

**GENERAL REPORT ON THE
OPERATIONS OF THE
MARINE SURVEY OF INDIA,
FOR THE YEAR 1880-81**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649258017

General Report on the Operations of the Marine Survey of India, for the year 1880-81 by A. Dundas Taylor

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A. DUNDAS TAYLOR

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FOR THE YEAR 1880-81**

GENERAL REPORT

ON THE OPERATIONS OF

The Marine Survey of India,

FOR THE YEAR

1880-81.

PREPARED FOR SUBMISSION TO THE GOVERNMENT OF INDIA

BY

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CALCUTTA :

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING.

1881.

CALCUTTA :
PRINTED BY THE SUPERINTENDENT OF GOVERNMENT PRINTING,
8, HASTINGS STREET.

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GENERAL REPORT
ON THE OPERATIONS OF
The Marine Survey of India,
FOR THE SEASON
1880-81.

Dated Calcutta, the 1st December, 1881.

SECTION I.
GENERAL REPORT.

I have the honour to submit, for the information of the Government of India, my Annual Report of the proceedings of this Department during the surveying year commencing the 1st October, 1880, and ending 30th September, 1881, giving details of the surveys carried out by the Executive Staff of the Department, and the outturn of work at Head-quarters.

Surveying Operations of the Season.

Instructions to Officer in Charge of
No. 1 Survey Party.

2. The following are the instructions issued to
the Officer in Charge of the No. 1 Survey Party:—

This party, under the Superintendence of Navigating Lieutenant E. W. Petley, R.N., was—

- (a) To re-survey the northern approach of Prince's Dock, Bombay, provided that the Resident Engineer had completed his blasting operations in the bed of the channel.
Survey of Prince's Dock, Bombay.
- (b) To continue the survey of Goa and Mormugao harbours, commenced last season, by completing the engineering plans of Mormugao anchorage, on a scale of 600 feet to the inch, in order to show, in detail, the rocks and shoals extending from Cabo halfway across towards Mormugao. The chart of the entire neighbourhood of Goa and Mormugao was to be plotted on a scale of 3 inches to one nautic mile.
Survey of Goa and Mormugao.
- (c) To survey the foreshore of Bombay between the Prongs and Mazagon, carrying the soundings rather more than a mile seaward; this survey was to be executed on a scale of 5 inches=1 mile, and to continue the survey, to northward and eastward, to Hog Island and Caranja.
Survey of Bombay.

[NOTE.—How the above instructions were carried out will be seen by reference to Section III of this report, containing details of the surveying operations. Navigating Lieutenant Petley was unable to survey the approach channel into Prince's Dock in the early part of the working season, in consequence of the blasting operations then being conducted. But subsequently, in the latter part of May, the Port Trust Engineer having himself made a survey of the channel on a very large scale, Mr. Petley, at the request of the Port Trust, carefully tested the Engineer's work by sweeping the floor of the channel, and reported that the depth in the channel was nowhere less than 65 on the Town Hall datum (i.e., 14 feet below the level of the mean of lowest ordinary spring tides, to which the soundings on the chart of Bombay have been referred). A detailed account of how this operation was carried out will be found on page 16.]

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Instructions to Officer in Charge of No. 2 Survey Party. 3. The instructions to No. 2 Survey Party were as follows:—

This party, under Lieutenant W. H. Coombs, R.N., was—

- (a) To closely survey the Port of Rangoon, *i.e.*, from Kemendyne to Queen's Point, including the Poozondong creek and part of the Pegu River, on a scale of 400 feet to one inch, the lines of sounding to be not less than 200 feet apart. The Port Trust of Rangoon was to supply a steam launch and other necessary materials for surveying operations, as also accommodation for the men.
- (b) On the completion of the Rangoon survey, Lieutenant Coombs, if time permitted, was to proceed with his party to the Naaf River (which is the boundary between Bengal and Burma) for the purpose of making a survey of the entrance on a scale of two inches to one nautic mile.
- (c) If the survey of the Naaf was not carried out, this party was to take up the re-survey of False Point harbour and the adjacent coast line, required by the Government of Bengal.

[Note.—Details of the surveys conducted by Lieutenant Coombs and his party will be found in Section III. The time occupied on the Rangoon survey was longer than originally contemplated, on account of the heavy fogs experienced until late in the day, and of the crowded state of the river by native craft in the busiest period of the year. Mr. Coombs was also employed on additional detached work in the examination of the shoal, which had recently contracted the channel in the neighbourhood of Elephant Point.

With reference to the Naaf River it may be stated that the Port Officer of Aktyab having made a cursory examination of the entrance, and laid down buoys sufficient to indicate the channels for navigating small craft now using the river, it was deemed unnecessary for this Department to carry out the contemplated survey. Moreover the survey of Rangoon having occupied a much longer time than was at first expected, the season had too far advanced to make any rigid examination of the bar of the Naaf.

In lieu of the Naaf survey, commencement was made of a re-examination of False Point harbour, which involved accurate measurements of Reddie head previous to the rainy season, with a series of observations on the tidal current, during that season when they are influenced by the river freshets.]

New Surveying Steamer "Investigator".

4. The new surveying steamer *Investigator* was launched on the 3rd March, 1881, and, later on, orders were issued to prepare her with all despatch for the work of the approaching surveying season, and she is now nearly ready for sea.

5. On the application of the Government of India, the Admiralty nominated Lieutenant Llewellyn S. Dawson, R.N., to the post of Deputy Superintendent of Marine Surveys, and he will command the *Investigator*.

6. Lieutenant Dawson is an able surveyor of some 18 years' standing, and with his experience gained at the Hydrographic Department of the Admiralty, where he served for some five or six years under Sir Frederick Evans, K.C.B., F.R.S., will, I have no doubt, prove an invaluable officer to the Government of India.

Work executed at Head-quarters.

7. As usual, several questions have been forwarded to me by the Government of India, and the Local Governments and Administrations, to be reported upon; amongst these were the following:—

On the question of laying down and maintaining buoys in the Persian Gulf, Regarding the limits of the port of Chandbally.

On the proposal for connecting False Point light-house with Hukitollah by telephone.

On the present and proposed scales of establishment for the Perim light-house.

On the exemption of the Hooghly river from the operation of the rules regarding the new system of buoyage.

On a proposal for constructing a light-house at Muttum in the Travancore territory.

References from the Political Agent of the Governor General at the Baroda Durbar, regarding new lights at Dwarka, Beyt and Diu Head.

As to the advisability of blowing up Santipilly reef by dynamite.

8. In May, 1881, I was appointed President of a Committee, composed of Indian Naval Officers, to take into consideration the whole question of Light-house Administration in India.

The Committee were to consider the following points:—

- (a) The establishment, European and Native, necessary for each light.
- (b) The best means of relieving and supplying the same.
- (c) The arrangements necessary for an inspection, quarterly or annually, of each light.
- (d) Whether the system of relief, supply and inspection should be uniform as regards all the presidencies.
- (e) The advisability of arranging the lights in British Burma in four groups, and the simplest and most economical means of providing an efficient administration of those lights.
- (f) The levy of light dues to meet the cost of each light.

9. In the early part of July two members of the Committee proceeded on privilege leave for 3 months, and the proceedings of the Committee were therefore postponed until their return to Calcutta; since then the meetings have been resumed and the report is now in course of preparation.

10. Details of the work done in the Chart Branch of the department will be found in Section II. The usual letters, copies of reports, &c., have been prepared in the office, and with the small staff at present employed, it has been only by the strictest economy of time, and diligence on the part of all employed, that arrears have not been allowed to accumulate.

11. During the period under review one Hydrographic Notice and forty-one Notices to Mariners, relating to new lights, buoys, and newly-discovered dangers, have been published. The number of copies of Hydrographic Notices printed during the year amounted to 300, and of Notices to Mariners to 20,500; of these, 260 copies of the former Notices and 15,580 of the latter were forwarded to Indian maritime authorities and foreign Governments. The whole of the above Notices have been reproduced by the various Hydrographic Departments throughout the world.

12. The following table shows the Notices to Mariners and Hydrographic Notices issued between the 1st October, 1880, and the 30th September, 1881, inclusive:

Number of Notices	Number of copies printed.	Localities to which Notices refer.	Subjects.
<i>Notices to Mariners.</i>			
11	500	Hindustan, West Coast, Bombay	Regarding the exhibition of a red ray from the Kenery (Kundari) inland light on and after the 1st April, 1881.
12	500	Eastern Archipelago, Sunda Strait, Sumatra.	Announcing the exhibition of a flashing light on Flat Cape.
13	500	Eastern Archipelago, Java, Sunda Strait.	Relative to the destruction of the stone light-house on First Point (Tanjong Koelung).
14	500	Eastern Archipelago, Baly Island	Respecting the exhibition of a harbour light at Belling (Papejan Belling), near Sanguit.
15	500	China Sea, Carimata Strait	Regarding the Gwalia reef.
16	500	Red Sea, Hanish Islands	Announcing the position of Parkin rock.
17	500	Indian Ocean, Mozambique Channel, Madagascar, West Coast.	Notifying the existence of a detached shoal lying south-west of Warren islands.
18	500	India, West Coast, Calicut	Regarding the intended exhibition of a fourth order fixed white dioptric light at Calicut.