

THIRD REPORT

ON

THE MARINE DEPARTMENT

FOR YEAR 1867.

PRESENTED TO BOTH HOUSES OF THE GENERAL ASSEMBLY, BY COMMAND OF
HIS EXCELLENCY.

WELLINGTON.

—
1867.

THIRD REPORT

ON

THE MARINE DEPARTMENT FOR YEAR 1867.

SIR,—

General Post Office,
Wellington, 13th August, 1867.

I have the honor to submit, for your Excellency's information, a Report by the Marine Engineer on the affairs of his Department, for the year ending 30th June, 1867.

I cannot do so without bearing my testimony to the zeal and ability which have been devoted by Mr. Balfour to the organization of the Marine Department. The bringing into operation of the provisions of the Marine and the Steam Navigation Acts passed during the last session of Parliament, the establishment of a proper system for the inspection of steam vessels, and for ascertaining the qualifications of Masters and Engineers, the supervision of the several Lighthouses of New Zealand, and the general conduct of the Maritime business of the Colony, have been carried out in a manner, which, considering the limited amount of Mr. Balfour's staff, reflects great credit on his Department.

The alterations in "The Steam Navigation Act, 1866," referred to in this Report, have already received the sanction of the General Assembly, and a Bill will shortly be introduced for giving effect to the amendments which have been suggested in "The Marine Act, 1866."

I have, &c.,

To His Excellency Sir George Grey, K.C.B.,
Governor of New Zealand.

JOHN HALL,
Postmaster-General.

SIR,—

Marine Department,
Wellington, 29th July, 1867.

I have the honor to forward herewith a Report on the working of the Marine Department for the year 1866-7.

I have, &c.,

The Hon. the Postmaster-General,
Wellington.

JAMES M. BALFOUR,
Marine Engineer.

REPORT.

General.

By the passing of "The Marine Act, 1866," and "The Steam Navigation Act, 1866," the previously existing arrangements for the supervision of lighthouses, and the conduct of the general maritime business of the Colony, and the inspection and supervision of steamers plying in Colonial waters, were abolished, and the Marine Department has been created in the room of the former machinery.

Steam Navigation Act.

The necessity for working this Act with a very limited staff, and, at the same time, carrying out its provisions efficiently, involved much anxious consideration. It was only after voluminous correspondence that the arrangements embodied in the printed hand-bill (Appendix A.), which was issued to all officers of Customs, as well as to harbour masters and other Provincial officers, were decided upon.

Further experience having shown that it was desirable to have a representative of the Department at the several important shipping centres capable of acting in case of accident to any steamer, or any other emergency which might arise,—non-salaried inspectors of steamers have been appointed for Auckland, Otago, and East and West Canterbury; and as the gentlemen who fill these offices in Auckland and Otago are engineers by profession, and had been previously in the service of the Marine Board as engineer surveyors, it has been arranged to leave the quarterly surveys of high pressure steamers to them, in addition to any emergency work which might arise, with a view to increase to some extent the amount of their remuneration,—these officers being only paid at a stipulated rate for each service performed. An amended copy of the regulations for working the Steam Navigation Act, arranged to suit these modifications, is published in the *Gazette* of 20th April, 1867, No. 25, page 186.

It has, however, been found possible for one officer to overtake the regular periodic surveys of all the steamers in the Colony, as, before the later arrangements were matured, a Time Table (Appendix B.) was drawn up, showing the periods of the official surveyor's visits to each port, and that table has been acted upon for a sufficient length of time to prove that the duty can be done in the time then allowed, or so nearly so, that the margin of spare time between each trip amply covers any unavoidable delay. The necessity for an emergency survey has only once or twice arisen since the establishment of the Marine Department, and I am sanguine that the arrangements now matured for the working of this Act will be found amply sufficient for the protection of the public. A copy of the most recently arranged Time Table for the surveyor's visits to all ports is given in Appendix C.

A set of rules, for the guidance of those officers who are called upon to examine masters and engineers of steamers, have been issued by the Department (Appendix D.). They are based on the rules issued by the Board of Trade for a like purpose, but are somewhat modified to suit the requirements of the New Zealand Act. A set of the examination papers used in England have been procured, and it is proposed at an early period to issue a similar set here, with a view to the further assimilation of the practice here and in England.

Some difficulty has arisen in classifying steamers, from the fact that the present Act only acknowledges two divisions, "sea-going" and "river service;" whereas five different classes are admitted in England, viz., "foreign-going," "home trade," "limited coasting," or "excursion," "partially smooth water," and "smooth water." The difficulty has, for the time, been to a certain extent met by the issue of "extended river" certificates, or certificates allowing the better class of river steamers to ply along the coast, from one port to another, within certain defined limits (nearly corresponding to the limited coasting class in Great Britain); but it is very doubtful how far this course is legally justifiable, and I am consequently desirous that powers of classification should be conferred on the Government by law. Along with such a system of classification it is proposed to issue "Instructions to surveyors of steam vessels," also based on the English practice, in order that surveyors may be fortified in their duties, and that owners of steamers may be able to satisfy themselves that the several improved equipments, &c., occasionally ordered after survey are ordered in accordance with a regular system.

"Marine Act, 1866."

The working of "The Marine Act, 1866," during the past year, has proved that certain verbal alterations are necessary in order to carry out the obvious intentions of the Statute; and while these changes are being made, I am desirous if possible to have a clause introduced giving certain powers of supervision over the number of passengers carried by sailing vessels. During the prevalence of a new rush on the West Coast, it has more than once occurred that steamers which had been with commendable care prevented from carrying more than the statutory number of passengers, have gone to sea with sailing craft greatly overloaded with passengers in tow; and the probability is great that a re-adjustment of numbers takes place in such cases after leaving port, thus rendering the provisions of the Steam Navigation Act, and the watchfulness and zeal of the officers of Her Majesty's Customs alike of no avail. Small sailing vessels are also occasionally advertised to carry passengers to Tahiti, and other South Sea islands, and it is only right that these craft should be under proper supervision. Similarly, it is desirable that more definite powers should be taken to prevent the too common practice of overloading both steamers and sailing craft which is found especially to prevail when the unknown dangers, combined with the high freights resulting from a rush to a new port, render the voyage a more than ordinarily speculative transaction.

Consolidation of Shipping Laws.

The convenience of a consolidation of the laws connected with merchant shipping will become more obvious as the trade of the Colony increases. Even now we have the Merchant Shipping Act Adoption Act, the Marine Act, the Steam Navigation Act, the Enquiry into Wrecks Act, and the Marine Stores Act, all of which may be said to be or to be in lieu of portions of the English Merchant Shipping Act, and not unfrequently it is found that other portions might be adopted with advantage.

After the present Acts have had a few years further trial, and any faulty provisions have been detected by experience, it will probably be found expedient to condense them into one Mercantile Marine Act, adding, of course, what other provisions may be considered requisite. I have procured the New South Wales and Victorian Acts connected with shipping, with the intention of studying them as a preparation for such a course, should it be adopted, as it is obviously desirable, that the laws of all the Australian Colonies on such subjects should be as nearly as possible the same.

Harbour Regulations.

Several series of harbour regulations for different Provinces having been submitted to me during the past year for revision, I have remarked that the bulk of the rules are identical, and many of the differences of no moment; and, as it would be a great convenience if one set of regulations could be made for the whole Colony, I have endeavoured to frame such a set, on the principle that all variable matter should be published as appendices. These regulations are now in draft, and I would strongly recommend their adoption, with, of course, any necessary corrections, as in that case copies of the New Zealand Harbour Regulations could be sent to Great Britain, and to the other Colonies so that shipmasters about to make a voyage to our shores could procure copies beforehand.

I should propose to publish, along with the regulations, all information as to coastal and harbour lights in the Colony, local signals, reported rocks or shoals, character and depth of water of ports newly opened up, &c., &c., publishing new editions, from time to time, so as to make the information supplied as complete and useful as possible, and to make the publication a supplement, as it were, to the "New Zealand Pilot," which is an admirable production, and correct as to all essentials. One difficulty in the way of issuing such a general code would be the cumbrous nature of the preamble required to embrace the powers of the Governor and all the other authorities who are by

law entitled to make some portion of the regulations; and I would suggest, as one way of overcoming this difficulty, that they should be passed as a whole by the Legislature of the Colony, after the consent of the several authorities has been procured. If the general principle be approved, much time might be saved and much correspondence avoided, were a congress of the principal harbour masters summoned to consider the regulations in a spirit of mutual concession, as the differences even now existing between the regulations of the different Provinces are in reality comparatively trifling.

Wrecks.

The number of wrecks and similar casualties during the past year has been very considerable. Thirty-nine have been reported, and investigated under the Enquiry into Wrecks Act, and some are known to have occurred which have not as yet been reported, or of which the Enquiry into Wrecks Act, as at present worded, scarcely takes cognizance. In addition to these, several vessels have been stranded and repaired on more than one occasion, so that it is decidedly within the mark, to say that not less than forty-five to fifty casualties, more or less serious, have occurred. The most important are the wrecks of the barque "Cambodia," and of the steamers "Queen," "South Australian," and "Star of the Evening," the latter resulting in the loss of six lives.

The "Cambodia," a large vessel of 811 tons register, bound in ballast to Howland's Island, for guano, and only touching at New Zealand for stores, was wrecked on Manukau bar, from the master, who was a stranger, not understanding the signals on the pilot flagstaff; he seems to have acted with judgment while his vessel was in danger, but to have deserted her somewhat prematurely, as she was afterwards taken into port, and has since been repaired. This wreck may be said to have been mainly caused by a faulty General Chart, on which "Auckland" was printed on the west side of the island, in such a manner as to mislead a stranger, causing the master of the "Cambodia" to believe he was approaching Auckland, which he knew by reputation to be a port of very easy access. It is to be regretted that the name of the publisher of the chart was not given at the inquiry, as it would only be right to call his attention to the effect of this error. The wrecks of the three steamers referred to have been, attributed, more or less directly, to compass errors, by the Courts of Enquiry, and I see no reason to dispute the accuracy of the findings; but it would seem most important to impress upon mariners that owing to the very variable nature of the currents on some parts of the New Zealand coasts, compass courses should not be too implicitly relied on, under any circumstances, even when a vessel has been successfully sailed on the same courses on previous occasions, and that every possible means should be employed to check the accuracy of a ship's position from time to time; and that the fact of a vessel having been swung for compass correction in harbour, does not exonerate a master of a vessel from being bound to take every opportunity of ascertaining the errors of his compasses by actual observation when at sea. With a view to test the accuracy of the not unfrequent assertions of extraordinary variations in compasses in certain states of the weather, it has been suggested by the Harbour Master at the Bluff that the various lighthouses in the Colony should be supplied with compasses of moderate delicacy, and that the lightkeepers should be instructed to record their readings at certain hours daily, and more frequently should any abnormal variation be elicited, and the idea seems worthy of consideration, as, though lightkeepers might not be competent to make delicate magnetic observations, they could easily detect any abnormal variation which could endanger a vessel.

Lighthouses.

Dog Island lighthouse having been found to oscillate more than such a tower usually does, during violent gales, and also to leak to such an extent as to threaten to destroy the cohesion of the mortar with which it was built, it was decided to rip and point the whole very carefully with Portland cement, and this has been done in a satisfactory manner. With a view to making the tower still more waterproof as well as to make it more visible in varying states of the atmosphere, it has also been painted, the middle third of its height being white and the top and bottom thirds black. At the same time the iron sheeting of the dwelling-house roofs were carefully rivetted, as the ordinary screw attachments had proved insufficient for ensuring a watertight roof. The whole of these repairs have now been completed for a considerable time, and the principal keeper reports that the result is quite satisfactory, and both tower and dwelling are now perfectly watertight.

A portion of the roofing iron on the dwellings at Pencarrow having been blown away during a severe gale, it was found necessary to repair the damage and secure the whole in a more substantial manner, and the same opportunity was taken for making a somewhat better track to the lighthouse, and building a store on the beach, in which goods or stores may be deposited when landed, and another at the lighthouse for the protection of spare stores. This latter is also fitted as a workshop.

The tanks for storing water at Godley Head having proved very inadequate for the supply of the station during the dry season, and there being no streams or springs within a radius of several miles from the tower, six additional iron tanks have recently been fitted up. A small boat landing-place has also been constructed, and the path to the lighthouse repaired and improved so as to render it more easy to take the tanks up; a few other minor improvements, suggested by experience, were completed at the same time.

Certain repairs to the roofs of the dwelling at Nelson lighthouse will be required during the current year, and a few minor works at Tiri Tiri; but, beyond a small expenditure for painting, I see no reason to anticipate the need for any outlay on the buildings at the other stations.

During the year, two lightkeepers have resigned, four have been dismissed for insubordination or drunkenness, and one has been removed on account of ill health. I am in hopes that the men appointed in their places will prove more permanent and steady officers, as it is both annoying and costly to lose a keeper after he has learned his duty. As one very common source of disagreement between the principal and assistant keepers at the several stations appeared to be a want of a sufficiently definite division of the duties and responsibilities incident on each, I have drawn up a set of instructions (Appendix E.), founded on those adopted in the British or at least the Scotch Lighthouse Service; and every officer, on entering the service, is now

required to sign a statement that he has received, read, and understands those instructions, and is prepared to abide by and obey them; and I believe that the more perfect definition of duty thereby introduced has already diminished the tendency to quarrelling, which has too often ended in insubordination which could not be overlooked.

New Lights.

I have already reported on the practicability of constructing a lighthouse on Farewell Spit at a moderate cost, and I may now say that nowhere in New Zealand is there such a crying need for a light as on this low-lying and extensive danger. I have also furnished an approximate estimate of the cost of construction of a lighthouse at Cape Campbell, and one at the Nuggets, on which latter site, it is proposed to erect the apparatus originally intended for Cape Saunders, Otago, as a light on the Nuggets will be nearly as generally useful as one on Cape Saunders, and it will divide the distance from the existing lights on Tairoa Head and Dog Island more equally. An estimate has also been furnished for a temporary sixth order light at Manukau. In all these cases, the approximate cost has been kept as low as possible, on the understanding that the buildings will be of timber, and consequently in so far of a temporary and perishable nature, as it has been considered better to get the coast more completely lighted, even in a temporary manner, than to incur a large expenditure in erecting a smaller number of more permanent structures. A third or fourth order light at the entrance to Tory Channel would also be of very great service, as mail steamers from Wellington have frequently to enter it after dark; and the height of the land, the narrowness of the entrance, and the strength of the tide, combine to make the operation a very anxious one even to the most experienced captains on the coast.

An approximate estimate has also been furnished of the probable cost of erecting a beacon on the Flat Rock off Kawau Island. This rock is quite in the track of vessels, and, being low, is difficult to be seen at night and in consequence is usually given a wide berth, and as rocks have been discovered between it and the island, vessels generally keep outside,—thus making longer passages, and being often exposed to a much heavier sea than they otherwise would be. A timber beacon was erected on this rock, but it was swept away immediately after completion, mainly because the bolts which connected it with the rock had much too little hold; timber, however, is not well suited for such a structure in an exposed situation, and I propose that the new beacon should be of malleable iron.

Coast Surveys.

Certain portions of the coast urgently require re-surveying; and other localities, if more carefully examined, might prove excellent shelter for coasters from some of our prevalent winds, and I propose to take every opportunity which may arise for doing something in this direction, though all that the present strength of the Marine Department can undertake in that way, in addition to other duties, must of course be very trifling. I agree with the President of the late Marine Board that any considerable amount of coastal survey could best be undertaken under the auspices of an officer of the Hydrographical Department of the Admiralty, but I fear that the expense of surveys so conducted, however desirable they may be, will be considered for the present deterrant.

I append returns of the number of steam vessels surveyed; masters and engineers' certificates of competence, and pilotage exemption certificates issued; and fees and light-dues collected since first July, 1866: also, a Table, showing the prime and annual cost of the several lighthouses in the Colony, and as closely as I can make it up, a statement of the total expense of the Department for the same period.

The assistance rendered me by the officers of the Department, whether salaried or non-salaried, has been most efficient; and it has only been through their always willing and intelligent aid that the necessary work has been undertaken.

JAMES M. BALFOUR,
Marine Engineer.

(A.)

THE following Arrangements have been made for carrying out the provisions of "THE STEAM NAVIGATION ACT, 1866."—(Printed for public information.)

1. Mr. Nancarrow, appointed Official Inspector and Engineer Surveyor under the Act, will visit every port of the Colony at regular intervals of three months.
2. Other inspectors or engineer surveyors will, if necessity arise, be appointed for any particular port or group of ports; such officers not to receive a fixed salary, but to be paid for each inspection or other service on a scale to be arranged.
3. At the ports where such additional inspectors or surveyors are appointed, it may be arranged that they shall take the intermediate quarterly surveys, but in any case the permanent Engineer Surveyor will visit each port and survey every steamer at least once in each half-year.
4. The time for Mr. Nancarrow's first visit to each port has been arranged so as to suit the times when the steamers belonging to that port require to be surveyed, as nearly as possible; and he will lengthen or shorten the periods for which the next certificates are to be in force, so that they shall all fall in at the proper times in future.
5. Should the certificate of a steamer belonging to any port lapse before the period of the Inspector's first or any subsequent visit, the Collector of Customs at that port is authorized to permit the vessel to run in the interim, on receipt of a written declaration signed by the Master and Engineer, that her hull, boilers, machinery and equipments are in good condition.
6. The Postmaster-General will delegate the powers contained in section xxxiv. of "The Steam Navigation Act, 1866," to the Collector of Customs for every port in so far as concerns that port, so

that in case of any reported damage to any vessel the Collector of Customs may call upon any of the inspectors or surveyors appointed under the Act, or "any other fit person," to report whether the hull and machinery of the said vessel are in good condition, and to report upon the nature and causes of any accident.

7. Should a vessel be damaged to such an extent that she cannot be repaired in the port where she is, or to which she is taken after the accident, the Collector of Customs is authorized to allow her to clear in ballast, and without passengers, for any specified port, for repairs, provided she be reported sufficiently seaworthy, in the absence of an official inspector, by Lloyds' Surveyor, or by the surveyor acting for the underwriters, or in default of them, by two respectable shipmasters, after a proper examination.

8. Should the damaged vessel be capable of being repaired at the port where she is, and should the repairs be speedily executed, the Collector of Customs, in the absence of an official inspector, is authorized to allow her to run as before on receipt of a declaration under the hand of the master, the chief engineer, and the engineer, if any, by whom the repairs have been made, that the damage has been thoroughly repaired, and that the steamer is in all respects in a seaworthy condition in accordance with the Act; and (if she be a sea-going vessel) that her compasses have been examined and that their deviations are known.

9. Should the repairs be more extensive it is probable that the port will be visited by an official inspector (if none be resident) before their completion; but should it seem probable that this will not be the case in any special instance, the circumstances are to be reported by the master to the Marine Engineer, by whom some special arrangement will be made.

10. Any person wishing a license to examine and adjust compasses must forward an application for the same together with a description of the method adopted by him, and copies of any testimonials he may possess, to the Marine Engineer, who will as delegate for the Postmaster-General, issue a license to the applicant, provided he be satisfied after personal examination, should he see fit, that the candidate fully understands and is competent to undertake the operation. But should there be no proper mooring dolphin and other conveniences for swinging vessels in any port, the Marine Engineer may refuse to issue any license for that port till such be provided.

11. At ports where there is no person licensed to swing vessels for compass correction, and no proper conveniences, the vessel may be allowed to proceed to sea after repairs, provided the master of the vessel have swung her himself under the superintendence of the Harbour Master, who shall certify to the fact; but in that case she will require to be re-swung at the first port she arrives at where there are proper conveniences.

12. Masters and engineers of steam vessels shall, as a rule, be examined by a regularly gazetted officer of the Marine Department only, who shall hold an appointment as examiner from the Marine Engineer. But the Marine Engineer may, in certain cases, authorize in writing the calling in of any local nautical officer for the purpose of examining masters of steamers which ply only or mainly on local waters.

13. No steamer can ply in New Zealand unless the master and engineer hold New Zealand certificates of competency; but should they already hold Board of Trade certificates, or satisfactory certificates from other Colonies, New Zealand certificates may be issued to them without further examination: but such officers will require to produce satisfactory proofs of sobriety and good conduct, and to pay the usual fee.

14. According to the Act Masters' and Engineers' certificates are only valid for the vessel for which they are issued, but the fact of their holding old certificates may be taken as presumptive evidence that they are competent to serve in other vessels until an opportunity has occurred for re-examining them (should that be considered necessary); but any master or engineer of good character who has been removed from one vessel to another of a similar class and engaged in a similar trade, will receive a fresh certificate from the Marine Department without charge. Where however any master or engineer has been promoted to the charge of a vessel or engines of a different class, or engaged in a different trade, and the difference is of such a nature that it is deemed advisable to re-examine the said Master or Engineer, he will in that case be called upon to pay for his new certificate.

15. "River," and "Sea-going Passenger Certificates," will be issued by the Marine Department, as formerly by the Marine Board, on receipt of the legal declarations.

16. In case of accidents involving the suspension of a certificate or an intermediate survey, the period of currency of the certificate will not be changed, and such intermediate survey will not be charged against the steamer, no steamer being liable to be charged for more than two surveys per annum, if she be a low pressure boat, as defined by the Act, or for more than four surveys per annum if she be a high pressure boat.

J. M. BALFOUR,
Marine Engineer.

Wellington, 28th December, 1866.

(B.)

PROPOSED ARRANGEMENT of Mr. NANCARROW's Visits to the various Outports.

Number of Visit.	GROUP OF PORTS.	Leave Wellington about	Return to Wellington about	Number of days for Survey Duty.	Number of days absent from Wellington.	No. of days in Wellington between each trip.	REMARKS.
No. 1 Trip.	Nelson and West Coast Auckland Canterbury and Otago	Jan. 9 Feb. 22 March 8	Jan. 22 March 7 March 30	8 8 15	14 14 23	30 0 9	Go right on to Return sooner if work done.
No. 2 Trip.	Nelson and West Coast Auckland Canterbury and Otago	April 9 May 22 June 8	April 22 June 7 June 30	About 8 10 15	14 16 23	29 0 8	NOTE A.—Go on to Return sooner if work done.
No. 3 Trip.	Nelson and West Coast Auckland Canterbury and Otago	July 9 Aug. 22 Sept. 8	July 22 Sept. 7 Sept. 30	About 8 10 15	14 16 23	30 0 8	Go right on to Return sooner if work done.
No. 4 Trip.	Nelson and West Coast Auckland Canterbury and Otago	Oct. 9 Nov. 22 Dec. 8	Oct. 22 Dec. 7 Dec. 30	8 10 15	14 16 23	30 0 9	NOTE A. Go on to Return sooner if work done.

NOTE A.—It will probably be arranged that Mr. Stewart will undertake the Auckland quarterly surveys, in which case the visits of May and November to that Province will not be required. In that case the following Otago trips will be from 3rd June to 18th June, and from 3rd December to 18th December, instead of as shown above.

30th November, 1866.

JAMES M. BALFOUR,
Marine Engineer.

(C.)

“STEAM NAVIGATION ACT, 1866.”

PERIODS now arranged for Mr. NANCARROW's Official Visits of Inspection to the various Colonial Ports.

Number of Trip.	GROUP OF PORTS.	Leave Wellington about	Return to Wellington about	Number of days available for survey duty on each trip—about	Number of days absent from Wellington on each trip—about	No. of days in Wellington between each trip available for surveys and office work there, and emergency work elsewhere.	REMARKS.
No. 1 Trip.	Nelson and West Coast Auckland Canterbury	Jan. 9 Feb. 22 March 23	Jan. 26 March 16 March 30	12 10 5	18 23 8	26 6 8	In all cases Mr. Nancarrow will return sooner if his work be finished.
No. 2 Trip.	Nelson and West Coast Canterbury and Otago	April 9 June 8	April 26 June 30	12 15	18 23	42 8	No visit to Auckland on Trips Nos. 2 and 4.
No. 3 Trip.	Nelson and West Coast Auckland Canterbury	July 9 Aug. 22 Sept. 23	July 26 Sept. 16 Sept. 30	12 12 5	18 25 8	26 6 8	No visit to Otago on Trips Nos. 1 and 3.
No. 4 Trip.	Nelson and West Coast Canterbury and Otago	Oct. 9 Dec. 8	Oct. 26 Dec. 30	12 15	18 23	42 9	

In Trips Nos. 1 and 3 Mr. Nancarrow now only goes as far as Canterbury, and in Trips 2 and 4 he omits Auckland entirely. Thus the Auckland and Otago steamers are only surveyed by him once every six months, the intermediate surveys being left to the non-salaried officers of the Department, in order that their remuneration may be slightly increased.

22nd July, 1867.

JAMES M. BALFOUR,
Marine Engineer.

(D.)

RULES for Examination of MASTERS and ENGINEERS of STEAMERS.

THE following Regulations as to the examinations of Masters and Engineers of Steam Vessels plying in New Zealand waters, are printed for general information, and for the guidance of the several examining officers appointed under the provisions of "The Steam Navigation Act, 1866."

Wellington, 22nd March, 1867.

JAMES M. BALFOUR,
Colonial Marine Engineer.

A.—General Rules.

1. Masters and chief engineers of all steam vessels must have been examined and must have received a certificate of competency from the Marine Engineer, as delegate for the Postmaster-General (clause six of "The Steam Navigation Act, 1866"), otherwise no such steam vessel will be allowed to ply.

2. A fee of one pound one shilling is payable for such certificate of competency by the person to whom it is issued on receipt of the same.

3. Masters or engineers who already possess British Board of Trade certificates, or satisfactory certificates from other Colonies, may be granted New Zealand certificates without further examination; but such officers will require to produce satisfactory proofs of sobriety and good conduct, and to pay the usual fee.

4. No certificate of competency shall be valid except for so long as the master or engineer to whom it has been issued continues in the same steam vessel.

5. Should, however, any master or engineer of good character be removed from one steam vessel to another of a similar class and engaged in a similar trade, he will receive a fresh certificate from the Marine Department without being re-examined, and free of charge.

6. When, however, any master or engineer has been promoted to the charge of a vessel or engines of a different class, or engaged in a different trade, and the difference is of such a nature that it is deemed advisable to re-examine the said master or engineer, he will in that case be called upon to pay the statutory fee.

7. Testimonials of character, sobriety, experience, ability, and good conduct on board ship will be required from all applicants, and without them no candidate will be examined.

B.—Qualifications for Masters' Certificates.

8. The master of a river steamer must be twenty years of age, and have been not less than two years on board a similar or sea-going steamer. He must write a legible hand, and understand the first four rules of arithmetic. He must know and be able to explain the rules of the road, and be conversant with the Harbour Regulations of the port for which he is examined. He must describe and show that he thoroughly understands the application of the Government Regulations as to Light and Fog Signals.

For all river steamers which are required to carry a compass, the master must show that he understands its use, and is able to take bearings and correct them for variation and deviation, and prick them and the ship's course off on the chart. He must know the marks on the lead line, and be able to heave the log.

9. The master of a river steamer licensed to ply within extended limits must be twenty years of age, and must have been three years at sea, and have served not less than one year as mate. He must write a legible hand and understand the first four rules of arithmetic. He must know the rule of the road, be conversant with the Harbour Regulations of the port or ports to which his certificate is intended to apply, and must describe and show that he thoroughly understands the application of the Government Regulations as to Lights and Fog Signals. He must understand the compass thoroughly, be able to take bearings therewith and correct them for variation and deviation, and be able to lay down his position on a chart by such corrected bearings. He must be able to explain deviation and variation in general terms, and show how they are to be allowed for in laying off a course. He must know the marks on the lead line, and explain how log lines are marked to suit any glass, and understand how to heave the log.

He must be able to work a day's work complete, including the bearings and distances of his ports of departure and destination, by Mercator's method. He must understand the use of a quadrant or sextant, be able to observe with it, and read off the observed angle; he must also understand the construction of the instrument sufficiently to be able to tell whether it is in good adjustment or not. He must be able to find his latitude, either by a meridian altitude or by double altitudes of the sun.

In seamanship, he must give satisfactory answers as to the rigging and unrigging of vessels of the class he is examined for, the stowing of holds, &c., and as to the steps he would take to promote the safety of his vessel or to save the lives of his passengers and crew in any emergency the examiner may choose to suggest. He must also prove himself well acquainted with those portions of the coast he will require to navigate, including the soundings and strength and set of the tides, and show that he can shape a course from the chart, making due allowance for tides, leeway, and other disturbing elements.

10. The master of a sea-going steamer must be twenty-one years of age, and have been five years at sea, of which he must have served at least one as first or only mate. He must write a legible hand, and understand the first four rules of arithmetic and the application of logarithms to nautical problems. He must know the rule of the road, and describe and show that he thoroughly understands the application of the Government Regulations as to Lights and Fog Signals. He must understand the compass thoroughly, be able to take bearings therewith and correct them for variation and deviation, and be able to lay down his position on a chart by such corrected bearings. He must be able to explain variation and deviation in general terms, and show how they are to be allowed for in laying off a course. He must also be able to ascertain the combined variation and deviation of his compasses from altitudes and

azimuth of the sun. He must know the marks of the lead line, and understand how to mark a log line to suit any glass. He must be able to find the time of high water at any port from its establishment, and be able to reduce soundings taken at any time to low water.

He must be able to work a day's work complete, including the bearings and distances of his ports of departure and destination, by Mercator's method, and to lay down his position thus found on a chart. He must understand the use of a sextant thoroughly, and be able to determine and apply its index error, and to ascertain whether it be in proper adjustment.

He must be able to ascertain his latitude by meridian or double altitudes of the sun, and by observation of a star, and be able to compare and rate chronometers, and to find his longitude by them by the usual rule and to verify the same by Sumner's method.

He must be able to lay down his position on the chart as thus ascertained as well as by dead reckoning, and to deduct the set and velocity of currents by any difference between the positions thus found.

He must give satisfactory proofs of his knowledge of general seamanship, and will amongst other things be examined as to the rigging and unrigging of vessels, the stowing of holds, the shifting of large spars and sails, the management of a vessel in stormy weather, securing cables, and casting a ship when on a lee shore. He will be examined as to his competence to construct rafts, and as to his resources for the preservation of passengers and crew in the event of a wreck.

He must also be acquainted with the lights and leading lights on the coasts and in the harbours which he is accustomed or intends to navigate, as well as with the soundings, tidal currents, &c.

In all cases, satisfactory testimonials of character, sobriety, and good conduct on board ship, must be produced before the candidate can be examined.

C.—*Qualifications for Engineers' Certificates.*

11. The engineer of a river steamer must be twenty-one years of age.

He must have served an apprenticeship to an engineer, or prove that for not less than three years he has been employed in some factory or workshop on the making or repairing of engines, and must have been in charge or driver of a steam engine for at least one year; or

He must have been in charge of a steam engine at work for not less than three years.

He must be able to give a description of boilers, and the methods of staying them; together with the use and management of the different valves, cocks, pipes and connections.

He must understand how to correct defects from accident, decay, &c., and the means of repairing such defects.

He must understand the use of the barometer, thermometer, and salinometer.

He must state the causes, effects, and usual remedies for incrustation and corrosion.

He must be able to state how a temporary or permanent repair could be effected in case of derangement of any part of the machinery or of a total break down.

He must be able to pass a creditable examination as to the details of the different working parts of the engine for which he is being examined, together with the use of each part.

He must write a legible hand, and understand the first four rules of arithmetic.

12. The engineer of a sea-going steamer must be twenty-two years of age.

He must have served an apprenticeship to an engineer, or prove that for not less than three years he has been employed in some factory or workshop on the making and repairing of engines, and must also have served not less than two years at sea in the engine room; or

He must have served at least four years at sea in the engine room, of which at least one must have been served as second engineer.

He must write a legible hand, and understand the first five rules of arithmetic and the use of decimals; also the mensuration of superficies and solids, and the extraction of the square root.

He must be able to give a description of boilers and the method of staying them; together with the use and management of the different valves, cocks, pipes and connections.

He must understand how to correct defects from accidents, decay, &c., and the means of repairing such defects.

He must understand the use of the barometer, thermometer, hydrometer, and salinometer.

He must state the causes, effects, and usual remedies for incrustation and corrosion.

He must be able to state how a temporary or permanent repair could be effected in case of derangement of any part of the machinery or total break down.

He must be able to pass a creditable examination as to the various constructions of screw and paddle engines in general use; and as to the details of the different working parts, external and internal, with the use of each part.

He must be acquainted with the principles of expansion, and able to prove, or at least to illustrate, the use of the expansion gear.

He must be able to explain the method of testing and altering the setting of the slide valves, and of testing the fairness of the paddle and screw shafts, and of adjusting them.

He must be generally conversant with surface condensation and super-heating.

He must be able to calculate safety valve pressures, and the strength of the boiler, and the strain on the stays at any pressure.

He must be able to take off and calculate indicator diagrams.

He must be able to make rough sketches of any part of the machinery, with figured dimensions fit to work from.

(E.)

THE following instructions have been approved by me, and are to be strictly complied with by all lightkeepers in the service of the New Zealand Government.

Wellington, December, 1866.

JOHN HALL,
Postmaster-General.

NEW ZEALAND LIGHTHOUSES.

A.—As to entering the Service.

1. Before any candidate for an appointment as a lightkeeper can be admitted to the service, he must forward an application for an appointment in his own handwriting, stating therein his name in full, age, last employment, name of last employer, and name of the gentlemen or gentleman by whom he is recommended for the situation.

2. Therewith he must forward a certificate of good conduct from his last employer (if he be in New Zealand), and a letter from each of the gentlemen by whom he is recommended, stating the length of time he has known him, and certifying that during that period the applicant has to his knowledge been sober, honest, industrious and obliging, and has enjoyed good health.

3. Should the candidate be considered eligible, he will be called on to undergo an examination by a regular medical practitioner, to be named and paid by the Government, who will be requested to report on the general health of the applicant, and on the state of his eyesight more especially.

4. Should the medical certificate be satisfactory, the candidate may be nominated to any vacant situation on probation, and in that case he shall be allowed his travelling expenses to the lighthouse from the nearest port, and shall during the period of his probation be paid at a rate to be intimated to him in writing by the Marine Engineer, and not exceeding £8 sterling per month.

5. After a six months' probation, should the principal keeper at the station to which the candidate has been sent report that the candidate has conducted himself properly, has been sober and obedient, and cleanly in his habits, and has proved himself apt at learning, and competent to take charge of a light, and should the candidate at the same time forward a written undertaking to abide by and obey all the rules and regulations hereinafter set forth,* he shall receive a letter of appointment, and shall become a permanent servant of the Colonial Government (the appointment to date from the commencement of his probationary service) subject to the stipulations of "The Civil Service Act, 1866," or of any future addition to or alteration or amendment thereof, or of any subsequent Civil Service Act, so far as the same may be applicable to the lighthouse service, and subject to the rules and regulations hereinafter set forth and provided.

6. Upon the expiration of the term of probation, should the principal keeper's report be unfavourable, the appointment will lapse (unless the circumstances justify an extension of the period of probation), and the candidate shall only remain at the station until the decision of the Government be made known; after which, should the period of probation not be extended, the candidate shall be landed at the nearest port, and shall be paid at the stipulated rate up to the date of landing, but shall not be entitled to any further allowance for travelling or other expenses.

B.—Instructions to Lightkeepers.

7. At each ordinary lighthouse there shall be two lightkeepers, the one denominated the "principal lightkeeper," the other the "assistant lightkeeper." Where there is but one, he shall be styled the "principal keeper;" where there are three, the first shall be termed the "principal," the others the "first" and "second assistants" respectively. Lightkeepers shall receive a regular written appointment on the conditions set forth in section 5; but they are to understand that they are engaged from day to day at the pleasure of the Government, and on cause shown may be instantly dismissed.

8. The principal keeper is the responsible officer, and the assistant or assistants must, in all things connected with lighthouse service, implicitly obey his instructions. Similarly, the principal keeper must obey the instructions of his superior officers.

9. Assistant lightkeepers shall be regularly promoted, according to their seniority in the service, to the post of principal lightkeepers, as vacancies occur, unless it shall be reported that any obstacle arising from the misconduct of an assistant lightkeeper, or other circumstances affecting his efficiency, shall exist to such promotion, or unless the assistant shall choose to remain at the same station without promotion, rather than to accept promotion which will compel him to remove to another station.

10. Lightkeepers, on their appointment, must at once proceed to whatever lighthouse station the Marine Engineer may direct; or, in the event of the engineer directing any lightkeeper to remove from one station to another, the order must be at once complied with, on pain, in either case, of dismissal from the service, unless bad health or any other sufficient plea be laid before the Marine Engineer as a reason for the removal not being carried into effect.

11. The lightkeepers shall keep a regular and constant watch in the lightroom throughout the night. The first watch shall begin one half hour before sunset. The lightkeepers are to take the watches alternately in such manner that he who has the first watch one night shall have the second watch next night. The length or duration of each watch shall not in ordinary cases exceed four hours, and they shall be arranged so as to have a shift at midnight. When there are three keepers the watches are to be specially arranged. The arrangement of the watches will vary with the seasons, and each change has to be duly notified and explained in the monthly report. When only one keeper has charge of any station, he must do his utmost to maintain the light in a state of efficiency, as he may be directed from time to time; and he ought in any case to remain in the tower during the night, and trim the light at intervals of at most four hours.

12. The lightkeeper on duty shall, on no pretence whatever, during his watch, leave the lightroom or balcony or the watchroom, where such are provided. At those lighthouses where whistles are provided to enable the keeper on duty to summon the absent keeper, he must not leave the light until relieved. Where such whistles are not provided, the keeper on watch is only at liberty to leave the light to call his successor, but he must return to his charge with all despatch, and there remain until he is relieved. Should any accident rendering the presence or assistance of the lightkeeper not on duty advisable or necessary, or should the keeper be unable to keep up the watch owing to a sudden attack of illness, he must immediately summon the other keeper in the manner adopted at the station.

* See the form of letter, section 60.

13. Where whistles are fitted, should the whistle of the lightkeeper who has to be called be out of order, the keeper on watch must use the whistle of his own house; and some of the inmates shall call the other keeper, so as by all means to avoid leaving the lightroom without a constant watch during the night.

14. He whose watch is about to end is to trim the lamps, if required, to cleanse the lantern glass, and otherwise to leave the light in perfect order when he is relieved; and he who has the watch at sunrise is then to extinguish the lamps, and draw down the lantern blinds, or otherwise protect the lighting apparatus from the direct rays of the sun, which, if not properly excluded, might do irretrievable damage.

15. If the efficiency of any light shall become impaired, or its proper continuous burning be endangered, through the fault or negligence of any lightkeeper on watch at the time, the Marine Engineer shall investigate the case. On receipt of information thereof the Postmaster-General will, on the recommendation of the Marine Engineer, award a fine or such other punishment as to him shall seem fit.

16. If any light shall, through the fault or negligence of any keeper on watch at the time, become extinguished, the offending keeper shall be forthwith dismissed from the service.

17. Except in cases where there is but one lightkeeper, no bed, sofa, or other article on which to recline, shall be permitted in the lightroom, or in the watchroom beneath, or in any part of the establishment which the lightkeeper is permitted to visit while on watch; and any lightkeeper convicted of sleeping during his watch (at any station where there is more than one lightkeeper) shall be liable to instant dismissal; but the Postmaster-General may remit this extreme punishment in favour of a fine or reduction of rank (if the offending keeper be a principal lightkeeper) or of seniority, should he see fit, after due investigation.

18. If a lightkeeper be dismissed he shall have no claim for wages, past or future, beyond what may have been paid to him at the last pay-day; but the Postmaster-General may grant the same to the date of his leaving.

19. The lights are to be lighted at sunset, and to be kept burning bright and clear till sunrise, when they are to be extinguished, as provided in section 13.

20. In order that the greatest degree of light may be maintained the lightkeepers are to observe:—

(a.) That when Argand Lamps are used the wicks must be attended to and trimmed or "coaled" as often as required, but, at least, once during the night (a sinking of the flame is the indication that trimming is necessary), and the keeper who has the first watch must turn the oil valves, so as to let the oil flow into the burner, not less than ten minutes before lighting. While burning the flame shall be kept as nearly as possible at the height shown in the engraved diagram furnished by the Marine Engineer, which is to be hung up in the lightroom as a guide.

(b.) When the Mechanical or Pressure Lamp is used for Dioptric Lights (or any other form of lamp with concentric wicks) care must be taken that there is an ample overflow of oil to prevent the too rapid charring of the wicks; and the flame must be kept as nearly as possible at the height shown in the Standard Diagram supplied to the station. The maximum height of flame is only to be attained by great watchfulness and careful adjustment of the height of the shoulder of the lamp-glass above the burner, and of the opening of the damper. By raising the shoulder of the chimney the volume of the flame is somewhat increased; but this adjustment is mainly resorted to to equalize as much as possible the heights of the flames from the outer and inner wicks, and the height of the flame as a whole is principally regulated by the damper. By increasing the opening of the damper the flame is reduced in height and made whiter; by diminishing the opening the height of the flame is increased, but it tends to become red and smoky; but when the lamps are in good order, with well trimmed wicks and a plentiful overflow of oil, a careful manipulation of the damper will produce a flame of a good colour, nearly, if not quite, of the height shown in the diagram. The Mechanical Lamp, when in proper order, and when the oil is of good quality, and has sufficient overflow, does not generally require to have its wicks trimmed throughout the night; but should the flame fall off, owing to the excessive charring of the wicks (from whatever cause), they must be trimmed with the "hooks" provided for that purpose, or in any other way which does not temporarily involve the total extinction of the light.

In all lamps the wicks should be kept low at first, and only gradually raised during the first twenty minutes of burning to the level of a quarter of an inch above the burner, a height which should be rarely, if ever, exceeded. In preparing wicks for lighting they must be cut perfectly smooth and level, and after being used a night the charred part must be cut away before they are relit. If the flame cannot be maintained at the standard height, the keepers should endeavour to ascertain whether or not this is due to want of cleanliness of the burner, want of proper flow of oil, or any imperfection in the wicks or oil, or in the draft of the chimney of the lamp.

The glass of the lantern is to be rubbed during the night in all lights as often as it becomes dim through "sweating," or moisture deposited by condensation from the heated air of the lightroom; but it should be the great aim of a skilful keeper to prevent the development of sweating by so admitting air from without as to keep the temperature in the lightroom as nearly as possible the same as the temperature of the external air. When this is perfectly attained no condensation of moisture on the windows can take place.

21. Especial care is to be taken that neither lamps, candles, coals, or any other article be left burning anywhere so as to create any risk of fire.

22. At stations where there is more than one lightkeeper the day duty shall be laid out in departments according to the number of keepers, and the lightkeepers shall change from one department to the other every Saturday night, the changes being noted in the journal as they occur. The departments

shall be arranged by the principal keeper, and entered in the journal in full, a copy being forwarded to the Marine Engineer along with the monthly report.

23. The following general directions are given for the guidance of all lightkeepers, and to assist the principal keeper in sub-dividing the daily duty :—

The reflectors or refractors, whether of silver or of glass, shall daily be cleansed or polished until they are brought to the highest possible state of brilliancy, the lamps and frame are to be thoroughly and carefully cleansed, the lamps trimmed, and the lamp-glasses carefully cleaned, the cisterns filled with oil, and every thing connected with the apparatus made ready for lighting in the evening. The glazing of the lantern is also to be cleaned every day, and washed with water when necessary to remove salt deposited from sea-spray, or other obstructions to the passage of light. All bright brass and copperwork, and utensils, apparatus, and machinery to be daily cleaned (and machinery oiled), the lightroom walls and floor, the balcony, tower stair, and storerooms to be daily swept out, and to be washed as often as may be necessary. At frequent intervals the machinery to be taken down, all bushes and journals carefully wiped clean, and the whole put together and oiled afresh with sperm oil.

In lighthouses where metallic reflectors are employed, they must always be carefully dusted with a feather or other fine brush before being polished, and particular care is to be taken that the chamois skins used in rubbing them be perfectly free from damp, dust, or gritty particles, as without these precautions the attempts to polish will only scratch the reflectors.

The great art of keeping the reflectors brilliant consists in the daily patient and skilful application of manual labour in rubbing their surfaces with three different chamois skins, beginning at the centre and gradually working outwards with a circular motion of the hands. The first chamois skin should be lightly dusted with prepared rouge of the finest kind (as supplied to the lighthouses) kept in a small double bag of muslin. The second and third should have no rouge, and the third should be passed round quickly with a light hand. No damp or wet substance should ever be applied to silvered reflectors when in regular use.

If, however, spare reflectors have long lain unused, and have consequently become covered with a thick and dark coating of oxide, rouge mixed with olive oil may first be applied to remove the film of oxide; after which dry rouge should be dusted on, and the reflector polished with soft dry chamois skins in the usual manner.

When the optical apparatus is composed in whole or in part of glass lenses or prisms they must first be carefully dusted by a feather or other soft brush, and then rubbed bright and clear with a soft chamois skin free from anything that would injure the polish of glass. If the glass becomes greasy it must, after dusting, be washed with a linen cloth moistened with spirits of wine, thereafter dried carefully with a soft and dry linen rubber, perfectly free from dust or gritty particles, and finally rubbed with a fine chamois skin. All rubbers and leathers used for the glasswork must be perfectly free from grease. It may sometimes be necessary to use a little fine rouge on a chamois skin for restoring any deficiency of polish which may be discovered, but in well kept Dioptric Lighthouses this application will seldom, if ever, be required.

All unlacquered brass work about the lamps and the brass bizzles and back straps of reflectors are to be kept clean by polishing with fine rotten stone or tripoli, or with oxalic acid when that is furnished, taking care that the acid be completely wiped off before completing the operation. All brass frames of dioptric apparatus, the backs of silvered copper reflectors, and generally all copper or brass work in close connection with the optical apparatus (whether metallic or dioptric) is not to be polished at all, but only to be wiped clean and dry, and allowed to acquire a natural bronze tint.

24. The principal lightkeeper is held responsible for the regularity of the watches throughout the night, and is consequently enjoined, if he consider it necessary, to visit the lightroom at any time he may consider proper when the assistant keeper is on watch. The principal keeper is also held responsible for the cleanliness and good order of the reflecting or refracting apparatus, machinery, and utensils, and for the due performance of the whole duty of the lightroom, whether performed by him personally or by the assistant.

25. The principal lightkeeper is held responsible for the safety and good order of the stores, utensils, and apparatus of every kind, and for everything being put to its proper use, and kept in its proper place. He shall take care that none of the stores or materials are wasted, and shall observe the strictest economy, and the most careful management, yet so as to maintain in every respect the best possible light.

26. The principal lightkeeper shall daily serve out the allowance of oil and other stores for the use of the lightroom. The oil is to be measured by the assistant, under the eye of the principal keeper. The lightkeepers are on no account to leave the turning-keys attached to the cranes of the oil cisterns after drawing oil, but shall remove and deposit them on the tray beside the oil measures.

27. When stores of any kind are to be landed for the use of the lighthouse, the lightkeepers shall attend to give their assistance. The principal lightkeeper must on these occasions satisfy himself, as far as possible, of the quantity and condition of the stores received, which must be duly entered in the journal, and reported in the next monthly report.

28. The lightkeepers are to make a report of the quality of all stores in detail as soon after their receipt as possible; and this detailed report must be based upon special trial of the whole in as complete detail as the arrangements of the station will allow.

29. Should the supply of any of the lighthouse stores appear to the principal lightkeeper to be getting short, he must immediately intimate the same to the Marine Engineer, and he must be guided by prudence in reducing the usual consumption until a supply be received.

30. The principal lightkeeper is responsible for the good order and condition of the houses, both his own and the assistants, and of all other Government property at the station. This duty includes

the cleanliness of the several apartments, passages, stairs, roofs, water-cisterns, storerooms, workshops, privies, &c., and, generally, the order of the whole establishment.

31. When land is attached to a lighthouse station, the lightkeepers are prohibited from sub-letting the same. When a lightkeeper leaves a station with land, after sowing but before reaping his crop, the incoming lightkeeper is to compensate him for seed, manure, and labour, but nothing more. Should the incoming keeper not be desirous to take over the crops on these terms, or should any other difficulty arise, the matter will be adjusted on reference to the Marine Engineer.

32. The lightkeepers shall endeavour to keep in good order and repair the fences enclosing the lighthouse grounds, the landing places and roads leading to the lighthouse, and the drains therewith connected, together with all other things placed under their charge.

33. The lightkeepers shall keep a daily journal of the quantity of oil expended, &c., on the forms supplied to them for the purpose. They shall also keep a regular journal of the routine of their duty, the arrangements of the watches, the name of the officer taking the first watch, the state of the weather, and any other circumstances worthy of note. These shall be written in the books furnished for this purpose at the periods of the day when they occur, as they must on no account be trusted to memory nor inserted beforehand. On the first day of each month they shall make up and forward to the Marine Engineer at Wellington, on the first opportunity, an accurate copy of the oil journal for the preceding month, accompanied by a letter embodying, as shortly as possible, the noteworthy points of the general journal.

34. The monthly oil returns are to be written by the assistant keeper, and signed by the principal keeper after careful comparison with the original, and the accompanying letter by the principal keeper, and compared by the assistant as to its general accuracy. Both keepers shall be held jointly responsible for the accuracy of the addition of the various columns in the oil return.

35. All communications on lighthouse business are to be addressed to "The Colonial Marine Engineer, Wellington," and marked on the outside "On Public Service Only."

36. In case of a keeper being incapacitated from duty by sickness, or in case of any other emergency, the circumstances are to be immediately reported to the Marine Engineer, and also to the Government officer (whether general or provincial) who exercises local supervision over the light, and the latter will at once send out a temporary assistant to enable proper watch to be kept; but when there are three keepers at a station, so long as two are fit for duty, no temporary assistant shall be allowed. When the lighthouse is at such a distance from the superior officer's residence that there is no possibility of a sufficiently rapid communication with him, the principal keeper, or the assistant, should the principal be incapacitated by illness, is empowered to call in the best assistance he can procure, so that by whatever means the regular watches may be kept up. The temporary or "occasional keeper" should, if possible, be a resident in the neighbourhood of the lighthouse, and it is very desirable that the same person be called in on all occasions whenever extra assistance is required, so that he may have some experience in the knowledge of the lamps. When an inexperienced person is necessarily called in, the principal or acting principal keeper must keep a watch or two with him at first, and teach him the whole system of working, the means to be adopted to maintain a good light, and the steps to be taken in any emergency; and so long as the occasional keeper is employed, the acting principal lightkeeper must be specially watchful, and must use every possible precaution to ensure the regular exhibition of the light in a satisfactory manner.

37. The lightkeepers have permission (one at a time) without making application for special authority, to go from home to draw their salaries, or to attend church, or on calls which may arise in connection with the lighthouse service, or on private business; but a lightkeeper absent during the day must return to the lighthouse so as to be in time for lighting. Such absences on private business shall not be more frequent than once a fortnight, unless under very special circumstances; and all absences are to be notified and the cause specified in the monthly return.

38. The principal lightkeeper shall duly intimate his intention of being absent, and the cause, to the assistant lightkeeper, and the assistant shall in like manner duly intimate to the principal his desire to be absent, stating the cause, and he must adhere to the time fixed for such absence by the principal lightkeeper. It is expressly ordered that only one lightkeeper shall be absent from the lighthouse at one and the same time.

39. In case of leave of absence from duty for any prolonged time being required by a lightkeeper, the same can only be granted on special application to the Marine Engineer.

40. In case of absence which shall extend beyond the day on which it occurs, or of special absence, or of incapacity by reason of sickness or otherwise, an occasional keeper is to be called in, notice of the same being taken in the monthly return.

41. In case of an occasional keeper being called in through the sickness or incapacity of a lightkeeper, the other lightkeeper (principal or assistant as the case may be) shall immediately intimate the same by a letter to the Marine Engineer as provided in section thirty-six. In the event of the lightkeeper remaining off duty for a further period of eight days, he shall (if possible) obtain and transmit to the Marine Engineer a medical certificate of the nature of his illness. If such certificate cannot be obtained, the lightkeeper on duty, shall, on the expiration of the above number of days, intimate the circumstance to the Marine Engineer, and state the causes which prevent the certificate being obtained.

42. While the principal keeper is absent, or is incapacitated for duty by sickness, the full charge of the lighthouse duty and of the premises shall devolve upon the assistant, who shall in that case have access to the keys of the lightroom stores, and be held responsible in all respects as the principal keeper.

43. Every lightkeeper, when there are two keepers, shall, if he desire it, be allowed leave of absence for one week in each year, and the Government will pay an occasional keeper for taking his place during that period. Should the lightkeeper be absent for a longer period, or on another occasion, he will require to find a substitute at his own expense; but no keeper is to absent himself until permission has been sought and obtained from the Marine Engineer.

44. Should a keeper so absent himself without leave he subjects himself to instant dismissal ; but should he make all proper arrangements for the due exhibition of the light before leaving, and should he immediately report the fact of his absence, and his reasons for it, to the Marine Engineer, and should the reasons be considered, after inquiry, sufficiently weighty to justify or partially justify the keeper in so absenting himself without leave, and should the regular exhibition of the light have been in nowise interrupted, it shall be optional to the Postmaster-General either to remit the punishment entirely, or to inflict such lesser punishment as the degree of culpability of the keeper appears to require.

45. When there is but one lightkeeper he must never be absent at night, unless there is a properly qualified trained substitute to take his place ; and no leave of absence can be allowed in such a case, unless special permission is obtained, and arrangements made, as the absence of a sole keeper would place all the lighthouse stores at the mercy of a stranger.

46. When there are three lightkeepers, each will be allowed leave of absence for one week each half-year, the other two undertaking the whole duty in the interim ; such leave to be at stated times approved by the Marine Engineer. Under special circumstances the Marine Engineer may, on receipt of an application to that effect, permit either of the keepers to take one leave of two weeks' duration in one year, instead of two of one week each.

47. At island stations and such others as may require it, arrangements are made for the supply of provisions, &c., to the lightkeepers, by the nearest pilot-boat ; but the keepers can only be attended by the pilot crew when they are not otherwise engaged. The boat will call at the station, or at the place appointed, for letters and orders for stores, about the middle of each month, and will take out the stores ordered and bring off the monthly return about the first of the month, as nearly as the pilot's other duties will permit. The lightkeepers must do everything in their power to assist the pilots thus serving them, so as to put them to as little inconvenience and to take up as little of their time as possible.

48. At each station where a boat service is provided, certain signals are to be arranged (and recorded in the journal), one being an "ordinary signal," meaning that the boat is wanted as soon as possible or convenient, to take a letter, or for some such purpose, and another an "urgent signal," which shall mean that immediate communication is required for some urgent reason. No reason should be considered urgent, except very serious illness of some one at the lighthouse station, or the want of something absolutely necessary to the due exhibition of the light ; and any keeper making use of the urgent signal without good cause, will render himself liable to dismissal, or such lesser punishment as the circumstances of the case may require.

49. Every visit of the attending boat is to be mentioned in the monthly report, at the proper date ; and should the boat be specially called over for any purpose, either by the ordinary or the urgent signal, the reasons for such extra trip are to be given in detail.

50. The principal lightkeeper is to forward monthly to the Marine Engineer any accounts which may be due by the Government on account of the service of the station. He is to see that they are made out in exact accordance with the Treasury regulations for the time in force, and is to certify them in a proper manner.

51. The lightkeepers are required to be sober and industrious, cleanly in their persons and habits, and orderly in their families. Any flagrant immorality will subject them to immediate dismissal, without possibility of reinstatement.

52. The lightkeepers are directed to take care that no smuggled goods are harboured or concealed in any way in or about the lighthouse premises or grounds.

53. The lightkeepers must conduct themselves with civility to strangers, and show the premises at such hours as do not interfere with the proper discharge of their duties. The following rules are to be observed :—

(a.) No stranger is to be admitted to the lightroom after sunset, nor while the lights are burning.

(b.) Not more than three strangers are to have access to the lightroom at one time.

(c.) No stranger is to be allowed to handle any part of the apparatus.

(d.) No person in a state of intoxication is to be admitted to the lighthouse or premises on any pretext whatever.

(e.) No money or other gratuity to be taken by lightkeepers from strangers visiting the station on pain of dismissal.

(f.) Any irregularity or misconduct on the part of strangers visiting the station to be reported to the Marine Engineer.

(g.) Previous to their being shown over the establishment all visitors are to be requested to write their names in a "Visitor's Book," which will be furnished to each station.

54. As great damage would arise to the lighting apparatus from parties crowding the lightroom and as pleasure excursions are occasionally made to the vicinity of lighthouses, the lightkeepers are to understand that, when more than twenty persons visit a station at one time, the lightroom and lighting apparatus are not to be open to inspection ; and when a considerable number (but less than twenty) visit the station together, the rule that not more than three are to be admitted at once must be strictly adhered to.

55. It is recommended that the principal lightkeeper, or other principal officer at the respective lighthouses for the time being, shall, every Sunday, when there is no means of going to church, assemble his own family, and invite his assistants and their families to join him in reading the Church of England service for the day ; or, should the keepers not belong to the Church of England, in reading a portion of scripture and prayers from any religious work.

56. In the event of any neglect occurring in the performance of any part of the duties required from a lightkeeper, the offending party shall, jointly with the other lightkeeper or lightkeepers at the station, send immediate (*i.e.* by the first ordinary opportunity) notice of the circumstance to the Marine

Engineer ; and in the event of one party refusing or neglecting to concur in giving this intimation, the other (whether the principal or an assistant) shall proceed to give the notice in his own name.

57. The lightkeepers are to observe that the above general regulations are without prejudice to any more special instructions which may be made applicable to any particular lighthouse, or to such orders as may from time to time be issued by the Marine Engineer.

58. A breach of any of the foregoing rules and instructions, or of any special instructions issued under section fifty-seven, shall subject the offending lightkeeper to dismissal, or to such other punishment as the nature of the offence may require.

59. In disposing of complaints and awarding punishments, the Marine Engineer will intimate the decisions which have been arrived at to the lightkeepers by general order, a copy being sent to every lighthouse. These and all general orders after being received are to be read to the assistant (or assistants) by the principal lightkeeper, and are to be laid on the lightroom table for ten days, and are to be carefully preserved at the end of the journal. The date of reading any general order to be mentioned in the next monthly report.

60. All lightkeepers now in the service, and all hereafter appointed shall receive a copy of these instructions, and must give a receipt for the same in the following form :—

SIR,—

Lighthouse, , 18

I have the honor to acknowledge receipt of a copy of the printed instructions to lightkeepers prepared for the New Zealand Lighthouses, and signed by you ; and I hereby declare that I have carefully read and fully understand them ; and I agree that my appointment as a lightkeeper in the service of the Colonial Government of New Zealand shall be subject to the rules and regulations therein contained ; and I undertake to abide by and obey the same, and any further regulations which may from time to time be issued by the Marine Department.

I have the honor to be,

Sir,

Your obedient Servant,

The Colonial Marine Engineer, Wellington.

61. These instructions are to be read in the lightroom by the principal lightkeeper in the hearing of his assistant or assistants, twice a-year, and notice of such readings shall be taken in the monthly returns.

JAMES M. BALFOUR,

Colonial Marine Engineer and Superintendent of Lighthouses.

Marine Department, Wellington, December, 1866.

(F.)

RETURN of the actual Cost of the MARINE DEPARTMENT for the Financial Year 1866-7, including Maintenance of Lighthouses, Expenses of "St. Kilda" (so far as charged against the Department), &c.

Vote 26, Item	Nature of Expenditure.	Details of Expenditure.	Amount Expended.			Amount Voted.			REMARKS.
			£	s.	d.	£	s.	d.	
11, 12, & 13 1	Allowances to retiring officers Marine Engineer...	360	8	4	The sum of £66 13s. 4d. is still due to Captain Sharp. Commenced duty on July 20. Engaged on Provincial work in March and June, for which a proportional part of the salary has been deducted. Balance salary for June not paid (owing to absence) during the financial year.
2	Nautical Assessor	...	...	...	...	375	0	0
3	Engineer Surveyor	...	...	...	...	337	10	0
4, 5, 6, 7, 8, 9, & 10	Light-keepers' salaries	...	2,238	12	0	2,300	0	0	For first quarter paid at old rate of £250, for second quarter at rate of £350, for remainder of year at rate of £375. Difference between amount voted and amount expended arises from—1st, occasional short vacancies, pay of temporary keepers being charged against item 14; 2nd, salaries for Tairoa Head for May and June, not having been paid when the books for the year were closed. [NOTE.—The Dog Island salaries paid during the year were for the last quarter of the year 1865-6, and the three first quarters of 1866-7.]
14	Payments to, and travelling expenses of, non-salaried officers	138 13 0	...	...	...	...	...	...
"	Repairs at Dog Island	639 7 10	...	...	...	...	...	...
"	" at Pencarrow	298 5 0	Only one-half of the annual supply of stores from England appears to have been paid during the year.
"	Oil and other light-room stores for lighthouses, including carriage and all charges	634 6 4	...	...	...	...	...	...
"	Tools and other permanent lighthouse stores and repairs	77 5 9	...	...	...	...	...	...
"	Lighthouse contingencies, as paint and small stores	68 14 6	The excess on this item has been caused mainly by the unforeseen expenditure on Dog Island, Pencarrow, refitting "St. Kilda," and outstanding accounts. Were these sums deducted, the balance of the vote would just suffice to pay for the second moiety of lighthouse stores from England.
"	Departmental contingencies — office furniture, books, rent, advertising, &c.	175 5 1	...	...	...	...	...	...
"	Departmental travelling expenses	276 3 8	...	...	...	...	...	...
"	New masts and screw for "St. Kilda"	559 9 10	
"	Wages and coals, "St. Kilda"	563 9 7	...	...	...	...	...	...
"	Payment of outstanding accounts	295 7 1	...	...	...	...	...	...
			3,726	7	8	2,400	0	0	
	TOTALS voted and expended	...	7,624	19	11	6,877	1	8	

JAMES M. BALFOUR, Marine Engineer.

(G.)

RETURN of LIGHT DUES collected during the Financial Year 1866-7.

Province.					Amount Received.			REMARKS.
					£	s.	d.	
Auckland	1,384	18	5	NOTE.—Since February, 1867, Light Dues have been collected at the Ports on the West Coast of the Middle Island from all vessels which have been benefitted by any of the existing lights.
Wellington	...	...	...	...	1,534	16	0
Nelson	...	...	...	...	978	17	5
Marlborough	...	...	...	...	92	3	3
Canterbury	...	...	...	...	1,127	10	1
Otago	...	...	...	...	1,453	5	4
Southland	564	15	5	
TOTAL	7,136	5	11	

JAMES M. BALFOUR, Marine Engineer.

(H.)
RETURN showing PRIME and ANNUAL COST of the NEW ZEALAND LIGHTHOUSES (exclusive of Cost of Superintendence).

NAME OF WORK.	PRIME COST.			ANNUAL COST.				REMARKS.
	Cost of Erection.	Sum expended on Repairs and Strengthening Works.	Total Prime Cost.	Keepers' Salaries.	Oil and other Light Stores, and Carriage.	Paint and other small Supplies, and Repairs.	Total Annual Costs.	
Tiri-Tiri Light	£ s. d. 5,747 7 3	Nil	£ s. d. 5,747 7 2	£ s. d. 340 0 0	£ s. d. 175 0 0	£ s. d. 50 0 0	£ s. d. 565 0 0	{ Some minor works of repair will shortly be required. The tower is of iron, the dwellings of timber. { The prime cost of this Light is still owing to the Nelson Provincial Government. The tower and dwellings (in one) of cast-iron. One keeper only. { Works in general in good order. A new boat required. Tower and dwellings as at Tiri.
Nelson Light	2,824 8 9	{ Nil since the Light came into the hands of the General Government ... }	2,824 8 9	180 0 0	73 0 0	30 0 0	283 0 0	{ The tower and dwellings (in one) of cast-iron. One keeper only. { Works in general in good order. A new boat required. Tower and dwellings as at Tiri.
Mana Light	5,513 0 1	Nil	5,513 0 1	340 0 0	175 0 0	50 0 0	565 0 0	{ Works in general in good order. A new boat required. Tower and dwellings as at Tiri.
Pencarrow Light	6,422 0 4	{ Iron roof in 1866 Strengthening roof, building store in 1867 ... £71 £298 Landing-place, road, iron tanks, &c., 1867 ... £179 Allow to complete ditto ... 20 £199 }	6,720 0 4	340 0 0	210 0 0	50 0 0	600 0 0	{ Works in good order. Iron tower and timber dwellings.
Godley Head Light	4,705 16 4	{ Some small repairs to windows, &c., say ... £20 Ripping and pointing tower with cement (damaged by lightning), strengthening roofs, &c., &c., £639 7s. 10d. ... }	4,907 16 4	350 0 0	182 10 0	50 0 0	582 10 0	{ The works connected with the landing jetty not yet completed. Tower and dwellings of stone.
Tairoa Head Light	4,923 14 11	{ Some small repairs to windows, &c., say ... £20 Ripping and pointing tower with cement (damaged by lightning), strengthening roofs, &c., &c., £639 7s. 10d. ... }	4,943 14 11	350 0 0	158 0 0	50 0 0	558 0 0	{ Tower and dwellings of stone.
Dog Island Light	10,480 12 8	{ Buildings, &c., will cost ... £4000 A new Beacon will cost at least £500 }	11,120 0 6	500 0 0	223 15 0	50 0 0	773 15 0	{ Stone tower 150 feet high; stone dwellings; three keepers. { The sum of £2359 19s. 5d. has already been paid for this apparatus which is in store at Dunedin. It is proposed to erect it at the Nuggets. { The original Beacon was of timber, and not sufficiently secured to the rock. It was swept away when just completed. The new beacon is proposed to be of malleable iron.
Apparatus for Cape Saunders, or Nugget Point	2,359 19 5	Buildings, &c., will cost ... £4000	6,359 19 5 approx.	350 0 0	265 0 0	50 0 0	665 0 0	{ The sum of £2359 19s. 5d. has already been paid for this apparatus which is in store at Dunedin. It is proposed to erect it at the Nuggets. { The original Beacon was of timber, and not sufficiently secured to the rock. It was swept away when just completed. The new beacon is proposed to be of malleable iron.
Flat Rock Beacon, off Kawai...	168 13 6	A new Beacon will cost at least £500	608 13 6 approx.	...	...	10 0 0	10 0 0	{ The sum of £2359 19s. 5d. has already been paid for this apparatus which is in store at Dunedin. It is proposed to erect it at the Nuggets. { The original Beacon was of timber, and not sufficiently secured to the rock. It was swept away when just completed. The new beacon is proposed to be of malleable iron.
Total Prime Cost of existing works, including the sums already expended on Cape Saunders Apparatus and Flat Rock Beacon			44,305 1 1	Total Annual Cost of existing Works ...			8,927 5 0	{ Note.—If the proposed Lights on Farewell Spit, Cape Campbell, and Manukau be erected at the estimated cost, the capital outlay will then amount to about £60,850 sterling, and the annual cost of maintenance, exclusive of interest on capital, to about £5800.
Total Prime Cost when Cape Saunders Apparatus is at work and Flat Rock Beacon is renewed			48,805 1 1	{ Total Annual Cost when Cape Saunders Apparatus and Flat Rock Beacon are erected ... }			4,602 5 0	

JAMES M. BALFOUR, Marine Engineer.

(I.)

RETURN of GENERAL PILOTAGE EXEMPTION CERTIFICATES (Harbours of more than one Province) which have been issued since the coming into force of "The Marine Act, 1866."

No. of Certificate.	Name of Masters to whom Certificates have been issued.	Name of Vessel for which Certificate has been issued.	Ports included in the Certificate.	REMARKS.
1	Archibald Kennedy ...	Lord Ashley (altered to Airedale) ...	Manukau, Auckland, Tauranga, Wellington, Picton, Taranaki, Lyttelton, Otago, and Bluff	Captain Meikleham has given up command of the Airedale, and gone to England.
2	William H. Meikleham ...	Airedale ...	Same as No. 1 ...	
3	John W. B. Darke ...	Rangitoto ...	Wellington, Picton, Lyttelton, Otago, and Bluff	
4	John Vine Hall ...	Egmont ...	Manukau, Wellington, Picton, Otago, and Bluff	Cancelled at request of Master, and fee returned.
5	James Hagley ...	Tararua ...	Manukau, Wellington, Lyttelton, Otago, and Bluff	
6	E. S. Williams ...	Brig Gazelle ...	Wellington ...	
7	Fred: W. S. Renner ...	Wellington ...	Manukau, Auckland, Tauranga, Wellington, Picton, Taranaki, Lyttelton, Otago, and Bluff	Fee for certificate paid to Government Account in the month of July.
8	Edward Wheeler ...	Phoebe... ...	Same as No. 7.	
9	Alexander Robertson ...	Persevere ...	Hokitika, Okarita, Greymouth, and Westport	
10	Robert Daniel ...	Wallaby ...	Wellington, Nelson, Hokitika, Greymouth, Westport, and Okarita	
11	Benjamin Jenkins ...	Ship John Knox ...	Wellington and Lyttelton ...	
12	W. J. O. Symons ...	Otago ...	Wellington, Lyttelton, and Bluff	
13	Henry Worsps ...	Lord Ashley ...	Auckland, Tauranga, Wellington, Lyttelton, Otago, and Bluff	

NOTE.—Local Exemption Certificates, or such as embrace the harbours of one Province only, are issued by the Superintendents under delegated powers. No returns of these have as yet been sent in.

JAMES M. BALFOUR, Marine Engineer.

(K.)

STATEMENT of MONEYS received by Salaried Officers of the Marine Department for Surveys of Steamers, &c., during the Financial Year 1866-7.

Nature of Service.	Amount received.	REMARKS.
	£ s. d.	
Surveys of Steam Vessels ...	475 17 0	Paid into the Bank of New Zealand on Government Account in Auckland, Wellington, Nelson, Canterbury, and Otago.
Examinations of Masters and Engineers ...	23 2 0	
Pilotage Exemption Certificates ...	52 10 0	
Sale of Admiralty Charts, &c., &c. ...	13 12 0	
TOTAL ...	565 1 0	

JAMES M. BALFOUR, Marine Engineer.

(L.)

STATEMENT of MONEYS received by Non-Salaried Officers of the Marine Department, during the Financial Year 1866-7.

Nature of Service.	Amount received.	REMARKS.
	£ s. d.	
Surveys of Steam Vessels and Examination of Masters and Engineers	98 14 0	In cases where Masters of Steam Vessels have been examined by licensed Examiners not drawing salary from the Department, the Examiners have been instructed to retain the fee as remuneration, and such fees consequently do not appear in this return. The amount thus received is £10 10s.
Pilotage Exemption ...	5 5 0	Collected by Captain Gibson, Lyttelton, for short delivery of oil ex "Mermaid" for Godley Head Lighthouse.
Sundries ...	5 14 9	
TOTAL ...	109 13 9	

JAMES M. BALFOUR, Marine Engineer.

(M—continued.)
RETURN of CERTIFICATED MASTERS and ENGINEERS—continued.

NAME.	Name and Position of Examining Officer.	Nature of Examination.	Vessel for which examined.	Date of Issue of Certificate.	No. of Certificate.	REMARKS.
Henry Selfe	J. Nancarrow, Engineer Surveyor, Wellington	For Engineer	Egmont	July 30, 1866	92	
Alexander Hendy	E. Hamilton, Otago	"	Tairoa	Sept. 22, 1866	93	
James McDonald	"	"	Wainui	"	94	
Alexander Blakeley	J. Stewart, Engineer Surveyor, Auckland	"	Enterprise No. 1	Sept. 24, 1866	95	
Walter Hampton	"	"	Halcyon	"	96	
James Lindsay	"	"	Tasmanian Maid	Dec. 7, 1866	97	Appointed in stead of Hampton (96), resigned.
John White	"	"	Halcyon	"	98	
William Sharpe	"	"	Gemini	Dec. 24, 1866	99	
William Scott	"	"	Gymnotus	Jan. 7, 1867	100	
Robert Mathieson	J. Nancarrow, Wellington	"	Rangitoto	Feb. 13, 1867	101	
George Ellis	J. Stewart, Auckland	"	Enterprise No. 2	Feb. 25, 1867	102	
Daniel Smith	E. Hamilton, Otago	"	Favourite	April 2, 1867	103	
Henry Davidson	"	"	Southland	April 22, 1867	104	
Donald Ross	J. Nancarrow, Wellington	"	Lady Barkley	May 2, 1867	105	
John Sewel	Board of Trade	"	Dispatch	May 6, 1867	106	
William Duncan	J. Nancarrow	"	Golden Land	"	107	No. 107 was issued in error to John Hunter: it is replaced by No. 115.
David G. Donald	"	"	Lyttelton	"	109	
George Chapman	"	"	Woodpecker	"	110	
James Lindsay	"	"	Tasmanian Maid	"	111	Sent without charge in lieu of No. 97, which had been lost.
Daniel Moore	Not again examined	"	Enterprise No. 2	May 23, 1867	112	In lieu of No. 84, formerly issued for "Enterprise No. 1;" not charged for.
George Hussick	J. Nancarrow	"	Airedale	June 1, 1867	113	
John Griffiths	J. Stewart, Auckland	"	Tauranga	June 24, 1867	114	
John Hutton	J. Nancarrow	"	Huntress	"	115	
James Stewart	"	"	Favourite	July 29, 1867	116	

JAMES M. BALFOUR,
Marine Engineer.

(N.)

RETURN of STEAM VESSELS to which CERTIFICATES have been issued in NEW ZEALAND, during the Financial Year 1866-7.

NAME OF VESSEL.	Tons Register.	Horse power of Engines.	Nature of Propeller.	Class of Certificate.	Nature of Engines.	Statutory No. of Surveys.	Actual No. of Surveys.	REMARKS.
Enterprise, No. 1	22	10	Paddle	River	High-pressure	4	4	The last survey was made on June 27, and the fee for it will be carried to next year's receipts.
Enterprise, No. 2	40	32	"	Extended River	"	4	3	This vessel was built after the commencement of the Financial Year.
Gymnotus (about)	12	8	Screw	River	"	4	3	A further survey has been made, but not yet reported, as certain repairs are required.
Blue Nose ...	42	30	Paddle	"	"	4	4	Last survey on June 27.
Waipa ...	30	25	"	"	"	4	3	Fourth survey made, but certificate not yet issued as repairs are required.
Maori Chief (abt.)	15	26	Stern Wheel	"	"	4	1	Laid up.
Halcyon ...	24	25	Twin Screw	Extended River	"	4	3	New vessel. First survey in September. Has been stranded at the Grey and got off again.
Woodpecker ...	24	8	Paddle	River	"	4	2	Laid up during part of the year.
Prince Alfred ...	110	60	"	Sea-going	Low-pressure	2	2	
Star of the South	147	40	Screw	"	"	2	2	
Tasmanian Maid	53	36	Paddle	"	"	2	2	
Gemini (about)	10	7	Screw	River	High-pressure	4	3	
Huntress ...	54	50	Paddle	Extended River	"	4	2	Laid up.
Beautiful Star ...	125	30	Screw	Sea-going	Low-pressure	2	2	
Tauranga ...	67	40	Twin Screw	"	"	2	1	New boat.
Queen ...	177	70	Screw	"	"	2	1	Wrecked on Cook's Rock.
Claude Hamilton	530	100	"	"	"	2	1	Usually surveyed in Sydney.
Phoebe ...	417	120	"	"	"	2	2	
Airedale ...	286	60	"	"	"	2	2	
Star of the Evening	166	60	"	"	"	2	1	Wrecked near East Cape.
Lady Bird ...	220	70	"	"	"	2	1	Laid up.
Wanganui ...	164	50	"	"	"	2	2	
Rangatira ...	144	50	"	"	"	2	2	
Ahuriri ...	130	50	"	"	"	2	2	
Storm Bird ...	67	30	"	"	"	2	2	
Wellington ...	261	80	"	"	"	2	2	
Taranaki ...	298	90	"	"	"	2	2	
Egmont ...	308	80	"	"	"	2	1	Surveyed in Sydney latterly.
Lord Ashley ...	297	80	"	"	"	2	2	
Waipara ...	47	30	Twin Screw	"	High-pressure	4	2	Not surveyed in the early part of the year, as she was under Government contract.
Rangitoto ...	448	140	Screw	"	Low-pressure	2	1	Usually surveyed in Melbourne. Examined, and certificate extended in April after stranding at Bluff.
Tararua ...	522	155	"	"	"	2	1	Usually surveyed in Melbourne.
Betsy Douglas ...	14	12	Paddle	River	High-pressure	4	4	
Novelty ...	42	30	"	"	"	4	4	
Wainui ...	87	25	Screw	Sea-going	Low-pressure	2	2	
Gazelle ...	47	30	"	Extended River	High-pressure	4	4	
Moa ...	49	25	"	"	Low-pressure	2	2	Stranded at Salt Water Creek. Has since been repaired.
Mullough ...	41	15	"	River	High-pressure	4	4	
Maid of the Avon	12	10	Paddle	"	"	4	1	Laid up at Christchurch.
William Miskin	115	30	Screw	Sea-going	"	4	3	Fourth survey due on June 31.
Geelong ...	137	70	Paddle	"	Low-pressure	2	2	
Favourite ...	38	45	"	Tug	"	2	2	
Golden Age ...	78	60	"	River	High-pressure	4	4	
Peninsula ...	24	20	"	"	"	4	4	
Tairoa ...	51	30	Screw	Sea-going	"	4	4	
Tuapeka ...	24	60	Stern Wheel	River	"	4	3	Plying on the Molyneux.
Keera ...	146	50	Screw	Sea-going	Low-pressure	2	1	Stranded at the Buller, & under repair for a considerable portion of year.
Bruce ...	83	40	Paddle	"	"	2	2	
Challenge ...	24	40	"	"	"	2	2	
Persevere ...	27	25	"	River	High-pressure	4	4	
Yarra ...	32	35	"	"	"	4	4	
Dispatch ...	38	40	"	Sea-going	Low-pressure	2	1	New boat built in London.
Lyttelton ...	49	25	"	"	"	2	2	
Golden Land ...	15	12	Stern Wheel	River	High-pressure	4	1	New boat built at Greymouth.
Southland ...	87	80	Paddle	Sea-going	Low-pressure	2	1	Recently purchased from the Provincial Government of Southland.
Kennedy ...	110	36	Twin Screw	"	"	2	2	
Nelson ...	88	50	Paddle	"	"	2	2	
Wallaby ...	80	25	Screw	"	"	2	1	Stranded on Farewell Spit and under repair for a considerable period.
Murray ...	57	25	"	"	"	2	1	Sailing vessel recently converted into a steamer.
Lioness ...	60	60	Paddle	"	"	2	1	Laid up part of year.

JAMES M. BALFOUR,
Marine Engineer.

(O.)

RETURN of WRECKS on which INQUIRIES have been held under "The Inquiry into Wrecks Act," from 1st July, 1866, to the 30th June, 1867.

Date of Casualty.	Name of Ship and Age when known.	Rig.	Register Tonnage.	Number of Crew.	Number of Passengers.	Nature of Cargo.	Nature of Casualty, and whether resulting in total loss or partial damage.	Number of Lives lost.	Direction and Force of Wind.		Place.	Finding of Court of Inquiry.	REMARKS.
									Direction.	Force.			
17 June, 1866	Wild Wave, 7 yrs.	Schooner	93	6	...	Ballast	Total loss, stranded	...	S. by E.	...	Cuba Channel, Chatham Islands	No blame attributable to the master.	
21 June, "	Wild Wave, 7 yrs.	Schooner	70	7	5	Ballast	Stranded	...	...	Moderate breeze	Pelorous Sound	No blame attributable to the master.	
27 April, "	Kate	Schooner	33	5	...	General	Stranded	...	...	Calm	Okarita Bar	Wreck was accidental.	
11 May, "	Matilda	Schooner	15	5	...	General	Collision	...	...	Moderate breeze	Okarita Bar	Accidental.	
20 July, "	Déesse, 10 years	Schooner	96	6	...	Coals	Stranded	...	Westerly	Gentle breeze	Farewell Spit	Error of judgment on part of master.	
4 Sept. "	Sisters	Schooner	53	...	...	Spars	Stranded	...	...	Light	Okarita	No blame attributable to master.	
18 Aug. "	William Miskin	Schooner	115	18	...	General	Stranded	...	Westerly	Light breeze	Hokitika	Error of judgment on part of pilot	Since repaired and now running.
2 Sept. "	Lioness p.s.	Schooner	60	15	...	Ballast	Stranded	...	S.W.	Light	Hokitika	Through attempting to take the bar when tide too low	Got off with little damage; now plying.
12 Sept. "	Culgoa, 7 years	Barque	723	18	...	Timber	Stranded	...	N.E.	Moderate	Hokianga	Wreck caused by accident, and want of a more efficient pilot service	Total wreck.
12 Sept. "	Excelsior, 5 years	Schooner	52	5	21	General	Total loss	...	Northerly	...	Grey River	Steam tug by which "Excelsior" was being towed not of sufficient power.	Total wreck.
12 Sept. "	Persvere p.s., 1 year	Schooner	27	7	9	...	Stranded	...	Northerly	...	Grey River	Not of sufficient power to cross bar against strong tide with vessel in tow	Little damage; since repaired.
8 July "	Bruce p.s., 2 years	Schooner	83	13	8	General	Stranded	...	...	Calm	Okarita	Through heavy sea on bar	Since repaired.
24 Oct. "	Junco, 2½ years	Barque	337	13	...	Coals	Stranded	...	North	Strong breeze	Farewell Spit	Not sufficient allowance made for strong tide known to exist	Total wreck.
21 Sept. "	Thane s.s., 8 yrs.	Schooner	118	12	...	Coals	Total wreck	...	...	Light breeze	Grey River	Sudden stoppage of engines when crossing bar; presumably the fault of engineer	Total wreck; Engineer's certificate cancelled.
3 Nov. "	Lizzie Scott, 11 years	Barque	453	13	1	Ballast	Total wreck	...	...	Various	Chatham Islands	Error of judgment; bad look out	Total wreck; master's certificate suspended.
8 Dec. "	Maggie, 3 months	Cutter	25	2	...	Timber	Stranded	...	Westerly	Light	Opotiki Bar	Want of proper signals, bar being a shifting one.	Total wreck.
20 Dec. "	Prince Consort	Schooner	35	4	...	Ballast	Stranded	...	N.N.E.	Moderate gale	Timaru	Ballast shifting; capsized.	
12 Nov. "	Tambo, 2 years	Schooner	42	4	...	Coals	Stranded	...	...	...	Hokitika	Signals not distinguishable by master of steam tug	
2 Dec. "	Despatch p.s.	Schooner	38	10	...	Ballast	Stranded	...	N.E.	...	Hokitika	In endeavouring to save the "Ballaarat," which vessel she had in tow	Since repaired.
26 Dec. "	Cambodia	Barque	811	21	...	Ballast	Stranded	...	S.S.E.	Moderate breeze	Manukau	Ignorance of port on part of master	Since repaired.
2 Nov. "	Keera s.s.	Schooner	146	...	...	...	Total wreck	...	...	Fresh breeze	Buller	Want of signal station; error of judgment on part of master	Sold and repaired, and now run by her present owners.

RETURN of WRECKS on which INQUIRIES have been held under "The Inquiry into Wrecks Act," from 1st July, 1866, to the 30th June, 1867—continued.

(O.—continued.)

Date of Casualty.	Name of Ship and Age when known.	Rig.	Register Tonnage.	Number of Crew.	Number of Passengers.	Nature of Cargo.	Nature of Casualty, and whether resulting in total loss or partial damage.	Number of Lives lost.	Direction and Force of Wind.		Place.	Finding of Court of Inquiry.	REMARKS.
									Direction.	Force.			
15 Dec. 1866	Isabella ...	Schooner	17	4	...	General	Stranded	...	...	...	West Coast, 28 miles N. of Grey River	Wreck unavoidable; no blame attributable to master.	
16 Feb. 1867	Nile ...	Schooner	24	...	...	Timber	Total wreck	...	...	...	Haast River	No fault attributable to master.	
24 Dec. 1866	Pioneer s.s.	Schooner	...	...	...	...	Total wreck	...	...	...	Manukau ...	Drifted from her moorings.	
13 Feb. 1867	Star of the Evening s.s., 4 years	Schooner	116	19	3	Sheep	Total wreck	6	S.E.	Gentle breeze	Poverty Bay	Wreck probably due to a local error in the compasses	Broke up.
18 Dec. 1866	Jane Elkin, 3 yrs.	Ketch	28	3	...	Coals	Stranded	...	N.W.	Light breeze	Grey River	Heavy swell on bar caused tug to ground.	
5 Jan. 1867	Jane Elkin, 3 yrs.	Ketch	28	7	...	...	Foundered	...	...	...	Grey River	Fell from ways in re-launching.	
27 March "	Montmorency, 12 years	Ship	668	31	208	General	By fire	...	...	...	Napier Roadstead...	Nothing to show how or in what manner fire originated	Total wreck; passengers had all landed previous to fire.
13 March "	Duncan Cameron	Cutter	...	...	...	...	Capsized	3 or 4	S.S.W.	Strong gale	Napier Roadstead...	Stress of weather ...	Foundered at her moorings; all hands lost; number not known.
6 April "	Onehunga ...	Schooner	61	...	...	General	Stranded	...	W.S.W.	...	Fox's River	Went ashore during heavy weather	Wreck sold for benefit of whom it might concern.
5 April "	Queen s.s., 15 yrs.	Schooner	260	21	8	Butter and Casks	Struck on rock and foundered	...	N.W.	Fresh breeze	Cook's Rock	Wreck caused by a local deviation of compasses	Went down in deep water; crew saved by her boats.
14 March "	Stately, 3 months	Schooner	86	7	...	Timber	Stranded	...	W.N.W.	Light airs	Oamaru Bay	Went ashore during heavy sea.	Total wreck.
2 April "	South Australian s.s., 4 years	Barque	435	37	42	General	Stranded	...	...	Light airs	11 1/2 miles N. of mouth of Clutha River	Bad look-out; not heaving the lead	
14 March "	Vixen ...	Schooner	17	...	...	...	Stranded	...	...	...	Oamaru Bay	Went ashore during heavy sea	Not damaged; has since been re-launched.
9 May "	Gold Seeker ...	Brigantine	148	9	...	General	Stranded	...	S.W.	Unsteady	Hokitika ...	Error of judgment on part of master	Total loss.
21 May "	Smuggler, 2 years	Cutter	21	3	1	Cattle	Capsized	1	N.E.	Strong breeze	Point Rodney	Capsized in a squall	Total loss.
8 Sept. 1866	Three Sisters, 7 years	Schooner	34	4	...	General	Stranded	...	N.	Strong gale	Nelson Haven	Through attempting to enter without a pilot.	
7 July 1867	Rapid ...	Schooner	15	3	1	Coals	Stranded	...	W.	Moderate gale	West Wanganui	Went ashore during a heavy sea...	Total loss.
7 June "	Torquill ...	Barque	294	11	4	Guano	Stranded	Light air	Spirits' Bay	Caused by choking of pumps; master acted for the best	Total loss.

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