers is now done by Captain Fraser, who has been appointed a Surveyor of Ships.

Fees have been fixed for the survey of sailing-ships, for the measurement of ships, for surveying and defining load-lines, and for the inspection of berthing and sleeping accommodation of crew, and of lights and fog-signals.

Two vessels alleged to be unseaworthy have been detained for survey. The reports of the surveyors having shown that repairs were necessary, they were executed before the vessels were released.

Restricted Limits.—River and extended river limits have been defined for steamers and vessels propelled by other mechanical power than steam for the ports of Ngunguru and Timaru, river limits for Tairua Harbour and for that part of Stewart Island between Port William and Anglem Point, extended river limits for tugs at Wellington, and extended river limits for tugs, pilot-vessels, and dredges at the Bluff.

Ballast Regulations.—The regulations have been amended to provide that, when ballast is composed wholly or partly of shingle or sand, one or two tiers of it in bags are to be stowed on top of the loose shingle or sand and on each side of it to prevent it shifting.

Ballast and sawdust having been put in Whangape Harbour, the necessary action has been taken to stop it.

Proceedings have been taken and fines imposed in the following cases: viz., the master of the oil-engine vessel "Dolly Varden," for carrying passengers without having a certificate entitling the vessel to do so; the owners of the s.s. "Karoro," for carrying more passengers than allowed by her certificate; the owner of the launch "Dot," for running the boat without life-saving appliances; the masters of the s.s. "Daphne" and "Ngapuhi," for carrying more passengers than allowed by the vessels' certificates; the owner of the "Norah Bradshaw," for not carrying the prescribed life-saving appliances; and the master of the scow "Alma," for having the vessel's load-line submerged.

The Life-saving Appliances Rules have been amended, making provision as to the size of life-belts, the material with which they are to be covered, and as to the breaking-strain of their tapes.

Deck Cargo.—The regulations have been amended to enable special licenses to be issued as annual licenses instead of being granted for one trip as formerly.

The Department has been urged to amend the regulations to allow scows to carry more deck cargo in the intercolonial trade than provided for in the existing regulations; but this has not been done, as it is considered that these vessels, when making voyages so far away from land where they could not run for shelter in very bad weather, should not be permitted to carry more than already allowed.

Deceased Seamen's Estates.—The estates of fifty-one seamen, amounting to £365 13s. 8d., have been received by the Department, and the sum of £25 5s. 10d. has been paid to relatives and other claimants. Of the estates, eighteen were those of seamen lost in the "Loch Lomond," and twenty-one of seamen lost in the wreck of the "Penguin." The "Rio Loge" belonged to New South Wales, and the wages due to her crew have not yet been obtained.

The sum of £129 9s. 5d. belonging to estates which had been in the Department more than six years has been paid into the Public Account. A list of the estates is appended.

Wrecks and Casualties.—Tables showing the casualties to ships and an analysis thereof are appended. Those on the coasts of the Dominion numbered 90, representing 55,239 tons register, as compared with 79, representing 48,436 tons register, in the previous year. The total wrecks within the Dominion, including the "Loch Lomond," the place of the wreck of which is uncertain, were 16, of 6,537 tons register, as compared with 8, of 3,442 tons register, in the previous year. The number of lives lost was 119, as compared with 30 last year. Those lost within the Dominion were 117—viz., "Moonah," 1; "Eunice," 1; "Matakana," 4; "Jane," 1; "Loch Lomond," 19; "Kia Ora," 3; "Ngatiawa," 1; "Penguin," 75; and "Rio Loge," 12.

As regards the "Loch Lomond," this ship left Newcastle, New South Wales, on the 16th July, 1908, for Lyttelton with a cargo of coal, and has not since been seen. Wreckage from her has been picked up between Cape Maria van Diemen and the North Cape, and a life-buoy bearing her name was found north of Hokianga.

The "Rio Loge" left Kaipara for Dunedin on the 6th January last with a load of timber, and she was in the company of the "Waratah" and "Isabella de Fraine" off Banks Peninsula on the 14th of that month, and shortly afterwards a southerly gale came up which drove the other two vessels back, and on the 19th the "Isabella de Fraine" passed through floating timber off Kaikoura Peninsula. Timber has since come ashore between Kaikoura and Cape Campbell, and a life-buoy bearing the name "Rio Loge" has been picked up near Island Bay, outside Wellington Harbour.

Appended is a wreck chart showing where the casualties occurred.

Coastal Dangers.—The existence of a dangerous sunken rock on the seaward side of Open Bay Islet, on the west coast of the South Island, has been reported by Captain Bollons, of the Government steamer "Hinemoa," and a Notice to Mariners regarding it has been issued and circulated for the information of mariners.

Attention having been drawn to the fact of a difference of longitude existing in two of the published Admiralty charts, a Notice to Mariners has been issued explaining that the difference is due to the fact that on the charts published from recent surveys made by H.M.S. "Penguin" the official longitude of the Dominion has been adopted, whereas the other charts still keep to the longitude based on determination of a few years back. In transferring positions or courses from one chart to another it is, therefore, advisable to plot the bearing and distance from some point of land rather than to use the actual latitude and longitude given on the chart.

Meteorological and Weather Office.—Commander R. A. Edwin, R.N., who has been in charge of this office since the 18th February, 1871, retired on pension on the 31st ultimo. During the long period he has been in charge he has been most assiduous in the discharge of his duties, which have been carried out to the satisfaction of the Department. Pending the appointment of his successor the office is in charge of the Rev. D. C. Bates, who has been Captain Edwin's assistant since December, 1906.

Two branches of meteorology—namely, weather, which is concerned with the passing phases or conditions of the atmosphere day by day, and climatology, which relates to average, extreme, and seasonal conditions—are carried on together. Morning weather-forecasts are made and issued to ninety towns, where they are exhibited at the telegraph-offices, and to ten lighthouses, where they are shown by signals for the information of masters of vessels. Copies of the forecasts are also given for publication in the evening newspapers. Since April, 1908, twenty-two stations have reported at 5 o'clock in the evening, and forecasts have been issued for publication in the

morning newspapers. Special warnings have also been issued in the evening to lighthouses when any sudden changes in the weather are likely to occur to endanger shipping. Rainfall statistics have been collected, and the Rev. Mr. Bates has, outside his official duties, collated and presented to the Department all the statistics available since observations were first taken in any part of the country. Twenty-four stations report to the office rainfall, air-temperatures, humidity, sunshine, earth-temperatures, &c., and 191 report rainfall, &c. The results of the observations are published in the *New Zealand Gazette* monthly. Since January last the Department has published a monthly Meteorological Journal containing such results, and maps and diagrams illustrating climatic and weather conditions, as well as brief summaries of the weather and its effects. The annual statistics of the chief stations are also prepared in the Meteorological Office for publication by the Registrar-General in the Statistics of the Dominion, and it is proposed to issue a more comprehensive annual report, which will include maps and diagrams.

The Notice to Mariners regarding the weather-forecast signals which are shown at the various stations has been revised and published. As Stephens Island and Centre Island have been connected with the telegraph system of the Dominion, forecast signals are now shown at the lighthouses on those islands.

Government Steamers.—The "Hinemoa" has continued to carry out the work of attending to lighthouses, and to the buoys and beacons in harbours under the control of the Department. She has also made trips to the Three Kings, Kermadec, Auckland, Campbell, Antipodes, and Bounty Islands to search for castaways, and to examine and replenish provision-depots.

When she visited the Kermadecs a new depot for castaways was erected on Macaulay Island, and when at the Auckland Islands a boatshed was erected on Disappointment Island, and a boat, with a supply of provisions and tools, was put in it. The "Tutanekai" has been employed on cable laying and repairing, including the laying of cables to the Great Barrier, Centre Island, Stephens Island, and Dog Island. She has also attended to some of the lighthouses and has done general work, including the making of a search for the "Rio Loge" between New Zealand and the Chatham Islands.

Training-ship "Amokura."—During last winter the vessel remained in Wellington Harbour, where the boys underwent courses of training, and during the spring, summer, and autumn she has been a good deal at sea. Besides trips for ordinary training purposes, she visited Auckland while the American fleet was there, made a trip to the Chathams in search of the "Loch Lomond," and made two cruises in Cook Strait, and went down the east coast for some distance past Kaikoura to search for missing vessels and reported derelicts. The boys have been well-behaved, and apt at learning their duties. Employment has been found in other ships as ordinary seamen and boys for several who have proved themselves qualified, and there are now others ready to go in other ships as soon as the Department can obtain employment for them. There are a few vacancies for boys on board, and, judging from the number who come forward, I think that for some time to come the ship will be large enough to take all those who desire to join her. Indeed, it appears to be very doubtful whether it would be possible to obtain employment in merchant ships for more than can be trained on her. She has accommodation for sixty. Regulations have been made providing that if boys leave the training-ship before the expiration of the time for which they have engaged to serve, or if they do not take employment on other ships at the expiration of their time when the Department can procure it for them, their parents or guardians shall pay the cost of their training and maintenance to an amount not exceeding £50.

I attach a return showing the boys who have passed through the ship and those who are still on board.

Lighthouses.—The lighthouses have been inspected by Captain Bollons, of the "Hinemoa," when making his periodical visits with oil and stores, and I have paid visits of inspection to Cape Palliser, Brothers, Godley Head, Jack's Point, Akaroa Head, Moeraki, Taiaroa Head, Cape Saunders, Nugget Point, Waipapapa Point, Dog Island, Centre Island, and Puysegur Point. The stations are in good order, and the keepers have carried out their duties in an efficient manner.

During the year incandescent lights have been installed at the Brothers, Cuvier Island, and Cape Maria van Diemen, and similar lights are now being installed at Nugget Point, Centre Island, and Puysegur Point. Besides providing better lights, these installations effect a great saving in the consumption of oil, and I recommend that provision be made in the current year's estimates for ten of these lights for other lighthouses.

Cape Brett: A contract has been let for an iron tower for Cape Brett, and the erection of the keepers' dwellinghouses, outbuildings, and stores at that place is now being carried out. The lantern, apparatus, machine, and lamps have been received from England. A telegraph-line to the station is being constructed, which will enable it to be used as a signal-station for reporting vessels.

Jackson's Head beacon: The Wigham light on this beacon not being satisfactory, a Pintsch-gas occulting light has been procured, and steps will be taken at an early date to erect it on the beacon. The gas for this light will be obtained from the Railway Department, and will be conveyed from Wellington to Jackson's Head by the Government steamer when she makes her periodical trips to the Brothers lighthouse.

Tuahine Point: The necessary tower, lantern, apparatus, and acetylene-generating plant for an occulting acetylene light for this point have been procured, and are now being erected. The work of erection is being carried out by the Department, but the light will be under the control of and maintained by the Gisborne Harbour Board.

A plan for improved dwellinghouses for keepers has been adopted. This provides for a larger kitchen than formerly, for three fireplaces instead of two, for a bathroom with bath, for fixed cupboards in three rooms, and for a wardrobe in one room.

Three keepers have retired from the service during the year on superannuation allowances, one of the retirements being on account of age, and two on account of ill health. Seven keepers have resigned. Ten appointments have been made to fill the vacancies caused by the retirements and resignations.

The following works have been executed at lighthouses during the year:—

Cape Maria van Diemen: An incandescent light has been installed, a landing-store erected, a new tramway laid down, and the landing-place improved.

Ponui Passage: A landing-store has been built, and a new stairway has been constructed in the tower.

Cuvier Island: An incandescent light has been installed.

East Cape: An oil-engine has been obtained to haul stores and oil up from the landing-place, and arrangements are being made to construct an overhead tramway, the old tramway having been destroyed by a landslip.

Portland Island: A landing-store, wash-houses, and a porch to one of the houses have been erected.

Pencarrow Head: New roofs have been put on the dwellinghouses, and the chimneys have been rebuilt. The incandescent installation in the lighthouse has been replaced by an improved type.

Kaipara Head: The coalshed has been raised in consequence of the sand banking up round it.

Godley Head: Wash-houses, coalsheds, workshop, fowlhouses, stable, and cowshed have been erected, and the yard has been asphalted.

Cape Saunders: A new crane has been made for this station, and will shortly be placed in position.

Nugget Point: A combined workshop and outlook-house at the flagstaff has been erected.

Waipapapa Point: The galvanised iron covering the dwellinghouses having worn out, it has been taken off, and replaced with malthoid.

Dog Island: The lighthouse has been connected with the telegraph system.

Centre Island: Repairs have been made to the dwellinghouses and other buildings, and a flagstaff has been erected. The lighthouse has been connected with the telegraph system.

Puysegur Point: The Post and Telegraph Department has extended the telegraph-line to the lighthouse.

Nelson: Wash-houses, coalsheds, and fowlhouses have been built, and repairs have been executed to the dwellinghouses.

Brothers: An incandescent light has been installed and a flagstaff erected.

A report by the Marine Engineer is attached.

The amount of light dues collected during the year was £34,590 17s. 11d., as compared with £32,377 8s. 8d. during the previous year.

Fog-signals.—Explosive fog-signals have been erected at Godley Head and Cuvier Island lighthouses. There are now four of these signals in operation in the Dominion, the other two being at Pencarrow Head and Taiaroa Head. They are all worked by the lightkeepers; but in the case of that at Godley Head, owing to its being situated a good distance from the lighthouse, the two keepers cannot attend to it and the light at the same time without assistance. Arrangements have, therefore, been made with the Lyttelton Harbour Board for one of its men to go out and help the keepers during the times it is necessary to work the fog-signal.

Harbours.—The various harbours under the control of the Department have been properly attended to, and the buoys and beacons have been kept in good condition. A light has been established on the beacon which was erected last year in the Helensville River, Kaipara. A mast-head light which had to be attended to daily was placed on the beacon and first lighted in July last, but this has recently been replaced by a Wigham light which will burn without attention for over a month. The light is attended to by the Kaipara Steamship Company without charge, this Department providing the necessary oil, wicks, &c. A large number of logs which were impeding navigation have been removed from the Wairoa River, Kaipara, and the cost of doing this work is being recovered from the owners of the logs.

Some rocks which were obstructing the navigation of the Helensville River have been removed.

Some new beacons have been erected at Catlin's River, and the old beacons have been repaired and painted. A request was made for the appointment of a signalman at this place owing to the revival of the timber trade, but it has been decided to defer the matter until it is seen to what extent the shipping trade increases.

A tender was accepted for the removal of some rocks which are obstructing the navigation of the Holyford River, Martin's Bay, but the contractor threw up the contract as he found that he could not carry out the work. The Department is now sending a party of men to remove the rocks.

New beacons have been erected at Whangateau Harbour.

Captain Neale, Harbourmaster at Manukau, and Captain Martin, Harbourmaster at Hokianga, have retired from the service on superannuation allowances on account of age, and Captains R. H. Gibbons and F. A. Hardy have been appointed to succeed them.

As the shipping to Picton and the regulation of the oil-engine boat traffic in the Sound required more attention than could be given by the Railway Wharfinger, it was decided to appoint an officer who should devote the whole of his time to these duties, and to the performance of the duties of Customs Officer; and Captain J. W. Burgess has been appointed Harbourmaster, Pilot, and Customs Officer.

An Act was passed last session constituting a Harbour Board for Foxton. The Board has been set up, and the control of the harbour has been handed over to it. The Governor in Council has, under the power given by the Counties Act, declared that the Cook County Council shall exercise the powers of a Harbour Board in Tolaga Bay, and that the Waiapu County Council shall exercise similar powers in Tokomaru Bay.

A return showing the harbour-works approved by the Governor in Council and the licenses granted for the occupation of sites for wharves and other works is appended.

The sum of £1,770 17s. 6d. has been collected for pilotage and port charges in respect of harbours under the control of the Department, as compared with £2,143 11s. 4d. collected during the previous year.

Fisheries.—Reference was made in last year's report to the decision that this Department should pick and sell North Island rock-oysters. This was done during last open season, with very satisfactory results. A depot was established in Auckland to which the oysters were sent for sale, and they were forwarded from there to purchasers in any part of the Dominion. The sale price at the depot was 12s. 6d. a sack, and at Russell and on the beds 11s. 6d. a sack, and the purchasers paid freight and charges from the depot. A few sacks which were not in good condition were sold at lower prices. Purchasers could either forward their orders with the money for what they wanted direct to the depot, or could order and pay for the oysters at any Customhouse, the orders being sent on to the depot by the Collector of Customs either by post or telegraph as required. The oysters were obtained from Waiheke, Ponui, and Sandspit Islands, in the Hauraki Gulf, from Great Barrier Island, and from the Bay of Islands. Eleven thousand and five sacks of oysters were sold, realising, with refund of cartage, wharfage, &c., £6,938 10s. 6d. The cost of picking and sale was £5,705 6s. 3d., which includes £160 for salaries of two Inspectors for six months, £35 15s. for depreciation at 5 per cent. on cost of launches, £17 17s. 6d., being six months' interest at 5 per cent. on the cost of launches, and £65 paid as gratuities for services rendered, so that a profit of £1,233 4s. 3d. was made. There is no doubt that the new system conduces to the preservation of the oyster-beds, as oysters of marketable size only are taken off the rocks, and sufficient are left to enable the beds to be picked each year. Some of the beds have not yet recovered from the depletion which took place when they were open for licensed pickers under the old system in 1907 and previous years. As the old system of picking resulted in the total depletion of the rocks in many places, it is advisable that the Department should plant oysters in these places.

The building used for the depot in Auckland last season was only obtained for that season, and arrangements have been made with the Auckland Harbour Board to lease a site from it near the Railway Wharf on which a suitable building is now being erected.

The oysters left on Waiheke and Ponui after last year's picking have spawned well, and the beds are in a very healthy condition, and will be fit for picking during the coming season.

The beds in the Northern Subdivision are looking well, and it is proposed this season to pick those between Ti Point, in the Bay of Islands, and Whangaruru.

The oyster-beds in Kaipara Harbour are in good condition, but most of the oysters are of small size.

The only oyster-beds worked in Manukau Harbour were those which are leased, and the demand for the oysters was not very large.

There is a marked improvement in the oyster-beds in Hokianga Harbour. Rock-oysters are still scarce, but mangroves are plentiful.

The question as to establishing fish-markets, which was referred to in my last year's report, has been brought under the notice of the municipal authorities at Auckland, Wellington, Christchurch, and Dunedin, with a request that the City Councils would take the matter into consideration; but so far markets have not been established. The Christchurch City Council replied that if power was given to compel all fish sold or exposed for sale within a borough to be sold only in a market provided by the Council, the Christchurch Council would no doubt endeavour to establish markets. It would require an alteration of the law to give such power.

A better marketing system in the chief centres, and better facilities for sending fish inland by train, would undoubtedly result in an increased demand for fresh fish.

A return showing the number of sea-fishing boats registered and licensed at the various ports on the 31st December last is appended. This shows that the number registered was 1,299, and licensed 1,246. In the previous year the number registered was 1,189, and licensed 1,175. It is impossible, in the absence of a proper system of collecting fishing statistics, to give anything like a correct estimate of the fish taken, or to trace the progress made in the industry from year to year. "The Fisheries Act, 1908," provides that the owners of licensed fishing-boats, and fish-curers, shall make returns to the Department in such form and at such periods as may be prescribed by the Governor in Council of all fish caught or cured by them, but, as no action has been taken by the Governor in Council, the provision has so far been inoperative. The information that would be obtained from such returns would be valuable, and I recommend that the necessary forms and periods for making them be prescribed.

Considerable attention to whaling in the Dominion is now being given by Messrs. Cook and Co., who have been engaged in the industry for some years at Whangamumu, and also by some foreign firms. The Chief Inspector, who has been looking into the matter, is of opinion that whaling on modern lines—*i.e.*, from whale factories—would mean establishing a very important industry, as a large amount of capital would be invested in buildings and plant, and a large number of persons would be employed in manufacturing the various products obtained from the whale. Mr. Ayson considers that, from the fact that whales have been very little disturbed during the last thirty years, from his own observations and from information received from officers of steamers, they are plentiful round the coasts and south of New Zealand, and he is strongly of opinion that every encouragement should be given to any one who may wish to engage in the whaling industry with factories on shore. Killing whales for the oil alone is now considered by Canadian, American, and Norwegian whalers to be simply waste, as the carcase when treated at a properly equipped whale factory can be made to yield other products of considerably more value.

The Chief Inspector reports that, as regards the Wellington District, the supply of fish has not been equal to that of the previous year, and that some of the salesmen state that the demand has been considerably less, but that this is, no doubt, only temporary. The enterprise shown by fishermen and others in procuring additional and better-class fishing-vessels proves that they have confidence in the future of the industry. The local supply of blue-cod has not been up to the average of previous years, and several of the dealers complain of the small size of the fish brought in. The warehou season has been a fairly good one. Some good catches were made in the early part of the season, but the fish took off earlier than usual.

The following is the purport of the reports received from the local Inspectors :—

At Auckland during last autumn and up to the end of August schnapper were so abundant that the dealers had to limit each boat to a certain number of dozen per week. They are still plentiful in the Hauraki Gulf, but scarce in Tamaki Strait. Kahawai, rock-cod, and hapuka have been plentiful, but mullet have been very scarce. Flounders have been fairly plentiful. There are about a hundred boats, employing over two hundred men, engaged in the industry, and there are five fish-curing establishments, employing about thirty fish-curers and five carriers.

At the Thames there are thirty-eight boats, employing about eighty men, engaged in fishing, the fish taken being mostly flounders and schnapper, of which there have been good supplies. There are two fish-curing establishments and a fish-freezing works in the district.

At the Bay of Islands the principal fish that have been taken were schnapper, mullet, flounders, crayfish, parori, tarakihi, maumau, kahawai, and hapuka. Other kinds which have been taken in smaller quantities are rock-cod, red-cod, barracouta, butterfish, garfish, kingfish, and yellowtail. There are two fish-canneries and ten smokehouses in the district. There are forty-five registered fishing-boats, whose crews consist of sixty-seven Europeans and fifty-four Maoris.

At Kaipara a large quantity of fish has been caught all over the harbour. The principal fish taken were flounders, schnapper, and mullet. Mullet have not been so plentiful as during the previous two seasons. Kahawai are plentiful, but are not used by local people. Trevalli and gurnard have been scarce. There are two canning factories in the district. Thirty-one licenses were issued to fishing-boats. Trawling has been prohibited within this harbour.

There are nineteen licensed fishing-boats in Manukau Harbour, and the principal fish which have been taken during the year are schnapper, mullet, and flounders.

All the fish taken in Hokianga Harbour have been consumed locally. The principal kinds caught were schnapper, mullet, kahawai, flounders, rock-cod, kingfish, herring, moki, tarakihi, whitebait, and crayfish. The number of licensed fishing-boats is seventeen. There are seventeen smokehouses in the district, and a few rough structures which are being used by the Maoris for their private use. Shellfish which are taken are mussels, pipis, cockles, and escallops.

In Hawke's Bay eleven steam trawlers are employed, and it is stated that all of them did well up to the end of January last, but since then fish have been scarce. There are about sixty persons employed in all branches of the industry. The trawling fleet was increased during the year by the addition of the Hawke's Bay Fishing Company's large trawler "Countess." This vessel is equipped in a very complete manner. The trawler "Nora Niven" has worked the grounds in Cook Strait, in Tasman and Golden Bays, and in the Bay of Plenty with very good results.

Some of the fishermen in Queen Charlotte and Pelorus Sounds are reported to have done very well, whilst others have obtained only fair catches. The principal fish which have been taken are groper (hapuka) and flounders.

In Westland the whitebait season was short, but fairly good while it lasted. The other fish taken have been principally herring and flounders, but the supply has not been very good.

In Otago and Canterbury there has been an improvement in the industry. Fishing operations have been carried out along the whole of the coast-line, with good results. Off Rangiora, Kaiapoi, New Brighton, Redcliffe, Sumner, and Lyttelton large and increasing quantities of fish have been taken, and delivered daily to the Christchurch markets. Steam trawling is carried on profitably. At Akaroa all the estuaries and shallow bays have been worked with good results. At Timaru daily catches of considerable magnitude are taken. Sixteen new boats have been built, and equipped with the latest appliances. At Oamaru there has been a steady supply. At Moeraki the catches have not been up to the standard of former years. From Waikouaiti to Catlin's River there has been continued improvement. At the Nuggets the Department has improved the fishermen's landing-place. Considerable additions have been made to the Otago fleets, and another steam trawler has been procured. Seventeen ordinary fishing-boats fitted with oil-engines and the latest appliances have been launched, and a large number of boats are on the stocks. There are forty-three fish curing and preserving establishments in existence, from which 7,000 pounds' worth of goods have been exported, besides the quantity manufactured and supplied for local consumption. Freezing-stores with chambers capable of storing 1,000 tons are now in course of erection. The principal kinds of fish taken are kingfish, groper (hapuka), trevalli, tarakihi, schnapper, trumpeter, moki, barracouta, blue-cod, and flounders.

At the Bluff the industry has not been so successful as during the previous year. Seventy-six vessels, aggregating 639 tons, were licensed during the year. Of these, four were steamers. A fishing-station with a freezer has been established at Broad Bay, Stewart Island, where a large number of men and boats will be employed. The Bluff Fish and Oyster Company has procured a good-sized vessel, which is being fitted with a refrigerator and all the latest requisites for fishing. Flounders are not so plentiful as formerly, but more groper are taken, and they meet with ready sale. During the year 335,050 dozen oysters, valued at £2,551, and 8,004½ cwt. fish, valued at £1,200, were exported; 1,109,732 dozen oysters and 3,241 cwt. of fish were distributed from the Bluff for consumption in the Dominion. The fish comprised cod, groper, flounders, trevalli, trumpeter, greenbone, and moki.

Prosecutions have been instituted and fines imposed for being in possession of undersized fish, for illegally taking oysters, for carrying firearms in a fishing-boat, and for assaulting an Inspector. In one case the Inspector at Auckland found a boat containing flounders which had recently been taken by stalling. The boat, nets, and fish were seized and forfeited. There was no one with the boat, the owners having apparently gone away when they saw the Inspector coming.

Mr. R. Henry, Caretaker at Kapiti; Captain J. B. Hall, Harbourmaster at Foxton; Mr. A. Hooker, Acclimatisation Society's Ranger, New Plymouth; and six members of the Police Force, have been appointed Inspectors of Sea-fisheries.

Portobello Marine Fish Hatchery.—The five-years period for which a grant of £250 a year was made for the maintenance of this hatchery expired on the 31st ultimo, and it is, therefore, necessary to decide as to what is to be done to provide funds for the future. The Hatchery Board has been successful in introducing lobsters and crabs from Great Britain, from which large numbers of ova have been obtained, hatched out, and the fry liberated in Otago Harbour. It has also obtained large numbers of ova from flounders and soles, and liberated the fry in the harbour. Besides this, it has carried out a large amount of experimental work, and has been in correspondence with Great Britain in regard to the introduction of sea-fish. It will thus be seen that good work has been done by the Board, and that it is desirable that it should be in a position to continue its work. To enable it to do this, funds will have to be provided by the Department. A report received from the Board is appended.

As regards the experiments which are being made in Great Britain in connection with the question of the feasibility of introducing British sea-fish, the Chief Inspector made some inquiries when in England recently, and a report by him is appended.

Seals.—The close season for seals has been extended until the 30th June, 1910, and the question as to making an open season and granting licenses to take seals is under consideration.

Salmon.—A further vote was taken last session for the introduction of Atlantic salmon, and as ova could not be obtained from America one million were ordered from Great Britain, and Mr. L. F. Ayson, Chief Inspector of Fisheries, was sent to England to bring them to New Zealand. The number required could not be obtained for one shipment, and therefore they had to come in two. The first lot, of 499,800, came by the "Turakina," in charge of the chief and second engineers of the vessel, and arrived in first-rate condition. They were taken to Lake Te Anau, where they were hatched out, and the fry were liberated in the Upukororu River. The number of ova which went bad on board the "Turakina" was 29,228, and the deaths from the time of unpacking until liberation of the fry were 23,465. The fry liberated numbered 447,104. Mr. Ayson brought out the second lot of 500,000 by the "Rakaia." It had been arranged that this shipment should come by the "Corinthic," an earlier steamer, but that vessel was unable to take it, and some of the ova which had been collected before it was known that the vessel would not be able to take them had to be kept in a cool-chamber for the "Rakaia." As this portion of the ova was overripe when the vessel reached Dunedin, it was decided to send it to the salmon-station at Hakataramea, where it commenced to hatch out two hours after being put in the hatching-boxes. The whole of the "Rakaia's" shipment was in ten cases, of which three went to Hakataramea and seven to Te Anau. The number of fry hatched out from the two shipments was 932,104, being 447,104 from the ova by the "Turakina," and 485,000 from those by the "Rakaia." This is a very good result indeed considering that many of the ova were taken very late in the season, and that a portion had to be kept in store in England waiting for the steamer. A report by Mr. Ayson on the ova is appended.

Last season, 78,400 ova were taken from quinnat salmon running up the Hakataramea River. Frequent floods prevented more being taken. The river is now being netted for ova, and it is anticipated that a quarter of a million will be obtained and hatched out at the Hakataramea Station this season if the run of fish is as good as it was last year.

During the year the following fish have been liberated from the ponds at the Hakataramea Station: viz., 43 four years old, 199 three years old, 611 two years old, 14,624 one year old from imported ova, 8,000 one year old and 51,000 three months old from ova taken from fish in the Hakataramea River.

Trout.—Regulations regarding trout-fishing have been made for some districts, and amended in the case of others. Last season the Department collected 1,095,000 brown-trout ova in the Temuka and Opihi Rivers for acclimatisation societies which required them. A charge of 5s. a thousand was made to defray the cost of collection, &c. It is proposed to collect a further supply of ova on similar terms for the societies that require them during the coming season.

When the Chief Inspector went to England for the salmon-ova the Department of Tourist and Health Resorts arranged that he should bring out some minnows for the purpose of increasing the food-supply for trout, but he was unable to arrange for a shipment. Appended is a report made by him in regard to the introduction of this fish.

GEORGE ALLPORT, Secretary.

The Hon. the Minister of Marine, Wellington.

The PRINCIPAL EXAMINER OF MASTERS AND MATES to the SECRETARY, Marine Department.

Office of the Principal Examiner of Masters and Mates,
Customhouse, Wellington, 27th May, 1909.

SIR,—

I have the honour to submit my annual report on the examination of masters and mates in New Zealand.

The work, as usual, has been carried out by the Examiners at the four principal ports in a satisfactory manner, and I am very pleased to have as my colleagues in the examination work

gentlemen whom I can thoroughly rely on to do their duty faithfully and impartially, and at the same time maintain an even temper and pleasant manner, so that no candidate has ever had cause for a word of complaint.

The number of candidates for foreign-going and home-trade certificates has again steadily increased, though the increase, as in the previous two years, is principally confined to Auckland, where the total number of examinations has considerably exceeded that of all the other principal ports put together.

The total increase in the number of examinations held during the last year for foreign-going and home-trade examinations is nearly 25 per cent., but the number of successful passes for the year only shows an increase of 15 per cent.

In January of this year two very important additions were made to the work and knowledge required of candidates for foreign-going certificates, viz.:—

(1.) A candidate must have attended the course of five St. John Ambulance Association lectures, and must produce the authorised certificate signed by the surgeon instructor, as also a certificate in the approved form of the association from the surgeon examiner that he has attended the full course, and has successfully passed the required examination showing that he is qualified to render first aid to the injured.

(2.) Candidates for examination for certificates of competency for all grades of foreign-going and home-trade certificates are now required to be conversant with the Morse and semaphore alphabets, and with the British Signal Manual. Candidates for the extra-master certificate are, in addition to the ordinary examination in the method of signalling, required to show practical proficiency in both the Morse and movable semaphore methods of signalling—*i.e.*, the ability to make and take in signals by both these methods with reasonable speed and accuracy.

It has been no easy matter for the Examiners to find time, in the midst of their many and various other duties, to study, exercise, and make themselves proficient in this latter very important examination. I am glad, however, to be able to report that having lately paid a visit to the Examiners at Auckland, Lyttelton, and Dunedin, I find that at each port one at least of the Examiners is conversant with the methods of signalling by both the Morse and semaphore, and at the first two places the Examiners are getting fairly expert at both reading and making the signals. Captain Marciel, of Lyttelton, even exceeded the test speed of six and ten words a minute. Captain Beaumont, of Dunedin, hopes soon to make himself an expert, but he has been somewhat handicapped lately by a rheumatic arm. As it requires constant practice, which it would be very difficult for the Examiners to get, to keep themselves up to the mark of being able to read and make signals at the rapid rate required for the voluntary examination—viz., six and ten words a minute respectively for the flag waving and semaphore signals—the senior officers of the Defence Department at the various ports have kindly promised to lend one of their expert signallers to assist the Examiner, should he so desire, when such an examination is being conducted.

Captain Dykes, whose appointment was mentioned in last year's report, has conducted nearly all the examinations in Auckland during the past year, Captain Fleming or Captain Atwood assisting in the *viva voce* examination when necessary. The examination rooms in Auckland are now in the Customhouse, which has lately been enlarged.

No candidate has yet applied to be examined for the grade of second mate home-trade, notwithstanding that the regulations have been amended to allow one year and a half of service as second mate to count towards qualifying for a master's certificate. There have been very few examinations this year for fishing-boat or cargo-vessel master, and not one for the restricted limits sailing-vessel master. With regard to this latter examination and qualification, I mentioned in my last year's report about the curious anomaly arising, and it will be unnecessary for me to repeat myself again. Regulations were made last year to entitle the master of a cargo-vessel plying in the home-trade, or extended river limits, whilst holding a certificate of competency as master of a fishing-boat or cargo-vessel under 25 tons register, to be examined for a certificate as master of a home-trade vessel. No alteration has yet been made in the law allowing a master with only a river steamer's certificate, and only one year's service in a harbour, lake, or river, to command passenger-vessels running to all ports of the extended limits, such as between Auckland and Whangarei. Although ship-owners, in their own interests, generally secure masters with home-trade certificates, or with many years of experience in the trade, to take charge of their larger steamers when running in the extended limits, yet there is the possibility, under our present laws, of the lives of passengers being risked by some young man without experience taking charge of his own vessel to save the expense of a more competent and experienced master.

In August of last year Mr. John King Davis, chief officer of the Antarctic exploration ship "Nimrod," passed very successfully the examination for extra master. It was pleasing to see the pains he must have taken to acquire such a grasp and knowledge of the subject of naval architecture as he showed that he possessed, both by his written answers and the *viva voce* examination.

In January of this year the extra master's examination has been still further stiffened by requiring candidates to be proficient in the Morse and semaphore signalling, in addition to all the other work, and the proficiency required can only be obtained by frequent and constant practice. No doubt the increased difficulty of the examination will deter some from attempting it, but I believe there will still be found in New Zealand, as in other countries, those who will be spurred on by the very difficulty of the examination to fresh determination to overcome the difficulties, especially as the new work is of a practical and useful nature. I wish the navigational part of the examination could also be made more practical and of a more useful nature to navigators.

I have, &c.,

HAROLD S. BLACKBURNE,
Principal Examiner of Master and Mates

The MARINE ENGINEER to the SECRETARY, Marine Department.

16th June, 1909.

I HAVE the honour to report as follows on the works which have been carried out during the twelve months ended 31st March, 1909.

Cape Brett Lighthouse.—During the year plans were prepared of the tower, and a contract let to Messrs. Judd, of the Thames, for its manufacture, which was in a forward state on the 31st March. Plans were also prepared for keepers' dwellings and usual outbuildings, workshop, oil-store, landing-store, water-tanks, landing-crane, and horse-whim. The materials for the buildings were obtained principally from the Government sawmill at Kakahi, and were stacked for some months for seasoning. A contract was let for the manufacture of the landing-crane, and duly completed. A survey was made of the land required to be taken for the lighthouse. A survey was also made for the tramway leading up to the lighthouse. Nearly all the materials required, with the exception of the tower, are now landed at the Cape. At the end of the year two of the cottages were rather more than three-fourths completed, and the third was about half-completed. The formation of the tramway along the top of the hill from the top of the incline to the tower was nearly completed.

Tuahine Point Lighthouse.—A small cast-iron tower, together with the lantern-lens and apparatus for generating and burning acetylene gas, was ordered from England, and duly arrived in the Dominion. The erection of the tower has been put in hand.

Cape Foulwind Lighthouse.—Some repairs have been effected to the keepers' dwellings.

Cape Saunders Lighthouse.—A new landing-crane has been made and landed at the Cape, and is now in course of erection.

Jackson's Head Beacon.—The necessary apparatus for lighting this beacon by means of Pintsch gas has arrived in the Dominion, and is now awaiting a suitable opportunity to be installed.

Cape Maria Van Diemen Lighthouse.—The construction of a pedestal to the landing-crane in order to place it beyond the reach of the seas during heavy weather was put in hand, together with the reconstruction of the line of tramway for a short distance up the hill from the crane and the building of a new landing-store.

Centre Island Lighthouse.—Some repairs to the keepers' dwellings, &c., were carried out.

Point Anglem Lighthouse.—A small timber lighthouse was constructed on the Point, with an iron-framework lantern. It was furnished with a fifth-order light.

Ponui Passage Lighthouse.—A small store was built on the structure, steps were substituted for the ladder, and sundry repairs were effected.

Cuvier Island.—A heavy landslip having almost wholly destroyed the keepers' dwellings, they have had to be rebuilt. This work has been completed.

East Cape Lighthouse.—Plans have been prepared and materials obtained for the construction of an aerial tramway between the beach and the lighthouse to replace the tramway, which was continually being damaged by slips. The construction will be put in hand as soon as an opportunity occurs for landing the materials.

Waipapapa Point.—Considerable repairs were effected to the keepers' dwellings. The iron on the roofs was replaced by malthoid, as it is considered that it will better stand the action of the salt spray than the usual corrugated iron.

Godley Head Lighthouse.—Some repairs to the keepers' dwellings, and the reconstruction of some outbuildings, were carried out.

Taiaroa Head Lighthouse.—An entrance-porch to the tower was erected.

Harbourmaster's House, Hokianga.—A plan was prepared and a contract let for the erection of a new dwelling, rendered necessary by the decay of the old one.

Oyster-depot, Auckland.—The construction of a depot near the Railway Wharf was commenced at about the end of the year.

Okuru Wharf, South Westland.—Plans were prepared and a contract let for the erection of a small wharf at Okuru.

Kaipara River.—A patch of rocks in the river below Mount Rix interfered considerably with navigation at low tide. It was therefore decided to form a channel through the patch. The work has been carried out, and a channel about 60 ft. wide, with the bottom corresponding with the general level of the bottom of the river, has been formed.

Priestman Grab Dredge.—For the purpose primarily of carrying out the work of removing rocks in the Kaipara River, and for subsequently doing work at the various small harbours throughout the Dominion, a small Priestman grab dredge was imported. It has successfully carried out the work at Kaipara, and has also done some dredging for the Railway Department at the berths of the wharf at Helensville.

Okiwi Wharf, Great Barrier.—Considerable difficulty having been experienced in settling the best site for this wharf, owing to the different views held by settlers, the matter has been referred to the District Engineer, Auckland, who, at the first possible opportunity, will visit the island and decide upon the site.

Waitara Harbour.—A survey was made of the river-encroachment at the upper end of the town, and plans and a report were prepared covering recommendations as to protective works.

Patea Harbour.—At the request of the Harbour Board, the works in progress were inspected and a report prepared; a report was also prepared upon the effect of the construction of the west breakwater and the proposed extension of the east wall.

Kaipara Harbour.—A survey has been made of the sites for lighted beacons, which it is proposed to erect in Beacon and Shelly Bay Reaches. Preparation of plans of the beacons is now in hand.

Nuggets Landing.—Some rocks which interfered considerably with the landing of the fishing-boats in the small bay to the north of Nugget Point have been removed, and, in order to afford some slight protection and to cause the sand to collect on the beach and cover up the point of rocks upwards from low-water mark, a small breakwater has been built, consisting of rock and concrete blocks. The cost of the whole work was limited to £400. I have just learnt that the construction of this breakwater has had the desired effect, and that the local fishermen are pleased with and are deriving great benefit from the work. They are looking forward to a further grant to enable an opening in the reef to be blocked on the south side of the channel, in order to break the force of a cross-sea, which causes considerable danger.

Buoys.—Drawings were prepared and contract let for the manufacture of a bell-buoy for Tauranga and for several similar mark-buoys. The work was duly completed.

Godley Head Fog-signal.—The erection of the fog-signal imported from England was carried out during the year. The work necessary consisted of the construction of a track down the face of the cliff, the preparation of the site for the signal, the sinking of the well for the driving-weights, and the construction of a magazine for the gun-cotton explosives used.

Tautuku Harbour.—An inspection was made with a view to devising some means of facilitating the shipment of timber, and a report is in course of preparation.

Karamea Harbour.—Reports on works for the improvement of this harbour have been prepared, and a contract is being prepared for the extension of the shed on the wharf.

Paratutae Wharf, Manukau Heads.—Plans are in course of preparation for a new structure to improve the wharfage accommodation at this place.

Kaikoura Wharf.—The erection of this wharf, which is being carried out by the County Council, has by request been inspected from time to time.

Matakana Harbour.—This harbour has been inspected, and a report prepared upon the silting which has occurred.

Motueka Harbour.—A scheme for providing accommodation for shipping by the construction of a small wharf and small amount of dredging was prepared for the information of the Harbour Board.

Holyford River.—A contract was prepared for the removal of some rocks which interfered with navigation at the entrance of the harbour, and let. The contractor, however, considerably underestimated the difficulties, and had to be relieved of the work. Arrangements are now being made for the carrying-out of the work by Mr. McLeod, who so successfully removed the rocks in the Kaipara River.

Okarito Harbour.—A report was prepared upon a proposal to block the Western Channel, and a further report was prepared upon the harbour-works generally.

Collingwood Harbour.—An inspection was made of this harbour, and a site for a new wharf reported upon.

Pakawau.—The site of proposed tramway across the mud-flats was inspected, and the proposal reported on.

Brighton River.—The navigable part of this river was inspected, and reports furnished upon the fords, and proposed removal of rocks and construction of tide-gates.

Port Chalmers.—A pinnacle rock in front of one of the wharves was examined, and the practicability of its removal reported upon.

Leigh Wharf.—Plans for the construction of a new wharf have been prepared.

Amokura Wharf, Wellington.—Plans of a small jetty and landing-store for the convenience of the "Amokura" training-ship were prepared, together with estimate of the cost of construction.

Beacons, West Wanganui.—Plans of these beacons submitted by local authorities were approved of.

Puerua River.—The site of proposed tide-gates was inspected, and their construction by the local authority approved of.

Westport Harbour.—Plans of proposed cut in the West Breakwater were approved of for the purpose of facilitating the launching of the s.s. "Taviuni."

Preservation Inlet Wharf.—The site of proposed wharf was inspected.

As required by the provisions of the Harbours Act, the following plans were examined and approved of:—

Wharves.

Herald Island.
Half-moon Bay.
Horseshoe Bay.
Golden Bay.
Uretara River.
Kaiapoi River.
Whangarei.
Dominion Canning Company, Helensville.
Takapuna Tramway Company.
Motukaraka.
Wanganui Railway.
Waikawa.
Niagara.
Tongaporutu.
Rona Bay.
Timaru.
Pelorus.
Lyttelton.
Rattray Street, Dunedin.
Dannaher Bros., Hokianga.
Pine Island.
Jetties, Dunedin.
Wairangi.
Union Steamship Company, Port Chalmers.
Wairupe.
Devonport, Bond Bros.' Extension.
Moehau.
Matata.
Onawi.
Omokoroa.
Elmslie's Bay.
Whangarei.
Tauranga.
Matakohe.
Dredge Wharf, Otago Heads.
Bluff, Oyster.

Boat Sheds and Slips.

W. H. Horn, Dunedin.
Lester's, Hokianga, Rawene.
Hartley's, Hokianga, Kohukohu.
Star Club's, Wellington.
Taieri River mouth.
Tunnage's, Port Chalmers.
D. Wall's, Port Chalmers.
Worser Bay.
Whangaroa, Sanderson's shed.
Boat Club, Onehunga.

Reclamation-works.

West Wanganui.
Invercargill.
Karitane.
O'Neill's Point, Auckland.
Waikouaiti, Karitane Domain.

Bridges.

Awakino Creek, Northern Wairoa.
Huntly.
Mangawhare.
Mangarata.

Parliamentary Bills.

Otago Harbour Foreshore.
Evans Bay Reclamation.
Whakatane Foreshore.
Tauranga Foreshore.
Manukau Harbour Board Constitution.
Auckland Drainage.

Miscellaneous.

Pahi, timber-booms.
Mangonui, Mr. Wrathall's house site.
Hauarahi River booms.
Waiomo Dock.
Waiuku sluice-gates.
Wairoa (Hawke's Bay) Wharf sheds.
Patea, snag-removal.

Wellington,—
Land taken for railway purposes, Thorndon.
Te Aro Baths extension.
Reclamation-wall, Thorndon.
Bathing-shed, Kilbirnie.
Dredging Falcon Shoal.
Septic tank, Island Bay.

Bluff,—
Baths-site.

The Secretary, Marine Department.

R. W. Holmes,
Marine Engineer.

SALMON-OVA.

The Chief Inspector of Fisheries to the Secretary, Marine Department.

Sir,— Wellington, 22nd April, 1909.

I have the honour to supply the following report on this season's importation of Atlantic-salmon (*S. salar*) eggs from England and Europe.

As instructed by you, I left for England by the R.M.S. "Athenic" on the 5th November last for the purpose of procuring a shipment of one million eggs and attending to them on the voyage out.

On arrival at Teneriffe on 11th December I received a letter from the High Commissioner's Office advising me that, owing to the order from New Zealand for salmon-eggs being sent rather late, there was some difficulty in procuring them, and instructing me to leave the steamer at Plymouth and come on to London by train.

Arriving in London on the 17th December, I at once reported myself at the High Commissioner's Office, and Mr. Kennaway advised me of the steps which had been taken to secure the million eggs required. Arrangements had been made to get from three to four hundred thousand from the River Tay, in Scotland, and about a hundred thousand from Ireland. This would make up about half of the million required, and as those on hand were ready to pack, arrangements were made to ship them by the first steamer. In order to facilitate the work before my arrival, arrangements had been made with Messrs. Elliott and Richmond, of the Surrey Trout-farm, to incubate any salmon-eggs which might be collected from rivers in the South of England, and, if necessary, for Mr. Richmond to assist in collecting and in packing the eggs in Scotland. On my arrival Mr. Richmond had all the cases made for the eggs from Scotland.

As it was imposible to procure all the million eggs to send by one steamer, I decided to forward the half-million on hand by the "Turakina," sailing on the 29th December, and to arrange for one of the officers to take charge of them on the voyage, and teach him and an assistant how to attend to them.

As Mr. Richmond had gone to Scotland to pack the eggs there, it was arranged that I should go over and pack and bring back those arranged for in Ireland. Both lots were brought to London and put on board the "Turakina" on the 28th December. The shipment was put in charge of the chief engineer (Mr. Parker), and he chose Mr. Paterson, second refrigerating engineer, as an assistant to help him to look after them on the voyage. I took these men in hand at once, and instructed them with regard to the treatment of the eggs on the voyage. I went with

the "Turakina" as far as Plymouth, and this gave me about four days with Mr. Parker and his assistant, and in that time I carefully instructed them in the daily attention which should be given to the eggs, and arranged everthing in proper order in the egg-chamber. The whole of the eggs in this shipment were good sound eggs obtained early in the spawning season, and they were just at the right age for shipping on such a voyage. From the appearance of the eggs when I left the steamer at Plymouth, and from the intelligent grasp Mr. Parker seemed to have of the work, I was convinced that they would arrive in New Zealand with a small percentage of loss.

To procure the other half-million eggs required, permission had been obtained by Mr. Fryer, Chief Inspector of Fisheries for the Board of Agriculture, from the Board of Conservators for the rivers Test, in Hampshire; Dee, in Wales; and Wye, to take eggs from a limited number of salmon. Offers of eggs, to be ready to pack in January, had also been received from Germany.

After leaving the "Turakina" at Plymouth, I set about gathering up the other half-million eggs required. I proceeded to the River Test, where I met Mr. Richmond on the 31st December. We netted the river on the 1st and 2nd January, and were successful in getting a number of ripe salmon. Altogether about 55,000 eggs were obtained from this river, and taken to the Surrey Trout-farm to be incubated. Word having been received that a number of salmon had been caught by the water-bailiffs in the Dee, I left for there on the 4th, and on the 5th I stripped 65,000 eggs from the fish which had been secured. These eggs were also taken to the Surrey Trout-farm. On the 14th January another lot of 55,000 eggs were taken on the Dee by Mr. Richmond.

As a run of salmon was daily expected in the Wye, I went to that river on the 7th January. On the 8th, along with two water-bailiffs, I inspected the Wye and Elan, but saw no sign of spawning salmon. Both rivers were low, and the conditions were unfavourable for a run of fish. Steady rain, however, set in on the Friday night, and continued all Saturday and part of Sunday, causing a heavy fresh in the rivers. We watched the rivers on the Sunday and Monday (10th and 11th January), but no fish appeared, and as it seemed useless to remain any longer I returned to London on the 12th.

As there seemed to be very little chance of obtaining any more eggs from English rivers, and as we had several offers of eggs from hatcheries on the Rhine, in Germany, it was arranged that I should go over and inspect the eggs under offer, and, if satisfied as to their age and quality, purchase the balance required. As the eggs under offer from Mr. Riedel, Bergstedt, Hamburg, appeared to be of a more suitable age than any of the others offered, I went first to inspect his lot. As he had disposed of all the salmon-eggs at his Bergstedt hatchery before my arrival, we went south to another salmon-hatchery on a tributary of the Rhine, near Triers. Being satisfied as to the quality and age of the eggs there, I agreed to take 340,000. I had the packing-cases made, and showed Mr. Riedel how the eggs should be packed.

As it had been arranged that the second shipment of eggs should go by the "Corinthic," sailing from London on the 4th February—and I required to see Dr. Fulton, of the Marine Laboratory and Fish-hatchery at Aberdeen, with regard to the importation of sea-fish or their eggs to New Zealand—I left the packing and forwarding of the salmon-eggs to Mr. Riedel, and I left Triers for London on the 21st January by way of Brussels and Ostend, arriving in London at 11 p.m. that night. Mr. Riedel arrived in London with the salmon-eggs on the 30th January, and as in the meantime a hitch had occurred about getting them away by the "Corinthic," they were placed in a cool-chamber at the Colonial Consignment and Delivery Company's stores until the "Rakaia" sailed on the 10th February.

A special cool-chamber was provided on the "Rakaia," and all the eggs were put on board on the 9th February. The steamer sailed on the 10th, but owing to a damaged steampipe had to put into Plymouth on the 12th for repairs. In the meantime I had decided that, owing to the delay in London after the eggs were packed, and the prospect of a protracted voyage out on the "Rakaia," probably it might be necessary to repack the furthest-advanced eggs on the voyage, and while at Plymouth I procured some packing-material.

Considering the advanced condition of more than half the shipment, and the prospect of a long voyage, I decided to keep the egg-chamber at as low a temperature as was consistent with safety. The average temperature of the chamber was 34°, and a thermometer was placed inside every case. The inside of the cases in which the youngest eggs were packed was kept at a temperature of 34° Fahr., and by the use of crushed ice placed in the end ice-spaces of the cases we were able to keep the furthest-advanced eggs at a temperature of 33° Fahr. The general treatment of the eggs on the voyage was similar to that so successfully practised for a number of years in bringing salmon and whitefish eggs from America—*i.e.*, all the dead eggs were removed at regular intervals, and at each picking the position of the egg-trays in the cases was reversed; rather more than a pint of chilled water was poured over each stack of egg-trays once every twenty-four hours, and once a day all the lids of the cases were thrown open for two hours in order to admit fresh air to the inside of the cases. After half the voyage had gone, I found it was advisable to repack all the trays. The packing-moss was washed out, and fresh cloths put under and over the eggs. The result obtained from this repacking was very satisfactory indeed.

On arrival at Dunedin on the 5th April the cases were transferred to an insulated railway-wagon, in which was placed a good supply of ice. On the 6th, the manager of the Hakataramea Salmon-hatchery left by the first express with seven cases *en route* for Te Anau Lake Hatchery, and I took three cases which were at the point of hatching on to the Hakataramea Hatchery the same day. The three cases which I took to Hakataramea were unpacked the following morning, and they turned out in first-rate order. The number of dead eggs picked out was very small. These eggs commenced hatching within two hours of being put into the hatching-trays.

The lot sent to Te Anau arrived there on the evening of the 7th, and opened out very satisfactorily indeed. The Rhine eggs commenced hatching soon after being unpacked, and the eggs from one case of the English eggs commenced hatching the second day after arrival.

The loss with the Rhine eggs from the time they were received in London on the 30th January until their arrival in New Zealand was 23,414. No. 1 case English eggs, taken from the River Test, had a loss of 906; No. 2 case English eggs, taken from the River Dee on the 5th January, 660; and No. 3 case English eggs, taken from the River Dee on the 14th January, 1,430: making a total of 2,996 deaths in these three cases. The total loss was 26,410 for the whole shipment for the voyage, equal to 4·8 per cent.

The cause of the larger death-rate with the German eggs was owing to their being longer packed and the developmpent further advanced than with the English eggs. They were seventy-two days from the time they were packed in Germany until they were unpacked in New Zealand. Had these eggs been shipped by the "Corinthic" as intended, or had we known in time that the "Corinthic" would not take them, then younger eggs could have been obtained at the same hatchery. These younger eggs were not far-enough advanced to pack for the "Corinthic," but would have been just at the right age to pack for the "Rakaia." Either way the loss on the voyage would have been similar to what had occurred with the English eggs. The greatest number of deaths occurred with the German eggs during the last two weeks of the voyage. This loss would not have taken place had they come by the "Corinthic," as they would have arrived and been placed in the hatcheries here fully two weeks earlier than by the "Rakaia."

As I anticipated, the "Turakina's" shipment arrived in first-rate condition. The total loss on the voyage from London to Wellington was 29,228, equal to 5·8 per cent., and the loss from Plymouth to Wellington was 27,998, or 5·6 per cent. This speaks very well indeed for the care and attention given to the eggs on the voyage by Mr. Parker and his assistant.

I do not know of any previous shipment of salmon or trout eggs which has arrived from England with a loss of less than 20 per cent. Usually the loss amounted to from 20 to 40 per cent. The previous shipments of salmon-eggs brought out in the "Gothic" and "Paparoa" in 1903 had a loss of about 40 per cent. This year's importation, therefore, establishes a record for being by far the largest shipment of Atlantic-salmon eggs ever brought to New Zealand, and for being landed with the smallest percentage of loss in transportation. With regard to future importation of salmon-eggs from England, orders for eggs should be received in London not later than the end of September. If the order is sent early enough there will be no difficulty in getting half a million eggs for one shipment, but it would be a very difficult matter indeed to at any season procure a million eggs all at the right age to send in one shipment.

While in Scotland I interviewed some of the members of the Tay Fishery Board and their Superintendent (Mr. Lumsden). Mr. Lumsden stated that if he received an order any year by the beginning of October, he could arrange to collect for the New Zealand Government when he commenced collecting for their own hatchery about the first week of November. At that time the spawning fish are running, and two or three days' netting when a fair run of fish is on would give all the eggs required. If the order was given early enough, the cost of collecting and incubating half a million eggs would be very small.

As stated in a previous communication to you, Mr. Ridler, the chief engineer, and Mr. Dugdale, the chief refrigerating engineer, gave me very valuable assistance on the voyage.

The captain of the "Rakaia" and his officers, and the New Zealand Shipping Company's officials in London and at Dunedin, were very courteous, and gave me every assistance in getting the eggs on board at London and off the steamer on arrival at Dunedin.

In London the High Commissioner and his officials did everything possible in procuring the salmon-eggs well, and in the quickest time possible, and I was afforded every facility in connection with the collection, packing, and shipping of the eggs, and I wish to express my appreciation of the very courteous treatment which I received from the officials in that office.

The thanks of the Department are, I consider, due to Mr. C. H. Fryer, Chief Inspector of Fisheries for the Board of Agriculture, for the very valuable assistance which he gave in connection with the collection of the salmon-eggs.

I have, &c.,
L. F. Ayson,
Chief Inspector of Fisheries.

The Secretary, Marine Department, Wellington.

The Chief Inspector of Fisheries to the Secretary, Marine Department.

Sir,— Wellington, 28th April, 1909.

I have the honour to report as follows on the marine biological stations and hatcheries visited when in England.

As the collection and preparing for shipment of the salmon-eggs occupied practically all my time, it was impossible to go into the sea-fish work as I should have liked; I was, however, able to visit the marine laboratories at Plymouth and Aberdeen.

At Aberdeen I met Dr. Fulton, who showed me over the station and explained the fish-hatching appliances and the work which was done there. He is very much interested in the experiments which are being made with regard to the importation of useful food-fishes to New Zealand, and there is no doubt but that the authorities can depend on his able assistance in connection with all future work. Both at Aberdeen and Plymouth it was pointed out to me that, as the staff of experts was limited, and as they were fully occupied with their own work, it was very difficult to find time to devote to outside work, such as they were doing for the New Zealand Government. At the same time they were deeply interested in the experiments which they had undertaken to do, and would have them carried out as expeditiously as possible.

With regard to the experiments that were recently made with herring-ova, Dr. Fulton is of the opinion that they were not conclusive, but he is sanguine of better results from the further

experiments which he intends carrying out. He recommended that, until the herring experiments are worked out, we should go on with the importation of other fishes, such as the cod, turbot, haddock, &c., which he thinks can be carried alive provided due consideration is given to the season when the fish are in the best condition, as they would then be able to stand the confinement and stress of the journey better, as well as requiring less food, which he considers an important matter as regards their health on the voyage. The laboratory is well equipped, and very valuable work is being done by Dr. Fulton and his two assistants, Drs. Scott and Williamson. Dannevig's hatching-boxes are used in the hatchery. The supply of sea-water for the ponds, observation-tanks, and hatchery is pumped up into a large reservoir-tank by means of an ordinary centrifugal pump. Ordinary galvanised-steel pipes are used throughout, but, as there is an ample supply of water, it is never used a second time.

At the Plymouth Station Dr. Allen showed me over the laboratory and hatchery. With regard to the experiments with the turbot and other fish, Dr. Allen stated that, owing to the illness of one of his assistants and pressure of other work, it had been somewhat delayed, but that he expected to be able to get on with it at once. The water-supply for the station is pumped up from the bay. A vulcanite pump was used for a time, but it was so liable to get out of repair that it was abandoned, and ordinary centrifugal pumps put in instead. The large pipes used are enamelled iron and the smaller pipes are vulcanite. Dr. Allen stated that at some stations lead piping is used with satisfactory results. When the experiments which are being made by Drs. Fulton and Allen are completed, and it is decided to import some species of fish or their ova, it would, I think, be advisable to send Mr. Anderton from the Portobello Hatchery to England to assist in collecting the fish, and to attend to them on the voyage out. It will probably take a considerable time to collect and prepare the fish for shipment, and I think that this work could be better and as cheaply done by Mr. Anderton than by a special expert employed in England to do it. The experience which Mr. Anderton would gain in connection with the marine-fish work while in England would also be of the greatest value to the Dominion in the future work which will require to be done here.

I have, &c.,
L. F. Ayson,
Chief Inspector of Fisheries.

The Secretary, Marine Department, Wellington.

Sir,— Wellington, 27th April, 1909.

I have the honour to report as follows with regard to the minnows which the Tourist Department wished brought out from England.

Owing to the difficulty in procuring the salmon-eggs in England, I could not devote much time in arranging for a supply of minnows to bring out with me. I was, however, able to visit some trout-hatcheries from which it was thought a supply of minnows could be obtained. A few days before the "Rakaia" sailed, Mr. Richmond, of the Surrey Trout-farm, offered to supply a number; but, as I was aware by that time that the voyage would be a protracted one, and that there was no suitable place on board where they could be kept at a fairly regular temperature, I considered that it would be unwise to attempt to take any, as there would be but little chance of their surviving the voyage.

When in England and Germany I made considerable inquiry from fish-culturists and other experts, as I travelled about, with regard to the value of the minnow as a means of increasing the food-supply for trout, and every one with whom I discussed the matter gave a most unfavourable opinion as regards his utility in that respect, the unanimous opinion being that he did a great deal of harm to streams by eating up the food of young trout, and that he did not by any means provide, himself, a corresponding amount of food for larger trout.

I attach a letter from Mr. Riddel, of Bergstedt, Germany, on this subject.

I have, &c.,
L. F. Ayson.

The Secretary, Marine Department, Wellington.

Forellenzucht Saselbek. C. Riedel.

Dear Sir,— Bergstedt, bei Hamburg, 6th March, 1909.

In pursuance of our recent conversation as to the importation of the minnow (*Leuciscus phoxinus*) into the waters of New Zealand, I should certainly not advise you to introduce this fish, as this little fellow will do fifty times more harm by eating up the food for the young fry and small trout than he will do good by providing food for the larger trout by his body.

We consider the minnow rather bad company in a good trout-stream, and, when using a small brook for rearing fry and yearlings, we are most particular to get all the minnows out of that brook, as we find that the result in trout without this fish is a far better one than when left to stock the brook together with trout.

If I am asked what fish I should recommend to you to stock your rivers and lakes with, besides trout and salmon, I would draw your attention to another fish of the species of Salmonidae—*i.e.*, *Coregonus maræna*. This is a splendid fish indeed, and would suit your New Zealand waters admirably. In good rivers, and lakes especially, this fish runs in size up to 25 in., spawns plentifully, and provides food for trout of all sizes, and not only for trout, but also for the table. Here, on the Continent, it is, indeed, considered finer eating than even trout or salmon, and fetches higher prices. I could supply you with fertilised ova of this fish, and they could very well be carried to your country together with ova of *S. salar*. These eggs would stand the journey very well, I should think, as they hatch slower than ova of trout or salmon. Shipment would have to be made about December.

I am, &c.,
Curt. Riedel.

L. F. Ayson, Es., Wellington.

The Chairman of the Portobello Fish-hatchery Board to the Minister of Marine.

Sir,— 1st June, 1909.

On behalf of the Board of the Portobello Marine-fish Hatchery, I beg to report as follows on the work of the year ending 31st March, 1909:—

Owing to the limited means at the disposal of the Board, this work has been chiefly confined to looking after the stock of lobsters and crabs in confinement in the ponds, isolating the spawners as their eggs approached the hatching season, liberating the fry as they were hatched, and keeping the station in as good order as possible.

The large measure of success attained in connection with the spawning of these crustaceans, full particulars of which are given in the very valuable report (appended herewith) made by Mr. T. Anderton, the Curator, was due to the unremitting care bestowed on them by him. It would appear that failure to secure such good results elsewhere has been almost entirely due to lack of this scrupulous care in keeping the surroundings absolutely clean.

Had the Board been able to employ two men at Portobello right through the season, instead of one, the results achieved would have been even much more satisfactory than they have proved. As it is, we estimate that some 36,000 larvæ of the lobster and about 6,000,000 of the crab were liberated. Had there been more tank accommodation and more assistance during the critical period of spawning and hatching, the number of larvæ obtained from the stock now in the ponds would probably have been between 135,000 and 200,000 lobsters, and between 10,000,000 and 15,000,000 crabs. Under the circumstances the results already achieved are really remarkable, and reflect the highest credit on the Curator.

Arrangements have again been made for a further importation of both lobsters and crabs, in order that the success of the experiment may be absolutely assured. The acclimatisation of these valuable crustacea in our coastal waters will not only supply a most excellent addition to our fish food-supply, but one that will have a great commercial value in years to come.

In connection with this further importation of lobsters and crabs, an attempt will be made to introduce haddocks, or some other hardy kind of edible fish from Britain.

Mr. Anderton has kept the buildings, fittings, &c., of the station in very good condition, but these all require a complete overhaul to prevent their falling into decay, and the Board cannot do this for lack of funds. The expenditure of a comparatively small sum of money now will not only preserve all the property of the station, but will enable it to enter on a further period of usefulness.

The Board would respectfully point out that on the 31st March the term of five years for which the late Hon. R. J. Seddon granted a subsidy of £250 per annum expired. The Board considers that not only has the station justified its existence, it has done far more: it has added greatly to the wealth and to the knowledge of the Dominion, and this at a ridiculously small cost to the public.

The following are some of the results achieved:—

(1.) A station has been built comprising (*a*) a comfortable four-roomed dwellinghouse and outbuildings, fenced garden, planting of valuable trees and shrubs, &c.: (*b*) a hatchery building, with (i) hatching-house, with hatching-boxes and Macdonald jars capable of dealing at one and the same time with many millions of fish-ova as well as lobsters, crabs, &c., and also furnished with eight large plate-glass-sided exhibition tanks; (ii) laboratory furnished with microscopes, glassware, valuable books, &c.; (iii) workshop; (iv) oil-engine and pumps: (*c*) two large ponds concreted on three sides, and one deep lobster-pond concreted all round and on the bottom, and all three furnished with screw valves to control the water-supply: (*d*) a large excavated concrete-lined tank at high level, holding 17,000 gallons of sea-water, for supplying the hatching-house with a constant supply: (*e*) a long jetty extending into the deep-water channel between the station and Quarantine Island: and (*f*) a good oil-launch with covered-in cabin, well-found boat, launching-slips, &c.

(2.) European lobsters and crabs have been successfully conveyed to these shores from Britain, and are now established and are breeding in the ponds, a feat the importance of which may be estimated from the fact that the United States fish-hatcheries, with all their magnificent appliances, have never yet been able to transport the Atlantic lobster alive to the Pacific coast.

(3.) Observations have been made on the spawning, ova, and fry of a number of our native food-fishes—viz., blue-cod, sole, lemon-sole, flounder, brill, gurnard, as well as of pig-fish, kokopuru, crayfish, prawns, "whale-feed" (*Grimothea gregaria*) (one of the most important of our fish-foods), porcelain crabs, &c. It is only on such observations and such knowledge that fishery legislation can be based, and until this station took up and recorded such our knowledge of the life-histories of these fishes was almost nil.

(4.) Many millions of the larvæ of sole, lemon-sole, flounder, gurnard, crayfish, and prawn have been reared for a longer or shorter period in the hatching-boxes and Macdonald jars in the hatchery, and turned out in the waters of Otago Harbour.

The Board would respectfully point out that no part of Australia, nor of Cape Colony (which has a special Fisheries Department) has been able to do such work; and to arrest this now would be to take a singularly retrograde step in the development of the natural resources of this country. It may also be pointed out that all work of supervision, correspondence, and, indeed, all secretarial work has been carried out by members of the Board as a labour of love, and has not cost the country one penny during all these years. We trust, therefore, that the scheme suggested in September last may be given effect to, as we feel assured that no money spent in the public service will give a better return.

On behalf of the Board, I have, &c.,

Geo. M. Thomson, Chairman.

The Hon. J. A. Millar, Minister of Marine, Wellington.

GENTLEMEN,— 30th May, 1909.

I have the honour to present the following report of the experiments that have been conducted under your direction, with a view to the introduction of the English lobster (*Homarus vulgaris*) and crab (*Cancer pagurus*) into New Zealand waters, with notes of observations made as to their habits in confinement, spawning, moulting, hatching, &c.

THE LOBSTER (*Homarus vulgaris*).

For our own future guidance, for the benefit of those who have so kindly assisted in making the experiment a success, and as some of the facts in regard to the life-history of the lobster that have been brought to light were, I believe, hitherto unknown, I will endeavour to set forth these observations as fully and yet as concisely as possible, and will avoid as far as possible the use of any technical terms that will not be readily understood by all.

Owing to a very marked decrease in the supply of lobsters, a good deal of attention is now being paid to the subject of lobster-culture in the Eastern States of America, in Canada, Great Britain, Norway, France, and other countries. The reports of most of these experiments are in the station library, and have proved most valuable in the present case. In these countries the lobster is indigenous, and, of course, the necessity for keeping a large stock in confinement in such condition that moulting, impregnation, spawning, and hatching will take place in their natural sequence does not arise. In almost all cases the egg-bearing lobsters are caught as near the egg-hatching season as possible, and are placed in suitable ponds or tanks until the eggs are hatched. If the external eggs are not well advanced and almost ready to hatch out when the lobsters are caught, most, and in many cases all, the eggs, for some reason, become detached from the adult, and are lost, and when the time of hatching arrives very few, if any, eggs remain, and of course very few larvæ are obtained.

So far as I can gather from these reports, the artificial propagation of lobsters is admitted by all to be a very difficult matter indeed, even where a plentiful supply of egg-bearing females is available, and I cannot find a single instance in any of these reports of a lobster in confinement spawning and carrying her eggs until hatching took place. Although repeated efforts have been made in this direction, instances of lobsters spawning in confinement are few and far between, only one case being reported from the Marine Laboratory at Port Erin; one, I think, at Peel; and one at Dunbar. Several other isolated cases are reported, but in all cases the results have been the same—the eggs, for some reason, are lost, or nipped off soon after extrusion. Professor Ehrenbaum, of Heligoland, who has devoted a great deal of time to the study of the Norwegian lobster, states in his report, "It is useless to hope for the entire development to take place under artificial conditions, and no station can work so precisely that the eggs will remain quite normal during so long a period of incubation." This period is stated by him to be from eleven to twelve months, under local temperatures. Experiments have been conducted by the U.S.A. Fish Commissioners in confining lobsters that were already egg-bearing in large tidal enclosures; but in this case also the results have proved abortive: the bottom of the ponds soon became foul, and the eggs were soon found to be missing. With these facts before us at the outset of the undertaking, it appeared as if we were about to repeat an experiment which has proved unsuccessful wherever attempted, as, in addition to the difficulties experienced elsewhere, several other most serious problems presented themselves. Not the least of these was the question of transporting the lobsters a distance of some twelve thousand miles through the tropics under such conditions as would allow them to arrive in a perfectly healthy condition. Then there was the question of the effects of the great range of temperature experienced in our shallow ponds consequent upon the small rise and fall of tides. The most serious problem, and at the outset apparently the one least likely of solution in the present case, was their known abstention from spawning in confinement, and their failure to carry their eggs during the long period of fosterage when kept under artificial conditions.

Previous to the introduction of the lobsters and crabs a good deal of time was devoted to the study of the hatching of the eggs of local crustacea, and no difficulty was experienced in hatching the eggs of such forms as the crayfish (*Palinurus edwardsii*), porcelain crab (*Petrolisthes elongatus*), prawn (*Palæmon affinis*), and "whale-feed" (*Grimothea gregaria*). These were, however, only placed in the tanks when the eggs were almost ready to hatch out. Some seven million crayfish larvæ were produced with no further effort than merely to place the "berried" adults in the glass tanks until hatching was completed. There is considerable diversity of opinion as to the frequency of moulting and spawning of the lobster. Most workers are in favour of the biennial-spawning theory—that is, that an individual lobster spawns only once in two years, with an intervening moult. There is also some doubt as to the time coition takes place.

Owing to the great economic value that would result from their successful importation, the Board have kindly allowed me to devote the whole of my time for the past three years to the observation and care of the lobsters and crabs, and it is due entirely to this that so great a measure of success has attended the results of the first year's operations.

Transportation.

Four shipments, each consisting of twenty-five lobsters, have been made by the Shaw, Savill, and Albion steamer "Karamea." On the first three occasions the lobsters were forwarded by rail from Plymouth to London in fish-baskets. They were packed in damp seaweed, and the large claws were securely fastened. They were thus about fourteen hours in transit, and, after being placed on board, the only water available for the first two days was from the ballast-tanks. From the report of the chief engineer, Mr. Naismyth, who had charge of the shipment, the combined effects of these circumstances appear to have given them a very serious set-back, and they began to sicken and die even before the water became excessively warm. The cooling apparatus on these three

occasions was very crude, and proved altogether inadequate to sufficiently reduce the temperature of the water whilst passing through the tropics, when 84° Fahr. was recorded, and it was only possible to reduce this by 4° Fahr. Only two lobsters, both females, were landed alive the first voyage, and seven on each of the two succeeding voyages. Almost all the deaths occurred in the tropics, and the first three experiments proved conclusively that the most serious difficulty to be overcome was the high temperature experienced in this region.

A great improvement was effected in the cooling apparatus previous to making the fourth shipment, and, as this has proved entirely satisfactory, it may be as well to describe it in some detail. The chamber in which the wooden lobster-tanks are situated is about 20 ft. by 12 ft., and is insulated at the sides and ceiling. It is also fitted with a chute through which a current of cold air may be forced when desired. The supply of water is laid from the sanitary supply-tank on the upper deck into a 300-gallon tank situated in the 'tween-decks close to the tank-chamber. This tank is also insulated, and is pierced with a number of 1 in. pipes, through which a constant current of cold air is forced. The water is led direct from this tank to the wooden tanks containing the lobsters, each compartment being served with a separate cock. By this means it was found possible to reduce the temperature of a full and sufficient supply to the tanks by about 20° Fahr. Each lobster was confined in a separate compartment in the tanks, and the large claws were not tied during the voyage. Each compartment measures about 18 in. by 12 in. by 15 in. deep, and provision is made for emptying them for cleaning purposes. This process necessitated frequent handling of the lobsters, and was seldom resorted to on the last voyage, the cleaning being done by means of a siphon. They were fed daily on frozen herrings and haddocks, a piece about 2 in. square being placed in each division daily, and the portion not consumed was removed after a few hours. In addition to the improved cooling apparatus, the success of the last shipment was in a very large measure due to the Shaw-Savill Company kindly allowing the "Karamea" to call into Plymouth for the lobsters and crabs. The long railway journey and confinement in stagnant ballast-tank water were thus avoided, and the lobsters and crabs were placed on board in the very best condition. Twenty-five lobsters were shipped, but to these were added eight others that had been placed on board for ship's use, making a total of thirty-three. Only two deaths occurred during the voyage, and seventeen males and fourteen females were landed in the very pink of condition, and were at once transferred by launch to the ponds.

Mr. Naismyth, chief engineer, was in charge of the first shipment, and it is greatly to his credit to have succeeded in keeping even two alive through the most adverse conditions. The second, third, and fourth shipments were under the charge of Mr. Finlayson, chief engineer, to whom belongs the credit of having overcome every difficulty in connection with the successful importation of both crabs and lobsters. The scrupulous cleanliness of the tanks, the businesslike appearance of the chamber, and the healthy state of the stock of lobsters and crabs bore evidence of the care that had been taken throughout the voyage. These experiments have proved conclusively that a very large percentage can be successfully imported. The present apparatus is capable of considerable extension, and I think we may reasonably conclude that, with the same care as has been exercised in the past, the limits of the numbers imported are determined only by the amount of accommodation which is provided. With larger apparatus it would be almost as cheap to import a hundred or so on each visit of any vessel on board of which permanent accommodation is provided.

Habits in Confinement.

Up to the present only two lobsters out of forty-four that have been landed have died. One, a male, appeared to have been unable to get rid of the cast shell at the second moult, and was found dead in the pond. The half-moulted portion was not eaten by the other lobsters. The second, a female, was killed by its mate in a glass tank, where the two, both egg-bearing females, were unfortunately placed on arrival without the precaution of securing their large nipping-claws. Before being placed in the ponds on arrival the large claws of each lobster are "muzzled" by means of small tight-fitting rubber bands. If this is not done the lobsters are apt to more or less seriously injure each other, not, in my opinion, due altogether to a pugnacious disposition, but to their confinement in separate compartments and frequent handlings during the voyage, which, by reason of their purblind condition, causes them to acquire a habit of seizing at anything that comes near them. The action of the salt water rots the rubber bands, and the claws become free in about a month's time, by which time they have become accustomed to their surroundings and make allowance for each other's presence. No act of cannibalism has taken place, and even the defenceless newly moulted ones have rarely been even injured by the others.

A number of suitable shelters are placed in the ponds, and within a day or two after arrival each lobster has taken up its abode in one of these. When choosing a shelter the lobster is generally seen to insert the antennæ and large claws, and, when satisfied that the shelter is unoccupied, slews round and backs in, tail first, the large claws forming an efficient guard to the entrance. As a rule, each lobster sticks to its own shelter during the daytime, and they are rarely seen about the pond except at feeding-time and towards dusk. An occasional fight takes place for the possession of a shelter, which not infrequently results in the loss of a limb to one or other of the combatants. Many instances of regeneration of lost limbs have occurred, and the earlier arrivals have increased very greatly in size. They are fed irregularly on fish, chiefly red-cod, skinned and boned, and cut into pieces about 2 in. square.

Moulting, Spawning, and Hatching.

Most of the egg-bearing lobsters that have been shipped have lost their eggs before arrival. In several cases a few eggs still remained attached to the swimmerets, but on examination the greater portion of these were found to be coated with a profuse growth of algæ, diatoms, &c. None of these eggs have ever hatched out.

The period of fosterage is given by various workers as from nine to ten months—one, at the least, gives so long as eleven to twelve months. This period is not given in any case from actual observations of lobsters in confinement, but is calculated from the time the first and last berried lobsters are caught in the pots, and from other observations taken at various seasons. In the case of the first two lobsters mentioned in the tables the date of moulting, coition, and spawning, and the date of the hatching of the first and last of the eggs, is known. In the case of one of these two the subsequent moult was observed, and the date of the second spawning is known within a few days. The following is the history of the first-mentioned from the time of its arrival on the 29th June, 1906 (egg-bearing on arrival), to the present date, May, 1909:—

Arrived, June 29, 1906; a few eggs still attached.
Moulted, January, 1907; no male present.
Moulted, November 21, 1907; copulated same date.
Spawned, January 24, 1908.
First eggs hatched, October 13, 1908.
Last eggs hatched, November 23, 1908.
Moulted again, December 28, 1908.
Spawned again previous to March 12, 1909.

Throughout this period the above-mentioned lobster was seldom handled, but was very easily distinguished in the pond by having lost the large right claw at the first moult and the left one at the second, and by the miniature regenerating claws. Being so readily recognised, this particular lobster was kept under very close observation, and has served as an excellent example as to the exact dates of moulting, &c. The exact dates of these events in the history of the other lobsters individually are not known, but they vary very slightly, if at all, from those given above. The temperature of the pond was carefully taken daily, and it should be possible in future, the date of spawning being known, by calculating on a temperature unit basis, to determine within a few days when the hatching of the brood of each individual will commence. This would effect a great saving in time and labour, and would avoid a long confinement in the small aquarium-tanks, which has a detrimental effect on the eggs, however carefully the tanks may be cleaned out.

The stock of lobsters available on the 10th October, 1907, consisted of nine females and six males. These were placed in the No. 3 pond on that date for breeding purposes. Two of the females had been berried in June, 1906, both had cast in January, 1907, but as no males were present no spawning took place. Four of the other females arrived in February, 1907, and bore eggs at that time. The remaining three arrived in August, 1907: one still bore eggs on arrival, the others had shed them during the voyage. The pond in which they were placed is a small natural basin with clean rocky walls on three sides, and is enclosed by a concrete wall, through which the water is controlled by means of a screened valve and a 9 in. earthenware pipe. The bottom of the pond is concreted and cemented, and, in addition to the natural crevices in the rocks, a number of shelters were provided. The capacity is about 20,000 gallons. Each day, at about one hour flood tide, the valve is lifted, and the water is allowed to run down to a depth of about a foot. The valve is closed again at high water, at which time the depth of the pond is from six to eight feet. This insures a constant change of water, and has a very beneficial effect.

The first moult took place on the 18th November, 1907. The others moulted on the following dates: 1 male cast November 18; 1 female cast November 21; 1 female cast November 27; 1 female cast December 5; 1 female cast December 10; 1 female cast December 25; 1 female cast December 29; 1 male cast January 1, 1908; 2 (sex?) cast February 12, 1908; 1 male cast March 3, 1908. The remaining three must have cast during my absence in January, as all had certainly cast by the 3rd March, 1908.

A female cast her shell on the 21st November, at 3 p.m. As is usual after casting, it lay for some time alongside the cast shell. Two hours afterwards it was seen roaming round the pond and frequently approaching the various shelters, returning regularly and fearlessly to a shelter containing a large male. On approaching the entrance to this shelter the large claws were extended in a direct line with the body, and the antennæ were thrust within the shelter. After a few moments the rostrum of the male appeared, the female meanwhile rapidly whipping her antennæ across the now projecting rostrum of the male, which in turn showed increasing signs of excitement, the antennæ being whipped very rapidly over the female in the same manner as those of the female. After an interval of perhaps a minute the male gradually withdrew from its shelter, the female at the same time turning over on its back. Coition took place at once, the act occupying only a few seconds, the male retiring at once into its own shelter and the female into another. The following day both were observed to be living in one shelter, and they continued to do so, on and off, for several weeks. The probability is that the eggs are not at this time fertilised, but that fertilisation takes place (as is the case with the crab) when the eggs are extruded. The male was hard-shelled, and had not cast since the previous May, six months before. Copulation was again witnessed between a hard-shelled male and a female that had cast the previous night, on the 10th December. On this occasion the pond had just been run down to a depth of about 9 in., and during the act a considerable portion of the male was actually out of water—that is, the antennæ and about one-half of the anterior portion of the cephalo-thorax. On two other occasions the act has been witnessed, and has taken place in all cases within a few hours after the female has moulted, and always with a hard-shelled male. The female that cast on the 21st November, 1907, spawned on the 25th January, 1908, sixty-five days after coition. The one that cast on the 27th November, 1907, spawned on the 30th January, 1908, sixty-five days after casting. Every one of the nine females had spawned a full and healthy batch of eggs by the 19th March, 1908, on which date the males were removed to another pond, as they appeared to harass the females. By the middle of June the temperature of the water had fallen to 4° C., and it was feared that a heavy fall of snow might reduce this to freezing-point, and to avoid the risk of leaving all the eggs, as

it were, "in one basket," four of the earliest spawners were removed to the indoor tanks. In order not to injure the attached eggs, the adults were captured by placing a kerosene-tin in front of the shelter, and removing the wooden cover. The lobster soon retreats into the darkness of the tin, which is carefully tipped up and transferred to the glass tank. The process is then reversed, the tin being lowered in front of a wooden shelter in the tank, and slowly tipped up. The slightest movement of the abdomen was thus avoided, and not an egg became detached. The eggs were by this time five months spawned, and an examination of one revealed the gratifying fact that considerable development had taken place. The eggs were remarkably clean, and free from any growth. The bulk of the egg was still composed of greenish-black yolk, but the rudimentary limbs could easily be made out, the eyes were well defined, and the pulsations of the embryonic heart could be seen. Slight bright-red pigmentation was visible over various parts of the limbs, and was particularly noticeable on the telson, which was folded and extended slightly over the rostrum and hid it from view. Drawings of the eggs were made at this stage and at intervals between this and hatching, but, owing to their opacity and the difficulty of tracing the various limbs, these drawings are useless for the purpose of this report, but will no doubt be valuable in future in determining the age of any eggs about which a doubt may exist. The water in the glass tanks was kept slightly warmer than that of the pond for a few weeks, but an accident to the heating apparatus put a stop to this being kept up. The water having become slightly warmer by September, two of these adults were returned to the pond, and the remaining two were kept under the closest observation in separate tanks, each measuring 5 ft. by 5 ft. by 2 ft. 6 in. deep, until in one case all the eggs were hatched, and in the other a number had commenced to hatch out. A wooden shelter was provided for each. These shelters were so constructed that only the two sides rested on the clean concrete floor of the tank. Every particle of unconsumed food, sediment, or detached eggs could be forced out daily by a piece of hose connected with a cock and fitted with a glass tube at the end being inserted in a hole in the roof of the shelter, and the water turned on for a few minutes. Wherever the experiment has been attempted it has been found that, if egg-bearing lobsters are placed in small aquarium-tanks for any considerable length of time, the loss of eggs is far greater than when they are allowed the greater freedom of the ponds. It was necessary, however, to ascertain when it would be advisable to transfer the other seven spawners to the tanks, and these two were therefore retained in the tanks as a guide in this direction, and at the same time a most determined effort was made to reduce the possibility of the loss of eggs to a minimum, and if possible to discover the cause of this loss. Very few eggs became detached during the first month's confinement—one lobster had lost twenty-three in thirty-five days and the other eighteen. The eggs were by this time six months spawned. By the middle of September the loss of eggs had amounted to about one per day, being ninety-four in ninety days and sixty-four in sixty-seven days respectively, the eggs being now seven months spawned. The loss of eggs gradually increased as development proceeded, the average daily loss during the eighth month being eight per day in one case and only one per day in the other. By the 1st November one had shed 630 eggs in 143 days; the other had shed only 228 in 120 days. The eggs were now spawned a little over nine months, and some had already commenced to hatch out. From this time until hatching was completed large numbers of eggs became detached, the total being 2,082 in one case during a period of close confinement extending over 169 days, and in the other 1,637 eggs were lost in 147 days; and of these 1,559 in one case and 1,430 in the other were shed during the last month of fosterage. The first larvæ appeared on the 13th October, and numbers were liberated daily in various parts of the bay from this date until the 1st December. The total number liberated from the first-mentioned lobster was 3,952. No attempt was made to rear the larvæ: they were liberated when from one to four days old, and none had undergone their first moult. The other seven lobsters that spawned during February were left throughout this time in the No. 3 pond (see photo), and had never been disturbed or handled, but the pond had been kept as clean as possible under the circumstances. Weeds, remains of fish, food, &c., were removed daily when the pond was run down, and the lobsters were allowed to remain in as wild a state as possible. This pond was required by the beginning of December to accommodate the last shipment of fourteen females for spawning purposes, as, most of them having already moulted, it was considered advisable to transfer them to this, the only suitable pond, before the eggs were produced. They were therefore removed to the glass tanks on 1st December, 1908. This was the first time they had been handled since spawning in February—nine months. Two of them had lost about three-parts of the batch, two had lost about one-half, the other three still retained practically the entire batch. All the eggs were within a week or two from hatching. The supply-tank had by this time become very foul, the engine and pump were in need of an overhaul, the launch and engine, boat, screens, valve-rubbers, and in fact the whole plant was in need of a thorough overhaul after the compulsory neglect during the previous twelve months, and it was with great regret that the experiment had to be abandoned at this stage, and could not be proceeded with until the hatching of the last larvæ. It was, however, decided to place the egg-bearing adults in their permanent pond, No. 2, rather than to risk the increased loss of eggs that would have occurred had they been kept in the supply-tank water. They were accordingly transferred to this pond the same day. The larvæ would, of course, escape from this pond daily when the valve was lifted and become scattered by the currents; but we are, unfortunately, almost completely in the dark as to the numbers that were actually hatched from these seven lobsters. The average number of eggs carried by each of the nine lobsters when first spawned would be about 15,000, making a total of 135,000 eggs. Although several of those transferred to the No. 2 pond still carried almost a full bunch, these were the most backward eggs, and, as the loss is greatest during the last few weeks, the probability is that these would lose a large percentage before hatching was completed, and I do not think that the average number hatched by each may be estimated at more than the number produced by the one kept in the glass tank until the last egg was hatched—namely, about 4,000. This would mean that some 36,000 larvæ were produced, and about 100,000 eggs were lost.

The subsequent history of these nine females is very interesting indeed. The first moulted on the 27th December, 1908, thirty-four days after hatching the last egg. The other eight moulted during January and early in February, 1909. One had spawned again some time previous to the 12th March, and all had spawned again by the 15th April, 1909. Seven of them are therefore now carrying eggs for the third year in succession. The other two did not spawn after their moult in January, 1907 (no doubt owing to the absence of males), but are now carrying eggs for the second year in succession.

There is still a considerable diversity of opinion in Europe as to the frequency of moulting and spawning of the lobster. The generally accepted theory is that of biennial spawning—that is, that a given lobster spawns only once in two years, with one intervening moult. Several workers point out the probability of a lobster carrying eggs two years in succession, but without an intervening moult, the supply of spermatozoa which remain in the spermatheca owing to non-moulting being sufficient to fertilise the second crop of eggs. This is known to be frequently the case with the crab (*Cancer pagurus*), and it has been proved that a single impregnation suffices for all subsequent spawnings in the case of at least one species of crab (*Callinectes*). Professor Herrick states that the American lobster (*Homarus americanus*) spawns only once in two years, his reasons for this deduction being that several months are required for the complete hardening of the shell; newly laid eggs are not found on a soft-shelled lobster; moulting does not occur whilst the eggs are on the swimmerets; and a dissection of a lobster that has just hatched her eggs shows that the ovaries are in an immature condition, and that eggs will not be yielded until the following year. This theory is also strengthened by the fact that the proportion of berried hens during the incubatory season is only 36 to 40 per cent. of the total number of females captured. During the experiments conducted at the Marine Laboratory at Dunbar by Dr. Williamson only one lobster was known to spawn. The lobsters were confined in small wooden tanks, which necessitated frequent handling for cleaning purposes. The experiments were continued over a period of three years, and, although nearly all moulted several times, no other case of spawning occurred. The proportion of berried hens to the total number of females captured was found by Professor Ehrenbaum, at Heligoland, to be from 35 to 40 per cent., and by Dr. Cunningham up to 50 per cent. off the coast of Cornwall.

That these statistics are of much value in arriving at a definite conclusion as to the number of berried lobsters existing in any locality is open to question. The egg-bearing lobster is much more cautious in its movements than the males or when it is not egg-bearing, and as a rule it is very reluctant to leave its shelter. Its movements are much slower owing to the position of the abdomen, which is almost always folded under as a protection to the eggs, and they are very rarely seen about the pond or at any distance from their shelter unless evicted by a male or an unberried female. It may thus quite easily happen that, although there are large numbers of egg-bearing females in a certain locality hidden away in the crevices of the rocks, very few of these are caught at any little distance away from their hiding-places, and the few that are captured would not represent a true proportion of egg-bearers at that time or place. Whilst in charge of a three-months experimental trawling expedition for the New Zealand Government during the months of June, July, and August, 1907, large numbers of crayfish (*Palinurus edwardsii*) were taken at various parts of the coast of New Zealand and at the Chatham Islands. As many as twelve sacks were taken at one haul. Almost every one of these was examined by myself and Mr. E. R. Waite, of the Christchurch Museum, and we failed to discover a single female. The eggs of the crayfish hatch during November and December, and the greatest proportion of the females should be egg-bearing during June to August. Our experience during the past three years has shown that moulting takes place in the early summer, November and December; coition follows within a few hours; the eggs are laid about two months later, and are carried under the abdomen attached to the swimmerets for between nine and ten months, under local temperature; hatching taking place in the following year, in the same month as each individual had previously moulted. The next moult occurs about one month after the hatching of the last larvæ, another batch of eggs being spawned as before—that is, about two months after the moult. From this it will be seen that the whole process is performed in thirteen months in our waters; but it is highly probable that the extra month is accounted for by the low winter temperatures of our shallow ponds and the consequent retardation in the development of both the external and ovarian eggs. I have not been able to obtain particulars of the daily temperatures experienced around the English coast, and am therefore unable to institute a comparison, but in a private letter from Mr. H. C. Chadwick, Curator of the Biological Station at Port Erin, Isle of Man, he states that the lowest temperature is 40° Fahr., in February. The following are the maximum, minimum, and average monthly temperatures (in degrees Centigrade) of the spawning-pond from moult to moult:—

Month.	Maximum.	Minimum.	Average.	Month.	Maximum.	Minimum.	Average.
November ..	12·4	8	11	May	8	5	6
December ..	16·8	11	13	June	5·8	2	4·2
January ..	15·4	10	13	July	5·2	1·4	3
February ..	14·4	11	12·5	August ..	3·8	1·2	3
March ..	11·8	10·2	11	September ..	8·4	4·8	6
April	12·2	6·4	9·4	October ..	9·8	8	8·5

The fourteen females and seventeen males of the last shipment were of smaller size than the previous lots, their average length being about 8½ in. These were placed in the No. 2 pond on

arrival on the 6th March, 1908. Ten of them (sexes doubtful) cast during May–July. Two of them produced a full batch of eggs at the end of June, but these very soon became detached, as the bottom of the pond was unsuitable, being of soft mud, and at that season considerably overgrown with clumps of filamentous algæ. So far as I am aware, none of these had carried eggs the previous year. Many of these females moulted during November and December, and they were all placed in the No. 3 pond for spawning purposes on the 10th December, 1908. Six males were put in along with them. The first spawned on the 27th December, 1908, one month earlier than the first of the previous year. They have not yet been examined, but, as they are sticking very closely to their shelters, and an occasional one is seen with the abdomen bent under, it is very probable that most of them have spawned.

Casting.—The actual process of moulting has only been witnessed in the ponds on one occasion. In most cases this takes place during the night. The cast shell is usually found entire, lying upside down on the bottom of the pond. When about to moult the lobster seeks a position as far away from the others as possible. The shallow end of the pond is almost invariably chosen. A lobster that is about to cast becomes very vicious on the approach of an intruder. On the 3rd September, 1908, a male lobster was seen to be behaving in a very peculiar manner in the shallow end of the pond: it would walk along the concrete dividing-wall for a distance of about 5 ft., halt, and then, turning round, would retrace its steps the same distance in the opposite direction. In this manner a rut several inches deep was formed in the gravel, and at one end of this the lobster scooped out a hole about 4 in. deep and 12 in. in diameter. The shell was very dirty and overgrown with weeds, shells of serpula, &c., and a slight opening could be seen between the carapace and the first abdominal segment, and the lobster was evidently about to moult. When the pond was run down at low tide the lobster had to be driven away to the deeper end to prevent its being stranded. As soon as the depth of water allowed, the lobster resumed its peculiar walk, and continued to do so throughout the night and the following day. Moulting commenced at 4.30 p.m. that day. The lobster laid over on its side with the large claws in a direct line with the body. The opening before observed between the carapace and abdomen commenced to widen, so slowly as to be almost imperceptible, the cephalic shield being gradually worked forward until at right angles to the abdomen. No violent effort was made by the lobster; the process was slow and regular, and continued so until the tip of the rostrum was freed from the pressure of the posterior edge of the cephalic shield. The whole of the anterior portion of the body, with the exception of the large claws, antennæ, and walking-limbs, was now clear of the old shell, and gradually resumed its normal position in relation to the abdomen, the remaining limbs being withdrawn during this straightening process. The lobster was by this time practically over on its back, and by a few violent movements, somewhat similar to the action of the animals when swimming, the abdomen was withdrawn from the old shell. The process occupied thirty-five minutes. The habit of scooping out a hole in the gravel has been noted on several occasions, and the newly moulted lobster has been found lying alongside the cast shell. The shell is usually cast entire, and by removing the gelatinous skin that is cast with the shell, and replacing the parts in their respective positions until dry, an exact model of the lobster is obtained. The cast shells of all females are preserved and labelled in this manner, and, as each has some characteristic distinctions in the way of size, lost or regenerating limbs, scars, spines, &c., it is an easy matter to distinguish them so as to bring them indoors in their order when the eggs are nearly ready to hatch. The photograph is of a cast shell of a male. (Plate 3.)

The external eggs when newly spawned vary considerably in size and colour. They are from 1·8 to 2·2 millimeters in diameter, and usually of a very dark-green colour. Some are almost jet-black. The photo (Plate 4) is of a female that spawned in February this year. Little difference in size of the eggs is noticed until about the last month of development, when they increase in some cases to as much as 3 millimeters in length, but at this time they are not spherical, but oblong, and conform somewhat to the shape of the contained embryo. The eggs spawned in January were not examined until the 16th June. Their condition at this period has already been given. From this date onwards one or more eggs were examined daily. The green yolk is gradually absorbed as development proceeds; the colour of the pigmentation of the embryo is usually of a very bright red, but in a few cases it is streaked with or wholly green. During the last month sharp spasmodic movements are seen, in some cases so violent as to move the egg from under the object lens. Three instances of twin embryos contained within the one egg-capsule were observed. In two of these cases the one larvæ issued earlier than the other, and a rotary motion was maintained until the second larvæ was free. The hatching of the one brood extended over about thirty days. This is longer than the time given by various workers, and is much longer than the time taken to hatch the brood of all local crustacea dealt with at the station. Although every effort was made, it is somewhat difficult to account for the loss of so many eggs during the last month of fosterage. It will be seen by the foregoing account that very few eggs are lost during the first nine months, and I am very much inclined to the belief that in the warmer waters of the Gulf Stream the majority of these eggs would by this time have hatched out, and the loss of eggs would have been very slight. Another probable cause is the not unnatural neglect of the female to properly aerate and cleanse the eggs when kept for a long time in close confinement. The effect of this neglect is made apparent about the seventh month, when the outer layers of eggs commence to become slightly coated with diatoms, algæ, sediment, &c. This growth appears in time to rot the outer shell, which is in reality only the attaching membrane, and the egg becomes detached with the slightest movement of the abdomen. The inner shell is very thin, and if the egg is left on the bottom of the tank the shell is soon pierced, and the contents are seen being devoured by parasitic infusoria. There are, no doubt, other contributing causes, such as the bright light in the glass tanks, and, towards the latter part of the experiment, the presence of excessive numbers of diatoms, the spores of algæ, infusoria, &c., in the supply-tank water. For the same reason—rust, sediment, &c., owing to having

only one supply-tank, and no filtering apparatus—it was not possible to hatch out the detached eggs by means of the Macdonald jars unless they were within a few days from hatching.

The method adopted by the U.S.A. Fish Commissioners for artificially hatching lobster-eggs is by collecting as many egg-bearing lobsters as can be obtained for some months before the hatching season commences. The eggs are combed off the swimmerets, and placed in Macdonald automatic hatching-jars. Repeated experiments with various apparatus have proved that the motion obtained by the use of these jars is by far the best, and the eggs are frequently carried throughout the winter in this manner for as long as six months. The report of the Commission for 1908 is just to hand, and the output of lobster-fry for the year is given as 181,000,000. From 90 to 95 per cent. of the eggs placed in these jars are hatched. A remarkable increase of lobsters is reported by the fishermen along the New England coast, and this is attributed to the tremendous numbers of fry that have been hatched, and liberated in the most suitable localities.

The Crab *(Cancer pagurus)*.

Twelve crabs were shipped on each of the third and fourth voyages of the "Karamea." Three males and five females on the first and seven males and one female on the second occasion arrived safely, making a total of six females and ten males. Since their arrival several have died, and only seven or eight are now to be seen in the pond; but, owing to their habit of burrowing in the mud, under stones, and under the foundations of the walls, it is quite possible that others have survived. Owing to this habit, it has not been possible to maintain anything like as close an observation on their habits as was kept on the lobsters.

The complete life-history of the crab is well known, and a very complete report by Dr. C. H. Williamson, M.A., B.Sc., will be found in the Eighteenth Annual Report of the Fishery Board for Scotland, 1899. This report deals very fully with the size at maturity, migrations, fertilisation, frequency of casting, &c. There appears to be some doubt as to the length of time which elapses between casting and spawning. I am unable to throw any definite light on this. The period of fosterage is given as between seven and eight months. If this is so, the length of time elapsing between casting and spawning is about the same as for the lobster—that is, about two months, as the crabs that cast in January and February hatched their eggs in November and December.

The stock of crabs on the 19th November, 1907, consisted of nine males and five females. Two of these females died soon afterwards. On this date they were all placed in the No. 1 pond. A female cast on the 18th January, 1908. One male and one female cast on the 11th February, 1908, and a third female cast on the 24th February. No other casts are known to have taken place. The male crab takes possession of the female a few days before the latter casts, and they were generally seen with the abdomens together in the mud or under the edge of a large stone. On one occasion the male crab was seen to carry the newly cast shell of the female to a distance of about 6 ft. away, and to return at once to the female. The male continues to protect the female for several days after the moult, and it is during this time that coition takes place. The females were not examined until the 30th June, when two were found to be egg-bearing. A third, that could not previously be captured, was found to be egg-bearing on the 8th October, 1908. The eggs are carried externally attached to the swimmerets, and the whole mass is protected by the abdomen. The greatest breadth of carapace of these three crabs was 8 in., and the average number of eggs carried by each individual of that size is three millions. Two of these crabs were placed indoors on the 1st July, 1908. The third one was returned to the pond. When examined on the 1st July the eggs were in a solid compact mass, which completely hid the swimmerets from view. They were of a pale-pink colour, and no trace of the larvæ could be discerned. On the 27th October the eggs were lighter in colour and were faintly "eyed"; the yolk-area had considerably decreased in size. On the 19th November the eyes were very prominent; the pulsations of the heart and the flow of the body-fluid was easily detected under a power of fifty diameters. The eggs were by this time almost transparent, the yolk was reduced to a very small area, the greater part of the egg being quite transparent, with black-pigment markings. There was considerable difference in development, even in the eggs attached to one hair. During the earlier part of their confinement in the tanks the adults remained during the daytime in their shelters, but were often found at night climbing up the dividing-wire, and even walking across the under-side of a wire screen placed across the top of the tank to prevent their escape. This wire netting was about 6 in. above the water, and the crabs were at these times completely out of the water. Towards November they more frequently left their shelters both by night and day, and were often seen standing, as it were, on tip-toe waving the abdomen and swimmerets for the purpose of aerating the eggs. By this time the mass of eggs was not compact, each swimmeret with its attached eggs being waved independently. A good view of the completeness of the circulation of water through the egg-mass was often obtained when the abdomen was close to the glass. The first larvæ were seen in the tanks on the 26th November. They were then in the second stage, and congregated at the front of the tank, where the light was strongest. The following day, when siphoning out the bottom of the tank, the end of the siphon was led into a large glass jar, and many thousands of first-stage larvæ were found amongst the sand, &c. On emerging from the egg the larvæ are not very active, and lie on their sides on the bottom of the tank; the lateral and dorsal spines are indiscernible, but they appear to either undergo a moult or, more probably, only a kind of transformation within a few minutes after hatching, and at once commence to ascend towards the surface and swim vigorously about. The adult was at this time almost constantly waving the abdomen, and large numbers of larvæ were freed at each movement. The last pair of walking-limbs were frequently probed into the mass of eggs as if to loosen them. Some few of the larvæ appeared to me to hatch out directly in the second stage. Numbers of these first-stage larvæ were kept under observation by Mr. Thomson and myself under the microscope, but no moult was detected, and, as no cast shells were found in the

receptacle, the process would appear to be one of transformation only, the lateral and dorsal spines being slowly unfolded from their earlier position alongside the carapace. Numbers of larvæ were seen with these spines in the intermediate stages, some having the dorsal spine lying close to the carapace, some semi and others wholly erect. Thousands of larvæ continued to hatch out daily, and were liberated on the first of the ebb tide between the station and Quarantine Island. The two adults were replaced in the No. 1 pond on the 10th December, 1908, the remaining eggs being allowed to hatch and the larvæ to escape through the valves in the same manner as the lobsters. None of these have since moulted, and I am unable to say if any have yet spawned again. The hatching of the eggs was proceeding in such a satisfactory manner when the adults were replaced in the pond that the slightest doubt of the vast majority of them hatching out need not be entertained. Unlike the lobsters, very few eggs were shed during confinement. The period of fosterage is about two months shorter, and the results of the first year's experiment may safely be estimated at from six to seven million larvæ being liberated. A number of these larvæ may easily fail to escape through the valve (this has frequently been the case with the larvæ of flounders), and a close watch is being kept on the bottom of the pond for the young crabs. Although more of the adults have died from various causes, the final results of the season's operations have proved much more satisfactory with the crabs than the lobsters, and, in fact, leave little to be desired; and I think we may safely look forward to the time when their successful acclimatisation will be an established fact. The rapid spread along the coasts of Victoria of the accidentally introduced English shore-crab (*Carcinus mœnas*) tends to lead one to conclude that the edible crab, once established, will spread with equal rapidity along our coasts.

This report has drawn out to far greater length than I anticipated, but I trust that I have been able to place the facts clearly before you. The results of the experiments have been very encouraging so far, and justify their continuance and enlargement. With one important exception it is a record of complete success, and we are now in a position to place a finger on the one serious obstacle to be overcome, and that is the failure of the egg-bearing lobster to carry a full batch of eggs until all are hatched. I have before referred to the method adopted by the U.S.A. Fish Commissioners, and I think that method suggests the best lines on which future operations should be conducted by us. Our experience has gone to prove that the lobsters, if kept in suitable ponds (not unless), will carry their eggs in a perfectly clean and healthy condition for at least six months. With the provision of an efficient filter, the substitution of hard-rubber piping instead of the iron at present in use, and several other alterations to the existing plant, there is no reason why the eggs should not be at this stage combed off the swimmerets, and the hatching completed by means of Macdonald jars with no greater loss than is experienced elsewhere—namely, 5 to 10 per cent.—instead of the enormous loss of something like 75 per cent. as at present. Two of the present ponds were not constructed for the accommodation of egg-bearing crustacea, and, although they are altogether unsuitable for this purpose, they are all that is required for the male lobsters and male crabs after being removed from the spawning-ponds, and they could be utilised for this purpose until specially constructed ponds were provided.

In conclusion I would beg to point out to you the fact that, under existing conditions, the good results from last season's labours are not likely to be repeated. Already the nine berried lobsters in No. 2 pond are losing a great many eggs. The pond is unsuitable. Not only is this so at present, but with the arrival of another shipment the confusion would be greatly increased, and no good results may be expected until such time as specially constructed ponds are provided for the isolation of the egg-bearing female lobsters and crabs.

I have, &c.,

The Marine Fish Hatchery Board. T. Anderton, Curator.

The following literature has been consulted almost daily, and I beg to acknowledge my indebtedness to the various authors; also to Dr. C. H. Williamson, M.A., B.Sc., and Mr. H. C. Chadwick, A.L.S., for so kindly supplying other information and reports:—

Williamson, Dr. A Contribution to the Life-history of the Lobster (*Homarus vulgaris*): Twenty-third Annual Report of the Fishery Board for Scotland, Part III.

Williamson, Dr. Contributions to the Life-history of the Edible Crab (*Cancer pagurus*): Eighteenth Annual Report of the Fishery Board for Scotland, Part III.

Mead, A. D., and Williams, L. W. Habits and Growth of the Lobster, and Experiments in Lobster-culture.

Ehrenbaum, Professor. Künftliche Zucht und Wachstum des Hummers (translated by Dr. Benham, Otago University).

United States Commission of Fish and Fisheries: Artificial Propagation of Marine Species of Fish (page 229).

Annual Report of the Commissioners of Inland Fisheries of Rhode Island, 1903 and 1904.

Herdman, Dr., and Chadwick, H. C. Guide to the Aquarium, and Various Reports of the Marine Biological Station at Port Erin, Isle of Man.

TABLE showing Dates of Arrival, Moulting, Spawning, and Hatching of Lobsters.

Shipment.	Number shipped.	Number arrived.	Date of Arrival.	Egg-bearing when shipped.	Egg-bearing on Arrival.	Date moulted.	Date spawned.	Number of Eggs.	Date hatched.	Number of Larvæ.	Moulted again.	Spawned again.	Name of Vessel, Commander, and Chief Engineer.
1	13 males, 12 females	2 females ..	June 29, 1906	All females	About 100 eggs attached to one; other one clean	Both in Jan., 1907; 1 on Nov. 21, 1 on Nov. 27, 1907	1, Jan. 24, 1908; 1, Jan. 30, 1908	Full batch	Nov. 23, 1908; Nov. 30, 1908	3,900 (?)	Dec. 28, 1908; Jan., 1909	Before March 12, 1909 (both)	S.s. "Karamea," Capt. Burton, Mr. Naismyth.
2	13 males, 12 females	3 males, 4 females	Feb. 26, 1907	All females	1 about half batch; 2 with small number	2 in May, 1907; others in Dec., 1907, and Jan., 1908	All during Jan. and Feb., 1908	Full batch	Dec., 1908, to Jan., 1909	?	All during Jan. and Feb., 1909	6 are known to have spawned by April 1, 1909	S.s. "Karamea," Capt. Holmes, Mr. Finlayson.
3	13 males, 12 females	3 males, 4 females	August 25, 1907	?	1 about half batch	Dec., 1907, to Feb., 1908	All in Jan., Feb., and March, 1908	Full batch	Dec., 1908, to Feb., 1909	?	All during Jan. and Feb., 1909		S.s. "Karamea," Capt. Holmes, Mr. Finlayson.
4	17 males, 16 females	17 males, 14 females	March 6, 1908	1	1 about quarter batch	10 in May, June, and July, 1908; others, Dec., 1908 to March, 1909	2 in June, 1908, and some others during Dec., 1908, and Jan., Feb., and March, 1909	Full batch	*	*	*	*	S.s. "Karamea," Capt. Holmes, Mr. Finlayson.

* Report only compiled up to the 30th May, 1909.

List of Boys who joined s.s. "Amokura" prior to 31st March, 1909.

Name.	Date of Joining.	Date of Discharge.	Occupation taken up on Discharge.
Whitelaw, L. C.	12/3/07	21/6/08	Joined s.s. "Kittawe" as O.S.
Canavan, C. F.	12/3/07	10/9/08	Discharged owing to sickness.
Hannan, J. M.	20/3/07	6/9/08	Joined s.s. "Tutanekai" as O.S.
Stemp, A. H.	12/3/07	16/11/08	,, "Rippingham Grange" as O.S.
Macvean, D. E. J.	12/3/07	29/9/08	,, "Pateena" as O.S.
Reeves, J. M.	17/3/07	29/9/08	,, "Putiki" as O.S.
Campbell, J. A.	15/3/07	15/11/08	,, "Tutanekai" as O.S.
Holder, R.	22/3/07	13/5/09	,, "Rotoiti" as O.S.
Heaphy, E. A.	20/3/07	24/9/08	Joined schooner "Clyde" as O.S.
Miller, C.	27/5/07	25/11/08	,, barquentine "Helga" as O.S.
Johnstone, J. A.	14/3/07	25/11/08	,, ,, ,, as boy.
Guthrie, T. J.	12/3/07	27/11/08	,, s.s. "Maori" as O.S.
Schlaadt, E. A.	20/3/07	10/12/08	,, ,, "Monowai" as O.S.
McKay, F. D.	16/3/07	13/12/08	Did not go to sea; working on vessels in port. — Found berths on ships, but parents objected to their going.
McKay, H.	16/3/07	13/12/08	Working on dredges on River Molyneux. — Found berths on ships, but parents objected to their going.
McNabb, C. H.	30/5/07	13/12/08	Joined s.s. "Warrimoo" as O.S.
Tait, G.	21/3/07	18/9/08	Discharged on parents' request.
Varcoe, C.	31/5/07	13/12/08	Joined s.s. "Waikare" as O.S.
Macalister, J.	22/3/07	17/6/08	Discharged on parents' request.
Hay, E. D.	21/3/07	8/1/09	Joined "Joseph Craig" as O.S.
Hay, V. J.	21/3/07	8/1/09	,, "Marjorie Craig" as O.S.
Marshall, G. W.	14/3/07	2/2/09	,, "Jessie Craig" as O.S.
Mitchell, D.	5/7/07	2/2/09	,, s.s. "Wakanui" as O.S.
Neels, R.	12/3/07	8/2/09	,, ,, "Manapouri" as O.S.
Scott, W. V. A.	17/5/07	8/2/09	,, ,, "Kini" as O.S.
Ellisson, L. G.	27/6/07	8/2/09	,, ,, "Hinemoa" as O.S.
Taylor, W. H.	15/7/07	8/2/09	,, ,, ,, as boy.
Walker, J. E.	15/5/07	18/2/09	,, ,, "Te Anau" as O.S.
Nelson, F.	24/6/07	1/3/09	,, ,, "Maori" as O.S.
Seymour, W.	28/5/07	4/3/09	,, ,, "Takapuna" as O.S.
Trudgeon, A.	22/5/07	21/5/09	Training completed, returned home at parents' request.
Davies, H.	17/10/07	11/5/09	Joined s.s. "Moana" as O.S.
Burborough, W. H.	3/12/07	17/5/09	,, H.M.S. "Challenger" as boy.
Grace, I. W.	30/10/07	17/5/09	,, ,, ,,
Brown, D. M.	22/10/07	17/5/09	,, ,, ,,
Talbot, P. D.	3/7/07	24/5/09	Joined s.s. "Maori" as O.S.
Wyllie, E.	7/11/07	17/5/09	,, ,, "Hinemoa" as boy.
Kemp, R.	29/3/07	16/4/09	Training completed, returned home at parents' request.
Fea, D.	15/5/07	25/7/08	Discharged on parents' request.
Langmuir, I.	18/6/07	27/4/09	Training completed, returned home at parents' request.
Soper, A. H.	3/11/08	..	Still on "Amokura."
McCullough, C. C.	22/5/07	..	,,
Hurley, G. A. R.	22/2/09	..	,,
Bond, B.	2/7/07	..	,,
Holder, F.	4/2/08	..	,,
Tindall, W. H. A.	3/11/08	..	,,
Diggle, N.	22/7/07	..	,,
Manson, R. V.	24/7/07	..	,,
Woods, G.	15/10/07	..	,,
Ford, J. J.	15/8/07	..	,,
Dyte, N. V.	19/10/07	28/3/08	Discharged to return home.
Groves, W.	22/10/07	..	Still on "Amokura."
McNeilage, R.	18/10/07	..	,,
Carr, O. G.	14/11/08	24/11/08	Discharged to return home.
Arthur, T. S. E.	31/10/07	7/6/09	Joined s.s. "Rimutaka" at Lyttelton.
Sharpe, C.	27/10/07	..	Still on "Amokura."
Sharpe, G.	27/10/07	..	,,
Lawton, C. J.	20/1/08	..	,,
Welham, R. F.	24/4/08	..	,,
Cullen, B. M.	1/2/08	..	,,
Powell, W. J.	23/2/08	..	,,
Jansen, G.	23/1/08	25/1/08	Discharged to return home.
Sarginson, E. C.	28/2/08	..	Still on "Amokura."
Millard, W. G. W.	12/7/08	..	,,
Maisey, J. F.	9/7/08	..	,,
Clarke, V. C. M.	4/11/08	..	,,
Martin, S. E.	30/9/08	..	,,
Breach, H. E.	9/9/08	..	,,
Mahoney, E. L. G.	20/11/08	..	,,
Miles, P. A.	19/11/08	..	,,
Olson, E. N.	18/9/08	..	,,
Inglis, A. L.	16/2/09	..	,,
Haines, H. F.	10/2/09	..	,,
Hucks, R. H.	12/2/09	..	,,
Carston, A. C.	21/2/09	..	,,
Burrows, J. F.	16/2/09	..	,,
Bennett, H. E.	12/2/09	..	,,
McGregor, A.	9/2/09	..	,,
Wagstaff, T. R.	12/2/09	..	,,
Jenkins, P. J.	3/4/09	..	,,
Burnside, V.	28/3/09	..	,,
Culling, S. G.	27/2/09	..	,,
Cree, J.	27/2/09	..	,,
Fisher, B. F.	30/6/08	..	,,

RETURN showing the TOTAL ORDINARY EXPENDITURE of the MARINE DEPARTMENT during the FINANCIAL YEAR ended the 31st March, 1909.

Nature of Expenditure.	Details.	Totals.	Grand Totals.
	£ s. d.	£ s. d.	£ s. d.
Salaries of Head Office Staff	..	2,221 11 2	2,221 11 2
Harbours :—			
Manukau,—			
Salaries	530 0 0		
Flagstaff	40 0 5		
House allowance	30 0 0		
Extra wages	32 2 0		
Stores and contingencies	137 11 10		
		769 14 3	
Russell,—			
New office and fittings	58 6 10		
Stores and contingencies	12 1 0		
		70 7 10	
Hokianga,—			
Salaries	389 0 0		
New house (on account)	15 15 6		
Stores and contingencies	93 17 6		
		498 13 0	
Kaipara,—			
Salaries	663 0 0		
Removal of logs from river	326 6 8		
Beacon, Helensville River	214 6 11		
House allowance	26 0 0		
Stores, repairs and contingencies	177 9 4		
		1,407 2 11	
Tauranga,—			
Salary	31 5 0		
Beacons, Katikati	30 0 0		
Contribution to salary of Postmaster for performing marine work	18 15 0		
Stores and contingencies	40 9 9		
		120 9 9	
Tongaporutu,—			
Salary	17 10 0		
Stores and contingencies	9 0 10		
		26 0 10	
Opunake,—			
Salary	..	25 0 0	
Foxton,—			
Salary	210 0 0		
Deepening channel	32 1 6		
Sounding and buoying river, &c.	162 10 0		
Stores and contingencies	71 19 4		
		476 10 10	
Mokau,—			
Salary	40 0 0		
Grant towards cost of snagging	144 8 9		
		184 8 9	
Wairau,—			
Salary	12 18 4		
Removal of snags	11 0 0		
Contingencies	5 7 3		
		29 5 7	
Picton,—			
Salary	53 4 6		
Office furniture	24 19 8		
Stores and contingencies	41 5 8		
		119 9 10	
Waitapu,—			
Salary	25 0 0		
Maintenance of lights	50 0 0		
Stores and contingencies	0 17 6		
		75 17 6	
Collingwood,—			
Salary	50 0 0		
Stores and contingencies	27 0 3		
		77 0 3	
Karamea,—			
Salary	100 0 0		
Removing and re-erecting flagstaff	45 2 0		
Removing snags	36 7 6		
House (final payment) and land	35 0 0		
Beacons	21 0 0		
Stores and contingencies	35 7 2		
		272 16 8	
Okarito,—			
Salary	100 0 0		
Deepening Sandy Creek	30 0 0		
Opening the bar	28 0 0		
Assistance	23 15 0		
Repairs	22 17 0		
Removing shingle-bank at wharf	20 0 0		
Stores and contingencies	9 16 2		
		234 8 2	
Okuru,—			
Salary	50 0 0		
Stores and contingencies	20 6 8		
		70 6 8	
Little Wanganui,—			
Signalling vessels in and out	16 0 0		
Flagstaff	14 4 0		
Stores and contingencies	4 7 9		
		34 11 9	
Waikawa,—			
Salary	..	10 0 0	
Iron buoys	..	19 19 2	
Salary, storeman and carpenter	..	196 12 6	
Buoy-chain, general stores, and fittings	329 7 9		
Repairs to buoys and sundries	137 2 8		
		466 10 5	
			5,185 6 8

RETURN showing the TOTAL ORDINARY EXPENDITURE of the MARINE DEPARTMENT—*continued.*

Nature of Expenditure.	Details.	Totals.	Grand Totals.
	£ s. d.	£ s. d.	£ s. d.
Lighthouses :—			
Salaries of keepers	10,021 8 4		
Oil	1,319 1 5		
Stores and contingencies	5,530 9 5		
Keepers' travelling-expenses	165 12 8		
Lighthouse expert	265 0 0		
Compassionate allowance to widow of late Lightkeeper C. Godfrey	90 0 0		
			17,391 11 10
Meteorological Office :—			
Salaries of staff and Observers	995 18 5		
Postage and telegrams	791 2 0		
Instruments and repairs	50 16 9		
Rent	128 6 8		
Cleaning offices	30 0 0		
Fencing enclosure at Auckland	71 15 6		
Sundries	47 9 4		
			2,115 8 8
Mercantile Marine Offices :—			
Salaries of staff	2,107 3 0		
Salaries of Surveyors and Inspectors	645 0 0		
Cleaning offices	14 6 11		
Office equipment and rent	152 15 10		
Subscriptions to telephones	35 10 0		
Sundries	65 19 11		
Travelling-expenses	53 12 9		
			3,074 8 5
Protection of Fish and Oysters :—			
Salaries	885 7 6		
Collection and sale of oysters	5,491 13 9		
Casual labour	12 16 10		
Collection, &c., brown-trout ova*	253 9 11		
Experimental trawling	51 9 0		
Grant to Portobello Fish-hatchery Board	250 0 0		
Expenses *re* introduction of sea-fish	222 15 0		
Introduction of Atlantic salmon	473 11 1		
Introduction of British crustacea	6 6 0		
Oil launches and boats for fisheries	728 2 11		
Protective works, Hakataramea	17 1 5		
Stocking Westland rivers with trout	50 0 0		
Travelling and other expenses in connection with Fisheries Conference at Washington	178 11 10		
Travelling-expenses	82 18 7		
Contingencies	17 12 6		
		8,721 16 4	
Hakataramea Salmon Station—			
Salaries	351 10 0		
General working expenses	135 13 0		
		487 3 0	
			9,208 19 4
			39,197 6 1
Less recoveries	..	..	633 2 10
Total, Marine and Harbours	..	..	38,564 3 3
Government steamers :—			
Working-expenses, s.s. "Hinemoa"	8,419 8 9		
Working-expenses, s.s. "Tutanekai"	10,534 9 1		
Engine-room repairs, s.s. "Hinemoa"	1,035 9 1		
Auxiliary condenser, s.s. "Tutanekai"	184 18 11		
Expenses, training-ship "Amokura"	7,007 12 11		
Repairs, renewals, &c. „	95 10 0		
		27,277 8 9	
Less contribution from Postal Department for cable work, freights, passages, &c.	..	2,699 17 3	
			24,577 11 6
Miscellaneous services :—			
Administration "Shipping and Seamen Act, 1908," and inquiries into shipping casualties	..	621 9 0	
Beacon, Jackson's Head (maintenance)	..	62 19 11	
Cartage and freight	..	67 1 5	
Charts and books	..	252 8 10	
Checking overcrowding of steamers	..	357 16 0	
Erection of light, Anglem Point, Stewart Island ..	..	81 9 11	
Extra clerical assistance	..	71 10 0	
Fog-signals—Cartridges and maintenance	..	346 14 6	
Horse-shoe Bay Wharf and protection	..	250 0 0	
Napier—West Shore protective works	..	250 0 0	
New Zealand Nautical Almanac	..	284 7 2	
Passage to England of Mrs. McIntyre (widow of engineer, s.s. "Tutanekai") and children	..	50 0 0	
Prosecutions under Shipping, Harbours, and Fisheries Acts	..	140 16 10	

*The ova collected is sold to the acclimatisation societies at 5s. per 1,000, and the proceeds credited to the vote.

RETURN showing the TOTAL ORDINARY EXPENDITURE of the MARINE DEPARTMENT—*continued.*

Nature of Expenditure.	Details.	Totals.	Grand Totals.
	£ s. d.	£ s. d.	£ s. d.
Miscellaneous services—*continued.*			
Postage and telegrams	..	505 8 11	
Printing, &c., A B C Azimuth Tables and Charts	..	285 8 3	
Relief of distressed seamen	..	247 0 0	
Remission of light dues on colliers to American fleet	..	280 2 8	
Rent, &c., connected with examinations	..	79 7 10	
Searching for bodies of persons drowned in wreck of scow "Surprise"	..	5 0 0	
Survey of unseaworthy ships	..	35 9 8	
Telephones	..	46 15 9	
Travelling expenses and allowances	..	95 11 1	
Sundries	..	66 3 4	
		4,483 1 1	
Less recoveries	..	435 1 7	
			4,047 19 6
Grand Totals	..	..	£67,189 14 3

RETURN showing TOTAL COST of MAINTENANCE of the NEW ZEALAND COASTAL LIGHTHOUSES during the Financial Year ended 31st March, 1909.

Name of Lighthouse.	Salaries.	Oil.		Stores and Contingencies.	Totals.
		Gallons consumed.	Value.*		
	£ s. d.	Gals.	£ s. d.	£ s. d.	£ s. d.
Cape Maria van Diemen	376 13 4	950	67 5 10	(a)500 7 9	944 6 11
Moko Hinou	372 19 11	878	62 3 10	146 5 4	581 9 1
Tiritiri	280 0 0	543	38 9 3	(b)88 17 10	407 7 1
Bean Rock	170 0 0	90	2 14 1	50 8 5	223 2 6
Ponui Passage	153 6 8	80	5 13 4	(c)146 3 5	305 3 5
Cuvier Island	373 0 0	1,241	87 18 1	(d)208 10 4	669 8 5
East Cape	355 3 3	870	61 12 6	(e)156 14 11	573 10 8
Portland Island	370 7 8	740	52 8 4	(f)169 5 9	592 1 9
Napier Bluff	20 0 0	Gas	10 19 6	1 9 0	32 8 6
Cape Palliser	266 17 8	923	65 7 7	88 6 1	420 11 4
Pencarrow Head	290 0 0	504	35 14 0	(g)214 16 8	540 10 8
Somes Island	161 13 4	644	45 12 4	114 15 2	322 0 10
Cape Egmont	179 11 8	581	41 3 1	182 6 4	403 1 1
Manukau South Head	283 5 7	736	52 2 8	(h)120 17 2	456 5 5
Manukau South Head leading-lights	..	167	11 16 7	8 18 1	20 14 8
Manukau North Head leading-lights	110 0 0	238	16 17 2	44 4 9	171 1 11
Kaipara Head	274 17 9	590	41 15 10	135 14 7	452 8 2
Brothers	438 5 9	750	53 2 6	(i)165 9 11	656 18 2
Tory Channel leading-lights	100 0 0	193	13 13 5	12 10 3	126 3 8
Cape Campbell	242 17 4	551	39 0 7	(k)100 3 0	382 0 11
Godley Head	270 0 0	585	41 8 9	(l)179 4 8	490 13 5
Akaroa Head	286 5 3	620	43 18 4	52 7 6	382 11 1
Jack's Point	170 0 0	444	31 9 0	115 6 8	316 15 8
Moeraki	268 13 8	603	42 14 3	60 4 6	371 12 5
Taiaroa Head	289 8 4	634	44 18 2	(m)102 19 1	437 5 7
Cape Saunders	287 5 8	651	46 2 3	74 9 2	407 17 1
Nugget Point	388 8 4	1,023	72 9 3	(n)195 3 10	656 1 5
Waipapapa Point	267 3 1	622	44 1 2	(o)131 15 2	442 19 5
Dog Island	358 14 0	780	55 5 0	96 3 10	510 2 10
Centre Island	400 2 1	893	63 5 1	(p)451 10 1	914 17 3
Puysegur Point	347 5 0	934	66 3 2	150 4 4	563 12 6
Cape Foulwind	270 0 0	615	43 11 3	(r)270 6 2	583 17 5
Hokitika	12 0 0	Gas	13 10 0	0 9 11	25 19 11
Kahurangi Point	338 18 11	1,093	77 8 5	(s)214 16 7	631 3 11
Farewell Spit	388 15 9	653	46 5 1	(t)163 15 8	598 16 6
Nelson	290 0 0	266	18 16 10	(u)188 5 3	497 2 1
French Pass	180 0 0	175	12 7 11	(v)21 9 11	213 17 10
Stephen Island	389 8 4	605	42 17 1	(w)405 12 4	837 17 9
Totals	10,021 8 4	22,465	1,612 1 6	5,530 9 5	17,163 19 3

* This column shows the actual value of the oil consumed. The amount actually paid for oil purchased during the year was £1,319 1s. 5d.

(a) Includes £296 17s. 2d. for improvements to landing-place and £38 12s. 2d. for repairs. (b) Includes £6 14s. 10d. for repairs. (c) Includes £62 5s. 1d. for repairs. (d) Includes £14 11s. 3d. for repairs. (e) Includes £14 7s. 4s. on account of repairs to tramway. (f) Includes £64 16s. 2d. for repairs. (g) Includes £97 16s. 3d. for repairs. (h) Includes £35 for compensation for land taken for road and £5 14s. 11d. for repairs. (j) Includes £65 9s. 3d. for provisions and £28 5s. 4d. for flagstaff and erection. (k) Includes £7 0s. 1d. for repairs. (l) Includes £83 6s. 9d. for repairs. (m) Includes £28 17s. 10d. for repairs. (n) Includes £25 12s. 8d. for repairs. (o) Includes £61 19s. 6d. for repairs. (p) Includes £221 12s. 8d. for repairs and £95 10s. 11d. for flagstaff and erection. (r) Includes £179 3s. 4d. for repairs. (s) Includes £70, cost of landing lighthouse stores. (t) Includes £56 5s. 1d. for flagstaff and erection. (u) Includes £119 19s. 2d. for repairs. (v) Includes £7 10s. 4d. for repairs. (w) Includes £81 16s. 2d. for flagstaff and erection and £69 0s. 4d. for repairs.

NOTE.—In addition to the total shown in the above return, £165 12s. 8d. was paid for keepers' travelling-expenses when being moved from one station to another, £265 for the salary of the lighthouse expert, and £90 for compassionate allowance to widow of a deceased lightkeeper.

Return showing the Cost of Erection of the New Zealand Coastal Lighthouses.

Name of Lighthouse.	Cost of Erection.
	£ s. d.
Pencarrow Head	6,422 0 4
Nelson	2,824 8 9
Tiritiri	5,747 7 2
Mana Island*	5,513 0 1
Taiaroa Head	4,923 14 11
Godley Head	4,705 16 4
Dog Island	10,480 12 8
Farewell Spit	6,139 11 8
Nugget Point	6,597 3 7
Cape Campbell	5,619 2 6
Manukau Head	4,975 2 4
Cape Foulwind	6,955 9 1
Brothers	6,241 0 0
Portland Island	6,554 14 5
Moeraki	4,288 13 2
Centre Island	5,785 19 0
Puysegur Point	9,958 19 5
Cape Maria van Diemen	7,028 14 8
Akaroa Head	7,150 6 5
Cape Saunders	6,066 6 3
Cape Egmont†	3,353 17 11
Moko Hinou	8,186 5 0
Waipapapa Point	5,969 18 11
Ponui Passage‡	..
Kaipara Head	5,571 8 0
French Pass	1,427 17 5
Cuvier Island	7,406 16 11
Stephens Island	9,349 9 11
Cape Palliser	6,243 16 1
East Cape	7,594 8 8
Kahurangi Point	9,145 18 1
Jack's Point	1,204 10 9
Cost of telegraph cable to Tiritiri	1,085 19 6
Miscellaneous and unallocated	1,322 2 2
Total	£191,840 12 1

* Light discontinued; moved to Cape Egmont.
† Cost of iron tower, lantern, and apparatus, which were removed from Mana Island, is not included in this.
‡ Built by Provincial Government of Auckland; cost not known in Marine Department.

Return showing the Fees, &c., received under the Shipping and Seamen Acts, the Merchant Shipping Act, the Harbours Acts, and the Sea-fisheries Acts, at Ports under the Marine Department, during the Year ended 31st March, 1909.

Nature of Receipts.	Amount.
	£ s. d.
Shipping and Seamen Acts:—	
Fees for engagement and discharge of seamen, and sale of forms, &c.	3,515 3 9
Surveys of steamers and sailing-vessels	2,368 1 0
Measurement of ships	6 13 0
Examinations of masters, mates, and engineers	485 10 0
Light dues	34,590 17 11
Sundries	747 14 8
Merchant Shipping Act	318 6 0
Harbours Acts:—	
Pilotage and port charges	1,770 17 6
Sundry receipts	731 3 2
Sea-fisheries Acts:—	
Sale of oysters	6,938 10 6
Sundry receipts	312 5 11
Total	51,785 3 5

Return showing the Amount of Light Dues collected during the Year ended 31st March, 1909.

Port.	Amount collected.
	£ s. d.
Auckland	10,984 10 4
Onehunga	241 13 11
Whangarei	166 4 2
Russell	46 15 7
Mangonui	1 5 6
Whangaroa	10 0 4
Hokianga	83 16 4
Kaipara	152 1 11
Thames	78 17 2
Coromandel	17 4 7
Tauranga	37 17 5
Poverty Bay	808 1 3
Napier	920 15 5
New Plymouth	275 2 4
Waitara	97 16 4
Wanganui	188 16 8
Patea	17 12 11
Wellington	9,168 11 0
Wairau	22 11 10
Picton	695 12 1
Nelson	437 13 3
Westport	800 6 11
Greymouth	413 7 5
Hokitika	3 4 5
Lyttelton	2,914 12 7
Timaru	461 2 9
Oamaru	239 1 6
Dunedin	2,089 3 0
Bluff and Invercargill	3,217 13 8
Grand total	£34,591 12 7
Less refunds	0 14 8
Net total	£34,590 17 11

Return showing the Amount of Pilotage, Port Charges, &c., collected during the Year ended 31st March, 1909.

Name of Port.	Pilotage.	Port Charges, &c.	Total.
	£ s. d.	£ s. d.	£ s. d.
Auckland*	1,384 18 11	10,326 16 2	11,711 15 1
Onehunga	19 14 0	315 7 7	335 1 7
Hokianga	40 12 5	22 14 9	63 7 2
Kaipara	28 14 8	942 9 8	971 4 4
Thames*	51 5 8	55 9 0	106 14 8
Gisborne*	153 7 6	5,167 13 0	5,321 0 6
Wairoa*	243 4 0	11 18 9	255 2 9
Napier*	1,079 9 0	6,997 6 10	8,076 15 10
N. Plymouth*	127 14 6	232 0 0	359 14 6
Waitara*	140 3 0	193 13 10	333 16 10
Wanganui*	630 2 6	116 2 7	746 5 1
Patea*	76 6 10	15 16 0	92 2 10
Fon	196 15 9	..	196 15 9
Wellington*	402 2 0	15,125 11 3	15,527 13 3
Wairau*	45 8 11 190 9 7	..	235 18 6
Nelson*	2,719 4 8	276 18 9	2,996 3 5
Westport*	462 1 4	1,913 2 6	2,375 3 10
Hokitika*†	..	29 12 6	29 12 6
Lyttelton*	11,425 2 7	8,139 1 5	19,564 4 0
Karamea	155 19 9	..	155 19 9
Kaiapoi	3 0 0	..	3 0 0
Timaru*	2,194 14 9	4,662 8 10	6,857 3 7
Oamaru*†	..	2,551 6 4	2,551 6 4
Dunedin*	13,059 8 11	5,287 19 6	18,347 8 5
Bluff and Invercargill*	5,004 11 7	2,752 18 10	7,757 10 5
Totals	39,834 12 10	65,136 8 1	104,971 0 11

* Harbour Board revenue. † Tonnage dues.

RETURN of ESTATES of DECEASED SEAMEN received and administered in pursuance of the Provisions of "The Shipping and Seamen Act, 1903," during the Year ended 31st March, 1909.

Name of Seaman.	Balance to Credit of the Estate on 31st March, 1908.	Amount received.	Amount paid.	Balance to Credit of the Estate on 31st March, 1909.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Edwards, D.	0 3 4	..	0 3 4	..
Macdonald, L.	3 0 0	..	3 0 0	..
Sparnon, Sydney	..	1 16 6	..	1 16 6
Smith, Frederick	..	1 6 8	..	1 6 8
Gilroy, John	..	11 0 0	11 0 0	..
Kennedy, Duncan	..	5 16 9	..	5 16 9
Sullivan, T. L.	..	1 3 7	1 3 7	..
Court, J.	..	16 6 8	..	16 6 8
Matheson, J.	..	23 0 0	..	23 0 0
McCoffet, J.	..	26 2 8	..	26 2 8
Miller, J.	..	10 3 7	..	10 3 7
Waddington, C.	..	10 11 0	..	10 11 0
Brierly, C.	..	11 2 2	..	11 2 2
Blanche, J.	..	11 12 0	..	11 12 0
Jones, J.	..	11 12 0	..	11 12 0
Grey, T.	..	11 12 0	..	11 12 0
Sornson, C.	..	10 10 1	..	10 10 1
McKay, J.	..	11 12 0	..	11 12 0
Raath, C.	..	12 12 8	..	12 12 8
Rawett, E.	..	7 14 8	..	7 14 8
Young, A.	..	6 6 8	..	6 6 8
McVicar, J.	..	6 9 0	..	6 9 0
Harrison, F.	..	6 9 0	..	6 9 0
Reid, E.	..	21 13 8	..	21 13 8
Cooper, H.	..	18 11 0	..	18 11 0
Owens, Walter	..	2 18 6	..	2 18 6
McIntyre, A. M.	..	6 6 0	..	6 6 0
Driscoll, F. J.	..	5 4 0	5 4 0	..
Loosemore, G.	..	4 8 0	4 8 0	..
Hayes, T.	..	4 0 6	4 0 6	..
Henderson, W.	..	3 12 6	..	3 12 6
Woodford, T.	..	3 12 6	..	3 12 6
Stanley, Thos. D.	0 14 2	..	0 14 2	..
Gale, E.	..	3 12 6	..	3 12 6
Westacott, W.	..	3 12 6	..	3 12 6
Urquhart, R.	..	9 4 0	..	9 4 0
Rentoul, W.	..	5 12 0	5 12 0	..
Gaffra, G.	..	4 19 6	..	4 19 6
Rafferty, John	..	3 17 6	..	3 17 6
Hamilton, S.	42 16 9	..	42 16 9	..
Malmsberg, E.	4 0 8	..	4 0 8	..
Fairburn, C.	..	3 15 6	..	3 15 6
Ward, J.	..	3 17 6	..	3 17 6
Connie, A.	..	2 5 6	..	2 5 6
Barnes, G.	..	3 1 6	..	3 1 6
Alexander, C.	..	4 16 0	..	4 16 0
Claydon, J.	..	2 7 6	..	2 7 6
Crook, E.	..	2 7 6	..	2 7 6
Jacobs, Mrs. A.	..	2 3 6	..	2 3 6
Wyatt, Thomas	0 3 0	..	0 3 0	..
Olsen, T.	7 12 0	..	7 12 0	..
Daniel, E.	9 4 4	..	9 4 4	..
Lemon, T.	6 15 0	..	6 15 0	..
Rasmussen, W.	5 11 0	..	5 11 0	..
Nelson, E.	4 16 0	..	4 16 0	..
Hope, Mrs. A.	..	1 15 6	..	1 15 6
Hall, E.	..	2 10 2	..	2 10 2
William J.	..	1 10 2	..	1 10 2
McGuire, H.	..	1 10 2	..	1 10 2
Cook, G.	..	1 10 2	..	1 10 2
Hughes, Alfred	..	15 6 2	..	15 6 2
Jannson, F.	3 4 0	..	3 4 0	..
McIntosh, John	3 4 0	..	3 4 0	..
Dawson, J.	2 13 8	0 12 6	..	3 6 2
Loftus, H.	2 4 1	..	2 4 1	..
Iverson, J.	1 6 2	..	1 6 2	..
Anderson, G.	4 16 0	..	4 16 0	..
Hansen, W.	4 16 0	..	4 16 0	..
Gainford, W.	4 16 0	..	4 16 0	..
Oliver, G.	4 16 0	..	4 16 0	..
Weeks, J.	5 14 0	..	5 14 0	..
Urquhart, J.	3 14 8	..	3 14 8	..
Totals	126 0 10	365 13 8	154 15 3	336 19 3

RETURN showing AMOUNTS received prior to 1st April, 1908, standing to Credit of ESTATES of DECEASED SEAMEN and for which CLAIMS have not been proved.

	£	s.	d.
Percival Fulda, late steward, "Hawea" ..	2	8	5
E. Quimar, late A.B., "Sir Henry" ..	1	14	2
Anton Callas, late A.B., "Sir Henry" ..	2	7	6
E. J. Harper, late diver, "Huia"	0	0	4
Henri Payne, late A.B., "Kini"	68	14	9
Gustave Henry, late A.B., "Waikonini" ..	3	7	6
James Brown, late fireman, "Hinemoa" ..	9	8	10
Hugh Trimble, late cook, "Frank Guy" ..	6	15	3
Nelson O. Stred, late A.B., "Helen Denny"	0	11	3
T. Clark, late A.B., "Flora"	1	0	0
Erick A. Osterlund, late A.B., "Gannymede"	16	1	6
William Wood, late trimmer, "Arahura" ..	4	6	11
E. Kelly, late O.S., "Surprise"	1	11	6
E. Johansen, late A.B., "Surprise" ..	1	16	2
M. Peterson, late first mate, "Constance Craig"	7	10	0
J. Nelson, late sailmaker, "Constance Craig"	0	10	0
A. Maller, late of "Constance Craig" ..	0	5	0
R. Hansen, late of "Constance Craig" ..	0	5	0
T. Brown, late of "Constance Craig" ..	0	5	0
M. Keogh, late of "Constance Craig" ..	0	5	0
B. Stein, late of "Constance Craig" ..	3	10	0
Thomas Christiansen, late A.B., "Haere" ..	0	2	10
August Ferguson, late cook, "Toroa" ..	2	10	0
— Neilson, late A.B., "Toroa"	2	15	0
— Larsen, late A.B., "Toroa"	2	15	0
— Hansen, late A.B., "Toroa"	2	15	0

	£	s.	d.
Thomas Devine, late A.B., "Hoanga" ..	3	3	6
H. S. Molvig, late chief officer, "Countess of Ranfurly"	11	6	5
Fred Berger, late fireman, "Awaroa" ..	4	15	11
M. Peterson, late of "Ronga"	0	10	0
E. Olsen, late of "Ronga"	0	8	0
J. Johnston, late of "Ronga"	0	8	0
J. McAlister, late A.B., "Hoanga"	2	15	0
F. McNeil, late A.B., "Hoanga"	2	15	0
(Name not known), late cook, "Hoanga" ..	2	7	8
Pierre Johann, late A.B., "La Bella" ..	8	5	5
J. McPherson, late of "Ronga"	0	8	0
Kristopher Hansen, late of "Southern Isle"	0	15	11
Alfred Tronson, late mate, "Rangi" ..	4	17	4
John Beer, late of launch "Akitio" ..	18	0	9
Thomas Thomas, late A.B., schooner "Medora"	3	5	6
A. Sorrenson, late A.B., "Haeremai" ..	2	12	0
J. Wallen, late A.B., "Haeremai"	3	13	8
E. Hargreaves, late mate, "Aotea" ..	0	19	0
David Davies, late cook, "Aotea"	1	4	10
A. Bagley, late engineer, "Aotea"	5	11	0
O. Blanquist, late A.B., "Aotea"	1	18	2
Rosso Concetto, late A.B., "Aotea" ..	1	6	2
N. Tansley, late O.S., "Aotea"	1	1	6
A. Jorgensen, late A.B., "Whangaroa" ..	2	10	0
Charles Roberts, late O.S., "Morning Light"	3	4	11

RETURN showing AMOUNTS paid to DISABLED SEAMEN under Section 119 of "The Shipping and Seamen Act, 1903," for the Year ended 31st March, 1909.

Name of Seaman.	Name of Vessel.	Nature of Injury or Illness.	Amount paid for Wages, Maintenance, &c.
			£ s. d.
Adlard, G.	Warrimoo, s.s.	Fever and ague	16 8 6
Anderson, C.	Pendie Hil, ship	Rupture	19 12 6
Anderson, D.	Kini, s.s.	Killed by falling into hold	3 16 8
			£11, funeral expenses, paid by Union S.S. Co.
Anderson, J.	Arahura, s.s.	Pleurisy	9 1 10
Anderson, R.	Mokoia, s.s.	Injured shoulder	3 8 4
			Passage to Home port.
Andrews, A.	Waipori, s.s.	Effects of fall	4 11 2
Archer, T.	Pukaki, s.s.	Piles	24 4 0
Bailey, J.	Maori, s.s.	Effects of fall	37 5 0
Bakkers, T.	Indravelli, s.s.	Pleurisy	1 10 0
Bergner, R.	Kazembe, s.s.	Fever and cold	10 10 0
Bertanes, N. A.	Komata, s.s.	Injured finger	27 3 9
Bolger, A.	Zingara, s.s.	,, elbow	32 5 4
Boylan, P.	Pareora, s.s.	Crushed finger	6 15 8
Breslin, J.	Maori, s.s.	Broken rib	10 10 7
Buchan, J.	Mangapapa, s.s.	Injured foot	6 1 0
Campbell, B.	Poherua, s.s.	Broken rib	16 10 0
Campbell, C.	Waikare, s.s.	Cold in kidneys	10 4 0
Campbell, J.	Moana, s.s.	Iritis	15 1 0
Carlstade, B.	Kaituna, s.s.	Fingers jammed (permanently injured)	16 5 8
			Settled by action under Workers' Compensation Act.
Carroll, F.	Mararoa, s.s.	Poisoned leg	7 5 4
Coneboy, J.	Kanieri, s.s.	Injured shoulder	4 0 2
Cook, F.	Maheno, s.s.	Poisoned hand	11 0 0
Cooper, J.	Waitemata, s.s.	Injured knee	28 10 8
Cotter, J.	Senorita, schooner	Broken leg	27 0 0
Culling, T.	May Howard, schooner	Injured finger	9 6 9
Dacey, J.	Norfolk, s.s.	Eye trouble	4 17 6
Daly, J.	Hauroto, s.s.	Swelling in right side	22 16 0
Davies, T.	Kumara, s.s.	Stomach trouble	11 4 0
			And passage to England.
Davis, C.	Poherua, s.s.	Injured finger	11 3 10
Dawe, J.	Wimmera, s.s.	Swollen hand	13 11 8
Deary, E.	Wairuna, s.s.	Ricked back	14 10 10
Dines, G.	Poherua, s.s.	Injured shoulder	7 8 0
Doddrill, W.	Indravelli, s.s.	Epilepsy	1 15 0
Donovan, J.	Welcome, scow	Broken wrist	18 15 0
Donovan, R.	Oreti, s.s.	,, arm	16 6 1
Downey, J.	Kia Ora, s.s.	Insanity	7 4 0
			And passage to London.
Duncan, A.	Monowai, s.s.	Crushed hand	21 9 8
Elliott, G.	Mokoia, s.s.	Strained back	7 8 4

RETURN showing AMOUNTS paid to DISABLED SEAMEN—*continued*.

Name of Seaman.	Name of Vessel.	Nature of Injury or Illness.	Amount paid for Wages, Maintenance, &c.
			£ s. d.
Erskine, A.	Maheno, s.s.	Scarlet fever	12 19 0
Evans, H.	Mahurangi, s.s.	Injured elbow	9 14 6
Everson, F.	Fanny, s.s.	,, shoulder	8 3 0
Fairburn, C.	Maori, s.s.	Burnt arm and chest	18 17 0
Fairburn, G. C.	Maheno, s.s.	Injured head	3 6 5
Farrell, W.	Manuka, s.s.	,, ribs	14 4 0
Findlow, A.	Moa, s.s.	Scalp-wound	7 17 6
Fisher, A.	Tokomaru	Fever	6 15 0
Fixter, H.	Maitai, s.s.	Burnt arm	15 4 0
Fleming, R.	Monowai, s.s.	Dislocated shoulder	9 11 2
Forsyth, T.	Mararoa, s.s.	Injured hand	20 8 10
Furlong, F.	Navua, s.s.	,, ankle	6 15 0
Gaul, P.	Kittawa, s.s.	Bruised back	22 7 0
Geige, H. C.	Storm, s.s.	Dislocated ankle	15 3 8
Gill, A.	Wanaka, s.s.	Loss of finger	7 16 0
Girgey, J.	Rotomahana, s.s.	Phthisis	39 2 6
Glover, W.	Marama, s.s.	Injured knee	28 5 0
Graham, J.	Hauroto, s.s.	Effects of island fever	20 1 4
Grant, D.	Waipori, s.s.	Injured finger	14 6 0
Guzzwell, J.	Clansman, s.s.	Dislocated arm	20 11 0
Hall, R.	Waikare, s.s.	Injured finger	8 2 0
Hall, T.	,,	,, knee	10 15 0
Halvcise, H.	Endeavour, s.s.	,, hand	11 10 0
Hansen, A.	Apanui, s.s.	Injured foot	13 0 0
Hardy, E.	Rona, s.s.	Rheumatism	23 5 0
Harris, F.	Huia, s.s.	Inflammation in head	25 11 0
Harris, W.	Waratah, s.s.	Blood-poisoning	10 11 8
Harvey, G.	Daphne, s.s.	Injured hand	7 9 0
Hassell, A.	Mangapapa, s.s.	,,	24 13 10
Healey, J.	Delphic, s.s.	Cancer	14 8 0
			Died in hospital.
Henderson, L.	Penguin, s.s.	Strained abdomen	10 12 8
Hendry, F.	Canopus, s.s.	Ear trouble	19 6 8
Hendry, G.	Koi, s.s.	Blood-poisoning	8 18 4
Hill, M.	Tay, cutter	Injured arm	9 19 8
Hind, L. H.	Ulimaroa, s.s.	Poisoned finger	19 1 6
Hudson, S.	Lizzie Taylor, schooner	Poisoned hand	4 18 4
Hughes, J.	Waimate, s.s.	Insanity	4 4 4
Hurley, E.	Ionic, s.s.	Abscess	13 10 0
Irwin, J.	Rarawa, s.s.	Severe cold	4 16 8
Jacobs, L.	Monowai, s.s.	Poisoned hand	23 10 6
Jenkins, W.	Hauroto, s.s.	Island fever	25 10 8
Johnson, C.	Navua, s.s.	Poisoned hand	14 14 0
Jorgensen, H.	Mana, s.s.	Injured arm	36 4 11
Kennedy, J.	Mokoia, s.s.	,, head	12 10 10
Kidd, H.	Rarawa, s.s.	Sprained ankle	9 4 6
Krug, F.	Sivah, barque	Insanity	26 17 8
Lamont, D.	Moeraki, s.s.	Rheumatic fever	6 5 9
Lane, Ellen	Ngatiawa, s.s.	Severe cold	9 11 2
Langton, H.	Wakatere, s.s.	Injured leg	10 18 10
Lavelle, R.	Waitemata, s.s.	Strained back	35 4 0
Leers, W.	Kereru, scow	Crushed finger	8 14 6
Liftwick, R.	Waihora, s.s.	Injured hand	6 2 4
Lindahl, A.	Queen of the South, s.s.	,, finger	11 8 8
Linnen, J.	Maori, s.s.	Rupture	4 9 5
Linton, C.	Opawa, s.s.	Sprained ankle	44 13 8
Lovelock, E.	Maori, s.s.	Injured eye	9 14 0
Lush, D.	,,	Crushed finger	8 12 9
Macdonald, D.	Manapouri, s.s.	Sprained ankle	14 3 8
Macdonald, K.	Surrey, s.s.	Phthisis	10 14 6
Macey, J.	Pateena, s.s.	Internal injuries	19 19 6
Madsen, A.	Wootton, s.s.	Injured leg	11 7 4
Mansfield, T. E.	Matatua	Concussion of brain	3 3 0
			And passage to Wellington.
Marsh, G.	Westralia, s.s.	Bladder trouble	8 18 0
Matheson, F.	Rotomahana, s.s.	Sprained ankle	8 9 1
Mathias, G. F.	Waikare, s.s.	Strained back	8 10 0
Matthews, H.	Invertay, s.s.	Varicose veins	17 0 0
Miller, W.	Flora, s.s.	Injured hand	9 17 4
Missat, E.	Pateena, s.s.	Poisoned hand	8 2 8
Monk, H.	Monowai, s.s.	Rheumatism	6 9 0
Monk, H. W.	Mokoia, s.s.	Injured hand	2 19 0
Moore, D.	Invercargill, s.s.	,,	3 6 0
Murdoch, W.	Maitai, s.s.	Broken ribs and injured knee	5 6 7
Murphy, J.	Victoria, s.s.	Strained knee	15 8 4
Murphy, T.	Taviuni, s.s.	Scalded arm	11 3 10
McCallum, J.	Maori, s.s.	Injured finger	13 11 9
McDavitt, J.	Pelican, s.s.	,, hand	1 12 3
McDermott, R.	Claymore, s.s.	Cut hand	4 17 0
McDonald, W.	Komata, s.s.	Severe swelling in neck	6 10 8
McGaw, R.	Ngapuhi, s.s.	Injured hand	7 5 6

RETURN showing AMOUNTS paid to DISABLED SEAMEN—*continued.*

Name of Seaman.	Name of Vessel.	Nature of Injury or Illness.	Amount paid for Wages, Maintenance, &c.
			£ s. d.
McGrath, G.	Tofua, s.s.	Injured knee	1 12 6
McGunk, J.	Kamona, s.s.	Broken finger	21 0 3
McIndoe, E.	Orewa, s.s.	Injured head	1 12 0
McIlroy, C.	Rakaia, s.s.	Internal trouble	10 4 0
McIver, S.	Clansman, s.s.	Severe cold	10 7 0
McKinnon, G.	Moeraki, s.s.	Fractured skull	6 16 4
McKinnon, J.	Queen of the South, s.s.	Strained arm	9 9 4
McLean, P.	Mokoia, s.s.	Injured wrist	9 19 8
McLennan, D.	Ngapuhi, s.s.	Cut hand	0 18 10
McLennan, J.	Maheno, s.s.	Sprained wrist	3 1 0
McLeod, D.	Monowai, s.s.	Measles	12 14 6
McLeod, H.	Mangapapa, s.s.	Pleurisy	12 18 4
McLeod, J.	Navua, s.s.	Injured hand	8 2 8
McLeod, P.	Rosamond, s.s.	Gastritis	13 2 10
McLeod, R.	Talune, s.s.	Inflamed eye	7 15 0
McLeod, R.	Kotuku, s.s.	Injured hand	18 18 8
McMahon, H.	Hauroto, s.s.	Inflammation in groin	14 17 6
McManus, F.	Waratah, s.s.	Effects of fall	27 5 0
McPherson, C.	Kotare, s.s.	Injured foot	12 13 4
McPherson, D.	Penguin, s.s.	,, leg	19 1 0
McRae, A.	Petone, s.s.	Stomach trouble	11 2 6
McTighe, J.	Kanieri, s.s.	Injured knee	37 7 8
Nelson, H.	Herald, scow	,, arm	8 15 6
Nelson, P.	Maori, s.s.	Broken rib	15 18 9
Neville, G.	Hauroto, s.s.	Injured head	9 9 6
Norris, W.	Mokoia, s.s.	Poisoned thumb	19 3 4
Norwood, W.	Wanaka, s.s.	Injured arm	7 14 4
O'Kane, J.	Mangapapa, s.s.	Burns	7 16 4
Oliver, W.	Tasman, s.s.	Injured hand	9 16 8
Olsen, J. E.	Waimate, s.s.	Crushed foot	25 17 7
Olsen, N.	Mararoa, s.s.	Injured finger	7 18 0
Orr, J.	Moeraki, s.s.	Abdominal pains	9 9 0
Owens, F.	Petone, s.s.	Injured leg	9 1 2
Owens, T.	Wakatu, s.s.	Quinsy	6 10 0
Parker, J.	Kotuku, s.s.	Pneumonia	15 18 10
Partridge, P.	Ngapuhi, s.s.	Pleurisy	3 5 4
Patience, D.	Takapuna, s.s.	Burnt foot	14 1 6
Parfling, J.	Aotea, s.s.	Blood-poisoning	13 6 8
Payne, William	Waikare, s.s.	Injured hand	27 6 0
Peake, T.	Wootton, s.s.	,, head and arm	16 8 8
Perkins, W. B.	Delphic, s.s.	Stomach trouble	12 4 0
Perry, William	Rippingham Grange, s.s.	Concussion of brain	3 1 6
			And passage to port of engagement.
Petersen, H.	Northern Chief, s.s.	Inflammation of groin	18 10 0
Pope, T.	Jane Douglas, s.s.	Injured elbow	12 15 0
Prescott, A.	Waikare, s.s.	Broken rib	12 12 7
Price, W. H.	Kamona, s.s.	Cut hand	3 6 8
Quinn, P.	Arahura, s.s.	Injured leg	37 5 0
Raddings, T.	Falcon, s.s.	Lung trouble	20 14 11
Ramsay, A.	Monowai, s.s.	Inflammation of eye	9 0 0
			And passage to Sydney.
Reid, C.	Navua, s.s.	Injured elbow	12 12 0
Renton, W.	Maori, s.s.	,, leg and shoulder	7 14 0
Rice, C.	Rakanoa, s.s.	,, leg	16 18 4
Rice, C.	Wanaka, s.s.	Blood-poisoning	28 1 10
Robson, J.	Navua, s.s.	Rupture	21 7 8
Rodgers, H.	Aupouri, s.s.	Injured head	5 13 2
Rumble, W.	Selwyn Craig, s.s.	Ulcer	4 14 0
Ryan, P.	Moeraki, s.s.	Injured hip	6 11 3
Sango (Samoan)	Samoa, schooner	Poisoned hand	17 15 0
			And passage to Samoa.
Seville, G.	Manuka, s.s.	Strained back	8 17 6
Shattock, G.	Rippingham Grange, s.s.	Stomach trouble	50 0 0
Shear, J.	Penguin, s.s.	Broken thumb	14 18 3
Sherblad, M.	Wakatere, s.s.	Injured knee	9 3 0
Sievertsen, T.	Inga, s.s.	,, nose	14 18 4
Smith, B. A.	Maitai, s.s.	Colic	7 2 0
Snaith, J.	Wairuna, s.s.	Sarcoma of shoulder	8 16 4
Snellgrove, H.	Penguin, s.s.	Bruised body	10 10 8
Snowden, J.	Corinna, s.s.	Rheumatism	4 4 6
			And passage to Dunedin.
Stephenson, F. H.	Ruapehu, s.s.	Appendicitis	14 4 0
			And passage Home.
Stevens, H.	Arahura, s.s.	Excema	10 16 0
Stewart, A.	Wanaka, s.s.	Crushed hand	12 0 0
Stewart, J.	Whangape, s.s.	Poisoned hand	11 14 2

RETURN showing AMOUNTS paid to DISABLED SEAMEN—*continued.*

Name of Seaman.	Name of Vessel.	Nature of Injury or Illness.	Amount paid for Wages Maintenance, &c.
			£ s. d.
Stilston, E.	St. Kilda, s.s.	Broken leg and wrist	19 1 0
Stobie, W.	Talune, s.s.	Cut leg	10 14 2
Stone, F.	Tomoana, s.s.	Injured hand	6 10 0
Stuart, C.	Kotare, s.s.	,, leg	4 16 4
Sturrock, D. H.	Gael, s.s.	Loss of foot	49 10 8
Sullivan, W.	Warrimoo, s.s.	Rheumatism	9 15 0
Sullivan, T.	Ngapuhi, s.s.	Pneumonia	16 0 3
Symons, W.	Rotomahana, s.s.	Cut shin	13 18 4
Takabury, F.	Kanieri, s.s.	Severe cold in kidneys	35 18 5
Taunt, C.	Kaiapoi, s.s.	Pneumonia	11 6 8
Tergi Lieni	Three Cheers, ketch	Injured hand	6 15 6
Thompson, J.	Rakanoa, s.s.	Fell from upper deck to wharf	17 1 10
Thorp, L.	Waipori, s.s.	Broken wrist	32 2 0
Townsend, —.	Zingara, s.s.	Pleurisy	6 15 4
Turksma, E.	Oreti, s.s.	Gored by a bullock	27 8 8
Urquhart, W.	Wakatu, s.s.	Strained back	9 4 10
Vidal, E.	Tongariro, s.s.	Appendicitis	16 10 0
Ward, W.	Tomoana, s.s.	Bronchitis	6 3 0
Ware, C.	Mararoa, s.s.	Kidney trouble	8 7 6
Ware, G.	,,	Bright's disease	40 0 0
Warren, H. E.	,,	Injured leg	10 16 0
Washington, R.	Maheno, s.s.	Scalded leg	5 18 0
Watson, G.	Moeraki, s.s.	Injured leg	8 6 0
Watson, J.	Athenic, s.s.	Pleurisy	18 0 0
Webb, W.	Tramp, scow	Injured thumb	5 15 4
White, G.	Curlew, scow	,, hand	14 17 0
Wild, R.	Pharos, ship	Broken arm	11 14 8
			And passage to London, £17.
Williams, A.	Pukaki, s.s.	,, rib	7 16 3
Williams, A.	Talune, s.s.	Acute rheumatism	9 18 0
Wilson, G.	Pateena, s.s.	Gastritis	13 14 0
Winberg, A.	Mana, s.s.	Influenza	5 4 4
Woods, E.	Sildra (Norwegian)	Quinsy	4 7 6
			And passage to Sydney, £4.
Woods, J. W.	Kaitangata, s.s.	Sprained ankle	13 2 0
Zawado, A.	Marjorie Craig, barque	Sciatica	10 0 0
		Total	£2,986 9 11

RETURN of CERTIFICATES of EXEMPTION from EXAMINATION as THIRD-CLASS ENGINEER issued during the Year ended 31st March, 1909.

Date of Issue.	Name.	Date of Issue.	Name.
July 21, 1908	George Pellew Anderson.	Dec. 22, 1908	John Ernest Lelliott Cull.
Aug. 21, ,,	Stanley Bailey Watson.	Jan. 18, 1909	Robert John McKay.
Sept. 10, ,,	Walter Hugh Moore.		

RETURN of LICENSES as COLONIAL PILOTS issued in pursuance of Section 190 of "The Shipping and Seamen Act, 1903," during the Year ended 31st March, 1909.

No. of License.	Date of Issue.	Name of Licensee.	Port of Residence.	Date of Expiry of License.
36	14 Aug., 1908	Hugh Paterson	Dunedin	11 Aug., 1909.
37	8 April, ,,	John Grant	Onehunga	3 April, ,,
38	5 Aug., ,,	Edward Wheeler	Wellington	12 Aug., ,,
40	23 Feb., 1909	Charles McArthur	,,	18 Feb., 1910.
41	18 Dec., 1908	Thomas Fernandez	Gisborne	18 Dec., 1909.
42	26 Jan., 1909	George Napier Lindsay	Dunedin	26 Jan., 1910.

Return of Licensed Adjusters of Compasses in New Zealand.

Date of Issue.	Name of Licensee.	Address.
9 April, 1896	Frederick Macbeth	Dunedin.
15 „ „	Robert Strang	„
5 May, „	George Urquhart Thomson	„
11 Dec., „	William Bendall	Wellington.
27 April, 1897	Frederick William Cox	Nelson.
27 May, „	Thomas Fernandez	Auckland.
27 July, „	Robert Hatchwell	Lyttelton.
1 Sept., „	Arthur G. Gifford	Wellington.
13 Aug., 1898	Herbert John Richardson	„
26 April, 1899	Robert Heddelston Neville	„
26 June, 1900	Charles Frederick Sundstrum	Dunedin.
27 July, „	John Adamson	Auckland.
27 Nov., „	Thomas Basire	Port Chalmers.
27 March, 1903	George Samuel Hooper	Wellington.
19 Oct., „	John McLennon McKenzie	„
1 Nov., 1906	Frederick Pryce Evans	Dunedin.
6 Feb., 1907	David Todd	„
22 „ 1909	Norman Macdonald	Bluff.

Return of Masters, Mates, and Engineers to whom Certificates of Competency were issued during the Year ended 31st March, 1909.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
William Bernard Robertson	Master	Foreign trade	1 April, 1908	984
Thomas Webb	Second mate, steam	„	9 „ „	1059
Alexander Reginald Pryde	Master, steam	„	14 „ „	931
Archie Howard Brookes	Second mate	„	15 „ „	1060
George Andrew Drummond	„	„	16 „ „	1061
James Plowman	„	„	24 „ „	1062
Bert Burk	„	„	20 May, „	1063
Hereward Wilfred Doucette Bold	Master	„	20 „ „	934
Walter Scott	„	„	28 „ „	916
John Perceval Shipton	„	„	18 „ „	1064
John Richard Clarke	Second mate, steam	„	10 June, „	1065
Wilfred Charters	Second mate	„	17 „ „	1066
George Percy Evans	First mate	„	18 „ „	993
William James Cowling	Second mate	„	26 „ „	1067
Walter Thomas Manson	„	„	1 July, „	1068
Alexander Walter	„	„	3 „ „	1069
Ivon Morrison Barr	Master	„	3 „ „	1070
Huntley Dryden	„	„	11 „ „	943
Edmund Christian Slade Richardson	„ steam	„	16 „ „	1071
William Knowles	Master	„	17 „ „	983
Thomas Walter Spence	„	„	13 Aug., „	1072
John King Davis	Extra master	„	26 „ „	1073
John Bruce	1st mate F. & A.	„	27 „ „	1017
Alexander Coe-Smith	First mate	„	17 Sept., „	1019
Gerald Oliphant Morrison	Master	„	18 „ „	1074
George MacLeod	First mate	„	30 „ „	1075
John Sinclair Stuart	Master	„	30 „ „	998
Henry Claydon	First mate	„	1 Oct., „	1021
Thomas Bartlett Sewell	Master	„	7 „ „	992
Alfred Herbert Woodnutt	First mate	„	8 „ „	1025
Thomas James Skye	„	„	8 „ „	1013
Albert George Barnett	First mate, steam	„	17 „ „	1076
Gustav Herman Peterson	Master, steam	„	17 „ „	966
Mark D'Arcy	Second mate, steam	„	29 „ „	1077
John Anthony Martin	Second mate	„	5 Nov., „	1078
William McKinnon	„	„	5 „ „	1079
Frederick John Gaulton	First mate, steam	„	13 „ „	1080
Edward Carlyon Vellenoweth	First mate	„	18 „ „	1030
Eric John Macfarlane Appleyard	Master	„	18 „ „	1081
Bernard Charles Lovett	First mate	„	20 „ „	963
Alfred Reed	„	„	2 Dec., „	1031
Richard Thomas Crowe	Second mate	„	10 „ „	1082
Frank James Driscoll	Master	„	11 „ „	1083
Andrew Risk Stewart	„	„	14 „ „	999
Henry Martin	First mate, steam	„	17 „ „	1084
Henry Edgar Rutter	First mate	„	24 „ „	1040
Alexander Smith	Master	„	24 „ „	1085
David Robertson	First mate	„	24 „ „	1086
Murdoch Kenneth McGregor	Master	„	30 „ „	1004
Edward John Grey	First mate	„	13 Jan., 1909	1087
Richard Garsdale Holmes	Master	„	27 „ „	978
Alexander MacRae	First mate, steam	„	6 Feb., „	1088
Percy Matthew Davison Poole	Master	„	25 „ „	1089
William Whiteford	„	„	25 „ „	979
Andrew Joseph Lockie	„	„	12 March, „	953
Thomas Henry Ellis Lane	„	„	18 „ „	1090
George Haynes Wilson	First mate	„	29 „ „	1091

RETURN of MASTERS, MATES, and ENGINEERS to whom CERTIFICATES of COMPETENCY were issued during the Year ended 31st March, 1909—*continued*.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
Robert Lendric Sproule	Mate	Home trade	4 April, 1908	5616
Donald McLeay	"	"	10 " "	5617
Bertram Moore Carpenter	Master	"	24 " "	5527
Frederick Gartner	Mate	"	15 June, "	5618
Archibald Christopher Ingram	"	"	25 " "	5619
Thomas Walter Spence	Master	"	1 July, "	5620
John Freeman	"	"	1 " "	5444
Thomas Couper	"	"	11 " "	5553
Lewin Kingdon	"	"	16 " "	5535
Oliver Frederick McIntyre	"	"	16 " "	5579
William Earl	"	"	16 " "	5588
Anton Johan Holm	"	"	30 " "	5569
Harry Joseph Treurn	"	"	3 Aug., "	5577
William Lyell Leers	Mate	"	12 " "	5621
Thomas Matheson Jackson	Master	"	13 " "	5582
Carl Sevrin Larsen	Mate	"	19 " "	5622
William Gustav Deily	Master	"	26 " "	5623
Frederick Green Shirley	Mate	"	27 " "	5624
Thomas St. Helliers Eaddy	"	"	27 " "	5625
William Henry Sawyers	"	"	10 Sept., "	5626
William McIntosh	Master	"	17 " "	5549
Rutherford Dodds	Mate	"	17 " "	5627
Joseph Harris	"	"	17 " "	5628
George Bell Thomson	"	"	15 Oct., "	5629
Charles Dahl	"	"	15 " "	5630
Ivan Vasta	Master	"	23 " "	5631
Henry Arnold Johnson	"	"	29 " "	5632
Thomas Henderson	"	"	31 " "	5584
Arthur Percy Gibson	"	"	5 Nov., "	5543
Emil Johanssen	Mate	"	5 " "	5633
Algernon John Howe Francis	Master	"	5 " "	5589
George Wilkinson	"	"	12 " "	5536
Gordon Archibald Grey	Mate	"	19 " "	5634
Edward Strom	"	"	19 " "	5635
William John Grigg	Master	"	25 " "	5564
John Patrick Hume	Mate	"	9 Dec., "	5636
Swenney Hakansson	"	"	11 " "	5637
George Henry King	"	"	11 " "	5638
Harold Walter Parker	"	"	16 " "	5639
John Vaughan Ruthe	"	"	24 " "	5640
Harold England Schmidt	"	"	24 " "	5641
John McQueen	"	"	30 " "	5642
Robert Henry Ainsworth	Master	"	30 " "	5593
Francis Bateman Wells	Mate	"	27 Jan., 1909	5643
Charles Henry Gibson	Master	"	10 Feb., "	5603
John Jonathan Elven	"	"	20 " "	5644
George William Heatley	Mate	"	25 " "	5645
Peter Petersen	Master	"	10 March, "	5609
Francis Edward Roff	Mate	"	12 " "	5646
Alfred James Henry	"	"	12 " "	5647
Hans Johansen	Master	"	12 " "	5552
George Harry White	"	"	18 " "	5533
Anders Godfrey Nordlinger	"	River steamer	9 April, 1908	3505
Victor Emanuel Johansen	"	"	16 " "	3506
George Herbert Vause	"	"	24 " "	3507
Kiyohei Tsukigawa	"	"	7 May, "	3508
John Osborne Ewing	"	"	20 " "	3509
Samuel Duncan Gilray	"	"	26 " "	3510
Mervyn Kenny	"	"	30 June, "	3511
Alexander Ferguson	"	"	11 July, "	3512
William Turner	"	"	16 " "	3513
James Christian Eli Heileson	"	"	30 " "	3514
Archibald McCallum	"	"	12 Aug., "	3515
Kenneth McDonald	"	"	27 " "	3516
William James Mason	"	"	10 Sept., "	3517
John Patrick Hume	"	"	15 Oct., "	3518
James Robb	"	"	15 " "	3519
Joseph Higgerson Emtage	"	"	23 " "	3520
Andrew Hampton Russell	"	"	19 Nov., "	3521
Leonard Kenneth Harnett	"	"	24 Dec., "	3522
Frederick Morgan	"	"	18 Feb., 1909	3523
Charles Leopold Rogers	"	"	27 March, "	3524
James Gifford Tait	"	"	27 " "	3525
William Ralph Howell	"	Fishing-boat or cargo-vessel under 25 tons register	1 April, 1908	16
Harold Constance	"	Ditto	8 June, "	17
Joseph Higgerson Emtage	"	"	5 Nov., "	18
Percy Robert McGill	"	"	5 " "	19
George Henry King	"	"	2 Dec., "	20
Kenneth Robert Murray-McGregor	"	Fishing-boat under 5 tons	17 July, "	23
William Malcolm Foot	3rd-class engineer	Foreign trade	6 April, "	1058
Albert James Kelman	"	"	10 " "	1059
Andrew Charles Gordon Smaill	"	"	10 " "	1060

RETURN of MASTERS, MATES, and ENGINEERS to whom CERTIFICATES of COMPETENCY were issued during the Year ended 31st March, 1909—*continued*.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
Edgar Vallance Meikle	3rd-class engineer	Foreign trade	10 April, 1908	1061
Arthur Selwyn Crosbie	"	"	10 " "	1062
Dudley Vaughan Hood	"	"	9 May, "	1063
James Allan Knowles	2nd-class engineer	"	9 " "	818
Alexander Lang	3rd-class engineer	"	14 " "	1064
Robert Henry Whitfield	"	"	14 " "	1065
Douglas Addington McGilp	"	"	14 " "	1066
Robert Gilmour Slade	"	"	14 " "	1067
Charles Albert Kunst	"	"	14 " "	1068
Arthur Bruce	"	"	14 " "	1069
Charles Stanley Wilks	"	"	14 " "	1070
Francis Howard Lorking	"	"	14 " "	1071
John Owen	"	"	14 " "	1072
Stanley Joseph Jenkinson	"	"	14 " "	1073
Robert Bramwell Horsley	"	"	14 " "	1074
John Bruce	1st-class engineer	"	18 " "	686
Eric Hutchinson	3rd-class engineer	"	20 " "	1075
Harold Crewe Laird	1st-class engineer	"	14 " "	1076
Andrew John Mouat	2nd-class engineer	"	20 " "	820
Henry Allen	3rd-class engineer	"	4 June, "	1077
George Albert Ritson	"	"	15 " "	1078
Alfred Peter Hawkins	"	"	15 " "	1079
Montague Charles Alexander	2nd-class engineer	"	15 " "	790
William George Thomson	"	"	15 " "	933
Vincent Henry Fama	"	"	15 " "	584
Thomas Goodall	3rd-class engineer	"	15 " "	1080
Martin Atridge Scott	1st-class engineer	"	15 " "	520
Alexander McKenzie	"	"	15 " "	546
Henry Joseph Kelly	"	"	15 " "	451
Francis James Ramsden	3rd-class engineer	"	25 " "	1081
Sidney James Scott	"	"	30 " "	1082
Ernest Richard Taylor	"	"	30 " "	1083
Eric Robert Booth	"	"	14 July, "	1084
Stuart Pullan	"	"	14 " "	1085
Bernard Louis Arrowsmith	"	"	14 " "	1086
Nicol James Webster	"	"	14 " "	1087
Daniel McAlpine	"	"	14 " "	1088
Charles Mayes Graham	1st-class engineer	"	21 " "	1089
William Herbert Cockburn	3rd-class engineer	"	6 Oct., "	1090
Francis Percival Hewitt	"	"	6 " "	1091
William Webb Luke	1st-class engineer	"	18 Aug., "	421
William Mowatt	2nd-class engineer	"	18 " "	934
William Reid Douglas	"	"	18 " "	826
Frank Naismith	1st-class engineer	"	20 " "	1092
James Henry Fuller	"	"	10 Sept., "	1093
William Young	2nd-class engineer	"	17 " "	1000
Stephen Collier	"	"	18 " "	921
William Patrick Whyte	"	"	25 " "	779
Paul Cuthbert Graham	"	"	25 " "	929
Ernest James Seymour	3rd-class engineer	"	6 Oct., "	1094
George Gordon Smith	"	"	6 " "	1095
Charles James Muir	"	"	6 " "	1096
Frederick John Newton	"	"	6 " "	1097
Harold Eugene Melhop	"	"	6 " "	1098
Frances Thomson	"	"	6 " "	1099
William Elliot Gordon	"	"	6 " "	1100
Alexander Campbell	"	"	6 " "	1102
Alfred Robert Millar	"	"	6 " "	1103
Samuel Smith	"	"	6 " "	1104
George Harland	"	"	6 " "	1105
Arthur Edmensen	"	"	6 " "	1106
William Leonard Dodd	"	"	6 " "	1107
Hector Harry Robson	"	"	6 " "	1108
Wathen Wallis Houghton	2nd-class engineer	"	6 " "	859
Francis John Petchell	3rd-class engineer	"	6 " "	1109
Charles Arthur Elvines	"	"	8 " "	1110
David Henry Renton	"	"	8 " "	1111
William Hutson	"	"	8 " "	1112
John Ellis Dugdale	"	"	8 " "	1113
Charles Herbert John Holley	"	"	8 " "	1114
William Peterson	2nd-class engineer	"	9 " "	601
Pat Leonard Johnston Foster	3rd-class engineer	"	16 " "	1115
Laurence Keelan McMurrich	2nd-class engineer	"	30 " "	925
Angus John McDiarmid	3rd-class engineer	"	31 " "	1116
Ashleigh Bruce Fitchett	"	"	12 Nov., "	1117
George Esther McNaught	"	"	12 " "	1118
Murdoch Macdonald	"	"	18 " "	1119
Oscar Camille Müller	"	"	18 " "	1120
David William Bennie	2nd-class engineer	"	18 " "	924
Joseph Frank McPherson	3rd-class engineer	"	19 " "	1121
Edward Lewis Morgan	"	"	19 " "	1122
James Matthews	"	"	25 " "	1123
Charles Edward Hampton	"	"	26 " "	1124
Cecil Willie Croll	2nd class engineer	"	22 Dec., "	900
John Patrick Logan	"	"	22 " "	751

RETURN of MASTERS, MATES, and ENGINEERS to whom CERTIFICATES of COMPETENCY were issued during the Year ended 31st March, 1909—*continued*.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
Arthur Russell Scott	2nd-class engineer	Foreign trade	22 Dec., 1908	886
David John Aitken	3rd-class engineer	"	22 " "	1125
William Archibald Smaill	"	"	22 " "	1126
Sidney Black Crawford	1st-class engineer	"	22 " "	706
George Watt	3rd-class engineer	"	6 Jan., 1909	1127
Alexander Inverarity	2nd-class engineer	"	8 " "	881
David Gilmour Stephens	"	"	18 " "	946
Charles Evers Bell	"	"	18 " "	856
Allan Clyde Dickie	"	"	18 " "	648
Cecil Gladstone Downie	3rd-class engineer	"	18 " "	1128
Burton Wells	"	"	18 " "	1129
Robert Dawson Milne	"	"	18 " "	1130
Hugh Goodrich Dobbie	"	"	18 " "	1131
William Innes	"	"	18 " "	1132
Wilson George Blackwell	1st-class engineer	"	18 " "	673
Robert Burns Aitken	"	"	18 " "	1133
Louis Alexis Walters	2nd-class engineer	"	21 " "	321
James William Wheatley	"	"	6 Feb., "	1009
Andrew Smart Young	"	"	6 " "	888
William Daly Revington	3rd-class engineer	"	6 " "	1134
Rawdon Somerville Rutherford	"	"	6 " "	1135
Arthur Rennie Watson	1st-class engineer	"	10 " "	1136
Bryan Palmes	3rd-class engineer	"	1 March, "	1137
Charles James McPherson	2nd-class engineer	"	1 " "	701
Eric Neill Tewsley	3rd-class engineer	"	3 " "	1138
George Moodie	1st-class engineer	"	3 " "	1139
Angus Charles McInnes	"	"	3 " "	784
John McLeish Maxwell	2nd-class engineer	"	5 " "	825
Sidney Herbert Perry	3rd-class engineer	"	5 " "	1140
George Luke	2nd-class engineer	"	5 " "	870
William Sidney Hall	"	"	10 " "	670
William Bell McKenzie	"	"	10 " "	650
Charles Emery Taylor	3rd-class engineer	"	19 " "	1141
Francis Kenworthy	"	"	19 " "	1142
John William Lester	"	"	19 " "	1143
John Murray Donn	"	"	19 " "	1144
David Alexander Head	Engineer	River-steamer	22 April, 1908	2083
George Anderson	"	"	9 May, "	2084
Otto Rudolph Neumann	"	"	14 " "	2085
Thomas William Lapwood	"	"	14 " "	2086
Robert Mackie	"	"	14 " "	2087
Edward Clarence Wyness	"	"	14 " "	2088
Robert Aitken Henderson	"	"	14 " "	2089
Lorenzo Patterson	"	"	14 " "	2090
John Albert Irwin Pearson	"	"	4 June, "	2091
Francis Robert Nichols	"	"	30 " "	2092
Richard George Millar	"	"	30 July, "	2093
Charles Doherty	"	"	5 Aug., "	2094
David Rodgers	"	"	10 " "	2095
Edward Stone	"	"	13 " "	2096
George Ernest Barnes	"	"	13 " "	2097
William Gardiner	"	"	13 " "	2098
Henry Thomas Graves Cunningham	"	"	13 " "	2099
James Joseph Mohan	"	"	8 Sept., "	2100
Charles Ruff	"	"	10 " "	2101
Alfred Edwin Curtis	"	"	10 " "	2102
Adam Leopold Davies	"	"	10 " "	2103
Thomas Walsh	"	"	10 " "	2104
Ransom David Andrews	"	"	10 " "	2105
Leopold Edgar John de Erneste	"	"	10 " "	2106
Frederick William Howlison	"	"	25 " "	2107
Robert McDowell	"	"	20 Oct., "	2108
Frederick William Kirby	"	"	19 Nov., "	2109
Herbert William Pearce	"	"	25 Jan., 1909	2110
Peter John Walsh	"	"	25 " "	2111
William Henry Bricknell	"	"	25 " "	2112
Thomas Edward Higgs	"	"	25 " "	2113
Robert Clinton Savage	"	"	25 " "	2114
William Arthur Tomlinson	"	"	6 Feb., "	2115
Hans Christian Hansen	"	"	1 March, "	2116
Willie Hodge	2nd-class oil engineer	Sea-going	2 April, 1908	107
Archibald Arol Stewart	"	"	2 " "	108
Arthur Marychurch	1st-class oil engineer	"	2 " "	67
William Bolasses Dixon	2nd-class oil engineer	"	8 " "	109
William George Pearce	"	"	9 May, "	110
William Henry Jackson	"	"	14 " "	111
William Houston King	1st-class oil engineer	"	10 Sept., "	112
Clement Solloway Brown	"	"	10 " "	113
Arthur Cecil Bowman	"	"	11 " "	83
Arthur Thomas Gill	2nd-class oil engineer	"	17 " "	114
George Carey	"	"	17 " "	115
John Arthur Palamountain	"	"	8 Oct., "	116
George Leonard Gregg	"	"	18 Nov., "	117
Robert Stephen Wilson	"	"	18 " "	118
James Odey	"	"	18 " "	119

RETURN of MASTERS, MATES, and ENGINEERS to whom CERTIFICATES of COMPETENCY were issued during the Year ended 31st March, 1909—*continued*.

Name of Person.	Rank.	Class of Certificate.	Date of Issue.	No.
Edwin John Tall	1st-class oil engineer	Sea-going	22 Dec., 1908	53
William Roxburgh Eadie	2nd-class oil engineer	"	22 " "	120
William James Mallet	1st-class oil engineer	"	18 Jan., 1909	121
Allan James Rollo	"	"	18 " "	122
John Russell Burr	2nd-class oil engineer	"	18 " "	123
William Henderson Murdoch	1st-class oil engineer	"	21 " "	62
Herbert Garnet Luke	2nd-class oil engineer	"	6 Feb., "	124
Sydney Frank Waite	"	"	6 " "	125
Henry Hazlewood Giles	Oil engineer	River trade	22 April, 1908	118
Sydney Herbert Biddle	"	"	22 " "	119
Henry Herbert Marshall	"	"	14 May, "	120
John Raymond Morris	"	"	14 " "	121
Charles Cuthbert Lucius Fagan	"	"	14 " "	122
Robert Frederick Hinton Aldworth	"	"	14 " "	123
Charles Edwin Nicholson	"	"	14 " "	124
Thomas Thorne Seccombe	"	"	15 June, "	125
Henry O'Brien	"	"	25 " "	126
Geoffrey Rogers	"	"	19 Aug., "	127
Alfred Meredith Cosslett	"	"	10 Sept., "	128
Roland Edgar Neale	"	"	8 Oct., "	129
George Simpson Hackett	"	"	4 Dec., "	130
Fred Garnet Asher	"	"	22 " "	131
Charles Henry Lane	"	"	18 Jan., 1909	132
George William Holland	"	"	18 " "	133
Robert Blundell	"	"	18 " "	134
Bertram Hunter	"	"	18 " "	135
Lionel Innes Stephenson	"	"	18 " "	136
Samson Johanns Salamonsen	"	"	1 March, "	137
Charles Young	"	"	1 " "	138

RETURN showing the NUMBER of MASTERS', MATES', and ENGINEERS' CERTIFICATES issued in New Zealand during the Year ended the 31st March, 1909, showing the Number fo Successful and Unsuccessful Candidates.

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	25	49	74	9	14	23	16	20	36	7	6	13	..	..	..	57	89	146
Home-trade masters and mates	27	26	53	14	6	20	9	1	10	2	2	4	..	..	..	52	35	87
River-steamer masters	9	2	11	6	1	7	1	1	2	3	..	3	2	..	2	21	4	25
Master, fishing-boat or cargo-vessel under 25 tons register	5	4	9	..	..	..	..	..	..	..	1	1	..	..	..	5	5	10
Master, fishing-boat under 5 tons register	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Sea-going engineers (steam)	34	6	40	38	6	44	15	8	23	24	7	31	13	..	13	124	27	151
River-steamer engineers	24	8	32	2	..	2	2	..	2	..	..	..	6	1	7	34	9	43
Sea-going engineers (other mechanical power than steam)	11	1	12	3	..	3	..	..	..	1	..	1	8	1	9	23	2	25
River engineers (other mechanical power than steam)	11	4	15	1	..	1	..	..	..	3	..	3	6	1	7	21	5	26
Totals	147	100	247	73	27	100	43	30	73	40	16	56	35	3	38	338	176	514

RETURN 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, during the Financial Year ended the 31st March, 1909.

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 discharged.	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	2,223	162 19 6	2,025	155 19 0	2,248	151 14 0	2,073	137 3 0	1,019	63 19 6	1,021	65 19 6	5,490	378 13 0	5,119	359 1 6	10,609	737 14 6
Dunedin and Port Chalmers	3,183	228 2 6	3,177	230 12 0	1,433	87 16 0	1,585	108 11 0	..	..	..	..	4,616	315 18 6	4,762	339 3 0	9,378	655 1 6
Greymouth	53	3 15 6	59	4 8 6	281	21 1 6	266	19 7 6	..	..	..	..	334	24 17 0	325	23 16 0	659	48 13 0
Hokianga	11	0 16 6	4	0 6 0	10	0 15 0	6	0 9 0	..	..	..	..	21	1 11 6	10	0 15 0	31	2 6 6
Hokitika	..	..	..	..	39	2 2 6	36	1 18 0	..	..	..	..	39	2 2 6	36	1 18 0	75	4 0 6
Invercargill	167	11 7 6	51	2 7 6	27	1 15 6	31	2 1 0	..	..	..	..	194	13 3 0	82	4 8 6	276	17 11 6
Kaipara	36	2 14 0	36	2 14 0	134	9 17 6	125	9 4 0	..	..	..	..	170	12 11 6	161	11 18 0	331	24 9 6
Lyttelton	786	58 19 0	708	53 2 0	1,528	114 12 0	1,435	107 12 6	14	1 1 0	14	1 1 0	2,328	174 12 0	2,157	161 15 6	4,485	336 7 6
Napier	90	6 15 0	42	3 3 0	218	12 8 6	199	11 7 6	37	2 0 6	37	2 0 6	345	21 4 0	278	16 11 0	623	37 15 0
Nelson	14	1 1 0	2	0 3 0	754	51 0 6	700	47 1 0	33	1 10 0	30	1 10 0	801	53 11 6	732	48 14 0	1,533	102 5 6
New Plymouth	..	..	..	..	9	0 13 6	7	0 10 6	..	..	..	..	9	0 13 6	7	0 10 6	16	1 4 0
Oamaru	15	1 2 6	7	0 10 6	22	1 7 6	21	1 5 6	..	..	..	..	37	2 10 0	28	1 16 0	65	4 6 0
Onehunga	..	..	..	..	857	55 15 6	847	53 16 6	..	..	..	..	857	55 15 6	847	53 16 6	1,704	109 12 0
Patea	..	..	..	..	85	5 12 0	85	5 2 6	..	..	..	..	85	5 12 0	85	5 2 6	170	10 14 6
Picton	3	0 4 6	8	0 12 0	74	4 18 6	61	4 4 0	4	0 4 6	1	0 1 6	81	5 7 6	70	4 17 6	151	10 5 0
Poverty Bay	16	1 4 0	21	1 11 6	121	8 4 0	106	7 2 6	..	..	..	..	137	9 8 0	127	8 14 0	264	18 2 0
Thames	..	..	..	..	10	0 15 0	10	0 15 0	..	..	..	..	10	0 15 0	10	0 15 0	20	1 10 0
Timaru	30	2 5 0	22	1 13 0	152	11 5 6	122	9 0 6	..	..	..	..	182	13 10 6	144	10 13 6	326	24 4 0
Wairau	..	..	..	..	12	0 18 0	12	0 18 0	..	..	..	..	12	0 18 0	12	0 18 0	24	1 16 0
Waitara	..	..	..	..	24	2 2 0	22	1 19 0	..	..	..	..	24	2 2 0	22	1 19 0	46	4 1 0
Wanganui	29	2 3 6	19	1 8 6	363	23 7 0	355	22 17 0	..	..	..	..	392	25 10 6	374	24 5 6	766	49 16 0
Wellington	1,992	126 12 6	1,788	116 3 0	2,672	162 11 6	2,870	167 13 6	..	..	..	..	4,664	289 4 0	4,658	283 16 6	9,322	573 0 6
Westport	45	3 7 6	60	4 15 0	138	10 6 6	128	9 11 6	..	..	..	..	183	13 14 0	188	14 6 6	371	28 0 6
Totals	8,693	613 10 0	8,029	579 8 6	11,211	740 19 6	11,102	729 10 6	1,107	68 15 6	1,103	70 12 6	21,011	1,423 5 0	20,234	1,379 11 6	41,245	2,802 16 6

RETURN of STEAMERS and OIL-ENGINE VESSELS to which CERTIFICATES of SURVEY were issued in NEW ZEALAND during the Year ended 31st March, 1909.

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.				Remarks.
							Able Seamen.	Firemen.	Trimmers.	Greasers.	
Admiral	82	28	..	Compound ..	Screw ..	River ..	..	..	..	..	
Advance (A'kland)	12	8	..	Non-condensing	" ..	Extended river	..	..	..	..	
Advance (Kaipara)	36	30	..	Oil-engines ..	" ..	River ..	..	..	..	..	
Ahuriri	31	17	..	Compound ..	" ..	Extreme river	2	..	..	..	
Akaroa	43	28	49	" ..	" ..	Home trade ..	2	1	..	..	
Albany	8	8	..	Non-condensing	" ..	River ..	..	..	..	..	
Albatross ..	111	37½	..	Compound ..	" ..	" ..	..	..	..	..	
Albatross ..	43	25	..	Oil-engines ..	" ..	" ..	..	..	..	..	
Alert	..	1½	7	Non-condensing	" ..	" ..	..	..	..	..	First survey.
*Alexander ..	185	72	298	Compound ..	Twin-screw	Home trade ..	4	3	..	..	
Alice	..	3½	..	High-pressure ..	Screw ..	River ..	..	..	..	..	
Anna	21	10	..	Oil-engines ..	" ..	Home trade ..	1	..	..	..	
Antelope ..	14	2½	..	" ..	" ..	" ..	1	..	..	..	Fishing-vessel.
Antrim	35	30	..	Condensing ..	" ..	River ..	..	..	..	..	
Aotea	157	33	..	Compound ..	" ..	" ..	..	..	..	..	
Aorere	49	16½	64	" ..	" ..	Home trade ..	2	1	..	..	
Apanui	135	28	197	Triple-expansion	" ..	" ..	4	2	..	..	
Arahura ..	771	147	1,772	"	" ..	" ..	7	6	3	3	
Ariel	13	2½	..	Oil-engines ..	" ..	" ..	1	..	..	..	Fishing-vessel.
*Atua	1,895	329	2,450	Triple-expansion	Twin-screw	Foreign trade	9	9	3	3	First N.Z. survey.
Aupouri	220	55	408	"	Screw ..	Home trade ..	5	3	..	..	
Awaroa	211	62	450	"	" ..	River ..	..	..	..	..	
Baden Powell ..	92	30	150	Compound ..	" ..	Home trade ..	2	2	..	..	
Baroona ..	79	24	..	" ..	" ..	River ..	..	..	..	..	
Beatrice ..	8	10	..	" ..	" ..	Extended river	..	..	..	..	Fishing-vessel.
Bellbird ..	52	15	..	Triple-expansion	" ..	River ..	..	..	..	..	
Ben Lomond ..	33	15	..	Compound ..	" ..	" ..	..	..	..	..	
Blanche	18	9	..	Non-condensing	" ..	Extended river	..	..	..	..	
Bonnie Jean ..	6	2½	..	Oil-engines ..	" ..	Home trade ..	1	..	..	..	
Britannia (A'kland)	108	40	..	Non-condensing	Paddle ..	River ..	..	..	..	..	
Britannia (Bluff) ..	18	2½	..	Oil-engines ..	Screw ..	Home trade ..	1	..	..	..	Fishing-vessel.
Canopus ..	835	250	1,122	Triple-expansion	" ..	" ..	7	3	2	3	
Canterbury ..	..	24	..	Non-condensing	Twin-screw	Extended river	..	..	..	..	
Canterbury ..	1	133	1,000	Compound ..	"	Extreme limits	1	3	2	3	
Charles Edward ..	145	48	192	" ..	"	Home trade ..	4	2	..	..	
Chelmsford ..	79	24	67	" ..	Screw ..	" ..	2	1	..	..	
Clansman ..	379	90	547	" ..	" ..	" ..	5	3	..	..	
*Claymore ..	99	54	378	Triple-expansion	" ..	" ..	2	3	..	..	
Clyde	..	40	..	Compound ..	Paddle ..	River ..	..	..	..	..	
Cobar	57	40	..	" ..	Screw ..	" ..	..	..	..	..	
Colleen	15	2½	..	Oil-engines ..	" ..	Home trade ..	1	..	..	..	Fishing-vessel.
Condor	122	24	..	Compound ..	" ..	Extended river	..	..	..	..	
Corinna	820	141	1,059	" ..	" ..	Home trade ..	7	3	2	3	
Coromandel ..	67	25	..	" ..	" ..	River ..	..	..	..	..	
Cygnet	66	43	180	" ..	" ..	Home trade ..	2	2	..	..	
Daphne	113	..	..	..	" ..	Extended river	..	..	..	..	Yacht.
Defender ..	117	36	..	Compound ..	" ..	Home trade ..	4	2	..	..	
Defiance ..	5	5	..	Oil-engines ..	" ..	Extended ..	..	..	..	..	First survey.
Despatch ..	24	20	..	Compound ..	" ..	Home trade ..	1	..	..	..	Fishing-vessel.
Dolly Varden ..	19	30	..	Oil-engines ..	" ..	" ..	1	..	..	..	
Dorset	39	32	120	Compound ..	Twin-screw	" ..	2	2	..	..	First survey.
Dot	..	½	..	Non-condensing	Screw ..	River ..	..	..	..	..	"
Doto	19	13	..	Compound ..	" ..	Extended river	..	..	..	..	
Duchess ..	95	81	..	Triple-expansion	" ..	River ..	..	..	..	..	
*Duco	25	60	..	"	" ..	Extended river	..	..	..	..	
Durham ..	54	24	..	Compound ..	" ..	River ..	..	..	..	..	
Eagle	138	70	..	" ..	Paddle ..	" ..	..	..	..	..	
Echo	98	60	..	Oil-engines ..	Twin-screw	Home trade ..	2	..	..	..	
Eliza	..	3	..	Non-condensing	Screw ..	River ..	..	..	..	..	
Elsie (Auckland) ..	21	30	..	Oil-engines ..	Twin-screw	" ..	..	..	..	..	
Elsie (Picton) ..	22	11	..	Compound ..	Screw ..	Extended river	..	..	..	..	
Elsie Evans ..	6	20	..	Oil-engines ..	" ..	"	..	..	..	..	
*Endeavour ..	54	30	..	" ..	" ..	"	..	..	..	..	
Endon	12	5	..	Compound ..	" ..	"	..	..	..	..	Fishing-vessel.
Enterprise ..	9	10	..	Oil-engines ..	" ..	River ..	..	..	..	..	
Erin	4	3½	..	Non-condensing	" ..	" ..	..	..	..	..	
Erlin	5	1½	..	Compound ..	" ..	" ..	..	..	..	..	
Erskine	98	35	..	" ..	" ..	" ..	..	..	..	..	
*Eva	7	20	..	Oil-engines ..	" ..	" ..	..	..	..	..	
Excelsior ..	29	24	..	" ..	" ..	Home trade ..	1	..	..	..	
Excelsior ..	5	..	..	Non-condensing	" ..	River ..	..	..	..	..	
Express ..	36	25	98	Compound ..	" ..	Home trade ..	2	1	..	..	
Eveline	..	8	..	Non-condensing	" ..	River ..	..	..	..	..	
Fairburn ..	69	40	..	Oil-engines ..	" ..	Home trade ..	2	..	..	..	
Fairy	33	15	..	Non-condensing	" ..	Extended river	..	..	..	..	

* Surveyed twice.

RETURN of STEAMERS and OIL-ENGINE VESSELS to which CERTIFICATES of SURVEY were issued, &c.—*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.				Remarks.
							Able Seamen.	Firemen.	Trimmers.	Greasers.	
Falcon	..	6	..	Non-condensing	Screw ..	Extended river	..	..	..	..	
Fanny	55	30	144	Compound ..	" ..	Home trade ..	2	2	..	..	
Ferro	10	20	..	Oil-engines ..	" ..	Extended river	..	..	..	..	
Firefloat ..	..	13	50	Non-condensing	" ..	"	..	..	..	..	
Flora	838	180	1,045	Compound ..	" ..	Home trade ..	7	3	2	3	
Freetrader ..	94	50	..	Non-condensing	" ..	River ..	..	..	..	..	
Gael	55	20	..	Compound ..	" ..	Extended river	..	..	..	..	
Gannet (Picton) ..	15	6	..	Condensing ..	" ..	"	..	..	..	..	
Gannet (Bluff) ..	18	5	..	Oil-engines ..	" ..	Home trade ..	1	..	..	..	Fishing-vessel.
Gertie	119	59	329	Condensing ..	" ..	" ..	4	3	..	..	
*Glenelg	156	75	248	Compound ..	" ..	" ..	4	2	..	..	
Gosford	57	30	..	" ..	" ..	River ..	..	..	..	..	
Gordon	9	12	..	" ..	" ..	" ..	..	..	..	..	
Greyhound ..	83	50	..	Oil-engines ..	" ..	Home trade ..	2	..	..	..	
Hamurana ..	..	10	30	Non-condensing	Twin-screw	River ..	..	..	..	..	
Haupiri ..	452	88	448	Compound ..	Screw ..	Home trade ..	6	3	..	..	
Hauroto ..	1,276	253	1,245	" ..	" ..	Foreign trade	8	3	2	3	
Himitangi ..	149	45	236	Triple-expansion	" ..	Home trade ..	4	2	..	..	
Hinemoa ..	32	6½	29	Non-condensing	" ..	River ..	..	..	..	..	
Hirere	32	16	..	Compound	Twin-screw	Extended river	..	..	..	..	
Hobsonville ..	23	15	..	Oil-engines ..	Screw ..	"	..	..	..	..	
Huia (Auckland)	199	60	..	" ..	" ..	Home trade ..	4	..	..	..	
Huia (Wellington)	69	23	121	Compound ..	" ..	" ..	2	2	..	..	
Huia (Wellington)	..	2	..	Condensing ..	" ..	River ..	..	..	..	..	
Invercargill ..	123	50	224	Compound ..	" ..	Home trade ..	4	2	..	..	
Irini	4	15	..	Oil-engines ..	" ..	River ..	..	..	..	..	
Ithaca	7	9	..	Compound ..	" ..	Extended river	..	..	..	..	Fishing-vessel.
Jane Douglas ..	75	22	78	" ..	" ..	Home trade ..	2	1	..	..	
J.D.O.	88	28	..	" ..	" ..	Extended river	..	..	..	..	
John Anderson ..	36	20	..	" ..	" ..	Extreme limits	2	..	..	..	
John Townley ..	85	40	..	" ..	Twin-screw	Extended river	..	..	..	..	
Kaeo	147	60	..	Oil-engines ..	Screw ..	Home trade ..	4	..	..	..	
Kahu (Napier) ..	99	40	237	Compound ..	" ..	" ..	2	2	..	..	
Kahu (Auckland)	27	24	..	Oil-engines ..	" ..	" ..	1	..	..	..	
Kaiaia	24	24	..	" ..	" ..	" ..	1	..	..	..	First survey.
Kaiapoi	1,246	200	931	Triple-expansion	" ..	Foreign trade	7	3	2	3	
Kaipara	..	5	..	Quadruple expansion	" ..	River ..	..	..	..	..	
Kaipatiki ..	20	9½	..	Triple-expansion	" ..	Extended river	..	..	..	..	
Kaitangata ..	1,233	200	940	"	" ..	Foreign trade	7	3	2	3	First N.Z. survey.
Kaituna (Auckland)	6	10	..	Oil-engines ..	" ..	River ..	..	..	..	..	
Kaituna (Dunedin)	1,246	200	1,044	Triple-expansion	" ..	Foreign trade	7	3	2	3	
Kamona ..	903	117	749	"	" ..	"	6	3	..	..	
Kanieri	115	20	145	Compound ..	" ..	Home trade ..	4	2	..	..	
Kapanui ..	63	32	..	" ..	" ..	Extended river	..	..	..	..	
Kapiti	114	35	208	" ..	" ..	Home trade ..	4	2	..	..	
Karoro	52	17	..	" ..	" ..	Extended river	..	..	..	..	
Kate	..	5	..	Non-condensing	" ..	River ..	..	..	..	..	
Kawau (Auckland)	53	20	..	Compound ..	" ..	" ..	..	..	..	..	
Kawau (Kaipara)	37	15	..	" ..	" ..	" ..	..	..	..	..	
Kekeno	19	6	..	Oil-engines ..	" ..	Home trade ..	1	..	..	..	
Kennedy ..	131	39	210	Compound ..	Twin-screw	" ..	4	2	..	..	
Kereru	96	55	..	Oil-engines ..	" ..	" ..	2	..	..	..	
Kestrel	203	43	..	Compound ..	Screw ..	Extended river	..	..	..	..	
Kina	8	25	..	Oil-engines ..	" ..	River ..	..	..	..	..	First survey.
Kini	702	130	691	Triple-expansion	" ..	Home trade ..	6	3	..	..	
Kiripaka ..	75	24	100	Compound ..	" ..	" ..	2	2	..	..	
Kittawa ..	708	120	716	" ..	" ..	" ..	6	3	..	..	
Kiwi	..	3	..	Condensing ..	" ..	River ..	..	..	..	..	
Koi	53	32	..	Compound ..	Twin-screw	Extreme limits	2	..	..	..	
Komata ..	1,194	260	1,174	Triple-expansion	Screw ..	Foreign trade	7	3	2	3	
Koonya	663	115	712	"	" ..	Home trade ..	6	3	..	..	
Kopu	..	13	..	Non-condensing	Paddle ..	Extended river	..	..	..	..	
Koputai ..	5	120	489	Compound ..	" ..	Home trade ..	1	3	..	..	Tug.
*Koroi	..	9½	..	Triple-expansion	Screw ..	Extended river	..	..	..	..	
Koromiko ..	1,541	313	1,358	"	" ..	Foreign trade	8	6	3	3	First N.Z. survey.
Kotare	79	20	..	Compound ..	" ..	Home trade ..	2	..	..	..	
Kotuku	662	112	707	Triple-expansion	" ..	" ..	6	3	..	..	
Kotiti	42	14	..	Compound ..	" ..	Extended river	..	..	..	..	
Kuaka	33	90	..	Oil-engines ..	" ..	"	..	..	..	..	
Lady Barkly ..	39	20	87	Compound ..	" ..	Home trade ..	2	1	..	..	
Lena	..	..	5	Non-condensing	" ..	Extended river	..	..	..	..	
Lena	13	8	..	Oil-engines ..	" ..	River ..	..	..	..	..	
Little Jack ..	..	1½	..	Non-condensing	" ..	" ..	..	..	..	..	Yacht.
Lomen	..	6	..	Compound ..	" ..	" ..	..	..	..	..	

* Surveyed twice.

RETURN of STEAMERS and OIL-ENGINE VESSELS to which CERTIFICATES of SURVEY were issued, &c.—*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.				Remarks.
							Able Seamen.	Firemen.	Trimmers.	Greasers.	
Loyalty	68	35	102	Compound ..	Screw ..	Home trade ..	2	2	..	..	Fishing-vessel.
Lyttelton ..	39	80	190	" ..	" ..	" ..	2	2	..	..	
Magic	58	60	..	Oil-engines ..	Twin-screw	" ..	2	..	..	..	
Maheno ..	24	60	..	" ..	"	River ..	..	..	..	..	
Mahurangi ..	95	39	..	Compound ..	Screw ..	Extended river	..	..	..	..	First survey.
Mahuta ..	11	13	..	Oil-engines ..	" ..	River ..	..	..	..	..	
Maidi	12	35	..	" ..	" ..	" ..	..	..	..	..	
Maitai	1,888	490	3,450	Triple-expansion	" ..	Foreign trade	9	6	3	3	Formerly Miowera.
Makarora ..	45	13	..	Non-condensing	" ..	River ..	..	..	..	..	
Mana	77	25	126	Compound ..	" ..	Home trade ..	2	2	..	..	
Manapouri ..	1,288	300	1,601	" ..	" ..	Foreign trade	8	6	3	3	
Manaroa ..	78	24	163	" ..	" ..	Home trade ..	2	2	..	..	
Manchester ..	366	160	1,400	Triple-expansion	" ..	Extended river	..	..	..	..	
Mangapapa ..	87	28	228	Compound ..	" ..	Home trade ..	2	2	..	..	
Manukau ..	45	15	..	" ..	" ..	Extreme limits	..	..	..	..	
Manurere ..	..	3½	..	Quadruple-expansion	" ..	River ..	..	..	..	..	
Manuwai ..	75	30	..	Non-condensing	" ..	" ..	..	..	..	..	
Maori (Auckland)	17	8	..	"	" ..	" ..	..	..	..	..	
Maori (Dunedin)..	1,433	..	5,600	Turbines ..	Screws ..	Home trade ..	8	15	9	3	First N.Z. survey.
Mapourika ..	718	130	1,063	Triple-expansion	Twin-screw	" ..	..	..	..	..	
Mararoa ..	1,381	530	3,721	"	Screw ..	Foreign trade	8	9	6	3	
Mascotte (Auckl'd)	..	5	..	Non-condensing	" ..	River ..	..	..	..	..	
Mascotte (Wang'ui)	..	3	..	"	" ..	" ..	..	..	..	..	
*Matara	13	4	12	"	" ..	" ..	..	..	..	..	
Matarere ..	..	2	..	Compound ..	" ..	" ..	..	..	..	..	
Matariki ..	66	13	..	" ..	" ..	" ..	..	..	..	..	First survey.
Matuku ..	..	4	..	Non-condensing	" ..	" ..	..	..	..	..	
Mavis ..	..	4½	..	"	" ..	" ..	..	..	..	..	
Mawhera ..	292	168	1,000	Triple-expansion	Twin-screw	Home trade ..	4	3	2	3	
May Howard ..	55	45	..	Oil-engines ..	Screw ..	" ..	2	..	..	..	
Mere Mere ..	..	3	..	Non-condensing	" ..	River ..	..	..	..	..	
*Moa ..	95	33	181	Compound ..	" ..	Home trade ..	2	2	..	..	
Moana ..	6	7	..	Non-condensing	" ..	River ..	..	..	..	..	
Moeraki ..	2,715	357	3,988	Triple-expansion	Twin-screw	Foreign trade	11	9	6	3	
Moerangi ..	16	27½	..	Oil-engines ..	Screw ..	River ..	..	..	..	..	
Mokoia ..	2,154	255	3,293	Triple-expansion	" ..	Foreign trade	10	9	6	3	
Monowai ..	2,137	290	2,796	"	" ..	"	10	9	6	3	
Moturoa ..	10	10	..	Compound ..	" ..	River ..	..	..	..	..	
Mountaineer ..	66	50	..	" ..	Paddle ..	" ..	..	..	..	..	
Mullogh ..	46	15	..	Vertical ..	Screw ..	Extended river	..	..	..	..	Fishing-vessel.
Muriel ..	38	17	116	Compound ..	" ..	" ..	..	..	..	..	
Murihiku ..	369	70	553	Triple-expansion	Twin-screw	Home trade ..	4	3	..	..	Dredge.
Mystery ..	7	6	..	Oil-engines ..	Screw ..	" ..	1	..	..	..	Fishing-vessel.
Napier	48	30	83	Compound ..	" ..	" ..	2	1	..	..	"
Natone	50	24	..	" ..	" ..	River ..	..	..	..	..	
Naumai.. ..	29	12	..	" ..	" ..	" ..	..	..	..	..	
Navua	1,813	220	2,255	Triple-expansion	Twin-screw	Foreign trade	9	9	3	3	
Nellie Mason ..	14	15	..	Oil-engines ..	Screw ..	River ..	..	..	..	..	First survey.
Ngahere ..	556	118	681	Triple-expansion	" ..	Home trade ..	6	3	..	..	"
*Ngapuhi ..	299	160	709	"	Twin-screw	" ..	5	3	..	..	
Ngatiawa ..	220	55	437	Compound ..	" ..	" ..	5	3	..	..	
Ngunguru ..	68	24	76	" ..	Screw ..	" ..	2	1	..	..	
Nile	21	20	32	" ..	Paddle ..	" ..	1	1	..	..	
Nina	7	2	..	" ..	Screw ..	River ..	..	..	..	..	
Niobe	..	3	..	Non-condensing	" ..	" ..	..	..	..	..	
No. 121	394	100	..	Compound ..	Twin-screw	Extended river	..	..	..	..	Dredge.
No. 222	502	120	583	" ..	"	Home trade ..	5	3	..	..	"
No. 350	488	93	526	Triple-expansion	"	" ..	5	3	..	..	"
No. 404	211	78	395	Compound ..	"	River ..	..	..	..	..	"
Nora Niven ..	57	35	256	Triple-expansion	Screw ..	Home trade ..	2	3	..	..	Fishing-vessel.
Ohinemuri ..	73	26	120	"	" ..	" ..	2	2	..	..	
Ongarue ..	10	40	..	Oil-engines ..	" ..	" ..	1	..	..	..	
*Onslow	16	20	..	Compound ..	" ..	" ..	1	..	..	..	
Opawa	64	18	60	" ..	" ..	" ..	2	1	..	..	
Opoutia ..	..	5	..	Non-condensing	" ..	River ..	..	..	..	..	
Orewa ..	37	17	..	Compound ..	" ..	Extended river	..	..	..	..	
Osprey ..	138	70	..	" ..	Paddle ..	River ..	..	..	..	..	
Otunui	12	35	..	Oil-engines ..	Screw ..	" ..	..	..	..	..	
Paeroa	46	15	64	Compound ..	" ..	Home trade ..	2	1	..	..	
Pahiki	14	11	..	" ..	" ..	River ..	..	..	..	..	
Pania	27	11	..	" ..	" ..	Extended river	..	..	..	..	
Pateena ..	550	250	1,883	" ..	" ..	Home trade ..	6	6	3	3	
Patiti	..	15	..	Oil-engines ..	" ..	River ..	..	..	..	..	First survey.
Pearl	9	6	..	Non-condensing	" ..	" ..	..	..	..	..	

* Surveyed twice.

RETURN of STEAMERS and OIL-ENGINE VESSELS to which CERTIFICATES of SURVEY were issued, &c.—*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.				Remarks.
							Able Seamen.	Firemen.	Trimmers.	Greasers.	
Pelican	1	57	288	Triple-expansion	Twin-screw	Home trade ..	1	3	..	..	
Pelorus	18	12	..	Oil-engines ..	Screw ..	River ..	..	..	..	..	
Penguin ..	517	180	882	Compound ..	" ..	Home trade ..	6	3	2	3	
Petone	388	82	541	Triple-expansion	" ..	" ..	5	3	..	..	
Phantom ..	18	11	..	Compound ..	" ..	Extended river	..	..	..	..	
Pilot (Dunedin) ..	27	15	..	Triple-expansion	" ..	River ..	..	..	..	..	
Pilot (Napier) ..	11	13	..	Compound ..	" ..	Extended river	..	..	..	..	
Piraki	10	4	..	Non-condensing	" ..	River ..	..	..	..	..	
Pitoitoi (Waitara)	29	15	..	Compound ..	" ..	Home trade ..	1	..	..	..	
Planet	13	8	..	" ..	" ..	River ..	..	..	..	..	
Plucky	29	40	238	" ..	" ..	Home trade ..	1	2	..	..	Tug.
Poherua ..	749	128	702	Triple-expansion	" ..	" ..	6	3	..	..	
Portare	8	15	..	Oil-engines ..	" ..	Extended river	..	..	..	..	First survey.
Presto	..	3	..	Compound ..	" ..	River ..	..	..	..	..	
Pukaki	917	110	587	Quadruple-expansion	" ..	Home trade ..	6	3	..	..	
Purau	38	18	..	Compound ..	Twin-screw	Extended river	..	..	..	..	
Putiki	157	60	319	" ..	Screw ..	Home trade ..	4	3	..	..	
Queen of the South	121	40	194	" ..	" ..	" ..	4	2	..	..	
Rakanoa ..	1,393	200	878	Triple-expansion	" ..	Foreign trade	7	3	2	3	
Rakiura (Dunedin)	81	35	141	Compound ..	" ..	Home trade ..	2	2	..	..	
Rakiura (Bluff) ..	13	10	..	Oil-engines ..	" ..	" ..	1	..	..	..	Fishing-vessel.
Rarawa	460	140	1,237	Triple-expansion	" ..	" ..	6	3	2	3	
*Regulus	227	150	631	Compound ..	Twin-screw	" ..	4	3	..	..	
Reremoana ..	14	50	..	Oil-engines ..	Screw ..	River ..	..	..	..	..	
Result	18	10	..	Compound ..	" ..	Extended river	..	..	..	..	
Rimu	144	95	433	Triple-expansion	" ..	Foreign trade	4	3	..	..	
Rio Loge ..	241	60	..	Oil-engines ..	Twin-screw	Home trade ..	4	..	..	..	First survey.
Ripple	187	60	269	Triple-expansion	Screw ..	Foreign trade	4	3	..	..	
Rita	17	11	..	Compound ..	" ..	Home trade ..	1	..	..	..	Fishing-vessel.
Riwaka	19	10½	..	" ..	" ..	River ..	..	..	..	..	
Rob Roy ..	34	16	..	" ..	" ..	Home trade ..	2	1	..	..	
Rosamond ..	462	90	442	" ..	" ..	Home trade ..	5	3	..	..	
Rosetta	10	5	..	Oil-engines ..	" ..	" ..	1	..	..	..	Fishing-vessel.
Rotoiti	630	104	1,133	Triple-expansion	Twin-screw	" ..	7	3	2	3	
Rotoiti	..	2½	..	"	Screw ..	River ..	..	..	..	..	
Rotomahana (Auckland)	139	50	281	Compound ..	" ..	Extended river	..	..	..	..	
Rotomahana (Dunedin)	915	450	2,588	" ..	" ..	Home trade ..	7	9	2	3	
Rotokohu ..	11	8	..	" ..	" ..	Extended river	..	..	..	..	
Rotorua ..	..	..	..	Oil-engines ..	" ..	River ..	..	..	..	..	
Ruahine ..	12	2½	..	" ..	" ..	Home trade ..	1	..	..	..	Fishing-vessel.
Ruru (Auckland) ..	11	10	..	Compound ..	" ..	Extended river	..	..	..	..	
Ruru (Napier) ..	58	50	228	" ..	" ..	Home trade ..	2	2	..	..	
Ruruhau ..	16	2½	..	Oil-engines ..	" ..	" ..	1	..	..	..	
Scout	11	11	..	" ..	" ..	" ..	1	..	..	..	
Settler	8	7	..	Compound ..	" ..	River ..	..	..	..	..	
Shamrock ..	60	120	..	Oil-engines ..	" ..	Home trade ..	2	..	..	..	
Sir Wm. Wallace ..	30	20	..	Compound ..	" ..	Extended river	..	..	..	..	
*Sonoma	..	13	..	Non-condensing	" ..	River ..	..	..	..	..	
Southern Cross ..	403	117	548	Triple-expansion	" ..	Foreign trade	6	3	..	..	
Squall	133	60	285	Compound ..	" ..	Home trade ..	4	3	..	..	
Stella	157	90	245	" ..	" ..	" ..	4	2	..	..	
Sterling	26	39	197	" ..	" ..	" ..	1	2	..	..	
Storm	186	70	280	" ..	" ..	" ..	4	3	..	..	
Stormbird ..	129	40	205	" ..	" ..	" ..	4	2	..	..	
Sunbeam ..	8	5	..	Oil-engines ..	" ..	" ..	1	..	..	..	Fishing-vessel.
Swan	4	..	..	Compound ..	" ..	River ..	..	..	..	..	
Sylph	5	8	..	Non-condensing	" ..	" ..	..	..	..	..	
Taieri	1,071	155	730	Triple-expansion	" ..	Foreign trade	7	3	..	..	
Tainui	60	24	144	Compound ..	" ..	Home trade ..	2	2	..	..	
Takapuna (Auckland)	58	20	..	Non-condensing	Paddle ..	River ..	..	..	..	..	
Takapuna (Dunedin)	472	165	1,481	Compound ..	Screw ..	Home trade ..	6	6	3	3	
Talune	1,370	255	1,975	Triple-expansion	" ..	" ..	8	6	3	3	
Tangaroa ..	110	70	..	Compound ..	Twin-screw	Extended river	..	..	..	..	
Tangihua ..	20	15	..	" ..	Screw ..	River ..	..	..	..	..	
Taniwha ..	191	40	..	" ..	Twin-screw	Extended river	..	..	..	..	
Taniwha (Timaru)	16	16	..	Non-condensing	Screw ..	" ..	..	..	..	..	
Tarakihi ..	..	4	..	"	" ..	River ..	..	..	..	..	
Tarawera ..	1,269	250	1,580	Compound ..	" ..	Home trade ..	8	6	3	3	
Tarewai	11	6	..	Non-condensing	" ..	River ..	..	..	..	..	
Tawera (Waikato)	..	8	..	"	" ..	" ..	..	..	..	..	

* Surveyed twice.

RETURN of STEAMERS and OIL-ENGINE VESSELS to which CERTIFICATES of SURVEY were issued, &c.—*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.				Remarks.
							Able Seamen.	Firemen.	Trimmers.	Greasers.	
Tawera (Auckland)	44	40	..	Oil-engines ..	Screw ..	Extended river	..	..	..	..	
Tawera (Inver'gill)	..	14	56	Compound ..	" ..	River ..	..	..	..	..	
Te Anau ..	1,028	250	1,245	"	" ..	Home trade ..	8	3	2	3	
Te Waipounamu ..	20	2½	..	Oil-engines ..	" ..	" ..	1	..	..	..	Fishing-vessel.
Terawhiti ..	47	..	524	Triple-expansion	" ..	" ..	2	3	..	..	
Theresa Ward ..	9	95	448	" ..	" ..	" ..	1	3	..	..	
Thistle	77	90	..	Oil-engines ..	Twin-screw	" ..	2	..	..	..	
Thomas King ..	70	16	..	Non-condensing	Screw ..	Extended river	..	..	..	..	
Togo	..	14	..	Compound ..	Twin-screw	River ..	..	..	..	..	
Tongariro ..	4	..	..	" ..	" ..	" ..	..	..	..	..	First survey.
Torgauten ..	197	18½	108	" ..	Screw ..	Home trade	4	2	..	..	
Traveller ..	..	8	..	" ..	" ..	River ..	..	..	..	..	
Tuatea	58	28	242	" ..	" ..	Home trade ..	2	2	..	..	
*Tu Atu	30	48	..	Oil-engines ..	Twin-screw	Extended river	..	..	..	..	
Tuhara	74	60	..	" ..	" ..	Extreme limits	2	..	..	..	
*Tui	..	6½	35	Non-condensing	Screw ..	Extended river	..	..	..	..	
Tui	26	40	..	Oil-engines ..	" ..	River ..	..	..	..	..	First survey.
Tuirangi ..	72	22	..	Triple-expansion	" ..	" ..	..	..	..	..	"
Tukua	10	9	..	Oil-engines ..	" ..	Extended river	..	..	..	..	"
Tuna (Gisborne) ..	..	14	..	Compound ..	Twin-screw	"	..	..	..	..	
Tuna (Kaipara) ..	..	3½	..	Non-condensing	Screw ..	River ..	..	..	..	..	
Uira	..	3½	..	" ..	" ..	" ..	..	..	..	..	
*Uta	23	50	..	Oil-engines ..	" ..	" ..	..	..	..	..	
Variance ..	19	2½	..	" ..	" ..	Home trade ..	1	..	..	..	Fishing-vessel.
Vesper	36	16	..	" ..	" ..	" ..	2	..	..	..	
Victoria	92	50	..	Non-condensing	Paddle ..	River ..	..	..	..	..	
Victory	16	10	..	Oil-engines ..	Screw ..	Extended river	..	..	..	..	
Violet	8	6	..	" ..	" ..	"	..	..	..	..	Fishing-vessel.
Vivid	6	13	..	Non-condensing	" ..	River ..	..	..	..	..	
W.	11	26	..	Oil-engines ..	" ..	" ..	..	..	..	..	First survey.
Waiapu	57	15	..	" ..	" ..	Home trade ..	2	..	..	..	
Waihi	63	20	172	Compound ..	" ..	" ..	2	2	..	..	
Waihora ..	2,993	410	1,934	Triple-expansion	" ..	Foreign ..	10	6	3	3	First N.Z. survey.
Waikare ..	1,901	229	2,672	"	" ..	Foreign trade	9	9	3	3	
Waikato ..	56	14	..	Non-condensing	" ..	River ..	..	..	..	..	
Waimarie (Auckland)	159	48	..	Compound ..	" ..	Extended river	..	..	..	..	
Waimarie (Wanganui)	65	20	..	Non-condensing	Paddle ..	River ..	..	..	..	..	
Waione	43	80	..	Compound ..	Screw ..	" ..	..	..	..	..	
Waiora	..	..	66	" ..	" ..	" ..	..	..	..	..	
Waiotahi ..	168	56	292	" ..	Twin-screw	Home trade ..	4	3	..	..	
Waipori	1,229	180	966	Triple-expansion	Screw ..	Foreign trade	7	3	2	3	
*Wairau	60	20	151	Compound ..	" ..	Home trade ..	2	2	..	..	First survey.
Wairere	41	25	..	Non-condensing	Paddle ..	River ..	..	..	..	..	
Wairoa (Nelson) ..	48	20	54	Compound ..	Screw ..	Home trade ..	2	1	..	..	
Wairoa (Kaipara) ..	63	40	..	Condensing ..	" ..	" ..	2	..	..	..	
Wairua	..	..	66	Compound ..	" ..	River ..	..	..	..	..	
Waitangi ..	34	62	315	" ..	Twin-screw	Home trade ..	2	3	..	..	
Waitemata ..	3,460	258	2,284	Triple-expansion	Screw ..	Foreign trade	11	9	3	3	First N.Z. survey.
Waitohi	18	10	..	" ..	" ..	Extended river	..	..	..	..	
Waiwera (Henley)	..	16	..	Oil-engines ..	" ..	River ..	..	..	..	..	
Waiwera (Kaipara)	..	..	..	" ..	" ..	" ..	..	..	..	..	
Waiwiri	..	7¾	..	Compound ..	" ..	Extended river	..	..	..	..	
Wakapai ..	..	10	100	" ..	" ..	River ..	..	..	..	..	
Wakatere ..	157	140	..	" ..	Paddle ..	" ..	..	..	..	..	
Wakatu	95	23	142	" ..	Screw ..	Home trade ..	2	2	..	..	
Wanaka ..	1,572	280	1,181	Triple-expansion	" ..	Foreign trade	9	3	2	3	
Warrimoo ..	2,076	490	3,716	"	" ..	"	10	9	6	3	
Water-lily ..	18	10	..	Oil-engines ..	" ..	Home trade ..	1	..	..	..	First survey.
Wave	29	11	..	" ..	" ..	" ..	1	..	..	..	
Waverley ..	93	25	104	Compound ..	Twin-screw	" ..	2	2	..	..	
Weka (Auckland)	86	27	..	" ..	" ..	River ..	..	..	..	..	
Weka (Napier) ..	53	20	106	" ..	Screw ..	Home trade ..	2	2	..	..	
*Whakapara ..	..	2¼	..	" ..	" ..	Extended river	..	..	..	..	Yacht.
Whakarire ..	449	120	640	" ..	Twin-screw	Home trade ..	5	3	..	..	Dredge.
Whangape ..	1,901	280	1,177	Triple-expansion	Screw ..	Foreign trade	8	3	2	3	
Whati	..	1¾	..	Non-condensing	" ..	River ..	..	..	..	..	
Wootton ..	90	33	157	Compound ..	" ..	Home trade ..	2	2	..	..	
Young Bungaree ..	47	35	178	" ..	" ..	" ..	2	2	..	..	
Zingara	99	14	80	" ..	Twin-screw	" ..	2	1	..	..	First survey.

* Surveyed twice.

RETURN of FOREIGN-GOING SAILING-SHIPS to which SURVEY CERTIFICATES were granted during the Year ended 31st March, 1909.

Name of Vessel.	Tons Register.	Class of Certificate.	Minimum Number of Seamen required by Law to be carried.			Remarks.
			Able Seamen.	Ordinary Seamen.	Boys.	
Advance	36	Intercolonial ..	2	..	..	
Dartford	1,274	Foreign-going ..	10	2	3	
Era I	20	Intercolonial ..	1	..	..	
Ganymede	569	" ..	7	1	2	
Hazel Craig	467	" ..	7	1	1	
Ilma..	318	Foreign-going ..	6	1	1	
Jessie Craig	634	Intercolonial ..	8	1	2	
Jessie Niccol	93	Foreign-going ..	2	1	..	
Joseph Craig	694	Intercolonial ..	8	1	2	
Laira	458	Foreign-going ..	7	1	1	
Louisa Craig	692	Intercolonial ..	8	1	2	
Manurewa	327	" ..	6	1	1	
Rona	618	" ..	8	1	2	
Selwyn Craig	486	" ..	7	1	1	
Senorita	324	" ..	6	1	1	
Whangaroa	132	" ..	6	..	1	
*Ysabel	149	Foreign-going ..	4	..	1	

*Surveyed twice.

RETURN showing Number of FISHING-BOATS REGISTERED and LICENSED at each Port during the Year ended 31st December, 1908.

Port.	Number registered.	Number licensed.	Port.	Number registered.	Number licensed.
Auckland	230	204	Brought forward	841	793
Blenheim	6	6	New Plymouth	24	22
Bluff	77	77	Oamaru	49	49
Dunedin and Port Chalmers ..	99	99	Picton	40	40
Greymouth	13	13	Poverty Bay	17	14
Hokitika	4	4	Russell	45	45
Hokianga	16	16	Tauranga	57	57
Invercargill	23	23	Thames	65	65
Kaipara	48	28	Timaru	20	20
Lyttelton	206	206	Wanganui	23	23
Mangonui	14	14	Wellington	98	98
Napier	47	47	Westport	20	20
Nelson	58	56			
Carried forward	841	793	Totals	1,299	1,246

Table showing, for the Year 1908, the Number and Tonnage of Registered Vessels (exclusive of River Steamers) of the Dominion of New Zealand which were employed wholly in the Home Trade, partly in the Home and partly in the Foreign Trade, and wholly in the Foreign Trade, respectively; and the Number of Men and Boys (exclusive of Masters) employed thereon.

Class of Vessels.	Under 50 Tons.			50 Tons and under 100.			100 Tons and under 200.			200 Tons and under 300.			300 Tons and under 400.			400 Tons and under 500.			500 Tons and under 600.			600 Tons and under 700.			700 Tons and under 800.			800 Tons and under 1,000.			1,000 Tons and under 1,200.			1,200 Tons and under 1,500.			1,500 Tons and under 2,000.			2,000 Tons and under 3,000.			Over 3,000 Tons.			Totals.		
	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.	Vessels.	Tons.	Men and Boys.
In the Home (Coastal) Trade only—																																														
Sailing	96	2,361	160	56	4,241	219	8	1,185	51	1	217	8	1	314	1	..	..	..	1	569	11	3	1,922	15	..	..	..	2	1,723	2	1	1,190	5	..	..	..	..	..	..	..	..	..	..	..	..	169	13,722	472
Steam	80	2,066	350	67	4,923	584	34	5,012	462	9	2,298	169	4	1,491	53	6	2,823	155	1	517	39	3	1,955	89	5	3,648	139	2	1,752	49	3	3,336	104	4	5,453	230	1	1,572	31	..	..	..	..	..	..	219	36,846	2,454
Totals ..	176	4,427	510	123	9,164	803	42	6,197	513	10	2,515	177	5	1,805	54	6	2,823	155	2	1,086	50	6	3,877	104	5	3,648	139	4	3,475	51	4	4,526	109	4	5,453	230	1	1,572	31	..	..	..	..	..	..	388	50,568	2,926
Partly in the Home and partly in the Foreign Trade—																																														
Sailing	..	..	..	..	..	..	5	896	40	..	..	..	1	396	9	..	..	..	..	..	..	1	674	12	1	785	12	..	..	..	..	..	..	1	1,274	23	..	..	..	..	..	..	..	..	..	9	4,025	96
Steam	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	462	19	1	516	22	..	..	..	..	..	..	4	3,610	110	3	3,336	86	6	7,528	219	6	10939	323	8	19444	622	3	10689	274	32	56,524	1,675
Totals ..	..	..	..	..	..	..	5	896	40	..	..	..	1	396	9	1	462	19	1	516	22	1	674	12	1	785	12	4	3,610	110	3	3,336	86	7	8,802	242	6	10939	323	8	19444	622	3	10689	274	41	60,549	1,771
In the Foreign Trade only—																																														
Sailing	10	170	12	..	..	..	4	602	28	11	2,769	99	3	969	32	5	2,404	58	3	1,613	26	5	3,351	65	..	..	..	..	..	..	1	1,047	19	1	1,200	18	..	..	..	..	..	..	..	..	..	43	14,125	357
Steam	1	17	5	1	93	6	3	446	39	..	..	..	..	..	..	1	411	30	..	..	..	..	..	..	..	..	..	1	915	52	..	..	..	1	1,258	47	1	1,736	67	..	..	..	1	4,921	149	10	9,797	395
Totals ..	11	187	17	1	93	6	7	1,048	67	11	2,769	99	3	969	32	6	2,815	88	3	1,613	26	5	3,351	65	..	..	..	1	915	52	1	1,047	19	2	2,458	55	1	1,736	67	..	..	..	1	4,921	149	53	23,922	742
Grand Totals..	187	4,614	527	124	9,257	809	54	8,141	620	21	5,284	276	9	3,170	95	13	6,100	262	6	3,215	98	12	7,902	181	6	4,433	151	9	8,000	213	8	8,909	214	13	16713	527	8	14247	421	8	19444	622	4	15610	423	482	135039	5,439

TABLE showing the Number and Tonnage of Sailing and Steam Vessels which remained upon the Register of the Dominion of New Zealand on the 31st December, 1907; of those added to and deducted from the Register during the Year 1908; and of those which remained upon the Register on the 31st December, 1908.

	Sailing Vessels.			Steam Vessels.			Totals.		
	Vessels.	Gross Tonnage.	Net Tonnage.	Vessels.	Gross Tonnage.	Net Tonnage.	Vessels.	Gross Tonnage.	Net Tonnage.
Upon the Register on the 31st December, 1907	323	46,373	43,967	305	150,628	88,629	628	197,001	132,596
Added to the Register,—									
Errors in Registrars' returns, 1907	..	4	5	1	54	46	1	58	51
Vessels registered for the first time—									
Built at ports in United Kingdom	..	..	..	4	20,331	12,556	4	20,331	12,556
Built at ports in British possessions	7	217	133	10	791	402	17	1,008	535
Vessels transferred from ports in the United Kingdom	2	2,576	2,474	2	5,374	3,107	4	7,950	5,581
Vessels transferred from ports in British possessions abroad	7	2,680	2,493	10	5,615	3,344	17	8,295	5,837
Vessels registered *de novo*	3	80	72	3	294	146	6	374	218
Tonnage added in consequence of re-measurement or alteration	..	..	..	1	156	66	1	156	66
Total added	19	5,557	5,177	31	32,615	19,667	50	38,172	24,844
Deducted from the Register,—									
Errors in Registrars' returns, 1907	1	50	43	..	..	11	1	50	54
Wrecked or otherwise lost	8	2,041	1,939	1	225	134	9	2,266	2,073
Broken up, decayed, &c.	5	652	619	..	..	..	5	652	619
Transferred to ports in British possessions	8	1,877	1,728	8	1,425	691	16	3,302	2,419
Registered *de novo*	4	332	297	2	48	48	6	380	345
Tonnage deducted in consequence of re-measurement or alteration	1	104	152	..	20	89	1	124	241
Total deducted	27	5,056	4,778	11	1,718	973	38	6,774	5,751
Vessels on Register on 31st December, 1908	315	46,874	44,366	325	181,525	107,323	640	228,399	151,689

TABLE showing the Number and Tonnage of the Registered Vessels (distinguishing Sailing from Steam) which belonged to each of the Ports of New Zealand on the 31st December, 1908.

Ports.	Sailing Vessels.			Steam Vessels.		
	Vessels.	Gross Tonnage.	Net Tonnage.	Vessels.	Gross Tonnage.	Net Tonnage.
Auckland	207	18,347	16,900	141	17,869	10,147
Napier	6	365	352	22	2,311	1,452
Wellington	24	3,978	3,811	38	9,571	5,138
Nelson	9	215	209	10	1,345	755
Lyttelton	22	6,225	5,974	12	2,952	1,133
Timaru	2	1,649	1,577	1	942	488
Dunedin	40	15,088	14,581	92	145,484	87,694
Invercargill	5	1,007	962	9	1,051	516
Totals	315	46,874	44,366	325	181,525	107,323

DESCRIPTIVE RETURN of New Zealand COASTAL LIGHTHOUSES.

Name of Lighthouse.	Order of Apparatus.	Description.	Period of Revolving Light.	Colour of Light.	Tower built of	Dwellings built of	Date first lighted.
Cape Maria van Diemen	1st order dioptric	Revolving	1′	White	Timber	Timber	24 Mar., 1879
	..	Fixed	..	Red, to show over Columbia Reef.			
Cape Brett ..	1st order dioptric	Group flashing	†	White	Iron	Timber	Building.
Moko Hinou ..	1st "	Flashing	10″	"	Stone	"	18 June, 1883
Tiritiri	2nd "	Fixed	..	White, with red arc over Flat Rock	Iron	"	1 Jan., 1865
Ponui Passage ..	5th "	"	..	White and red ..	Timber	"	29 July, 1871
Cuvier Island ..	1st "	Revolving	30″	White	Iron	"	22 Sept., 1889
East Cape ..	2nd "	Flashing	10″	"	"	"	9 Aug., 1900
Portland Island	2nd "	Revolving	30″	"	Timber	"	10 Feb., 1878
	..	Fixed	..	Red, to show over Bull Rock.			
Cape Palliser ..	2nd order dioptric	Revolving	*	White	Iron	Timber	27 Oct., 1897
Pencarrow Head ..	2nd "	Fixed	..	"	"	"	1 Jan., 1859
Cape Egmont ..	2nd "	"	..	"	"	"	1 Aug., 1881
Manukau Head ..	3rd "	"	..	"	Timber	"	1 Sept., 1874
Kaipara Head ..	2nd "	Flashing	10″	"	"	"	1 Dec., 1884
Brothers ..	2nd "	"	10″	"	"	"	24 Sept., 1877
	..	Fixed	..	Red, to show over Cook Rock.			
Cape Campbell ..	2nd order dioptric	Revolving	1′	White	Iron	Timber	1 Aug., 1870
Godley Head ..	2nd "	Fixed	..	"	Stone	Stone	1 April, 1865
Akaroa Head ..	2nd "	Flashing	10″	"	Timber	Timber	1 Jan., 1880
Jack's Point ..	4th "	Fixed	..	"	Iron	"	1 July, 1904
Moeraki ..	3rd "	"	..	"	Timber	"	22 April, 1878
Taiaroa Head ..	3rd "	"	..	Red	Stone	Stone	2 Jan., 1865
Cape Saunders ..	2nd "	Revolving	1′	White	Timber	Timber	1 Jan., 1880
Nugget Point ..	1st "	Fixed	..	"	Stone	Stone	4 July, 1870
Waipapapa Point	2nd "	Flashing	10″	"	Timber	Timber	1 Jan., 1884
Dog Island ..	1st order catadioptric	Revolving	30″	"	Stone	Stone	1 Aug., 1865
Centre Island ..	1st order dioptric	Fixed	..	White, with red arcs over inshore dangers	Timber	Timber	16 Sept., 1878
Puysegur Point ..	1st "	Flashing	10″	White	"	"	1 Mar., 1879
Cape Foulwind ..	2nd "	Revolving	30″	"	"	"	1 Sept., 1876
Kahurangi Point ..	2nd "	Fixed ..	..	White, with red sector to show over Stewart Breaker	Iron	"	30 Nov., 1903
Farewell Spit ..	2nd "	Revolving	1′	White, with red arc over Spit end	"	"	17 June, 1870
Nelson	4th "	Fixed	..	White, with red arc to mark limit of anchorage	"	"	4 Aug., 1862
French Pass ..	6th "	"	..	Red and white, with white light on beacon	"	"	1 Oct., 1884
Stephens Island ..	1st "	Group flashing	†	White	"	"	29 Jan., 1894

* Flashing twice every half-minute, with interval of three seconds between flashes. † Two flashes in quick succession every half minute.

RETURN of ACCIDENTS to SEAMEN and Others on board Ship reported to the MARINE DEPARTMENT during the Financial Year ended the 31st March, 1909.

Date of Accident.	Name of Vessel, Port of Registry, and Official Number.	Name of Person injured.	Nature of Injury: Fatal or otherwise.	Place where Accident occurred.	Particulars as to Accident and its Cause, and Verdict of Jury where Coroner's Inquest held.
1907.					
Nov. 12	Whangape, s.s., Dunedin, 110641	J. Finley, greaser ..	Injured foot	At sea	Fell over lashings of deck cargo.
Dec. 31	Waimate, s.s., Plymouth, 105276	J. E. Olsen, carpenter ..	Injured foot	Bluff	When putting on hatches one of the fore-and-afters fell on his foot and severely crushed it.
1908.					
Feb. 14	Waipori, s.s., Dunedin, 101485	L. Thorp, A. B. ..	Broken wrist	Dunedin	A mooring-line slipped and struck his wrist.
,, 27	Penguin, s.s., Dunedin, 47849	D. McPherson, A.B. ..	Injured leg	Wellington	Winch end broke off and struck him.
,, 28	Gael, s.s., Auckland, 118965 ..	D. H. Sturrock, engineer	Loss of foot	Waipu	His left foot was caught in bight of wire hawser and dragged off.
Mar. 10	Pareora, s.s., Dunedin, 104735	P. Boylan, A.B. ..	Injured finger	Wellington	Jammed in a block.
,, 10	Moonah (ketch), Sydney, 112546	Fred Smith, A.B. ..	Drowned	Auckland Harbour ..	Drowned through collision with s.s. Wairuna.
,, 14	Rotomahana, s.s., Dunedin, 75224	F. Matheson, A.B. ..	Sprained ankle	Wellington	Slipped and fell.
,, 17	Waikare, s.s., Dunedin, 101480	Thomas Hall, trimmer ..	Injured knee	Napier	Fell down fidley.
,, 24	Monowai, s.s., Dunedin, 84497	L. Jacobs, steward ..	Poisoned hand	Wellington	Caused through getting it cut when cleaning a tumbler.
,, 27	Whangape, s.s., Dunedin, 110641	J. Stewart, cook ..	Poisoned hand	At sea	When cutting meat a piece of bone ran into his hand.
,, 29	Victoria, s.s., Melbourne, 110996	James Murphy, A.B. ..	Strained knee	Dunedin	When getting into his bunk, injured his knee.
April 2	Taviuni, s.s., Dunedin, 84500 ..	T. Murphy, fireman ..	Scalded	Wellington	When blowing off donkey-boiler, scalded his arm.
,, 8	Wanaka, s.s., Dunedin, 95018 ..	A. Gill, greaser ..	Loss of finger	At sea	When oiling the spindle, got his right-hand little finger taken off by the machinery.
,, 8	Waikare, s.s., Dunedin, 101480	G. F. Mathias, fireman	Strained back	Wellington	Slipped on stokehold plates.
,, 9	Kamona, s.s., Dunedin, 101486	J. McGurk, A.B. ..	Broken finger	At sea	Caught in steering-gear.
,, 14	Pelican, s.s., Auckland, 94185 ..	J. McDavitt, A.B. ..	Injured hand	Auckland	His right hand got jammed in a block and severely cut.
,, 20	Manuka, s.s., Dunedin, 117582	George Saville, trimmer	Strained back	Dunedin	Fell over a shovel in the stokehold.
,, 21	Wakatere, s.s., Auckland, 102288	W. Langton, A.B. ..	Injured leg	At sea	When shifting ballast-box, it slipped and jammed his leg against the bulwark.
,, 22	Kotuku, s.s., Dunedin, 101484	K. McLeod, A.B. ..	Injured hand	Onehunga	Occurred whilst driving winch.
,, 22	Oreti, s.s., Wellington, 75219 ..	P. Donovan, A.B. ..	Broken arm	Wanganui	Whilst working the winch a piece of the machinery broke and his left arm was caught in the gear.
,, 23	Wairuna, s.s., Dunedin, 118495	Edward Deary, fireman	Ricked back	At sea	Slipped on the stokehold plates.
,, 25	Daphne, s.s., Auckland, 122923	G. Harvey, fireman ..	Injured hand	Auckland	Left hand was caught in the starting-gear and top of little finger cut off.
,, 25	Maori, s.s., Dunedin, 117598 ..	J. Breslin, fireman ..	Broken rib	Wellington	Slipped into a bunker-hole.
May 2	St. Kilda (schooner), Melbourne, 60367	E. Stilston, O.S. ..	Broken leg, wrist, and rib ..	Wanganui	Fell from masthead.
,, 6	Waipori, s.s., Dunedin, 101485	A. Andrews, cook ..	Injured foot	At sea	Slipped and fell on deck.
,, 15	Pharos (barque), London, 112755	R. Wild, O.S. ..	Broken arm	Wellington	Fell off the main yard.
,, 15	Kittawa, s.s., Dunedin, 106640	P. Gaul, lamps ..	Bruised back and groin ..	Greymouth	Crushed whilst assisting to ship a large cylinder.
,, 16	Wanaka, s.s., Dunedin, 95018 ..	C. Rice, A.B. ..	Injured hand	Timaru	A piece of wire ran into his hand and set up blood-poisoning.
,, 18	Opawa, s.s., Wellington, 91800	C. Linton, A.B. ..	Sprained ankle	Wellington	Struck by a sling of cargo.
,, 18	Ngapuhi, s.s., Auckland, 102329	R. McGaw, A.B. ..	Right hand injured	Whangarei	Fell down hatch.
,, 20	Maitai, s.s., Dunedin, 101935 ..	Henry Fixter, fireman ..	Burnt arm	At sea	Had his right arm severely burnt by flames from the furnace.
,, 22	Mangapapa, s.s., Auckland, 112600	J. Buchan, A.B. ..	Injured foot	Ohiwa	A bag of coal fell out of a sling and struck his foot.
,, 31	Kaituna, s.s., Dunedin, 120467	B. Carlstedt, A.B. ..	Crushed fingers	Greymouth	Caught between block and running wire rope.
June 1	Poherua, s.s., Dunedin, 98061 ..	G. Dines, A.B. ..	Injured shoulder	At sea	A lurch of the vessel threw him against the rail.
,, 7	Matatua, s.s., Southampton, 114599	R. Galway, 6th engineer	Concussion of brain	Gisborne	Fell down after coal-bunker.
,, 8	Wanaka, s.s., Dunedin, 95018	W. Norwood, fireman ..	Burnt arm	At sea	The furnace-door swung open and caught his left arm.

RETURN of ACCIDENTS to SEAMEN and Others on board Ship reported to the MARINE DEPARTMENT, &c.—*continued.*

Date of Accident.	Name of Vessel, Port of Registry, and Official Number.	Name of Person injured.	Nature of Injury: Fatal or otherwise.	Place where Accident occurred.	Particulars as to Accident and its Cause, and Verdict of Jury where Coroner's Inquest held.
1908.					
June 9	Mokoia, s.s., Dunedin, 101483..	P. McLean, A.B. ..	Injured wrist	Napier	When mooring the ship a bight in the line caused him to receive a severe blow.
,, 11	Kini, s.s., Dunedin, 104337 ..	D. Anderson, A.B. ..	Fatal	Napier	Whilst fixing the hatches he fell into the hold and sustained injuries from which he died on 15th June.
,, 13	Kamona, s.s., Dunedin, 101486	W. H. Price, steward ..	Cut hand	Westport	Cut his hand when cleaning knives.
,, 15	Claymore, s.s., Auckland, 115188	R. McDermott, steward	Injured hand	Auckland	When cutting bread the knife slipped and severely cut his left hand.
,, 19	Kaitangata, s.s., London, 125625	Dudley V. Hood, engineer	Fatal	Port Chalmers	Died from fracture of the skull caused by the machinery of the vessel starting when he was working at it. The jury found that no blame was attachable to any one.
,, 20	Cornwall, s.s., London, 105897..	Edward Doherty, greaser	Fatal	Auckland	Whilst the stevedores were discharging a heavy lift from the hold a ring-bolt in the shoe of the derrick broke and caused the heel of the derrick to jump out of the shoe and break through the starboard skylight, striking Doherty, who was working below, and killing him on the spot. Verdict of accidental death was returned, and no blame attached to any one.
,, 22	Komata, s.s., Dunedin, 117593	N. A. Bertanes, A.B. ..	Injured finger	Wellington	Got his finger caught between the winch wire and barrel.
,, 23	Wootton, s.s., Sydney, 112500	S. Peake, A.B. ..	Injured head and right arm ..	Lyttelton	Struck by a piece of timber which fell out of a sling.
,, 23	Endeavour, s.s., Auckland, 118972	H. Halvoise, A.B. ..	Injured finger	Auckland	The third finger of his left hand was badly torn by a ragged wire winch-rope.
,, 23	Tramp (schooner), Auckland, 102344	W. Webb, A.B. ..	Injured thumb	Auckland	Jammed in timber.
,, 26	Maheno, s.s., Dunedin, 117588	J. McLennan, boy ..	Sprained wrist	Newcastle	Slipped on accommodation-ladder.
July 2	Ruapehu, s.s., Plymouth, 111357	A. Shapcott, 4th engineer	Drowned	Wellington	Missed from ship on 2nd July, and body found in harbour on 24th July. Jury's verdict, "Accidentally drowned."
,, 3	Waipori, s.s., Dunedin, 101485	J. McKechnie, greaser ..	Injured ribls	Westport	Fell on the hatch-combing.
,, 5	Daniel (barque), Sydney, 121172	Albert Kinchett, A.B. ..	Fatal	At sea	When trying to secure the main topgallant stay, fell from the crosstrees, struck the rail and fell into the sea, and was not seen again.
,, 5	Matatua, s.s., Southampton, 114599	Thos. E. Mansfield, A.B.	Concussion of brain	Dunedin	Fell down hatchway.
,, 5	Welcome (schooner), Auckland, 118958	J. Donovan, A.B. ..	Broken wrist	Auckland	Fell on the deck.
,, 7	Herald (schooner), Auckland, 102313	H. Nelson, A.B. ..	Bruised hand	Auckland	When lowering the centre-board the handle struck his hand.
,, 8	Rotomahana, s.s., Auckland, 75119	W. Symons, fireman ..	Cut shin	Auckland	Slipped on the stokehold ladder.
,, 8	Tay, s.s., Auckland	M. Hill, O.S.	Injured arm	Auckland	Fell off a plank.
,, 10	Inga, Norwegian	T. Sievertsen, A.B. ..	Injured nose	Hokianga	When heaving up ashes the handle of the lift slipped and struck him on the nose.
,, 13	Kanieri, s.s., Auckland, 84490..	J. Coneboy, A.B. ..	Injured shoulder	Whangarei	Fell into the hold.
,, 14	Glimpt, Norwegian, Arundel ..	F. Odmark, A.B. ..	Injured back	Lyttelton	A piece of timber fell from a sling and struck him.
,, 14	Monowai, s.s., Dunedin, 84497	R. Fleming, A.B. ..	Dislocated shoulder	Dunedin	Accident occurred when lifting a case.
,, 18	Maitai, s.s., Dunedin, 101935 ..	William Murdock, A.B.	Broken ribs, &c.	Melbourne	A mooring-line carried away and struck Murdoch, breaking three ribs and injuring his right knee-cap.

July 19	Invercargill, s.s., Dunedin, 84489	D. Moore, boy ..	Injured hand	Paterson's Inlet	Was struck on the right hand by a piece of timber.
,, 22	Maori, s.s., Dunedin, 117598 ..	W. Renton, A.B. ..	Effects of fall	At sea	A sea coming on board knocked Renton down and caused injury to his leg and shoulder.
,, 22	Maori, s.s., Dunedin, 117598 ..	J. Bailey, A.B. ..	Broken ribs	Wellington	Whilst fixing a coal-screen, fell off the rail on to the wharf.
,, 27	Navua, s.s., Dunedin, 117583 ..	F. Furlong, trimmer ..	Injured ankle	Westport	Fell from the companion-ladder.
,, 29	Petone, s.s., London, 112654 ..	F. Owens, A.B. ..	Injured leg	Wellington	Fell against the bunker-combing.
Aug. 2	Mokoia, s.s., Dunedin, 101483	H. W. Monk, pantryman	Injured hand	At sea	When cleaning fish a bone ran into his hand.
,, 3	Moeraki, s.s., Dunedin, 101488	P. Regan, trimmer ..	Bruised hip	Lyttelton	Fell whilst carrying a bag of coal.
,, 6	Wakatere, s.s., Auckland, 102288	M. Sherblad, A.B. ..	Injured knee	Auckland	Occurred whilst working cargo.
,, 8	Pukaki, s.s., Dunedin, 84491 ..	A. Williams, A.B. ..	Broken rib	Greymouth	Fell across the hatch-combing.
,, 10	Maori, s,s., Dunedin, 117598 ..	James McCallum, lamps	Injured finger	Wellington	Cut his finger whilst cleaning lamps.
,, 11	Waipori, s.s., Dunedin, 101485	D. Grant, greaser ..	Injured finger	At sea	Whilst attending to the engine had the top of his right-hand second finger nipped off.
,, 11	Maori, s.s., Dunedin, 117598 ..	A. Hunter, A.B. ..	Injured arm	At sea	Slipped and fell on the deck.
,, 11	Wimmera, s.s., Melbourne, 120722	J. Dawe, A.B. ..	Cut hand	Auckland	Cut his left hand with a paint-tin.
,, 14	Wootton, s.s., Sydney, 112500	A. Mudsen, A.B. ..	Injured right leg	Lyttelton	A piece of timber fell out of a sling and struck him.
,, 18	Moeraki, s.s., Dunedin, 101488	George McKinnon, A.B.	Fractured skull	Dunedin	Owing to a hatch being improperly secured he fell into the hold.
,, 23	Maheno, s.s., Dunedin, 117590	R. Washington, scullery-man	Scalded	At sea	A can of boiling water capsized in the galley and scalded his left leg.
,, 24	Talune, s.s., Hobart, 57626 ..	R. McLeod, A.B. ..	Injured eye	Dunedin	Superphosphates from cargo got into his left eye and caused severe inflammation.
,, 25	Indradevi, s.s., Liverpool, 110639	G. Lambert, O.S. ..	Broken arm and sprained ankle ..	Gisborne	Fell into the hold when removing hatch.
,, 25	Wanaka, s.s., Dunedin, 95018 ..	A. Stewart, A.B. ..	Crushed left hand	Napier	Caused by one of the chains surging when he was taking moorings ashore.
,, 26	Pateena, s.s., Dunedin, 79262..	C. Missat, A.B. ..	Injured hand	Lyttelton	Whilst overhauling a wire hauser a piece of wire ran into his hand.
,, 28	Waikare, s.s., Dunedin, 101480	William Payne, fireman	Injured hand	Dunedin	Left hand was caught in pumping-machinery, second finger being mutilated.
,, 30	Oreti, s.s., Wellington, 75219 ..	E. Turksma, A.B. ..	Gored	Wanganui	Whilst shipping cattle was gored by a bullock.
,, 31	Rarawa, s.s., Auckland, 115207	H. Kidd, fireman ..	Sprained ankle	At sea	Slipped off the engine-room ladder.
,, 31	Jane Douglas, s.s., Lyttelton, 37110	T. Pope, A.B. ..	Injured elbow	Hokitika	Slipped and struck his elbow on a piece of timber.
Sept. 1	Waikare, s.s., Dunedin, 101480	A. Prescott, fireman ..	Broken rib	Wellington	Fell down the stokehold-steps.
,, 3	Waihora, s.s., Dunedin, 123842	R. Liftwick, carpenter ..	Injured hand	At sea	Got his hand caught in chain of steering-gear and badly bruised.
,, 10	Mana, s.s., Wellington, 91781..	H. Jorgenson, A.B. ..	Injured arm	Wellington	His cargo-hook slipped and ran into his arm.
,, 10	Kanieri, s.s., Auckland, 84490	J. McTighe, A.B. ..	Injured knee	Auckland	A wagon-wheel which he was rolling tipped over and knocked him down.
,, 11	Clansman, s.s., Auckland, 87520	J. Guzzwell, fireman ..	Dislocated arm	Wairoa	Result of a fall on board ship.
,, 12	Kereru, s.s., Auckland, 122913	W. Leers, mate ..	Injured finger	Totara	When lifting a propeller, it slipped and badly crushed the little finger of his left hand.
,, 14	Kaiapoi, s.s., Dunedin, 117592	J. G. Middleton, 2nd mate	Injured knee	At sea	Slipped and fell on deck.
,, 14	Mangapapa, s.s., Auckland, 112600	A. Hassell, fireman ..	Injured hand	Port Chalmers	When oiling the engines, got his right hand caught in the eccentric and the top of the middle finger taken off.
,, 17	Maori, s.s., Dunedin, 117598 ..	P. Nelson, Boatswain ..	Broken rib	Lyttelton	Occurred when taking luggage on board.
,, 19	Maori, s.s., Dunedin, 117598 ..	D. Lush, trimmer ..	Injured finger	Lyttelton	Got his finger jammed in the ashpit-door.
,, 19	Murihiku, s.s., Invercargill, 84959	James Barr, A.B. ..	Injured foot	Bluff	Had his foot crushed between the tiller and stopper.
,, 23	Talune, s.s., Hobart, 57626 ..	W. Stobie, butcher ..	Injured leg	At sea	When killing a sheep the knife slipped and severely cut his left leg.

RETURN of ACCIDENTS to SEAMEN and Others on board Ship reported to the MARINE DEPARTMENT, &c.—*continued*.

Date of Accident.	Name of Vessel, Port of Registry and Official Number.	Name of Person injured.	Nature of Injury: Fatal or otherwise.	Place where Accident occurred.	Particulars as to Accident and its Cause, and Verdict of Jury where Coroner's Inquest held.
1908.					
Sept. 26	Storm, s.s., Lyttelton, 118090 ..	H. C. Geige, A.B. ..	Dislocated ankle	Dunedin	When stepping ashore, slipped and fell on the wharf.
,, 28	Clansman, s.s., Auckland, 87520	D. Gibson, cook ..	Injured shoulder	Auckland	Fell on deck and struck his shoulder on the skylight.
Oct. 2	Arahura, s.s., Dunedin, 117587	P. Quinn, trimmer ..	Injured leg	Greymouth	Some cargo fell on him.
,, 3	Mangapapa, s.s., Auckland, 112600	J. O'Kane, cook ..	Burns	Mercury Bay	A pan of boiling fat took fire and burnt his face and arms.
,, 5	May Howard, s.s., Auckland, 93525	T. Cullings, A.B. ..	Injured finger	Auckland	Jammed when shifting timber.
,, 5	Ngapuhi, s.s., Auckland, 102329	D. McLennan, fireman..	Cut hand	Auckland	Cut his hand when cleaning fires.
,, 9	Takapuna, s.s., Dunedin, 66540	D. Patience, A.B. ..	Burnt foot	Onehunga	His right foot came in contact with steam-pipe.
,, 10	Tasman, s.s., Nelson, 115196 ..	W. Oliver	Bruised hand	At sea	Got his right hand caught in pump gear and badly bruised.
,, 10	Poherua, s.s., Dunedin, 98061..	C. Davis, fireman ..	Injured finger	At sea	Got his finger caught in the machinery.
,, 16	Huia (schooner), Auckland, 102268	T. L. Sullivan, A.B. ..	Drowned	At sea	Jumped overboard.
,, 16	Waikare, s.s., Dunedin, 101480	R. Hall, trimmer ..	Poisoned finger	Wellington	Caused through getting it bruised when trimming coal.
,, 17	Rippingham Grange, s.s., London, 109983	William Perry, fireman	Concussion of brain	Port Chalmers	Fell off the ladder leading from bridge to main deck.
,, 20	Manuka, s.s., Dunedin, 117582	W. Farrell, fireman ..	Injured side	At sea	Struck his left side with the fire-slice and injured his ribs.
,, 25	Kotare, s.s., Dunedin, 117667..	Charles Stuart, A.B. ..	Injured leg	Dunedin	A sling of timber fell on his right leg and bruised it severely.
,, 26	Mahurangi, s.s., Auckland ..	H. Evans, O.S. ..	Injured elbow	Warkworth	Fell down the hatch.
,, 28	Three Cheers (schooner), Auckland, 112550	Tergi Lieni, A.B. ..	Bruised hand	Whangarei	A piece of timber fell on his right hand.
,, 28	Moeraki, s.s., Dunedin, 101488	George Watson, cook ..	Injured leg	Melbourne	A plank fell on his left leg and bruised it severely.
Nov. 2	Mararoa, s.s., Dunedin, 89380	N. Olsen, trimmer ..	Injured finger	Lyttelton	Got his finger jammed in the pump.
,, 3	Rakanoa, s.s., Dunedin, 101477	C. Rice, A.B. ..	Injured leg	Wellington	A derrick fell and crushed his leg.
,, 10	Mokoia, s.s., Dunedin, 101483..	G. Elliott, trimmer ..	Injured back	At sea	Strained his back when trimming coal.
,, 11	Apanui, s.s., Auckland, 122906	A. Hansen, A.B. ..	Injured foot	At sea	A fish-bone ran into his foot when washing decks and set up severe inflammation.
,, 18	Navua, s.s., Dunedin, 117583	C. Reid, fireman ..	Injured elbow	At sea	Caused by a fall on deck.
,, 18	Maheno, s.s., Dunedin, 117588	G. E. Fairbairn, fireman	Injured head	Newcastle	Fell from the condenser-pipe.
,, 24	Fanny (ketch), Auckland ..	F. Eversen, A.B. ..	Injured shoulder	Auckland	A basket of coal fell on him.
,, 27	Mararoa, s.s., Dunedin, 89380..	Thomas Forsyth, pantryman	Injured hand	Lyttelton	When at boat-drill the fall got round his hand and jammed it on the winch.
,, 30	Manapouri, s.s., Dunedin, 75229	D. McDonald, trimmer	Sprained ankle	Suva	Slipped on a piece of coal.
Dec. 2	Mokoia, s.s., Dunedin, 101483..	W. Norris, 5th engineer	Poisoned thumb	Sydney	Ran something into his thumb which set up inflammation and necessitated amputation of top.
,, 2	Marama, s.s., Dunedin, 117597	W. Glover, steward ..	Injured knee	At sea	Slipped and fell on deck.
,, 3	Aupouri, s.s., Auckland, 122909	H. Rodgers, A.B. ..	Injured head	Auckland	Fell between the hatch and winch and cut his head badly.
,, 4	Mokoia, s.s., Dunedin, 101483..	R. Anderson, scullerymen	Injured shoulder	At sea	Caused by a fall.
,, 6	Navua, s.s., 117583	J. Robson, trimmer ..	Rupture	At sea	Fell whilst trimming coal.
,, 7	Flora, s.s., Hobart, 82526 ..	W. Miller, A.B. ..	Injured hand	Gisborne	Got his right hand caught in cargo-hook.
,, 11	Queen of the South, s.s., Wellington, 74793	A. Lindahl, A.B. ..	Loss of finger	Wellington	Got a finger of his right hand taken off through being jammed in chain sling.
,, 12	Waitemata, s.s., Dunedin, 127801	J. Cooper, A.B. ..	Injured knee	Auckland	When slacking away the spring the line slipped off the bitts and struck his knee.
,, 16	Tofua, s.s., Dunedin, 117600 ..	G. McGrath, trimmer ..	Injured knee	Suva	Fell through fidley.

Dec. 21	Maori, s.s., Dunedin, 117598 ..	C. Fairburn, fireman ..	Burns	At sea	Burnt on chest and arms through the forced draught blowing the flames out when he opened the furnace-door.
,, 22	Mokoia, s.s., Dunedin, 101483	J. Kennedy, steward ..	Injured head	At sea	Fell down companion-way.
,, 22	Tomoana, s.s., London, 110136	F. Stone, trimmer ..	Injured hand	At sea	His hand was caught in the machinery of the steering-engine and top of right thumb taken off.
,, 25	Kiripaka, s.s., Auckland, 102275	Walter Owens, A.B. ..	Drowned	Patea	Supposed to have fallen into the water at the grading-works. Verdict of jury, "Accidental death."
,, 26	Tofua, s.s., Dunedin, 117600 ..	P. Reynolds, fireman ..	Injured hand	At sea	Struck by fire-slice on right hand.
1909.					
Jan. 2	Navua, s.s., Dunedin, 117583 ..	J. McLeod, A.B. ..	Injured hand	Suva	When splicing wire rope, ran a piece of wire into his hand.
,, 4	Kaitangata, s.s., Dunedin, 125625	J. W. Woods, A.B. ..	Sprained ankle	Lyttelton	Slipped on deck.
,, 4	Zingara, s.s., Auckland, 122917	A. Bolger, A.B. ..	Injured elbow	Tairua	Fell off the rail when shipping logs.
,, 5	Talisman (schooner), Auckland, 102297	W. Dickson, A.B. ..	Injured hand	Auckland	Struck by handle of winch.
,, 9	Curlew (schooner), Auckland, 122921)	G. White, A.B. ..	Injured hand	Whangapoua	A log rolled on his hand and crushed it badly.
,, 13	Waratah (schooner), Dunedin, 117669	F. McManus, cook ..	Effects of fall	At sea	Main boom jibed and knocked him down.
,, 15	Penguin, s.s., Dunedin, 47849..	J. Shear, fireman ..	Fractured thumb and wrist ..	At sea	Fell down the stokehold.
,, 16	Hauroto, s.s., Dunedin, 84479..	A. Neville, fireman ..	Injured head	Auckland	When oiling the engine, fell from the grating-steps.
,, 26	Orewa, s.s., Auckland, 102310	E. McIndoe, O.S. ..	Injured head and wrist ..	Auckland	Fell between the wharf and ship, injuring himself badly.
,, 29	Maori, s.s., Dunedin, 117598 ..	E. Lovelock, donkeyman	Injured eye	At sea	Got a splash of hot oil into his eye.
,, 31	Monowai, s.s., Dunedin, 84497	Alex. Duncan, boatswain	Injured hand	Dunedin	Crushed his hand against the rail when lowering the gangway.
Feb. 2	Waikare, s.s., Dunedin, 101480	G. Matheson, A.B. ..	Strained back	Napier	Fell when discharging cargo.
,, 2	Pateena, s.s., Launceston, 79262	J. Macey, A.B. ..	Internal injuries	Wellington	A rope carried away and struck him.
,, 5	Mararoa, s.s., Dunedin, 89380	H. E. Warren, fireman..	Injured leg	Lyttelton	Slipped on the stokehold-plates.
,, 9	Mokoia, s.s., Dunedin, 101483..	W. Green, fireman ..	Strained groin	At sea	Fell whilst attending fires.
,, 12	Penguin, s.s., Dunedin, 47849 ..	H. Snellgrove, O.S. ..	Bruises	Wellington	Bruised about the body in getting ashore from the wreck of the Penguin.
,, 13	Wakatu, s.s., Auckland, 64818	W. Urquhart, A.B. ..	Strained back	Wellington	Injured whilst working cargo.
,, 15	Clansman, s.s., Auckland, 87520	G. Billings, cook ..	Injured face	Auckland	When hauling up the galley-lift, got a severe blow on the nose.
,, 20	Empreza (barque), Auckland, 29939	J. Bushell, master ..	Injured feet and head	At sea	Whilst asleep in his cabin an explosion occurred in a locker containing rockets, distress signals, &c., with the result that Captain Bushell was severely burnt about the feet and slightly about the head.
,, 27	Himitangi, s.s., Wellington, 108074	F. E. Graham, A.B. ..	Injured foot	Wanganui	His left foot was caught in the wheel-gear and crushed.
,, 28	Kotare, s.s., Dunedin, 117667..	C. McPherson, mate ..	Injured foot	Catlins River	A piece of timber fell out of a sling and struck his right foot.
Mar. 2	Kapanui, s.s., Auckland, 102311	W. Hoskin, O.S. ..	Sprained ankle	Auckland	Slipped whilst discharging cargo.
,, 3	Waiotahi, s.s., Auckland, 94250	C. Hasler, A.B. ..	Injured knee	Auckland	Bunker-lid fell and struck his left knee.
,, 3	Moa, s.s., Wellington, 40347 ..	A. Findlow, A.B. ..	Injured head	Wellington	Fell from the fore rigging.
,, 9	Queen of the South, s.s., Wellington, 74793	J. McKinnon, A.B. ..	Strained arm	Wellington	Injured his right arm when working cargo.
,, 12	Clan man, s.s., Auckland, 87520	J. Bartlett, A.B. ..	Injured foot	Auckland	Right foot severely bruised by timber falling on it.
,, 17	Lizzie Taylor (schooner), Launceston, 79299	S. Hudson, A.B. ..	Injured hand	Wellington	Ran a splinter into his hand which caused blood-poisoning.
,, 20	Clio (ketch), Auckland, 57821 ..	W. H. Miller, A.B. ..	Strained back	Auckland	Injury occurred when loading timber.

RETURN of ACCIDENTS to WATERSIDE WORKERS reported to the MARINE DEPARTMENT during the Financial Year ended 31st March, 1909.

Date.	Port.	Name of Person injured.	Nature of Injury, fatal or otherwise.	Place where Accident occurred.	Particulars as to Accident and its Cause, and Verdict of Jury if Inquest held.
1908.					
April 22	Greymouth ..	Thomas Ford ..	Injured back	Greymouth ..	Struck by sling of timber.
,, 23	Greymouth ..	H. Mortimer ..	Injured head	Greymouth ..	Slipped off truck.
,, 29	Wellington ..	Thomas Hickey ..	Concussion and injured spine ..	Wellington ..	A stack of chaff fell upon him in D shed.
May 1	Wellington ..	G. Parkinson ..	Injured foot	Wellington ..	Whilst coaling the "Monowai," was knocked off a plank into the hulk and broke a small bone in his right foot.
,, 2	Lyttelton	M. A. Bergmann ..	Killed	Lyttelton	Fell down the hatchway into the hold of the s.s. "Ionic." Verdict: "Accidental death."
,, 5	Wanganui ..	George Clark ..	Injured foot	Wanganui ..	A piece of ironbark timber rolled over on his right foot.
,, 8	Auckland	William Bradshaw ..	Injured back	Auckland	Knocked over by the sling on to a case.
,, 8	Lyttelton	C. Kelly	Injured foot	Lyttelton	A piece of timber fell on his foot.
,, 10	Gisborne	J. Byrne	Bruised ribs	Gisborne	Fell off a stack of scenery.
,, 11	Wellington ..	William Couper ..	Cut forehead	Wellington ..	Struck by a piece of wood whilst putting a tarpaulin on some cases.
,, 15	Auckland	W. Kemp	Broken leg	Auckland	Was knocked down by a sling of timber and had his right leg broken.
,, 16	Gisborne	Joseph Goome ..	Injured hand and broken wrist ..	Gisborne	Caught in bight of rope.
,, 21	Timaru	G. Foster	Scalp wound	Timaru	Whilst discharging coal from the "Kaiapoi," was struck on the head by a piece which fell out of the basket.
,, 22	Gisborne	James Young ..	Injured thumb	Gisborne	Jammed in iron girders.
,, 22	Lyttelton	W. Daniels ..	Injured finger	Lyttelton	Whilst discharging ballast, was struck by a stone thrown by another worker.
,, 25	Greymouth ..	James Chimgrove ..	Injured leg	Greymouth ..	Jammed in wire rope.
,, 25	Greymouth ..	Donald Forbes ..	Injured arm	Greymouth ..	Slipped on a ladder coming out of hold.
,, 25	Greymouth ..	L. Hall	Bruised leg	Greymouth ..	Struck with iron pipe.
,, 25	Wellington ..	P. Fagan	Broken thumb	Wellington ..	Got his left thumb jammed between the handle of a trolly and the shed.
,, 27	Picton	W. Godfrey ..	Injured arm	Picton	When berthing the "Pateena" the spring (rope) broke and struck Godfrey on the arm.
,, 28	Greymouth ..	John Winter ..	Injured foot	Greymouth ..	Struck by piece of timber.
June 1	Wellington ..	J. Sharp	Injured head	Wellington ..	A piece of timber fell out of a sling and struck Sharp on the head.
,, 3	Greymouth ..	William Coburg ..	Injured wrist and leg	Greymouth ..	Fell off a wagon.
,, 8	Greymouth ..	Charles Brown ..	Injured foot	Greymouth ..	Struck by piece of iron.
,, 10	Greymouth ..	John Blockage ..	Injured side	Greymouth ..	Strained whilst lifting.
,, 10	Lyttelton	A. R. Wilson ..	Injured finger	Lyttelton	Jammed in timber.
,, 13	Lyttelton	Alexander Longmore	Broken arm	Lyttelton	The hook of the winch-chain caught in his clothes and lifted him up over the hold, into which he fell a distance of 10 ft.
,, 13	Oamaru	William Kydd ..	Injured head, not serious ..	Oamaru	Crushed between a sling of cargo and a stanchion.
,, 15	Wellington ..	Percy King	Severe bruises on back	Wellington ..	Fell on the deck whilst discharging coal.
,, 22	Greymouth ..	John O'Leary ..	Lacerated leg	Greymouth ..	Had his leg ripped by a case falling against it.
,, 25	Greymouth ..	Ernest Cook ..	Injured fingers	Greymouth ..	Jammed in timber.
,, 27	Greymouth ..	P. J. Clark ..	Injured thumb	Greymouth ..	Jammed whilst hooking on coal-wagons.
,, 29	Greymouth ..	John Davis	Strained	Greymouth ..	Strained himself lifting a coil of wire.
July 7	Oamaru	J. Watkins ..	Injured knee; not serious ..	Oamaru	Slipped off a stack of grain.
,, 8	Wanganui ..	W. Hopkins ..	Bruised thigh and fingers ..	Wanganui ..	A fly-wheel fell across his thigh and hand.
,, 9	Lyttelton	O. Salander ..	Broken ribs	Lyttelton	A basket of coal fell upon him.
,, 9	Lyttelton	F. Newfield ..	Cut wrist	Lyttelton	Whilst receiving cargo at "Ruapehu," cut his wrist on a piece of hoop-iron and afterwards got the injury poisoned by liquid from hides which he was handling.
,, 11	Lyttelton	S. A. Marshall ..	Effects of fall	Lyttelton	Was struck by a sling of salt and knocked out of truck, sustaining slight injuries.
,, 17	Nelson	J. Talbot	Crushed toe	Nelson	Had big toe of left foot crushed whilst discharging cargo from "Ennerdale."
,, 20	Lyttelton	T. H. B. Webb ..	Crushed foot	Lyttelton	A piece of iron fell out of a sling and struck his foot.

July 20	Greymouth ..	W. G. Coburg ..	Injured head and arm	Greymouth ..	Was knocked off a wagon by sling of timber.
,, 27	Greymouth ..	James Murray ..	Crushed fingers	Greymouth ..	Had two fingers jammed whilst discharging cargo.
,, 29	Wanganui ..	A. Wilson	Small bone of leg broken ..	Wanganui ..	Whilst ascending the ladder in the hold of the "Star of Australia," he missed the last rung and fell to the bottom of the hold.
,, 31	Greymouth ..	Charles Millett ..	Rupture	Greymouth ..	Jumped off a timber-wagon to avoid being struck by a sling.
Aug. 1	Lyttelton	C. Oppenheim ..	Injured head	Lyttelton	Was struck by a piece of timber which fell from a sling.
,, 3	Lyttelton	William Norton ..	Crushed foot	Lyttelton	A piece of timber fell from a sling and struck his right foot.
,, 5	Greymouth ..	H. Butcher.. ..	Injured thumb	Greymouth ..	Jammed in sling of timber.
,, 6	Wanganui ..	S. Stafford	Scalp wound; not serious ..	Wanganui ..	Was struck on the head by a sling of sleepers.
,, 11	Greymouth ..	F. Williams ..	Injured shoulder	Greymouth ..	Fell off wagon.
,, 21	Greymouth ..	William Logan ..	Injured finger	Greymouth ..	Jammed in timber.
,, 28	Port Chalmers ..	George S. Gordon ..	Injured back	Port Chalmers ..	A block fell from aloft and struck him on the back.
,, 29	Lyttelton	Alexander Greer ..	Bruised hip	Lyttelton	Owing to a rope breaking Greer was knocked against the hatchway by a basket of coal.
,, 31	Auckland	W. Bell	Scalp wound	Auckland	Fell off a stack of stage scenery.
Sept. 1	Port Chalmers ..	T. W. Corr ..	Severe burns	Port Chalmers ..	When Corr was filling a lamp from a tin of benzine an explosion occurred.
,, 1	Port Chalmers ..	J. A. Niccol ..	Severe burns	Port Chalmers ..	When Niccol was filling a lamp from a tin of benzine an explosion occurred.
,, 1	Port Chalmers ..	T. Ewart	Severe burns	Port Chalmers ..	When Ewart was filling a lamp from a tin of benzine an explosion occurred.
,, 4	Auckland	C. O'Brien	Concussion of brain	Auckland	Was struck by box of soap which fell out of a sling.
,, 4	Wellington ..	George Smith ..	Crushed thumb	Wellington ..	A basket of coal fell on his thumb and crushed it severely.
,, 5	Wellington ..	F. Anderson ..	Cut wrist	Wellington ..	The broken end of an earthenware pipe fell on his wrist.
,, 5	Greymouth ..	Peter Hansen ..	Injured leg	Greymouth ..	Struck by a rope from the capstan going at full speed.
,, 9	Wanganui ..	R. Burt	Cut face and dislocated thumb ..	Wanganui ..	Was knocked off a truck by a basket of coal.
,, 10	Lyttelton	C. Arnold	Injured finger	Lyttelton	Had his finger jammed in door of a truck.
,, 12	Auckland	J. Coomar	Badly cut on head	Auckland	Was found in Calliope Dock badly cut about the head, but not known how he came by his injuries.
,, 12	Lyttelton	George Smith ..	Crushed	Lyttelton	Was jammed between two bales in a truck.
,, 12	Wellington ..	Charles Nevis ..	Fatally crushed	Wellington ..	Was caught by a sling of cargo and crushed against an iron column.
,, 15	Greymouth ..	John Keating ..	Ricked back	Greymouth ..	Injured whilst lifting up ventilators.
,, 18	Greymouth ..	James Potts ..	Poisoned leg	Greymouth ..	Skin knocked off by piece of timber.
,, 19	Auckland	D. Breekwith ..	Shock	Auckland	Fell into the hold.
,, 22	Lyttelton	F. Sadler	Foot jammed	Lyttelton	Got his foot caught between a sling of pipes and a truck.
,, 28	Greymouth ..	James Walker ..	Injured foot	Greymouth ..	Struck by piece of timber.
,, 30	Greymouth ..	Patrick Ellison ..	Injured foot	Greymouth ..	Crushed by piece of timber.
Oct. 10	Greymouth ..	John Anderson ..	Sprained wrist	Greymouth ..	Slipped and fell.
,, 13	Bluff	C. Murphy	Injured leg	Bluff	Was knocked down by a truck whilst shunting and had small bone of leg broken and ankle bruised.
,, 15	Bluff	T. Cooper	Sprained sides	Bluff	A case of rabbits fell on him.
,, 20	Greymouth ..	Joseph Jackson ..	Crushed fingers	Greymouth ..	Jammed in timber.
,, 20	Greymouth ..	Alfred Weinberg ..	Crushed foot	Greymouth ..	Crushed by wheel of railway wagon.
,, 27	Nelson	R. J. Oliver ..	Injured finger	Nelson	When discharging cargo, got his finger jammed.
Nov. 2	Lyttelton	C. Greer	Injured head	Lyttelton	A large piece of coal fell out of a basket and struck him on the head, injuring him very seriously.
,, 3	Napier	J. Le Geyt ..	Bruised chest	Napier	Struck by the winch-handle.
,, 5	Auckland	William Kent ..	Broken leg	Auckland	When stacking some bales of kapok his hook slipped and he fell on the wharf and broke his right leg below the knee.
,, 10	Napier	William Cullen ..	Broken leg	Napier	A hawser broke, striking him on the leg.
,, 10	Napier	D. Hickey	Injured head	Napier	Fell off the wharf and received a severe cut on the forehead.
,, 11	Greymouth ..	Thomas Mathieson ..	Crushed hands	Greymouth ..	Caught in chain sling.
,, 12	Greymouth ..	Samuel Compton ..	Ruptured muscles of back ..	Greymouth ..	Lifting heavy weight.
,, 19	Auckland	J. Millar	Broken leg	Auckland	Was struck on the leg by a piece of timber when unloading the "Den of Ruthven," and had the small bone broken.

RETURN of ACCIDENTS to WATERSIDE WORKERS reported to the MARINE DEPARTMENT, &c.—*continued*.

Date.	Port.	Name of Person injured.	Nature of Injury, fatal or otherwise.	Place where Accident occurred.	Particulars as to Accident and its Cause, and Verdict of Jury if Inquest held.
1908.					
Nov. 30	Nelson	E. Robb	Injured hand	Nelson	Crushed whilst discharging timber.
Dec. 4	Auckland	Patrick Clare ..	Broken wrist and injured knee ..	Auckland	Fell into the hold of the "Monowai" when removing the hatches.
,, 6	Gisborne	W. J. Morris ..	Injured shoulder	Gisborne	A bag of waste fell out of a sling and struck him.
,, 7	Auckland	N. O'Brien ..	Injured leg	Auckland	A sling of timber gave way, and the pieces fell on O'Brien and Hamilton.
,, 7	Auckland	C. Hamilton ..	Injured head	Auckland	
,, 7	Auckland	William Salmon ..	Injured foot	Auckland	Slipped on deck when carrying a case.
,, 10	Greymouth ..	James Outram ..	Injured head	Greymouth ..	Struck by a piece of falling timber.
,, 11	Greymouth ..	John Davis ..	Crushed fingers	Greymouth ..	Jammed whilst stacking sleepers.
,, 11	Wellington ..	T. Pressley ..	Injured head	Wellington ..	Fell and struck his head against the winch.
,, 12	Auckland	William Johnston ..	Cut face	Auckland	A fellow-workman threw a shovel to him (at his own request), but he missed it, and it struck him on the face, inflicting a severe cut.
,, 14	Greymouth ..	Daniel Callaghan ..	Injured ankle	Greymouth ..	Caught in wire rope.
,, 15	Auckland	H. Pearce	Broken leg	Auckland	A case fell on him.
,, 21	Kaipara	William Dalbaith ..	Injured ribs	Aoroa	Got jammed between logs.
,, 24	Kaipara	Harry Peek ..	Injured foot	Tekopuru	A sling of timber fell on his foot.
,, 31	Auckland	E. Anderson ..	Injured hand	Auckland	The balance-box of a crane suddenly slipped and caught Anderson's left hand and crushed off two of his fingers at the first joint.
1909.					
Jan. 2	Greymouth ..	W. F. Rose ..	Injured hand	Greymouth ..	Jammed in timber.
,, 4	Lyttelton	A. Foote	Injured leg	Lyttelton	A case fell and struck his leg.
,, 13	Auckland	Charles Richardson ..	Effects of fall	Auckland	Fell off a railway truck.
,, 30	Gisborne	D. Hent	Injured leg	Gisborne	A case of iron, whilst being hoisted, struck him on the left leg.
Feb. 1	Auckland	W. Johnson ..	Bruised shoulder	Auckland	A case fell out of a sling and struck him on the shoulder.
,, 8	Greymouth ..	Neil Backman ..	Crushed finger	Greymouth ..	Caught in brake of timber-truck.
,, 10	Greymouth ..	Charles Cook ..	Injured legs	Greymouth ..	Caught in rope of revolving capstan.
,, 15	Lyttelton	J. Scott	Injured thumb	Lyttelton	Got his thumb jammed between two sleepers.
,, 17	Lyttelton	Alfred Cook ..	Injured head and shoulder ..	Lyttelton	A piece of timber fell out of a sling and struck him, causing severe wounds to head and shoulders.
,, 18	Lyttelton	John Shepherd ..	Effects of fall	Lyttelton	Was knocked out of a truck by a sling of iron and fell on the wharf and thence into the water; not seriously injured.
,, 22	Napier	James Gray ..	Injured leg	Port Ahuriri ..	A coal-trestle overturned and struck him above the heel, breaking the tendons.
,, 25	Napier	Thomas McDonald ..	Effects of fall	Port Ahuriri ..	Fell into the hold of the "Marere," and was severely bruised.
,, 27	Greymouth ..	Daniel Coakley ..	Injured knee	Greymouth ..	Struck by a lump of coal.
Mar. 5	Greymouth ..	William Beckman ..	Injured arm	Greymouth ..	Fell off wagon.
,, 6	Lyttelton	James Kelly ..	Injured knee	Lyttelton	Fell whilst carrying a coal-basket.
,, 11	Greymouth ..	Frederick Mortimer ..	Injured eye	Greymouth ..	Struck by piece of falling timber.
,, 23	Napier	Alexander Campbell	Strain	Port Ahuriri ..	Collapsed whilst at work, and became unconscious.
,, 30	Wellington ..	Arthur Tullock ..	Broken wrists	Wellington ..	Stepped on a hatch which he had not fastened properly, when it gave way, and he fell about 37 ft., breaking both wrists and sustaining shock to system.

RETURN of CONVICTIONS of SEAMEN, &c., for Offences against the Provisions of the Shipping and Seamen Act, under Proceedings taken by Masters and Others, reported to the Marine Department during the Year ended 31st March, 1909.

Name of Person.	Position held.	Ship.	Particulars of Offence, &c.	Date of Conviction.	Penalty imposed.
Abrahamson, Carl	A.B.	Joseph Craig	Desertion	9/3/09	Fourteen days' imprisonment and costs.
Addison, A.	Fireman	Waikare	Broaching cargo and stealing beer	22/6/08	£5, or twenty-one days' imprisonment.
Allen, T.	A.B.	Indradevi	Desertion	20/9/08	Seven days' imprisonment, and costs 10s.
Almond, J.	Fireman	Aotea	Desertion	6/1/09	Twenty-one days' imprisonment.
Andersen, C.	A.B.	Helga	Refusing duty	4/4/08	One months' imprisonment.
Anderton, T.	Steward	RippinghamGrange	Absent without leave	2/10/08	Imprisoned until sailing of ship.
Bailey, E.	A.B.	Turakina	Disobeying orders	7/5/08	14s. costs, and to be placed on board.
Barkley, C.	Fireman	Buceros	Absent without leave	25/6/08	Costs.
Black, James	O.S.	Helga	Refusing duty	4/4/08	One month's imprisonment.
Blackwood, F. S.	Steward	Athenic	Assaulting a street passenger	3/12/08	Three months' imprisonment.
Board, F. J. D.	Carpenter	Waimate	Embezzling cargo	6/8/08	Four months' imprisonment, and to forfeit £8 wages, value of goods stolen.
Bowman, P. W.	A.B.	RippinghamGrange	Obscene language	30/9/08	Seven days' imprisonment, or £2.
Boyd, N.	A.B.	Helga	Refusing duty	4/4/08	One month.
Burnecle, A.	A.B.	Ruapehu	Absent without leave	20/11/08	Forty-eight hours' imprisonment, or forfeit two days' pay, and costs 14s.
Burnecle, A.	A.B.	Ruapehu	Disobeying orders	20/11/08	Twenty-four hours' imprisonment, and costs £1 8s.
Butler, John	Fireman	Norfolk	Assaulting T. Anderson and other seamen	31/8/08	£2 and costs, or fourteen days' imprisonment.
Callaghan, James	Fireman	Devon	Drunk and disorderly	26/11/08	10s., or two days' imprisonment.
Callaghan, Patrick	Fireman	Devon	Drunk and disorderly	26/11/08	10s., or two days' imprisonment.
Cherriff, M.	A.B.	Renfield	Disobeying lawful commands on high seas	26/6/08	£2, and costs £1 8s., or seven days' imprisonment.
Copeland, J.	A.B.	Wanaka	Disobeying orders	26/3/08	5s., and costs 7s., or two days' imprisonment.
Courtney, A.	A.B.	Corinthic	Absent without leave	11/11/08	10s., and costs 7s., or two days' imprisonment.
Crocker, J.	A.B.	Turakina	Disobeying orders	7/5/08	14s. costs, and to be placed on board.
Dennison, S.	A.B.	Rio	Disobeying lawful commands	18/5/08	10s., and costs 7s., or twenty-four hours' imprisonment.
Doran, W.	Fireman	Indravelli	Assaulting chief engineer	19/10/08	£1, and costs 5s., or twenty-four hours' imprisonment.
Doran, W.	Fireman	Indravelli	Absent without leave	10/10/08	Forfeit two days' pay.
Doyle, A.	Apprentice	RippinghamGrange	Broaching cargo	25/9/08	£3, or seven days' imprisonment.
Dunn, D.	Fireman	Rangatira	Assaulting chief officer	5/1/09	£1, or seven days' imprisonment.
Dunn, D.	Fireman	Rangatira	Disobeying lawful commands	5/1/09	5s., and costs 7s.
Fox, F.	Steward	Athenic	Assaulting a street passenger	3/12/08	Three months' imprisonment.
Garrett, William	Fireman	Wakanui	Desertion	23/4/08	One month's imprisonment, and to be placed on board.
Gibson, William	Fireman	Norfolk	Assaulting T. Anderson and other seamen	31/8/08	£1 10s. and costs, or seven days' imprisonment.
Given, Christopher	Steward	RippinghamGrange	Absent without leave	2/10/08	Imprisonment until sailing of ship.
Gray, E. E.	A.B.	Hawea	Disobeying lawful commands in harbour	15/10/08	£2, or two days' imprisonment.
Gray, E. E.	A.B.	Hawea	Disobeying lawful commands on high seas	15/10/08	£2, or seven days' imprisonment.
Grenole, Peter	A.B.	Waratah	Theft of ship's stores	11/5/08	£3, or one months' imprisonment.
Gully, G.	A.B.	Hawea	Disobeying lawful commands	15/10/08	£2, or two days' imprisonment.
Harris, J.	Fireman	Tomoana	Absent without leave	9/7/08	Costs 7s., and fourteen days' imprisonment.
Harvey, Thomas	Fireman	Norfolk	Assaulting T. Anderson and other seamen	31/8/08	£1 10s. and costs, or seven days' imprisonment.
Hazel, A. W.	Fireman	Corinthic	Absent without leave	27/6/08	Fourteen days' imprisonment.
Hearns, E.	A.B.	Indravelli	Absent without leave	10/10/08	Forfeit one day's pay.
Hope, Edgar A.	Steward	RippinghamGrange	Absent without leave	2/10/08	Imprisonment till sailing of ship.
Hutchinson, T.	A.B.	Indravelli	Absent without leave	10/10/08	Forfeit two days' pay.
Jenkins, A.	Steward	Athenic	Assaulting a passenger	3/12/08	Three months' imprisonment.
Johns, C.	Fireman	Waikare	Broaching cargo and stealing beer	22/6/08	£5, or twenty-one days' imprisonment.
Johnson, R.	Fireman	Waikare	Broaching cargo and stealing beer	22/6/08	£5, or twenty-one days' imprisonment.
Kelly, Archibald	Greaser	Atua	Assaulting third engineer	8/2/09	£5 and costs.
Keogh, M.	A.B.	Indravelli	Absent without leave	10/10/08	Forfeit one day's pay.
Kyle, J.	A.B.	Otterburn	Disobeying lawful commands	8/7/08	7s. costs.

RETURN of CONVICTIONS of SEAMEN &c., for Offences against the Provisions of the Shipping and Seamen Act, &c.—*continued.*

Name of Person.	Position held.	Ship.	Particulars of Offence, &c.	Date of Conviction.	Penalty imposed.
Learney, J.	Cook	Whakatane	Theft of case of stout	27/1/09	Two months' imprisonment.
Lowery, H.	A.B.	Devon	Absent without leave	16/4/08	To be replaced on board.
Lyiard, James	Fireman	Wakanui	Absent without leave	16/7/08	Ordered to pay costs and return to ship.
Miller, A.	Fireman	Indravelli	Absent without leave	10/10/08	Forfeit two days' pay.
Mitchell, William	A.B.	Rippingham Grange	Assaulting the boatswain and using offensive language	5/10/08	£4, and imprisonment until sailing of ship.
Moore, J.	Cook	Rosamond	Assaulting chief steward	10/9/08	£1 1s. costs.
Moore, J.	A.B.	Lady Wolsey	Assaulting second mate	26/3/09	£2, or seven days' imprisonment.
Morgan, O.	A.B.	Helga	Refusing duty	4/4/08	One month's imprisonment.
Morrison, J.	A.B.	Invertay	Assaulting Neumann and Prince (seamen)	9/9/08	£2 and costs.
Murphy, J.	A.B.	Hawea	Disobeying lawful commands in harbour	15/10/08	£2, or two days' imprisonment.
Murphy, J.	A.B.	Hawea	Disobeying lawful commands at sea	15/10/08	£2, or seven days' imprisonment.
Murphy, P.	A.B.	Indravelli	Disobeying and assaulting chief officer	22/5/08	£2, or seven days' imprisonment.
Murphy, P.	A.B.	Indravelli	Using obscene language	22/5/08	£6, or fourteen days' imprisonment.
McCarthy, L.	Steward	Manapouri	Stealing watch, chain, &c.	12/5/08	Fourteen days' imprisonment.
McDade, D.	Fireman	Karamea	Absent without leave	28/10/08	Three days' imprisonment and costs 6s.
McDonald, A. J.	A.B.	Rosamond	Desertion	10/9/08	£1, and costs £1 8s., or seven days' imprisonment.
McPherson, W.	A.B.	Indravelli	Absent without leave	10/10/08	Forfeit two days' pay.
McPherson, N.	A.B.	Indravelli	Disobeying orders	10/10/08	Forfeit two days' pay.
O'Connor, M.	A.B.	Indravelli	Absent without leave	10/10/08	Forfeit two days' pay.
Parris, G.	A.B.	Tongariro	Absent without leave	5/10/08	Seven days' imprisonment.
Pauling, William G.	Fireman	Wakanui	Absent without leave	16/7/08	Ordered to pay costs and return to ship.
Pietro, Santiago	A.B.	Carraciolo	Desertion	23/3/09	To be detained in custody until sailing of vessel, and then placed on board.
Pilgram, A.	Fireman	Tomoana	Absent without leave	9/7/08	Fourteen days' imprisonment, and costs 7s.
Rosa Antonio	A.B.	Jeni	Desertion	11/3/08	To be detained until sailing of ship, and then placed on board.
Ross, E.	Fireman	Tomoana	Absent without leave	9/7/08	Fourteen days' imprisonment, and costs 7s.
Reynor, W. T.	O.S.	Helga	Refusing duty	4/4/08	One month's imprisonment.
Salvatoni, A.	A.B.	Carraciolo	Desertion	23/3/09	To be detained in custody until sailing of ship, and then placed on board.
Saville, G.	Fireman	Warrimoo	Assaulting fourth engineer	20/9/08	Fourteen days' imprisonment, and costs 7s.
Scott, H. G.	A.B.	Invertay	Assaulting Neumann and Prince (seamen)	9/9/08	£2 and costs.
Seinerton, M.	A.B.	Helga	Refusing duty	4/4/08	One month's imprisonment.
Shackell, W.	A.B.	Turakina	Disobeying orders	7/5/08	14s. costs, and to be placed on board.
Sinclair, J.	Fireman	Buceros	Absent without leave	25/6/08	Ordered to pay costs.
Slater, John	Fireman	Opawa	Assaulting second engineer	16/10/08	£2 and costs.
Smith, M.	Greaser	Kaikoura	Absent without leave	16/1/09	Ordered to be placed on board.
Smith, W. J.	Fireman	Corinthic	Absent without leave	27/6/08	Fourteen days' imprisonment.
Smith, W. J.	Fireman	Corinthic	Absent without leave	8/7/08	Convicted and discharged.
Sukow, F.	A.B.	Helga	Refusing duty	4/4/08	One month's imprisonment.
Taylor, A.	O.S.	Tasman	Indecency	9/12/08	£2.
Taylor, William	Steward	Rippingham Grange	Absent without leave	2/10/08	Imprisonment until sailing of ship.
Thurlow, G.	Fireman	Indravelli	Absent without leave	10/10/08	Forfeit one day's pay.
Toad, H.	Fireman	Karamea	Absent without leave	28/10/08	Three days' imprisonment, and costs 6s.
Tremont, M.	A.B.	Helga	Refusing duty	4/4/08	One month's imprisonment.
Watson, L.	A.B.	Atua	Wilful disobedience of lawful commands	20/6/08	£2 and costs.
Wells, Henry	Cook	Norfolk	Drunk and disorderly	4/8/08	£1 and costs, or fourteen days' imprisonment.
Williams, H.	Greaser	Indravelli	Absent without leave	10/10/08	Forfeit one day's pay.
Wilson, F.	Fireman	Kaikoura	Absent without leave	16/1/09	Ordered to be placed on board.
Woolston, Henry A.	Deck hand	Papanui	Disobeying lawful commands	3/2/09	10s. and costs.

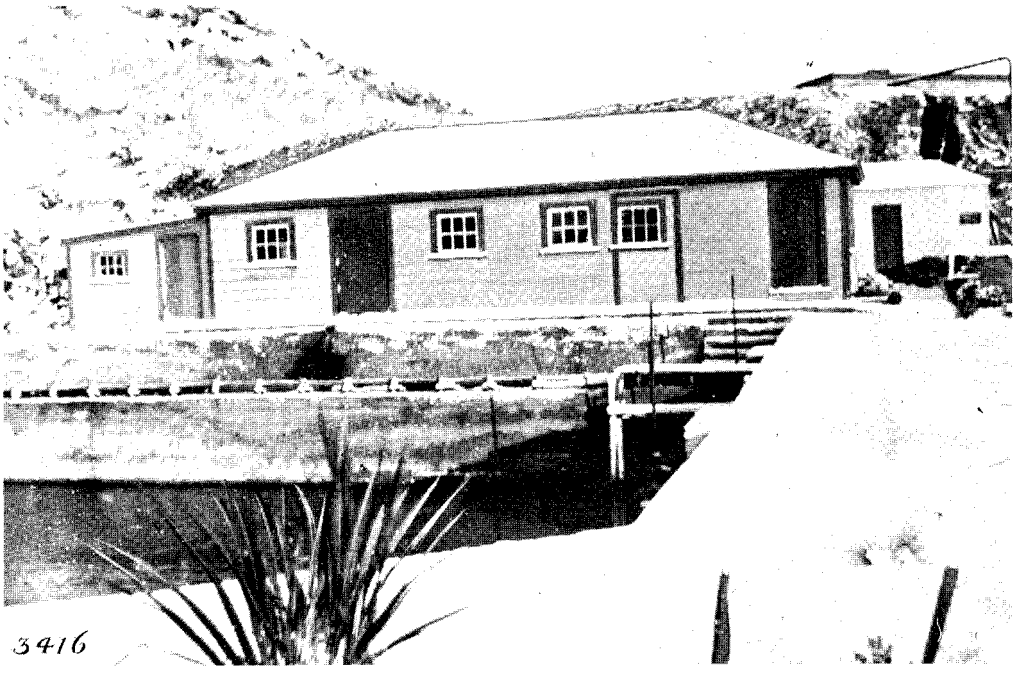


PLATE I.—THE MARINE HATCHERY AT PORTOBELLO, AFTER A FALL OF SNOW.

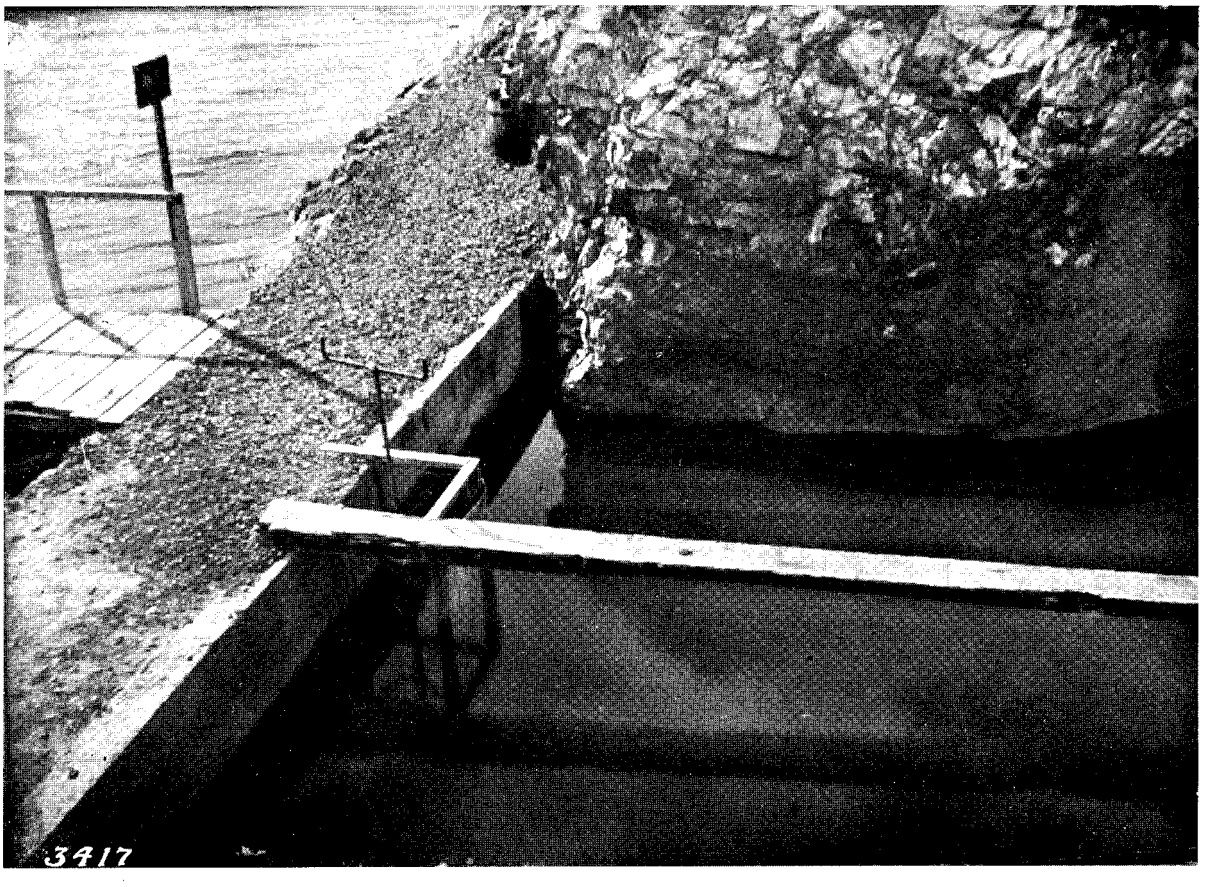
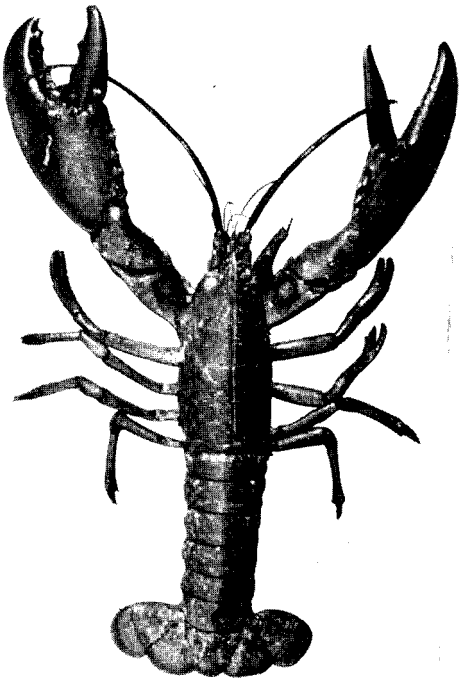


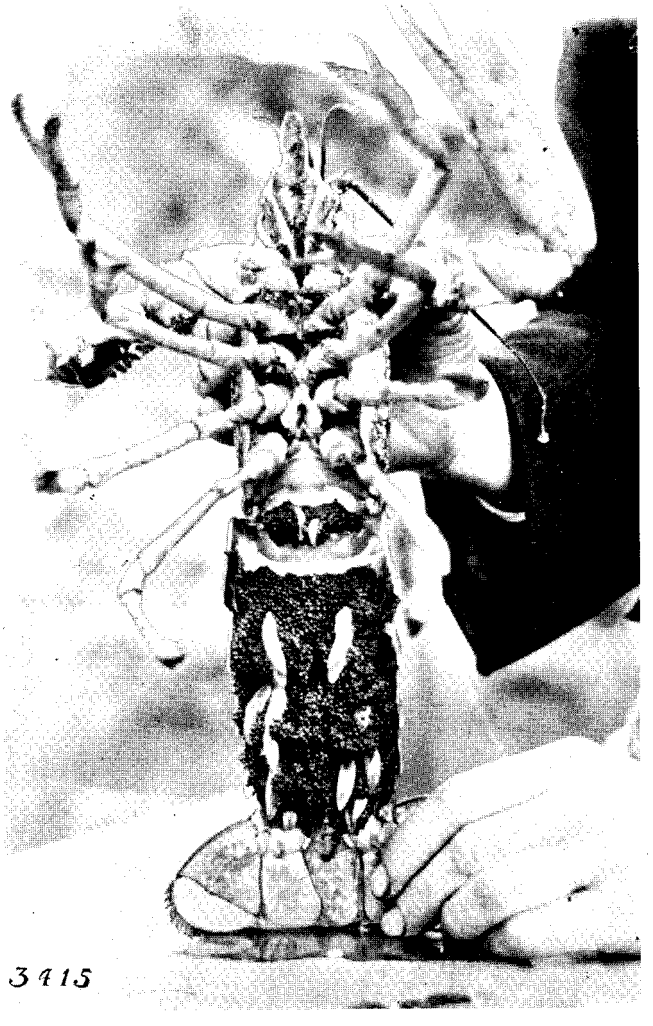
PLATE II.—LOBSTER-HATCHING POND. (See p. 19.)

Face p. 60.]



3414

PLATE III.—CAST SHELL OF A MALE LOBSTER. (See p. 22.)



3415

PLATE IV.—FEMALE EGG-BEARING LOBSTER. (See p. 22.)

Face p. 60.]

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the MARINE DEPARTMENT from the 1st April, 1908, to the 31st March, 1909.

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.		
1907.													
Dec. 7	Lord Stanley, s.s., 5 years	Schooner	3057	..	..	General	Fire; trifling damage	..	Wharf, Wellington ..	..	..	Fire in No. 1 lower hold; cause unknown ..	..
1908.													
Jan. 23	Tasman, s.s., 5 years	Schooner	87	13	4	General	Broken shaft	..	Off Cape Terawhiti ..	Calm	..	A flaw in the tail-shaft caused it to break ..	F. W. Cox.
Feb. 18	Manapouri, s.s., 26 years	Schooner	1288	52	..	General	Breakdown of machinery	..	Off North Head, Auckland Harbour	..	..	Main engine reversing-gear bracket carried away	G. H. Lacy.
Mar. 6	Alexander Craig, 17 years	Barque	520	14	..	Produce; damages, £50	Topgallant mast carried away	..	Lat. 33·5 S., Long. 171·54 E.	E.N.E.	Gale ..	During a heavy gale the topgallant mast was wrenched off the main topmast, carrying away some of the rigging	Alexander Campbell.
,, 10	Wairuna, s.s., 3 years	Schooner	2530	40	..	Ballast ..	Collision; no damages	1	Auckland Harbour ..	N.E.	Moderate	If master of "Moonah" had continued on his course the collision would not have occurred. In porting his helm and bringing his vessel suddenly to starboard across the "Wairuna's" bow he committed a breach of Article 21, and is solely responsible for the collision. Certificate of master of "Moonah" suspended for six months, and he was ordered to pay costs of inquiry	James Robinson.
,, 10	Moonah, 6 years	Ketch ..	83	4	1	Coal ..	Collision; total loss						Joseph Silveira.
,, 13	President Felix Faure	French	2651	22	..	Nickel-ore	Stranded; total loss	..	North Cape, Main Island, Antipodes	N.N.W.	Fresh ..	Vessel ran ashore in thick weather ..	A. Noel.
April 7	Eunice, 6 years	Scow ..	171	8	..	Coal and produce	Stranded; no damage	1	Half-moon Bay, Pelorus Sound	S.E.	Fresh ..	Vessel missed stays and drifted ashore ..	J. H. Nelson.
,, 12	Kiripaka, s.s., 14 years	Ketch ..	75	11	..	Produce	Stranded; no damage	..	Patea Bar	N.W.	Light ..	Stranded when crossing bar, but got off uninjured	G. T. Dixon.
,, 14	Jessie Niccol, 36 years	Schooner	93	8	..	General	Stranded; trifling damage	..	Davis Point, Campbell Island, South Pacific	W.N.W.	Light ..	Wind suddenly failed, and vessel missed stays and touched slightly on rocks	W. J. McBride.
,, 18	Lady Roberts, s.s., 6 years	Schooner	37	7	..	..	Collision; no damage	4	Pulling Point, Otago Harbour	Calm	Light	The collision was solely due to an error of judgment on the part of Joseph Coddoi, the master of the "Matakana," who suddenly ported his helm and went astarboard, thus running right across the bows of the "Lady Roberts," when it was too late to avoid a collision	H. Cashman.
,, 18	Matakana ..	Oil-launch	3	1	13	..	Collision; total loss						Joseph Coddoi.
,, 23	Taviuni, s.s., 18 years	Schooner	910	31	4	General	Stranded; partial loss	..	Buller Roads, 500 yds. off west Mole	Calm	..	Casualty was due to negligent navigation on the part of the master, whose certificate was suspended for three months, and he was ordered to pay costs of inquiry	C. Brophy.
May 2	Tasman, s.s., 5 years	Schooner	87	13	4	General	Collision; trifling damage	..	Nelson Harbour ..	Calm	..	Collision due to a wrongly executed order in the engine-room	F. W. Cox.
,, 2	Weathersfield, 43 years	Barque	1047	..	..	Timber	Collision; no loss						F. Holm.
" 6	Takapuna, s.s., 25 years	Schooner	472	38	21	General	Collision with wharf; slight damages	..	Wharf, Wellington ..	S.E.	Strong ..	Struck the wharf owing to the steering-gear failing to act	C. McLean.
,, 7	Warkworth 34 years	Cutter ..	25	3	..	Timber	Stranded; total loss	..	15 miles S.E. by S. of Kaipara Lighthouse	S.W.	Gale ..	Shipped heavy seas, which broke main boom, carried away port chain-plates, and sent mast over the side. Vessel thereupon drifted ashore high and dry at low water	John Brown.

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the MARINE DEPARTMENT, &c.—*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.		
1908.													
May 12	Curlew, 1 year	Schooner	96	5	..	Timber	Stranded; trifling damage	..	Whangapoua Creek ..	W.	Light ..	Vessel grounded on a sunken log, and damaged two bottom planks	W. Bourke.
,, 19	Countess, 8 years	Ferry-steamer	85	..	..	..	Collision with wharf; slight damages	..	Ferry Wharf, Wellington	Calm	..	Caused by mistake of engineer in putting the engines ahead instead of astern	William Reid.
,, 20	Ionic, s.s., 6 years	Schooner	7826	..	..	Wool, flax, and general	Fire; considerable damage to cargo	..	Glasgow Wharf, Wellington	Calm	..	The fire occurred through the flax becoming ignited by something extraneous to it	J. O. Carter.
,, 22	Kumara, s.s., 9 years	Schooner	3907	..	..	General	Loss of life ..	1	Lat. 13° N., Long. 17° W.	..	..	W. Moore, fireman, was found on deck with his throat cut; confessed to having done it himself	A. Morton.
,, 27	Muritai, s.s., 24 years	Schooner	134	8	11	Oysters	Stranded; total wreck	..	West Chicken Island	N.W.	Light ..	The second officer disobeyed the express orders of the captain and first officer, and was guilty of culpable negligence. The captain erred only in not being on deck at Tutukaka Point. The captain and second officer each ordered to pay half the costs of the inquiry, £58 15s.	Charles Hopkins.
June 9	Whangaroa, 15 years	Scow ..	132	8	..	Timber	Dismasted ..	..	Whangarei	S.	Squally	Accident caused by roll due to heavy cross-sea	William Harris.
,, 17	Jane ..	Cutter ..	3	2	..	Fishing-boat	Loss of life ..	1	Hicks Bay ..	S.	..	Supposed to have gone overboard in a fit of insanity	F. C. Must.
,, 19	Mapourika, s.s., 10 years	Schooner	718	45	..	General	Collision; no damage	..	Crane Wharf, Westport	S.W.	Breeze	The "Ingrid's" anchor was hanging from the bow, and was fouled by the "Mapourika's" staunchions, which carried away the "Ingrid's" cathead	S. Kennedy.
,, 19	Ingrid, 30 years	Barque	699	13	..	Coal ..	Collision; slight damage						O. Larsen.
,, 20	Tally Ho, 11 years	Scow ..	51	3	..	Coal ..	Collision; no damage	..	Between Bream Tail and Rodney Point	S.S.W.	Light	The vessels drifted into contact through not having steerage-way in the very light breeze	E. Welson.
,, 20	Kiwi ..	Cutter ..	15	2	..	Stores ..	Collision; trifling damage						J. McCormack.
,, 21	Dorset, s.s., 25 years	One mast	50	9	..	General	Broken shaft	..	Off Six-mile Beach, Waipapapa Point	N.E.	Light ..	Port propeller-shaft broke, and, owing to the slipping-out of place of that propeller, the blades of the starboard propeller were stripped off	A. Running.
,, 23	Akaroa, s.s., 33 years	Schooner	28	8	..	Towing logs	Stranded; no damage	..	Rangitoto Channel, Auckland	Calm	..	The vessel grounded on west side of channel during thick fog; the master, having a raft of logs in tow, kept too far to the westward to avoid the track of other vessels	Walter Parker.
July 1	Manukau, s.s., 28 years	Schooner	45	5	..	Ballast..	Stranded; no damage	..	Waitara Bar ..	N.	Light ..	The vessel stranded owing to insufficiency of water on the bar	J. O. Berg.
,, 5	Moa, s.s., 44 years	Schooner	95	12	..	Coal ..	Stranded; trifling damage	..	Wanganui Bar ..	E.	Moderate gale	No blame attached to any of the officers or hands on board the vessel, but the Court considered the signalman committed a slight error of judgment in allowing the vessel to take the bar about one hour after high water	W. H. Sawyers.
,, 13	Esme, 1 year ..	Ketch ..	20	3	..	Shingle	Stranded; trifling damage	..	No. 2 Bay, East end, Chamberlain's Island, Firth of Thames	W.	Light ..	Whilst loading shingle on the beach the vessel grounded on a rock and injured bottom planks	W. Findlay.
,, 18	Ennerdale, s.s., 6 years	Schooner	512	21	..	Timber	Stranded; trifling damage	..	Kaipara Harbour ..	S.W.	Moderate	Grounded on a mud-bank in the river at ebb-tide, but got off when the tide rose	N. Waddilove.

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the MARINE DEPARTMENT, &c.—*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.		
1908.													
July 23	Haere, 5 years	Scow ..	99	5	..	Timber	Stranded; no damage	..	Hokianga River ..	N.W.	Squalls	A link of the mooring-chain opened, and the vessel drifted ashore	W. E. Barnes.
,, 30	Kennedy, s.s., 43 years	Schooner	131	15	..	Stone ..	Broken shaft	..	Tasman Bay ..	S.E.	Light ..	Starboard tail-shaft was found to be broken when vessel was at Tonga, Blind Bay	F. L. Vickerman.
Aug. 4	Polly, 17 years	Barque	315	9	..	Timber	Stranded; partial loss	..	Whangarei River ..	S.E.	Light ..	Whilst in tow, the vessel ran on a mud-bank, and the machinery of the tug having broken down, she had to abandon the "Polly," which was considerably strained when the tide fell	H. Petterson.
,, 5	Falcon, 31 years	Schooner	98	6	..	Timber	Sails and rigging damaged; trifling	..	Off Brothers, Cook Strait	S.E.	Gale ..	The vessel was struck by a squall, and sails and rigging damaged	O. F. McIntyre.
,, 10	Kapanui, s.s., 10 years	Schooner	63	10	21	General	Stranded; no damage	..	Mangawai Heads ..	E.	Light ..	The stranding of the vessel was due to the gross neglect and indifference of the master, who admits that he did not keep a careful and vigilant look-out. His certificate was suspended for two years, and he was ordered to pay the costs of the inquiry	E. J. Wann.
,, 11	Navua, s.s., 4 years	Schooner	1813	52	32	Fruit ..	Stranded; trifling damage	..	Off Roadstead anchorage, Rarotonga	N.E.	Moderate	The vessel touched slightly on an uncharted coral head or patch, the master and officers being in no way to blame	G. H. Lacy.
,, 18	Navua, s.s., 4 years	Schooner	1813	52	32	Fruit ..	Stranded; trifling damage	..	Off Mauki Island landing	S.E.	Strong	The master committed a slight error of judgment in underestimating his distance from the reef on which the vessel touched	G. H. Lacy.
,, 18	Waratah, s.s., 4 years	Schooner	96	6	..	Produce	Stranded; considerable damage	..	Tory Shoal, Kaipara Bar	W.S.W.	Strong breeze	The steering-gear carried away when crossing the bar, and the vessel went ashore	A. Watchlin.
,, 21	Kapiti, s.s., 6 years	Schooner	114	12	..	General	Stranded; no damage	..	Patea Bar	S.E.	Strong	Set of the current caused the vessel to strand on the bar; got off uninjured	Edward Shaw.
,, 25	Rosamond, s.s., 24 years	Schooner	462	19	..	Coal ..	Struck wharf; damage, £170	..	Onehunga	Calm	..	Struck a pile of the wharf (which was under repair), and damaged bulwarks and side of vessel	A. M. Edwin.
,, 25	Petone, s.s., 8 years	Schooner	388	17	..	Ballast..	Broken crankshaft; £1,100 damage	..	30 miles N.N.E. of Lyttelton	Calm	..	Cause of breakage not known	J. Christian.
,, 29	Ohinemuri, s.s., 17 years	Schooner	73	8	..	General	Stranded; trifling damage	..	Whangape Harbour ..	S.W.	Light ..	The vessel grazed a rock at the entrance to the harbour, and slightly damaged two planks on port quarter	J. Grubb.
Sept. 3	Penguin, s.s., 44 years	Schooner	514	42	30	General	Collision; trifling damage	..	Off Jackson's Head ..	N.W.	Light	The collision was wholly due to the "Penguin," being the overtaking ship, not keeping out of the way of the "Gertie," and the officer responsible was Frederick Raymond Gamble, the second mate of the "Penguin," who committed a breach of Article 24 of the Regulations for Preventing Collisions at Sea by not keeping out of the way of the "Gertie." Certificate of F. R. Gamble suspended for three months, and he was ordered to pay £6 6s. towards cost of inquiry. The suspension of his certificate was subsequently removed by Court of Appeal	R. Stewart.
,, 3	Gertie, s.s., 17 years	Schooner	119	14	..	Coal							R. Rodger.

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the MARINE DEPARTMENT, &c.—*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		
1908.													
Sept. 8	Waikare, s.s., 11 years	Schooner	1901	50	60	General	Collision; trifling damage	..	Jervois Quay Wharf, Wellington	N.W.	Gale	When leaving her berth at the wharf a heavy wind-squall caused the "Waikare" to bump into the "Kaipara"	J. Bennet.
,, 8	Kaipara, s.s., 5 years	Schooner	4741	64	..	Ballast							N. de la C. Cornwall.
,, 9	Petone, s.s., 8 years	Schooner	388	17	..	Ballast	Breaking of low-pressure cylinder	..	20 miles N. by E. from Cape Foulwind	S.S.E.	Strong breeze	The low-pressure cylinder broke down, and the vessel returned to Wellington under easy steam and sail	J. Christian.
,, 14	Agnes Martin, 14 years	Ketch lighter	41	3	..	General	Collision; trifling damage	..	Entrance, inner harbour, Port Ahuriri	W.	Strong breeze	The two vessels were tendering the s.s. "Whakarua," when the strong current caused them to drift into each other	T. Keogh.
,, 14	Fanny, s.s., 19 years	Ketch lighter	55	9	..	General	Collision; no damage						John Nelson.
About Sept. 16	Loch Lomond, 38 years	Ship ..	1200	19	..	Coal ..	Supposed foundered	19	Not known, but probably off N.W. coast of North Island, New Zealand	..	..	The vessel left Newcastle, New South Wales, on 16th July, 1908, with a cargo of coal for Lyttelton, and has not since been heard of. She has probably foundered at sea with all hands. Wreckage was washed ashore at and near Cape Maria Van Diemen	J. Thompson.
,, 18	Tuatea, s.s., 5 years	Ketch ..	28	3	..	Ballast ..	Stranded; no damage	..	Bar of Mohaka River	Calm	..	Stranded when crossing the bar, but was got off uninjured	A. Knight.
,, 18	Kapiti, s.s., 6 years	Schooner	114	12	..	Coal ..	Stranded; no damage	..	Bar of Patea River ..	W.	Moderate	In consequence of recent flood the river had silted up at the entrance	E. Shaw.
,, 23	Ngunguru, s.s., 15 years	Schooner	70	9	1	Timber	Stranded; total loss	..	Bar of Karamea River	S.W.	Stormy	A heavy sea struck the vessel when crossing the bar, and carried away the rudder; the vessel then drifted ashore	F. Fletcher.
,, 24	Mana, s.s., 22 years	Schooner	77	10	..	General	Stranded; no damage	..	Patea Bar	N.W.	Breeze	The channel had silted up owing to a recent fresh in the river, and the vessel stranded in crossing the bar	W. Tinney.
,, 30	Zior, 36 years ..	Schooner	63	4	..	Ballast ..	Stranded; total loss	..	Takatu Point, Hauraki Gulf	E.N.E.	Light ..	The loss of the vessel was due to the neglect of Gustav Victor Olsson in not keeping the vessel further off the land as instructed by the master, who was not called in time to prevent the stranding	E. Diaz.
Oct. 19	Kapiti, s.s., 6 years	Schooner	114	12	..	General	Struck obstacle; damage, £50	..	Off Terawhiti Point ..	W.	Light ..	The Court was of opinion that the vessel struck some partially submerged object. The first officer was reprimanded for not reporting the occurrence at once to the master	E. Shaw.
,, 24	Takapuna, s.s., 25 years	Schooner	472	45	..	General	Collided with wharf; trifling damage	..	New Plymouth ..	E.	Strong	A heavy swell threw the vessel against the wharf when she was being berthed	R. Crawford.
,, 25	Akaroa, s.s., 33 years	Schooner	29	8	..	Towing	Broken shaft	..	Between Point Rodney and Takatu Point	S.W.	Strong	Tail-shaft carried away	W. Parker.
,, 27	Kahu, 9 years	Ketch ..	50	4	..	Coal ..	Stranded; no damage	..	Kaituna River ..	W.	Fresh breeze	Stranding due to shifting of channel ..	C. Johnson.
,, 28	Apanui, s.s., 3 years	Schooner	135	15	..	General	Collision; no damage	..	Mouth of Awanui River	S.S.W.	Moderate	The "Apanui," in trying to pass the "Greyhound" in a narrow channel, collided with her and carried away some of her headgear	R. H. Gibbons.
,, 28	Greyhound, O.E.V., 9 years	Schooner	83	6	..	General	Collision; slight damage						H. Subritsky.

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the MARINE DEPARTMENT, &c.—*continued.*

Date of Casualty.	Vessel's Name, Age, and Class.	Rig.	Registe 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.		
1908.													
Oct. 29	Jane Gifford, 1 year	Ketch ..	20	3	..	Bricks ..	Stranded; trifling damage	..	Off Kauri Point, Auckland Harbour	W.S.W.	Moderate	Master mistook his position on dark night when beacons not visible	E. S. Chatfield.
,, 30	Hawea, s.s., 11 years	Schooner	1114	27	..	Timber	Stranded; total loss	..	Mouth of Grey River	S.W.	Light ..	The stranding was caused by an exceptionally heavy roller striking the vessel on the port bow, causing her to touch bottom on the inner bar and lose steerage-way. She was then unable to regain her position, and drifted bodily to the north tip and stranded	J. W. Burgess.
Nov. 1	Kapiti, s.s., 6 years	Schooner	114	12	..	General	Stranded; no damage	..	Patea Bar	S.	Breeze	Stranded when crossing the bar, but got off uninjured	G. B. Corby.
,, 2	Mana, s.s., 22 years	Schooner	77	10	..	General	Stranded; no damage	..	Patea Bar	..	..	Stranded when crossing the bar, but got off uninjured	T. M. Jackson.
,, 5	Carraciolo, 32 years	Barque	1355	17	..	Tiles ..	Damaged bulwarks	..	140 miles S. of Tasmania	W.N.W.	Hurricane	A heavy sea broke on board and damaged the starboard bulwarks and staunchions	J. B. Woden.
,, 9	Planet, 30 years	Launch	13	..	..	..	Burnt ..	..	At wharf, Foxton ..	..	..	The launches were lying alongside the wharf, and were both found to be on fire at 4 a.m. The engines and boilers only were saved	..
,, 9	Matara, 5 years	Launch	13	..	..	..	Burnt ..						
Dec. 14	Kia Ora, 5 years	Schooner	69	4	..	Timber	Stranded; total loss	3	Nelson Rock, Kawau Island	N.E.	Strong	The loss of the vessel was caused by the negligent navigation of the master in hugging the land and attempting to pass between Flat Rock and Kawau Island whilst a strong wind, almost a gale, was blowing from the north-east, with a heavy sea and very thick weather	Edward Piercy.
,, 15	Charles Edward, s.s., 45 years	Schooner	145	12	..	Coal ..	Stranded; total loss	..	Bar, Wanganui River	S.	Gale ..	The master and officers were considered free from all blame for the stranding of the vessel	Edward Graham
,, 16	Arahura, s.s., 3 years	Schooner	771	48	184	Coal ..	Broken shaft	..	54 miles N. of Westport	N.E.	Moderate	Port tail-shaft broke off at outer end of stern-valve; cause unknown	G. Lambert.
,, 17	Kapiti, s.s., 6 years	Schooner	114	12	..	General	Stranded; no damage	..	Patea Bar	N.	Fresh breeze	Stranding due to silting-up of channel ..	G. B. Corby.
,, 18	Ururoa, 9 years	Scow ..	196	9	..	Coal ..	Stranded; total loss	..	3 miles off Wanganui Bar	W.S.W.	Gale ..	The vessel was stranded in consequence of the negligence of the master, whose certificate was suspended for three months	C. J. Harris.
,, 20	Tangaroa, s.s., 9 years	Ketch ..	110	7	20	General	Stranded; no damage	..	Bar of Wairoa River, Hawke's Bay	N.E.	Light ..	Stranding due to insufficiency of water ..	H. Anderson.
Dec. 30	Ngatiawa, s.s., 2 years	Schooner	220	22	..	General	Stranded; no damage	1	Opotiki Bar ..	N.N.W.	Fresh breeze	Due to insufficient depth of water on bar ..	P. A. Stein.
,, 31	Daldorch, s.s., 1 year	Schooner	3031	36	..	General	Stranded; no damage	..	Auckland Harbour ..	N.	Light ..	The master mistook the channel-marks when leaving Auckland Harbour, and vessel grounded on a mud-bank when trying to get back into proper channel	C. M. Pearson.
1909.													
Jan. 2	Waimarie, s.s., 12 years	Schooner	159	18	..	..	Fire; damage, £130	..	At No. 3 Jetty, Auckland	..	..	Fire occurred in pantry and spread to dining-hall	W. Bettes.

RETURN of WRECKS and CASUALTIES to SHIPPING reported to the MARINE DEPARTMENT, &c.—*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.		
1909.													
Jan. 8	Elsie, s.s., 2 years	Cutter ..	22	4	..	Wool ..	Collapse of furnace; considerable damage.	..	Gula Gula Point, Queen Charlotte Sound	N.W.	Moderate	The engineer, Arthur E. Dryden, was guilty of gross negligence, causing serious damage, whilst in charge of boiler and machinery of s.s. "Elsie," and the Court cancelled his certificate	E. A. Kenny.
About Jan. 15	Rio Loge ..	Auxiliary barque	241	12	..	Timber	Supposed to have capsized	12	Probably between Banks Peninsula and Kaikoura	..	..	The vessel left Kaipara for Dunedin on 6th January, 1909, properly equipped and manned, and was seaworthy. There is no evidence to show what has become of her, and it can only be assumed that she has been lost with all hands.	..
,, 15	Zingara, s.s., 3 years	Schooner	99	9	..	Logs ..	Stranded; no damage	..	Tairua	W.S.W.	Strong ..	Vessel was struck by a heavy squall when in a narrow channel, and thrown ashore	F. Jensen.
,, 17	Holmdale, s.s., 7 years	Schooner	197	12	..	General	Burst steam-pipe; trifling damage	..	2 miles off Curious Cliff	S.W.	Gale ..	Main steam-pipe burst around top flange ..	W. T. Clark.
,, 25	Marama, s.s., 1 year	Schooner	3952	129	200	General	Stranded; trifling damage	..	Bluff Harbour ..	E.S.E.	Light ..	When leaving Bluff Harbour the vessel touched a rock on the side of the channel, and slightly damaged a plate on starboard side	L. C. H. Worrall.
,, 31	Pitoitoi, s.s., 4 years	Cutter ..	19	6	..	General	Stranded; no damage	..	Bar, Waitara River ..	S.W.	Light ..	Master went out too early on tide ..	J. Williamson.
Feb. 6	Dandy, 8 years	Schooner	82	5	..	Logs ..	Stranded; slight damage	..	Mouth of Whangapoua River	N.E.	Moderate	When beating out of the river the vessel missed stays and touched the rocks.	R. McKinlay.
,, 12	Penguin, s.s., 44 years	Schooner	517	41	64	General	Stranded; total loss	75	Off Cape Terawhiti ..	S.E. by S.	Fresh breeze	The cause of the casualty was the presence of an exceptionally strong flood-tide, coupled with a breach of Article 16 of Regulations for Preventing Collisions at Sea by the master of the vessel, and with his failure under existing circumstances to put to sea when he had run a course of eighteen miles. The casualty was contributed to by the default of the master in not putting his vessel's head to sea sooner. The Court suspended the master's certificate for twelve months	F. E. Naylor.
,, 20	Ulimaroa, s.s., 2 years	Schooner	2986	106	120	General	Stranded; partial loss	..	Quarantine Island, Otago Harbour	S.W.	Fresh ..	Caused by the ebb-tide setting strongly on starboard bow of ship when turning into the channel between Quarantine and Goat Islands, causing the ship to ground on Quarantine Island, considerable damage to plates, frames, and bilge-keel resulting	W. J. Wyllie.
Mar. 9	Hippalos, 17 years	Barque	299	11	..	Timber	Fire; damage, £200	..	Railway Wharf, Wellington	N.	Moderate breeze	Sails, yards, and rigging on fore and main masts caught fire from sparks from a burning shed	F. W. Whitton.

SUMMARY of CASUALTIES to SHIPPING reported to the Marine Department during the Financial Year ended the 31st March, 1909.

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	5	1,980	75	5	3,004	3	10	4,984	78	..	..	..	..	..	..	..	..	..	10	4,984	78
Partial loss	2	4,211	..	2	96	..	4	4,307	..	..	..	..	..	..	..	..	..	..	4	4,307	..
Slight damage	6	8,258	..	5	311	..	11	8,569	..	..	..	..	..	..	..	..	..	..	11	8,569	..
No damage	16	4,328	1	3	320	1	19	4,648	2	..	..	..	..	..	..	..	..	..	19	4,648	2
Total strandings	29	18,777	76	15	3,731	4	44	22,508	80	..	..	..	..	..	..	..	..	..	44	22,508	80
Foundered,—Total loss	..	..	..	1	1,200	19	1	1,200	19	..	..	..	..	..	..	..	..	..	1	1,200	19
Collisions,—																					
Total loss	1	3	4	1	83	1	2	86	5	..	..	..	..	..	..	..	..	..	2	86	5
Partial loss	4	1,102	..	..	..	..	4	1,102	..	..	..	..	..	..	..	..	..	..	4	1,102	..
Slight damage	6	7,834	..	3	755	..	9	8,589	..	..	..	..	..	..	..	..	..	..	9	8,589	..
No damage	5	3,475	..	2	1,098	..	7	4,573	..	..	..	..	..	..	..	..	..	..	7	4,573	..
Total collisions	16	12,414	4	6	1,936	1	22	14,350	5	..	..	..	..	..	..	..	..	..	22	14,350	5
Fires,—																					
Total loss	2	26	..	..	..	..	2	26	..	..	..	..	..	..	..	..	..	..	2	26	..
Partial loss	3	11,042	..	1	299	..	4	11,341	..	..	..	..	..	..	..	..	..	..	4	11,341	..
Total fires	5	11,068	..	1	299	..	6	11,367	..	..	..	..	..	..	..	..	..	..	6	11,367	..
Miscellaneous, including damage by heavy seas to hull and cargo, loss of masts, sails, &c., and breakdown of machinery	12	3,706	12	4	2,105	..	16	5,811	12	..	..	..	..	..	..	..	..	..	16	5,811	12
Total casualties to shipping	62	45,965	92	27	9,271	24	89	55,236	116	..	..	..	..	..	..	..	..	..	89	55,236	116
Loss of life only	..	..	..	1	3	1	1	3	1	1	3,907	1	..	..	..	1	3,907	1	2	3,910	2
Total number of casualties reported	62	45,965	92	28	9,274	25	90	55,239	117	1	3,907	1	..	..	..	1	3,907	1	91	59,146	118

RETURN showing the NOTICES to MARINERS relating to Matters within the Dominion issued by the Marine Department during the Year ended 31st March, 1909.

Port or Place.	Subject of Notice.
Auckland Harbour	Cable across Waiheke Channel.
"	Light-buoys, Rangitoto Channel.
"	Yachts and other vessels prohibited from anchoring in channel.
Bluff	New beacons with leading-lights.
"	Night signals from Stirling Point Lighthouse.
"	Error in regard to light on new light-vessel.
Cuvier Island	Fog-signal.
Dog Island	Cable to mainland.
Godley Head	Fog-signal.
Greymouth	Harbour night signals.
"	Wreck of s.s. "Hawea."
"	Dredging.
Kaikoura	Set of currents off Kaikoura Peninsula.
Kaipara Harbour	Helensville River Beacon.
"	Pouto Point Light, red sector.
Kawhia Harbour	Leading-beacons.
Little Akaloa Bay	Buoyed cable.
Lyttelton Harbour	Dredging-operations.
Napier Harbour	Change in position of buoy.
New Zealand Nautical Almanac ..	Correction *re* Greymouth Harbour Lights.
Oamaru Harbour	Dredging-operations.
"	Flagstaff.
Open Bay Islet	Sunken rock off Taumaki or Open Bay Islet, West Coast, South Island.
Otago Harbour	Eastern channel between Harrington Point and Black Head closed.
"	Signal light for Victoria Channel.
"	Beacon, Black Head. North Mole light discontinued. Red buoy, main channel, Port Chalmers to Dunedin.
Poverty Bay	New beacons, Waipaoa River.
Stewart Island	Rock in Half-moon Bay.
"	Light on Anglem Point.
Tauranga Harbour .. .	Extension of shoal and alteration in position of buoy.
Waimakariri Harbour	New beacons.
Wanganui River	Changes in the channel and beacons.
"	Alteration in position of leading-light.
Weather-forecast signals.. ..	Places where exhibited, and explanation.
"	Exhibited on Stephens and Centre Islands.
Wellington	Lambton Harbour, light on Jerningham Point.
"	Azimuth Tables, &c., published.
"	Nautical Almanac and Tide-tables published.
"	Dredging on Falcon Shoal.
"	New position of man-of-war buoy.
"	Longitude difference between old and new charts.

RETURN showing the ORDERS IN COUNCIL which have been issued during the Year ended 31st March, 1909.

Date of Order.	Purpose of Order.
1908.	
April 1	Approves plan of C. Gothard's stable on foreshore, Whangaroa Harbour.
,, 1	Authorises C. Gothard to occupy foreshore, Whangaroa Harbour, as site for stable.
,, 1	Approves plan of wharf for E. T. Field on Northern Wairoa River.
,, 1	Licenses E. T. Field to occupy foreshore, Norther Wairoa River, as site for wharf.
,, 1	Fixes dues for Opotiki wharves.
,, 1	Authorises Waiapu County Council to exercise powers of Harbour Board, and defines limits of Port or Harbour of Tokomaru Bay.
,, 1	Approves of plans of proposed improvements to Waipu River.
,, 1	Approves plans of Hobson County Council's wharf at Tangiteroria, Northern Wairoa.
,, 1	Licenses Hobson County Council to occupy foreshore, Northern Wairoa River, as site for wharf.
,, 1	Approves plans of F. Iredale's wharf and shed on Awakino River, Northern Wairoa.
,, 1	Licenses F. Iredale to occupy foreshore, Awakino River, as site for wharf and shed, and prescribes dues and rates for wharf.
,, 1	Approves plans of shelter-shed for W. Towler on foreshore, Otago Harbour.
,, 1	Authorises W. Towler to occupy foreshore, Otago Harbour, as site for shelter-shed.
,, 1	Approves plans of and authorises Horowhenua County Council to construct bridge across Manawatu River near Shannon.
,, 4	Makes regulations for perch and trout fishing in Taranaki Acclimatisation District.
,, 11	Authorises W. H. Saies to occupy part of foreshore, Totara North, as site for building for stores.
,, 25	Makes additional rules *re* life-saving appliances on ships.
, 25	Approves plans of wall and approaches to store-shed at Waikokopu.
,, 25	Amends regulations for trout-fishing in Whangarei Acclimatisation District.
,, 25	Extends trout-fishing season in Rotorua Acclimatisation District.
May 2	Approves plans of Dunedin Amateur Boating Club's shed.
,, 2	Licenses Dunedin Amateur Boating Club to occupy foreshore, Otago Harbour, as site for boat-shed.
,, 2	Approves plans of Eastbourne Borough Council's culvert at Rona Bay.
,, 2	Licenses Mitchelson Timber Company to occupy foreshore, Aoroa, Kaipara, as site for wharves.
,, 18	Approves Karitane Domain Board carrying out certain works of improvement.
,, 21	Revokes regulations for carriage and stowage of ballast, and makes others.

RETURN showing the ORDERS IN COUNCIL, &c.—*continued.*

Date of Order.	Purpose of Order.
1908.	
May 21	Approves plans of Spring Creek Road Board's bridge over Wairau River, and authorises Board to construct same.
,, 21	Approves plans of Half-moon Bay Wharf and extension of wharf in Golden Bay, and authorises Stewart Island County Council to construct same.
,, 23	Amends regulations *re* traffic on Lake Rotorua and management of wharves, and prescribes dues for same.
,, 23	Approves plans of Tauranga County Council's wharf and shed on Uretara River.
,, 23	Licenses Tauranga County Council to occupy foreshore, Uretara River, as site for wharf and shed.
,, 23	Prescribes dues for Otamatea County Council's wharves at Little Shag Creek, Raupo, and Tokatoka; and revokes existing dues.
,, 23	Approves plans of Chadwick's timber-booms on Pahi River, Kaipara.
,, 23	Licenses W. Chadwick to occupy foreshore, Pahi River, Kaipara, as site for timber-booms.
,, 26	Approves plans for shed on Grove Wharf.
,, 26	Licenses J. Duncan and others to occupy foreshore, Grove, Pelorus Sound, as site for wharf.
,, 30	Approves expenditure by Westport Harbour Board of £350 for additional railway-siding.
,, 30	Approves plans of boat-shed and slip for W. H. Horn, Otago Harbour.
,, 30	Licenses W. H. Horn to occupy foreshore, Otago Harbour, as site for boat-shed and slip.
June 2	Revokes Order in Council authorising Northern Wairoa Timber Company to occupy foreshore, Kaipara, as site for wharves.
,, 2	Licenses Northern Wairoa Timber Company to occupy foreshore, Kaipara, as wharf-site.
,, 5	Prescribes fees for surveying and defining load-lines of ships.
,, 12	Appoints T. E. Coates to be member of Greymouth Harbour Board.
,, 23	Approves plans of cut in West Breakwater, Westport.
,, 24	Approves Westport Harbour Board expending £300 for weighbridge at Westport-Stockton Coal-mine, and £90 on Granity Railway-station.
,, 26	Modifies lease of foreshore, Otago Harbour, to W. Towler as site for shelter-shed.
,, 30	Approves Westport Harbour Board expending £380 instead of £350 on additional siding at Westport Railway-station.
,, 30	Approves Westport Harbour Board extending breakwaters and procuring two suction dredges.
July 11	Approves plans of Stewart Island County Council's wharf in Horse-shoe Bay.
,, 21	Declares that Cook County Council shall exercise powers of a Harbour Board at Tolaga Bay, and defines port or harbour.
,, 24	Makes regulations *re* taking of whitebait.
,, 28	Licenses J. Evans to occupy foreshore, Waipapakauri, as site for wharf.
Aug. 4	Licenses J. Harrison to occupy foreshore, Wairoa River, as site for wharf.
,, 4	Consents to lease of foreshore at Thames by Thames Harbour Board to H. H. Adams.
,, 10	Approves plans of additions to Rona Bay Wharf, Wellington Harbour.
,, 14	Approves plans of Dominion Canning Company's wharf at Kaipara.
,, 14	Licensing Dominion Canning Company to occupy foreshore Kaipara Harbour, as site for wharf.
,, 18	Approves plans of J. Bassett's wharf on Wairoa River, West Wanganui Inlet.
,, 18	Licensing J. Bassett to occupy foreshore, Wairoa River, West Wanganui Inlet, as site for wharf.
,, 19	Authorises Westport Harbour Board to procure a crane for Crane Wharf.
,, 19	Makes additional rules for life-saving appliances for ships.
,, 19	Approves plans of wharf and store for Kaiapoi Shipping and Trading Company, at Kaiapoi.
,, 19	Approves plans of wall round Te Aro Baths, Wellington Harbour.
,, 19	Approves plans of wharf for Niagara Sawmilling Company, Waikawa Harbour.
,, 19	Licenses Niagara Sawmilling Company to occupy foreshore, Waikawa Harbour, as site for wharf.
,, 19	Approves plans of Okain's Bay Road Board's proposed wharf at Okain's Bay.
,, 21	Approves plans of Timaru Harbour Board's proposed wharf.
Sept. 7	Approves plans of Brownlee and Co.'s wharf-extension in Pelorus River.
,, 7	Approves plans of New Zealand Shipping Company's shed at Wairoa, Hawke's Bay.
,, 7	Licenses New Zealand Shipping Company to occupy foreshore, Wairoa, Hawke's Bay, as site for shed.
,, 7	Approves plans of Upper Waikawa Sawmilling Company's wharf on Waikawa River.
,, 7	Licenses Upper Waikawa Sawmilling Company to occupy foreshore, Waikawa River, as site for wharf.
,, 7	Authorises Tauranga Borough Council to charge dues for shipping from Town Wharf.
,, 15	Approves plans of F. J. Sullivan's smokehouse on foreshore, Purakanui River.
,, 15	Licenses F. J. Sullivan to occupy foreshore, Purakanui River, as site for smokehouse.
,, 15	Vests management of Clevedon Wharf in Wairoa Road Board.
,, 15	Approves of Wesport Harbour Board expending £1,700 for overbridge at Westport Railway-station.
,, 15	Makes regulation for use of poles in netting fish.
,, 15	Abolishes light dues in force, and makes others in lieu thereof.
,, 15	Approves plans of D. Finlayson's bridge over Awakino Creek, Kaipara Harbour.
,, 22	Approves plans of Dannaher Bros.' proposed wharf on Hokianga River.
,, 22	Licenses Dannaher Bros. to occupy foreshore, Hokianga River, as site for wharf.
,, 22	Approves plans of C. B. Lester's boat-shed and slip on Hokianga River.
,, 22	Licenses C. B. Lester to occupy foreshore, Hokianga River, as site for boat-shed and slip.
,, 22	Approves plans of widening of Rattray Street Wharf, Otago Harbour.
,, 22	Approves plans of extension of Wanganui Wharf.
,, 28	Revokes license authorising L. G. Lane to occupy foreshore, Hokianga River, as wharf-site.
,, 28	Makes regulations for trout-fishing in Rotorua Acclimatisation District.
,, 28	Amends regulations for trout, perch, and tench fishing in Canterbury Acclimatisation District.
Oct. 3	Approves of Greymouth Harbour Board procuring dredge.
,, 6	Approves plans and authorises Auckland Harbour Board to reclaim land at O'Neil's Point, Auckland Harbour.
,, 6	Amends Order in Council fixing light dues.
,, 6	Makes regulations for taking of whitebait.
,, 6	Authorises Westport Harbour Board to procure steam crane.
,, 6	Makes regulations for keeping trout in cool-chambers during close season.
,, 12	Approves plans of Star Boating Club's shed, and authorising erection of same on Thorndon Esplanade, Wellington Harbour.
,, 12	Licenses Coulthard Timber Company to occupy foreshore, Kaipara, as site for wharf.
,, 12	Approves plans of three landings for Otago Harbour Board in Otago Harbour.
,, 12	Approves plans of proposed harbour-improvement at Motueka.

RETURN showing the ORDERS IN COUNCIL, &c.—*continued.*

Date of Order.	Purpose of Order.
1908.	
Oct. 16	Revokes Order in Council licensing Campbelltown Borough Council to occupy foreshore, Argyll Beach, as site for baths.
,, 16	Approves plans of Campbelltown Borough Council's baths on Argyll Beach, Bluff Harbour.
,, 16	Licenses Campbelltown Borough Council to occupy foreshore, Argyll Beach, Bluff Harbour, as site for baths.
,, 22	Makes regulations for netting of trout in Lake Hawea.
,, 22	Amends trout-fishing regulations for Hawke's Bay Acclimatisation District.
,, 22	Approves plans of proposed dredging by Wellington Harbour Board at entrance to Wellington Harbour.
,, 22	Authorises T. Eckford to charge dues for his wharf on Opawa River.
Nov. 5	Approves plans of Union Steamship Company's repairing jetty at Port Chalmers, Otago Harbour.
,, 5	Makes regulations *re* trawling within Lyttelton Harbour and Pegasus Bay.
,, 20	Revokes charges for Town Wharf, Tauranga Harbour, and prescribes new ones.
,, 20	Approves plans of and authorises T. Telford to construct tide-lock on Puerua River.
Dec. 17	Amends regulations for trout-fishing in Rotorua Acclimatisation District.
,, 17	Approves plans of dock and tramway for Ferguson Gold-mining Company at Waiomo, Thames.
,, 17	Licenses Ferguson Gold-mining Company to occupy foreshore, Waiomo, as site for dock and tramway.
,, 17	Approves plans of Wellington City Council's bathing-shed at Evans Bay.
,, 17	Approves plans of proposed dredging, Evans Bay, by Wellington Harbour Board.
,, 17	Approves plans of Hokianga Dairy Company's wharf on Wairupe Stream, Hokianga Harbour.
,, 17	Licenses Hokianga Dairy Company to occupy foreshore, Wairupe Stream, Hokianga Harbour, as wharf-site.
,, 19	Approves plans of Bond Bros.' wharf-extension at Devonport, Auckland Harbour.
,, 22	Approves plans of Tauranga County Council's wharf at Omokoroa.
,, 22	Licenses Tauranga County Council to occupy foreshore, Omokoroa, as site for wharf.
,, 24	Approves plan of wharf for Akaroa County Council on Onawe Peninsula, Akaroa Harbour.
,, 24	Licenses Akaroa County Council to occupy foreshore, Onawe Peninsula, Akaroa Harbour, as site for a wharf.
,, 24	Approves plans of house for S. J. Wrathall on foreshore, Mangonui Harbour
,, 24	Licenses S. J. Wrathall to occupy foreshore, Mangonui, as site for house.
,, 24	Approves plans of tramway for G. B. Watson at Pakawau.
,, 24	Licenses G. B. Watson to occupy foreshore at Pakawau as site for tramway.
,, 24	Makes additional regulations for training-ships.
,, 24	Approves plans of fish-curing shed for J. H. Tunnage in Otago Harbour.
,, 24	Licenses J. H. Tunnage to occupy foreshore, Otago Harbour, as site for fish-curing shed.
1909.	
Jan. 14	Varies close season for mullet in North Island of New Zealand.
,, 20	Approves plans of Wairoa Road Board's wharf on Wairoa River, Kaipara.
,, 20	Licenses Wairoa Road Board to occupy foreshore, Wairoa River, Kaipara, as site for wharf.
,, 20	Approves plans of boat-shed for Messrs. Cording and Petley, at Worser Bay, Wellington Harbour.
,, 20	Approves of Westport Harbour Board expending £350 on Ganger's house at Granity.
,, 20	Varies close season for mullet in North Island of New Zealand.
Feb. 24	Approves plans of wharf for W. T. Webber and others at Elmslie Bay.
,, 24	Licenses W. T. Webber and others to occupy foreshore, Elmslie Bay, as site for wharf.
,, 24	Approves plans of wharf at Moehau for R. R. Hunt.
,, 24	Licenses R. R. Hunt to occupy foreshore, Moehau, as site for wharf.
,, 24	Approves plans of timber-booms for D. Goldie on Hauarahi Stream, Hauraki Gulf.
,, 24	Licenses D. Goldie to occupy foreshore, Hauarahi Stream, as site for timber-booms.
,, 24	Approves plans of boat-shed and slip for D. Wall in Otago Harbour.
,, 24	Licenses D. Wall to occupy foreshore, Otago Harbour, as site for boat-shed and slip.
,, 24	Approves plans of boat-shed for F. W. Sanderson on Otawhiri Point, Whangaroa Harbour.
,, 24	Licenses F. W. Sanderson to occupy foreshore, Otawhiri Point, Whangaroa Harbour, as site for boat-shed.
,, 24	Revokes Order in Council licensing W. Christie to occupy foreshore, Whangaroa Harbour, as site for boat-shed.
,, 24	Approves plans of wharf and tramway for A. Miller in Croixelles Harbour.
,, 24	Licenses A. Miller to occupy foreshore, Croixelles Harbour, as site for wharf and tramway.
,, 24	Approves plans of flood-gate on Otokia Creek, Brighton, for D. McKenzie, and authorising him to construct same.
,, 24	Approves plans of flood-gate at Waikouaiti for Karitane Domain Board, and authorises Karitane Domain Board to construct same.
,, 24	Approves plans of outlet from septic tank for Wellington City Council at Island Bay.
,, 24	Approves plans of repairs and alteration to Town Wharf, Tauranga Harbour.
,, 24	Varies close season for mullet in North Island of New Zealand.
Mar. 13	Makes regulations *re* issue of special licenses for Maoris to take trout in the Thermal-springs District.
,, 22	Approves plans of and authorises Auckland Harbour Board to reclaim land at O'Neil's Point, Auckland Harbour.
,, 22	Fixes pilotage rates for Port of Picton.
,, 22	Approves of Westport Harbour Board expending £1,000 on increased siding-accommodation at Wesport Station.
,, 22	Approves plans of Matakohe Wharf repairs.
,, 31	Authorises Westport Harbour Board to expend £500 on installation of tablet system between Granity and Ngakawau Stations.
,, 31	Approves plans of Hobson County Council's bridge over Mangarata Creek, and authorises Hobson County Council to construct same.
,, 31	Approves plans of extension of Wellington Harbour Board's retaining-wall on Waterloo Quay.
,, 31	Prohibits trawling in Kaipara Harbour.

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NEW ZEALAND
WRECK CHART.

1st APRIL, 1908, TO 31st MARCH, 1909.

COMPILED FROM OFFICIAL RECORDS

IN THE

MARINE DEPARTMENT.

SYMBOLS.

STRANDINGS.

X---------- Signifies a total loss.

X---------- Signifies a partial loss.

COLLISIONS.

+O- Signifies a collision between a steamer and a sailing-vessel, with partial loss.

+H- Signifies a collision between two steamers, with partial loss.

OO Signifies a collision between two sailing-vessels.

OTHER CASUALTIES.

O- Signifies partial loss of a sailing-vessel.

O- Signifies foundering or capsizing of a sailing-vessel.

+- Signifies foundering of a steam-vessel.

+- Signifies partial loss of a steam-vessel.

+- Signifies total loss of a steam-vessel.

NOTE.—Casualties resulting in slight damage are not shown on this Chart.

THE SEAL OF THE MARINE DEPARTMENT, N.Z.

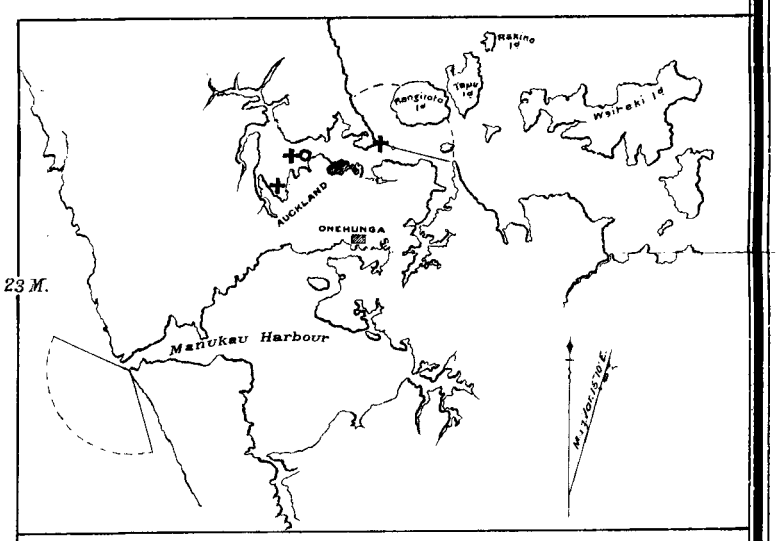
THREE KINGS
North Cape
Cape Maria Van Dieman Light Rev. Vis 24½ M.
AHIPARA BAY
BAY OF ISLANDS
Herekino R.
Hokianga R.
Moko Hinou Light Fl 10" Vis 26 M.
GREAT BARRIER
Kaipara H. Light Fl 10" Vis. 25 M.
Tiri Tiri Light F. Vis 24 M.
Cuvier Is Light Rev. 30" Vis. 26 M.
AUCKLAND
See Enlargement
Manukau Har. Light F. Vis. 26 M.
BAY OF PLENTY
TAURANGA
East C. Light Fl. 10" Vis 26 M.
Kawhia Har.
GISBORNE
POVERTY BAY
Mokau R. Light F. Vis 8 M.
WAITARA
NEW PLYMOUTH
Cape Egmont
OPUNAKE
Portland Is Light Rev. 30 Vis. 24 M.
NAPIER
Light F. Vis. 13 M.
Cape Kidnappers
Pated R. Light F. Vis. 10 M.
Light F. Vis. 12 M.
WANGANUI
COOK
Rangitikei R. Light Vis 5 M.
Manawatu R.
FOXTON
Cape Farewell
Farewell Spit Light Rev 1' Vis. 17 M.
Stephens I. Light G. Fl 30" Vis. 32 M.
Cape Turnagain
Light F. Vis. 10½ M.
Rock Pt
FRENCH PY
Brothers Light Fl 10" Vis 22 M.
WELLINGTON
Castle Point
Karamea R.
NELSON
PICTON
Flat Point
See Enlargement
Light Rev. 30" Light F. Vis 5 M.
BLENHEIM
Cape Palliser Light Rev. 30" D. Fl Vis 22 M.
Cape Foulwind
WESTPORT
Vis. 19½ M.
Cape Campbell Light Rev. Vis 18 M.
Clarence R.
Light F. Vis. 12 M.
GREYMOUTH
KAIKOURA
Light F. Vis 10 M.
HOKITIKA
Waiau-ua
Abut Head
OKARITO
CHRISTCHURCH
Light F. Vis. 28 M.
LYTTELTON
Godley Hd
Jackson's Bay
Rakaia R.
Akaroa Har. Light Fl 10" Vis. 23 M.
TIMARU
Light F. Vis. 14½ M.
Light F. Vis. 10 M.
Milford Sound
Caswell Sound
OAMARU
Light F. Vis. 6 M.
Vis 19 M.
Light F.
Moeraki
Taiaroa Hd Light F. Red Vis. 20 M.
DUNEDIN
Light R. Vis. 20 M.
Cape Saunders
Dusky S.
Puysegur Pt Fl Light 10" Vis. 19 M.
INVERCARGILL
Nugget Pt Light F. Vis. 22 M.
Centre Is Light E. Vis 22½ M.
Dog Is Light Rev. 30" Vis. 18 M.
Waipapapa Pt Light Fl 10" Vis. 13½ M.
STEWART I^D
SNARES

Var. 15°43' E.

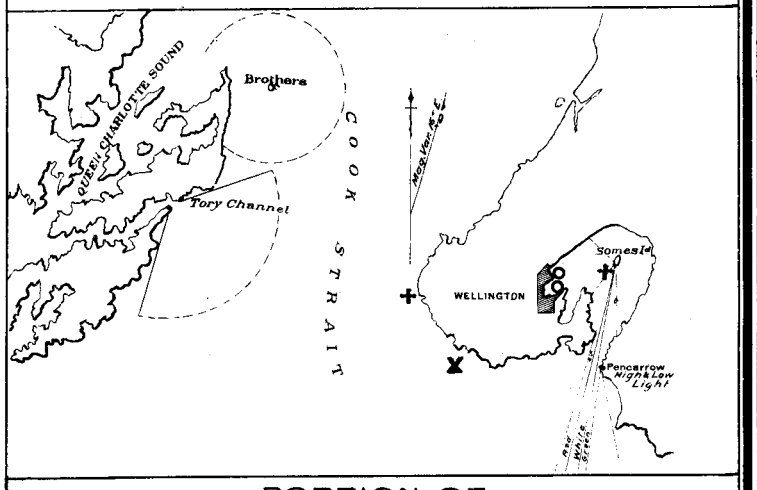
Var. 17°10' E.

Statute Miles.
10 0 50 100 150

Nautical Miles.
10 0 50 100 150



AUCKLAND AND MANUKAU HARBOURS.



PORTION OF
COOK STRAIT AND WELLINGTON HARBOUR.

By Authority: John Mackay, Government Printer.