

Cape Palliser Lighthouse is admirably situated for all purposes, and would make an excellent look-out station in the event of war for reporting passing vessels. In time of peace it would be equally serviceable for the same purpose if connected by telegraph. If this were done, the four corners of Cook Strait would be within hail, so to speak, of mariners. At the western entrance of the Strait Cape Farewell and Cape Egmont light-stations are connected by wire. Cape Campbell, which commands the south-eastern entrance, is also connected by wire. Next to Cape Farewell station, I think Cape Palliser is the most important station for reporting passing vessels and vessels navigating Cook Strait.

*Harbour Lights.*—Several lights of different colours have been placed on various wharves and jetties in New Zealand by their respective Harbour Boards.

*Hokianga Harbour.*—Since my last report I inspected the entrance to Hokianga Harbour for the purpose of reporting as to the advisability of establishing harbour lights there. I am of opinion that it would be exceedingly advantageous to shipping frequenting Hokianga to have a permanent white light placed on the South Head. I also think it would be advisable to provide leading lights for crossing the bar, and to be used only at the Harbourmaster's discretion when required.

*Kaipara Harbour.*—The entrance of Kaipara Harbour was also inspected by me for the purpose of reporting as to the advisability of establishing leading lights for crossing Kaipara Bar. As regards establishing suitable leading lights for guiding vessels into Kaipara Harbour by night, it is, in my opinion, both difficult and expensive, for various reasons. In the first instance, there are numerous dangerous sandbanks which extend in various directions far out into the sea, and are constantly undergoing rapid changes; so much so that the leading beacons have been changed frequently. Secondly, leading lights to be of reliable service for this purpose should be seen at sea at least ten or fifteen miles. This would necessitate the erection of two new lighthouses, at a probable cost of £2,000 each, which might at any time become absolutely useless as guiding lights if the bar changed or altered its then position.

*Wellington Harbour Lights.*—Regarding placing a light at the entrance of Wellington Harbour and increasing the power of the light on Somes Island, I would recommend that if it is thought necessary to place a light at the entrance of Wellington Harbour it should, in my opinion, be placed on the outer rock of Barrett's Reef (if practicable). My reasons are obvious. Barrett's Reef, although being the principal danger, has deep water on the south and on the east sides of it. If a second-order occulting light were placed on the outer rock vessels could pass (comparatively speaking, quite close to it on the south and on the east side, and so avoid the projecting rocky shore on the eastern side of the entrance. The cost of erecting a suitable tower, &c. (if practicable), would vary from £10,000 to £15,000. A light such as I have mentioned would be of great assistance to vessels bound in and out of Wellington Harbour by night. If a light were placed on Barrett's Reef the light on Somes Island would not require altering. If the present light on Somes Island is to remain the only guiding light into Wellington Harbour the power of the light should be increased. If either of these suggestions were executed it would be materially in the interest of local bodies, and perhaps they might see their way to contribute towards the cost.

*Surveys.*—Numerous surveys have been made of reported dangers by officers of the department and by officers of various Harbour Boards, and buoys and beacons have been placed to mark them where required. The Wellington Harbour Board have marked their harbour where required by the new regulation buoys. This is the only instance in the colony where the new buoys have been adopted.

*Pigeon Service.*—A pigeon-loft has been established at Somes Island for the purpose of training carrier-pigeons for the Lighthouse Service, to be made use of at those stations where there is no telegraph communication. These pigeons, so far, have been a great success, and have conveyed several important messages from Captain Fairchild in different parts of Cook Strait, including the particulars of the loss of the "Zuleika" in Palliser Bay.

*Fog-signal.*—The patent explosive fog-signal ordered from England some time ago should soon arrive in the colony. It will then be placed in a suitable position at Pencarrow Head.

*Accident.*—The only accident in the Lighthouse Service that occurred during the year was caused by a small vessel colliding with the tower at Ponui Passage. The damage was not very extensive, and did not interfere with the lighting apparatus.

*Deaths.*—The principal keeper at Puysegur Point, an old and valued servant in the department, died at Invercargill Hospital.

*Retirement.*—Mr. F. M. Smith, the principal keeper at Cape Egmont, retired owing to ill-health.

I have, &c.,

GEO. ALLMAN,

Inspector of Lighthouses.

The Secretary, Marine Department, Wellington.

The PRINCIPAL ENGINEER-SURVEYOR of STEAMERS and CHIEF EXAMINER of ENGINEERS to the SECRETARY of the MARINE DEPARTMENT.

SIR,—Principal Engineer-Surveyor's Office, Wellington, 14th April, 1897.

I have the honour to submit my annual report of the financial year ended 31st March, 1897.

During the year 271 surveys have been held, the total number of steamers surveyed being 207.

A large amount of repairs and alterations to steamers have been made this year to bring them up to date, and to meet the increased requirements of trade. The carrying-out of this work has taken up much of the time of the surveyors throughout New Zealand.

The question of granting yearly certificates (instead of six-monthly certificates as at present) to steamers fitted with non-condensing machinery should be again considered, as nearly all these boats ply where fresh water is available.