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1873.

T A S M A N I A.

LEGISLATIVE COUNCIL.

LIGHT HOUSES:

REPORT OF CONFERENCE OF REPRESENTATIVES OF MARINE
DEPARTMENTS OF AUSTRALASIAN COLONIES.

Laid upon the Table by Mr. Chapman, and ordered by the Council to be printed,
October 28, 1873.



REPORT of PROCEEDINGS of the CONFERENCE of the Principal Officers of the MARINE DEPARTMENTS of the Australasian Colonies, convened in accordance with a Resolution passed at the Intercolonial Conference held in Sydney, in January and February, 1873.

MEMBERS OF THE CONFERENCE.

New South Wales : CAPTAIN HIXSON, President of the Marine Board.
Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Portmaster.
South Australia : CAPTAIN FERGUSON, President of the Marine Board..
Tasmania : C. M. MAXWELL, Esq., Warden of the Hobart Town Marine Board.
Victoria : CAPTAIN PAYNE, R.N., Chief Harbour Master, and Chairman of Steam Navigation and Pilot Boards.
Western Australia : CAPTAIN FERGUSON, President of the Marine Board of South Australia.

THE Conference having met at the Sydney Marine Board Office, Captain Hixson was unanimously elected Chairman, and Mr. W. J. Wilshire appointed Secretary.

Various documents, relating to the Light-houses, Shipping, and Statistics of the Colonies represented, having been laid on the Table by the Members present, the Conference proceeded to the consideration of the questions referred to them, and decided to discuss them in the following order :—

1. State of the coast lights.
2. Management with regard to economy and efficiency.
3. Where new lights are required.
4. To decide upon the most equitable mode in which the highway lights of the various Colonies should be maintained.

1.—STATE OF THE COAST LIGHTS.

The Conference find that, without actually visiting the various lights on the Australian Coast, it would be impossible for them to express any decided opinion as to their condition ; but they have reason to believe, from information furnished by the representatives of the Colonies, as well as by masters of vessels constantly passing the lights, and also generally from the absence of complaints as to their efficiency, that the lights answer the purposes for which they were erected, and bear favourable comparison with those of other parts of the world.

2.—MANAGEMENT WITH REGARD TO ECONOMY AND EFFICIENCY.

Tabular Statements having been prepared in a prescribed form showing the cost of maintenance of all the Australian light-houses, and having been carefully considered, the Conference decided that, in consequence of the difference in rate of wages, the cost of maintenance, and the exigencies of the

positions in which the light-houses are placed, it was impossible to arrive at any standard by which to compare the relative cost and efficiency of the lights of the different Colonies.

The tabular statements referred to, and appended hereto, will be found to contain information of great interest and value to the Governments of the various Colonies.

The Conference are also of opinion that the cost of maintaining the light-houses would be reduced, and the intensity of the smaller lights considerably increased, were mineral oil substituted generally for vegetable oil. The former is used at nearly all the minor lights of New South Wales, Victoria, South Australia, and Queensland; but as the use of mineral oil in the higher class of lights has been only recently introduced in England, they cannot recommend its general adoption for first and second class dioptric lights until its safety and advantages have been more fully tested.

3.—NEW LIGHTS REQUIRED.

After fully considering the requirements of the whole coast of Australia, from Swan River eastward to New South Wales, Queensland, and the Northern Territory, and after carefully discussing every case where it was thought a new light was necessary, the conference resolved to recommend the erection of the following Light-houses:—

TABLE of New Lights recommended for the coast of Australasia, abstracted from the Minutes of the Proceedings of the Conference, held at Sydney, Sept.—Oct., 1873.

Name or Place.	Order.	Other Particulars.	Name or Place.	Order.	Other Particulars.
WESTERN AUSTRALIA.			TASMANIA.		
Cape Naturaliste	1	Fixed, not to exceed 400 feet elevation.	Eddystone Point	1	Fixed.
Cape Hamelin, near Cape Leeuwin.....	1	Revolving, flashes of one minute interval; range, 25 miles.	NEW SOUTH WALES.		
SOUTH AUSTRALIA.			Green Cape	1	Revolving.
Cape Spencer.....	1	Revolving.	Montague Island	1	Fixed and flashing.
Point Corny	3	Fixed and flashing.	Bowen Island .....	..	Harbour light.
Tipara Reef.....	..	Pile-light, revolving, instead of light-ship.	Barrenjoey.....	2	Fixed red.
Point Lowly	3	Revolving.	Sugar-loaf Point	1	Dioptric revolving white, shaded green over the dangers.
Penguin Island	1	Fixed red.	South Solitary Island	1	Revolving white.
Northern Territory, Dundas and Clarence Straits	..	Lights recommended.	Point Danger.....	2	Fixed.
VICTORIA.			QUEENSLAND.		
Cape Nelson	1	Fixed.	North Reef, Capricorn Channel	2	Fixed three minutes, flashing every fourth.
Split Point.....	1	Fixed red.	Booby Island.....	1	
Cape Liptrap or Anser Group	2	Revolving.	Three Light-vessels...	..	For lighting the inner passage to Torres Straits.
Cape Conran or Cape Everard	1	Revolving.	NOT WITHIN COLONIAL JURISDICTION.		
			Bramble Cay, Great North-eastern Channel, Torres Straits...	..	Recommended.

The Conference also recommend that, in the interest of the vast and increasing trade of these Colonies, the new lights above mentioned should be erected with all reasonable expedition.

With reference to the proposed lights for the inner route, and for Torres' Straits, Captain Heath's report to the Queensland Government, in connection therewith, is appended hereto.

On the question of a light on Bramble Cay, at the entrance to the Great north-east channel to Torres' Straits being discussed, it was resolved to recommend that the Imperial Government be asked to assist in the erection and maintenance of this light, on conditions similar to those on which it was proposed to erect a light in the vicinity of the "Snares" and Auckland Islands, by a resolution passed at the Intercolonial Conference on 5th February last.

4.—SUPPORT OF THE LIGHTS.

The question of the maintenance of highway lights, by general contributions from all the Colonies deriving benefit from the same, having been discussed at great length, it was found to be surrounded with many difficulties; and the Conference were unable to devise any such scheme which, in the opinion of all the Members, would be fair and equitable to each of the Colonies, and at the same time not too complicated to carry into practice.

The Conference, however, after disposing of a resolution of Captain Payne's in reference to the general maintenance of highway lights, unanimously resolved,—

That the cost of erection and maintenance of lights on the main coast line should be defrayed by the Colony in whose territory they are situated, except where coast lights are maintained especially for the use of the vessels of another Colony: Provided always, that where any light is erected on or close to the line of demarcation between any two Colonies, that such light be maintained conjointly by such Colonies.

That the lights on the islands in Bass's, Banks', and Torres' Straits, and in channels away from the mainland, be paid for "rateably in proportion to the tonnage of the shipping entered inwards and cleared outwards in each Colony deriving benefit from the same."

The Conference also unanimously resolved to recommend that the following system of distribution should be adopted in carrying out the foregoing resolution, and that it should come into operation on 1st January, 1874.

(A.)

LIGHT-HOUSE.	CONTRIBUTING COLONY.	ON TONNAGE OF ALL VESSELS ENTERED INWARDS.	
		From	At
King's Island	Victoria	Europe, America (not including West Coast), India, Africa, South Australia, China, Mauritius	All ports of contributing Colony except Portland Bay
	New South Wales	Half Europe, America (not including West Coast), India, Africa, South Australia, China, Mauritius	All ports of contributing Colony.
	Queensland	Half Europe, America (not including West Coast), India, Africa, South Australia, Mauritius	Ditto.
	Tasmania	Europe, America, (not including West Coast), India, Africa, South Australia, China, Mauritius	Launceston.
	South Australia	Victoria, (East of Cape Otaway), New South Wales, Queensland, Northern ports of Tasmania, New Zealand, South Sea Islands, West Coast of America	All ports of contributing Colony.
Kent's Group	Victoria	New Zealand, West Coast of America, Tasmania, New South Wales, Queensland, South Sea Islands	Ditto.
	New South Wales	Half Europe, America, (not including West Coast), India, Mauritius, South Australia, China, Launceston, Africa, Victoria	Ditto.
	Queensland	Half Europe, America, (not including West Coast), India, Mauritius, South Australia, Launceston, Africa, Victoria	Ditto.
	Tasmania	New South Wales, Queensland	Launceston.
	South Australia	Victoria	Hobart Town.
Swan Island and Goose Island	Victoria	New Zealand, South Sea Islands, West Coast of America, New South Wales, Queensland	All ports of contributing Colony.
	Victoria	Hobart Town and Southern ports of Tasmania	Ditto.
	New South Wales	Nil	
	Queensland	Nil	
	Tasmania	Victoria	Hobart Town.
Lady Elliot's Island ..	Tasmania	New Zealand, West Coast of America, South Sea Islands	Launceston.
	South Australia	Middle Island, New Zealand	All ports of contributing Colony.
	Victoria	All ports of Queensland, North of Sandy Cape	Ditto.
	New South Wales	Ditto	Ditto.
	Tasmania	Ditto	Ditto.
	South Australia	Ditto	Ditto.
	Queensland	Ditto	All Queensland ports South of Sandy Cape.

(B.)

LIGHT-HOUSES.	CONTRIBUTING COLONY.	ON TONNAGE OF ALL VESSELS CLEARED OUTWARDS.	
		<i>At</i>	<i>For</i>
King's Island ..	Victoria	Port Phillip and Eastern ports..	South Australia, Western Australia, Africa, Mauritius, half India and China.
	New South Wales	All ports of contributing Colony.	South Australia, Western Australia, Africa, Mauritius, and one-fourth tonnage to India and China.
	Queensland	Ditto	Western Australia and South Australia.
	Tasmania	Ditto	South Australia, Western Australia, Africa, Mauritius, and half tonnage to India and China.
	South Australia..	Ditto	Victoria (East of Cape Otway), New South Wales, Queensland, Launceston, New Zealand (Middle Island).
Kent's Group ..	Victoria	Ditto	Tasmania, two-thirds Europe, half West Coast of America.
	New South Wales	Ditto	Launceston, Victoria, South Australia, Western Australia.
	Queensland	Ditto	Ditto.
	Tasmania	Hobart Town	Victoria.
		Launceston	Port Albert, New South Wales, Queensland, and half tonnage to India and China.
Swan Island and Goose Island	South Australia..	All ports of contributing Colony	New South Wales, Queensland, New Zealand, South Sea Islands, West Coast of America.
	Victoria	Ditto	Hobart Town, Southern Ports of Tasmania, one-third Europe, New Zealand, half West Coast of America.
	New South Wales	Nil	Nil.
	Queensland	Nil	Nil.
	Tasmania	Hobart Town	Victoria, South Australia, Western Australia, Africa, Mauritius, and one-quarter tonnage to India and China.
Lady Elliot's Island	Tasmania	Launceston	Europe, New Zealand, West Coast of America.
	South Australia..	Nil	Nil.
	Victoria	All ports of contributing Colony	All ports of Queensland North of Sandy Cape.
	New South Wales	Ditto	Ditto.
	Tasmania	Ditto	Ditto.
South Australia..	Ditto	Ditto	Ditto.
	Queensland	All ports of Queensland South of Sandy Cape	Ditto.

It was likewise resolved to recommend that Gabo Island be maintained conjointly by Victoria and New South Wales.

Finally, it was resolved that the lights proposed to be erected on Cape Hamelin (near Cape Leeuwin), in Western Australia, and on Eddystone Point, Tasmania, should be considered to be "lights maintained especially for the use of vessels of another Colony." The question of the cost of their erection and maintenance to be left to the decision of the Governments interested.

FRANCIS HIXSON,

President of the Marine Board,

New South Wales.

G. P. HEATH,

Commander, R.N.,

Port-master, and Chairman of
the Marine Board, Queensland.

R. H. FERGUSON,

President of the Marine

Board of South Australia, and
representing Western Australia.

C. M. MAXWELL,

Warden of the Hobart Town

Marine Board.

CHARLES B. PAYNE,

Commander, R.N.,

Chief Harbour-master,

Victoria.

The Office of the Marine Board of New South Wales,
Sydney, 30 September, 1873.

MINUTES OF PROCEEDINGS of the CONFERENCE of the Principal Officers of the MARINE DEPARTMENTS of the several Colonies, this day convened at Sydney, upon the subject generally of the AUSTRALASIAN LIGHTS, as directed by the Resolution of the Intercolonial Conference of 12th February last.

THE under-mentioned gentlemen were present, and represented the Colonies named, respectively:—

New South Wales : CAPTAIN HIXSON, President of the Marine Board.
Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.
South Australia : CAPTAIN FERGUSON, President of the Marine Board.
Tasmania : C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.
Victoria : CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.
Western Australia : CAPTAIN FERGUSON, President, Marine Board of South Australia.

It was proposed by Mr. Maxwell, seconded by Captain Payne, and carried, that Captain Hixson be elected to the Chair.

It was resolved that Mr. W. J. Wilshire, Secretary to the Marine Board of New South Wales, be appointed Secretary to this Conference.

The proceedings were initiated by the Chairman reading the resolution of the Intercolonial Conference in relation to this Convention.

Captain Ferguson laid on the Table an instrument showing that he is authorised to represent the interest of the Government of Western Australia; also

1. Papers and Charts relating to the Lights of that Colony.
2. Tabulated statement of the Lights of South Australia.
3. Amount of Tonnage inwards and outwards, Port Adelaide, to and from Australasian Colonies.

Mr. Maxwell laid on the Table the following papers:—

1. Correspondence between the Hobart Town Marine Board and Colonial Secretary, 1865.
2. Correspondence between the Colonial Secretary of Tasmania and the Chief Secretaries of New South Wales and Victoria, 1865.
3. Further correspondence between the same, August, 1865.
4. Do. do. August, 1865, to November, 1866.
5. Report of Conference on Light-houses, Melbourne, 1856.
6. Do. do. do. 1864.
7. Cost of maintenance of Tasmanian Lights, 1870, 1871, and 1872.
8. Contribution towards maintenance of Light-houses paid by New South Wales, Victoria, and Tasmania, 1870, 1871, 1872.
9. Marine Board Act, Tasmania, 1857.
10. Tasmanian Statistics, 1871 and 1872.

Captain Payne laid on the Table the following Papers:—

1. Tabulated statement of the Lights of Victoria, showing the number of persons employed, &c., &c.
2. Return of the number and tonnage of Vessels, Melbourne, 1860 to 1871.
3. Return of number of Vessels entered at Melbourne, from July, 1870, to June, 1872.
4. Return of Tonnage, do.
5. Statement of Tonnage using Bass's and Banks' Straits, &c., from 1863 to 1872.
6. Statement of total Tonnage of each contributing Colony using Bass's and Banks' Straits Lights, and total amount paid by each contributing Colony, 1863 to 1872.

Captain Heath laid on the Table the following papers:—

1. Statistical Register, 1872, Queensland.
2. Tabulated statement of the Lights of that Colony.

The Chairman laid on the Table the following papers:—

1. Tabulated statement of the Lights of New South Wales.
2. Statistical Register for the year 1872.
3. Reports, presented to the Imperial Parliament, of the Commissioners appointed to inquire into the management of Lights, Buoys, and Beacons.
4. Various Reports, Charts, &c., bearing upon the subject under inquiry.

Some discussion arose, on the first duty devolving upon the Conference, as to the mode of procedure to be adopted in conducting the business to be taken into consideration; and it was resolved that a tabulated statement of the Lights belonging to each Colony should be prepared by each delegate, in the following form:—

Name or Place.	Order.						Description.		Con- sumption of Oil.	Description of Oil.		No. of Men em- ployed.	Wages.	Con- tingencies.	Total Cost.
	1	2	3	4	5	6	Catc.	Dioptr.		Min.	Veg.				

The Conference proceeded to the consideration of the question as to what new Lights are needed on the coast of Australasia, and it was agreed to commence with the coast of the Colony of Western Australia.

The correspondence attached to the charts handed in by Captain Ferguson was read, and after discussion it was resolved—

- 1st. That the proposed light on the Abrolhos is a matter for local consideration, as the erection of a light there does not affect general navigation.
- 2nd. That in view of the mail steamers calling at Freemantle, it is advisable that a light should be erected on Cape Naturaliste, if it be found impracticable to have it placed upon Naturaliste reef.
- 3rd. That a light is much needed on Cape Hamelin, in the vicinity of Cape Leeuwin, as shown by the chart forwarded by the Government of Western Australia.

On the question as to the character of the lights best adapted for Capes Naturaliste and Hamelin being discussed, Captain Heath moved—"That the light on Cape Hamelin be of the first order dioptric, revolving with flashes at intervals of one minute, and having a range of 25 miles; that the light on Cape Naturaliste be also of the first order dioptric, elevation not to exceed 400 feet, the light to be fixed every alternate minute, the interval to be occupied by a flash, preceded and followed by a short eclipse."

Mr. Maxwell seconded the motion *pro forma*.

Captain Payne moved an amendment,—"That the light on Cape Naturaliste be a fixed light, and not a fixed and flash light."

The amendment was carried on division, as follows:—

For Captain Payne.
Captain Ferguson, for South Australia.
Captain Ferguson, for Western Australia.
Captain Hixson.

Against Captain Heath.

FRANCIS HIXSON, *Chairman*.

The Conference adjourned until 10-30 next day.

Marine Board Office, Sydney, 1 October, 1873.

Present :—

New South Wales : CAPTAIN HIXSON, President of the Marine Board.

Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.

South Australia : CAPTAIN FERGUSON, President of the Marine Board.

Tasmania : C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.

Victoria : CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.

Western Australia : CAPTAIN FERGUSON, President of the Marine Board of South Australia.

The Conference met at 10-30 a.m.

The Minutes of the previous day's proceedings were read and confirmed.

The Conference resumed the consideration of the question as to what new lights are needed on the Coast of Australasia; and, on the motion of Captain Ferguson, it was resolved—after discussion of each proposal—

- 1st. That, taking into consideration the increasing trade to Spencer's Gulf, a first-class light is needed in the vicinity of Cape Spencer; the choice of site to rest with the authorities of the Colony of South Australia.
- 2nd. That a third-order fixed and flashing light should be placed on Point Corny, with the object of indicating the anchorage in Hardwick Bay and the position of Webb Rock.

3rd. That it would be to the advantage of the navigation of Spencer's Gulf if a pile light were erected on Tipara Reef, in substitution of the light-ship moored there; and the Conference advises, therefore, that should no engineering difficulties exist, a pile-light be erected on that reef.

4th. That a third-order revolving light is necessary on Point Lowly, as a guide to vessels trading to Port Augusta, and to facilitate the navigation of Port Pirie.

5th. That a first-order fixed red light should be erected on Penguin Island, off the northern end of Rivoli Bay.

The Conference adjourned until 10.30 next day.

Marine Board Office, Sydney, 2 October, 1873.

Present :—

New South Wales : CAPTAIN HIXSON, President of the Marine Board.

Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.

South Australia : CAPTAIN FERGUSON, President of the Marine Board.

Tasmania : C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.

Victoria : CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.

Western Australia : CAPTAIN FERGUSON, President of the Marine Board of South Australia.

The Conference met at 10.30 a.m.

The Minutes of proceedings of yesterday's date were read and confirmed.

The consideration of the question as to what new lights are needed on the Coast of Australasia was resumed, and, on the motion of Captain Payne, it was resolved—

1st. That a first-class fixed light is essential in the vicinity of Cape Bridgewater, but as Cape Nelson is the southernmost point of that portion of the coast, and within a few miles of Cape Bridgewater, the Conference would suggest that it be placed on Cape Nelson.

2nd. That a first-class fixed red light should be erected on Split Point, in order to facilitate the navigation between Cape Otway and Port Phillip Heads.

At this stage of the proceedings the mover desired to bring under the notice of the Conference a suggestion at present engaging attention at Melbourne, as to the site of Wilson's Promontory Light, and as to the expediency of removing it to a more eligible position, in order to benefit shipping on either side of the Promontory, and expressed a wish that the Conference should record an opinion on the subject.

After discussion, it was resolved,—That this Conference recommend that the light now in existence should remain intact.

Captain Payne then moved,—“That to afford greater facilities to all vessels navigating this important turning point of the coast, and to serve the purposes of those especially coming from the westward, a second-class revolving light should be erected either on Cape Liptrap or on one of the Islands of the Anser Group.”

Mr. Maxwell seconded the motion. Discussion ensued.

Captain Ferguson moved as an amendment, that “After the word ‘westward’ in the original motion, the following words be substituted—‘A light should be erected on each of the positions, namely, Cape Liptrap and one of the Islands of the Anser Group.’”

Captain Heath seconded the amendment, which was lost on the following division :—

For Captain Heath.

Captain Ferguson.

Against Captain Hixson.

Captain Payne.

Mr. Maxwell.

The original motion was then put and carried, the names being the same.

FRANCIS HIXSON, *Chairman.*

The Conference adjourned until 10.30 next day.

Marine Board Office, Sydney, 3 October, 1873.

Present :—

New South Wales : CAPTAIN HIXSON, President of the Marine Board.
Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.
South Australia : CAPTAIN FERGUSON, President of the Marine Board.
Tasmania : C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.
Victoria : CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.
Western Australia : CAPTAIN FERGUSON, President of the Marine Board, South Australia.

The Minutes of the previous day's proceedings were read and confirmed.

Further consideration of the question of new lights required, resumed.

Captain Payne moved,—“That in order to take advantage of the recent accurate surveys pointing out the safe navigation along the ‘Ninety-mile Beach,’ and also of affording shelter to vessels navigating close to the shore against the heavy S.W. gales, a first-class revolving light be erected either at Cape Conran or Cape Everard.”

The reason for selecting either of these Capes in preference to Rame Head, is with the view of marking the vicinity of the dangerous outlying reefs about that part of the coast.

The Conference then proceeded to consider what new lights are needed on the coast of Tasmania; and, on the motion of Mr. Maxwell, it was resolved,—“That a first-order light should be erected on Eddystone Point, to facilitate the navigation of the coast of Tasmania, and the traffic to and from New Zealand through Banks’ Straits.”

Captain Payne moved,—“That owing to the Swan Island light being in such close proximity to the Eddystone Point, it is advisable to have the proposed light, to be erected at Eddystone Point, of such a distinctive character that the probability of mistaking it for a revolving light will be reduced to a minimum, and that therefore Eddystone Point light should be a fixed light.”

Mr. Maxwell seconded the motion.

Captain Heath moved as an amendment,—“That, in order to make the light sufficiently distinctive from that on Swan Island, and to avoid the liability of its being mistaken for a bush fire, and also with a view to obtaining a light of four times the power of a fixed light, the word ‘light’ be omitted, with a view to the insertion of the following words—‘a flashing light, the duration of the fixed light being one minute.’”

This amendment was not seconded.

Captain Ferguson moved as an amendment,—“That, in order to distinguish between the light on Swan Island and the one now proposed for Eddystone Point, the character of the light be an alternate red and white revolving light, each phase to be of half a minute’s duration.”

Seconded by the Chairman *pro forma*.

On this amendment being put, it was found that the Conference was divided as follows :—

<i>For</i>	Captain Ferguson.
	Captain Hixson.
<i>Against</i>	Captain Payne.
	Mr. Maxwell.

Captain Heath declined to vote.

The original motion was then put, and carried on the following division :—

<i>For</i>	Captain Hixson.
	Captain Payne.
	Mr. Maxwell.

Captains Heath and Ferguson declined to vote.

The Conference then proceeded to consider what new lights are needed on the coast of New South Wales, and, on the motion of Captain Hixson, it was resolved—

1st. That, having in view the extent of the traffic on this coast, and that Green Cape forms a considerable projection on the line of coast after rounding Cape Howe, a first-order revolving light should be erected on Green Cape.

2nd. That a first-order fixed and flashing light should be erected on Montague Island; the navigation in that locality being rendered dangerous through the existence of irregular currents, and the island lying in the direct track of vessels.

Captain Hixson then invited the attention of the Conference to the position of Cape St. George light, the site of which he represented as being faulty.

After discussion, it was resolved to recommend the extreme point of Cape St. George as preferable to the one on which the light is now erected. The removal of the light, as suggested, whilst warning vessels from running into the dangerous locality of Wreck Bay, would not diminish its present usefulness as a guide to vessels coming from the northward or going into Jervis Bay. It is further suggested that a harbour-light erected on the northern point of Bowen Island would facilitate access to Jervis Bay, as an important harbour of refuge in bad weather.

FRANCIS HIXSON, *Chairman*.

Marine Board Office, Sydney, 6 October, 1873.

Present :—

New South Wales : CAPTAIN HIXSON, President of the Marine Board.
Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.
South Australia : CAPTAIN FERGUSON, President of the Marine Board.
Tasmania : C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.
Victoria : CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.
Western Australia : CAPTAIN FERGUSON, President of the Marine Board of South Australia.

The Conference met at 10.30 a.m.

The Minutes of the previous day's proceedings were read and confirmed.

The Conference resumed the consideration of the question as to what new lights are needed on the Coast of New South Wales.

Having visited the Macquarie and Hornby Lights, the Conference came to the conclusion that the former is not sufficiently powerful for so important a position.

Captain Hixson mentioned that the light was exhibited as early as the year 1817; and although it has been classed a first-order light, the apparatus is not of equal power and quality with modern lights.

It was resolved to recommend that the power of this light should be increased.

On the motion of Captain Hixson it was resolved,—

3rd. That a second-order fixed red light should be erected on Barrenjoey, to replace the temporary lights now exhibited.

The Conference recommend that the light should be of this character, in consequence of its proximity to the Macquarie revolving light to the southward, and to the Newcastle fixed white light to the northward, and at the same time fully to utilise Broken Bay as a port of refuge.

Captain Hixson then moved,—That although it is a recognised principle that all lights should, if possible, be placed on the dangers which they are intended to indicate, yet in view of the proximity of the dangers to the mainland, and to the difficulty of erecting and maintaining a light on the Great Seal Rock—a revolving white light, shaded green over the dangers, would answer all the purposes of navigation, and that, therefore, a dioptric light of the first order should be erected on Sugar-loaf Point, near Seal Rocks.

Mr. Maxwell seconded the motion *pro forma*.

Captain Ferguson moved as an amendment,—That this proposed light should be erected, if possible, on the Great Seal Rock, for the reason that, as a recognised principle, all lights should be on out-lying dangers.

Captain Heath seconded the amendment.

On division there were—

<i>For the amendment</i>	Captain Ferguson.
	Captain Heath.
<i>Against</i>	Captain Payne.
	Captain Hixson.
	Mr. Maxwell.

The original motion was then put and carried, the names being the same.

On the motion of Captain Hixson, it was then resolved to recommend,—

4th. That a revolving first-order white light should be erected on the South Solitary Island.

5th. That taking into consideration the large and increasing trade between New South Wales and Queensland, and the necessity of warning ships of the dangerous reefs lying off Cook's Island, the Conference is of opinion that a second-class fixed light should be erected in the neighbourhood of Point Danger.

The Conference then proceeded to consider what new lights are required on the coast of Queensland; and, on the motion of Captain Heath, it was resolved,—That for the use of vessels navigating the Capricorn Channel, it is desirable a light should be erected on North Reef, to be of the second order, fixed for three minutes, and flashing every fourth minute.

Captain Heath then read a copy of a report he had sent to the Queensland Government, recommending the placing of certain light-vessels for developing the inner route to Torres Straits and the erection of a first-class light on Booby Island.

This report, which Captain Heath explained in detail, with the charts, is appended to the proceedings.

Discussion ensued, and the Conference resolved to recommend that Captain Heath's suggestions for lighting the inner passage for the service of vessels taking that route should be adopted.

The Conference further resolved to record their opinion that, notwithstanding that Bramble Cay is beyond the jurisdiction of the Colonies now represented, it is nevertheless an important position in the navigation of the great north-eastern channel to Torres Straits; and they agree to recommend that the attention of their respective Governments should be invited to the matter, with the view of having a light erected there, and maintained upon terms and conditions similar to those on which it was proposed to erect a first-class ocean light in the vicinity of the dangerous group of islands known as "The Snares" and the "Auckland Islands," by a resolution passed at the Intercolonial Conference on the 5th February last.

On the motion of Captain Ferguson, it was resolved,—That this Conference is of opinion that, in order to facilitate the navigation of Dundas and Clarence Straits leading to Port Darwin, lights should be erected on positions to be hereafter selected from data gathered from those persons who have navigated the straits in question. In the absence of such information it would be impossible for the Conference to express an opinion as to the best sites.

FRANCIS HIXSON, *Chairman*.

Marine Board Office, Sydney, 7 October, 1873.

Present :—

New South Wales : CAPTAIN HIXSON, President of the Marine Board.
Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.
South Australia : CAPTAIN FERGUSON, President of the Marine Board.
Tasmania : C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.
Victoria : CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.
Western Australia : CAPTAIN FERGUSON, President of the Marine Board of South Australia.

The Conference met at 10-30 a.m.

The Minutes of proceedings of yesterday's date were read and confirmed.

The Conference proceeded to consider what classification could be applied in the consideration of the question, "as to the state of the Coast Lights and their management, with regard to economy and efficiency;" and after long and careful deliberation it was resolved,—

- 1st. That, without personally inspecting them, this Conference cannot express any decided opinion as to "the state of the Coast Lights;" they have reason to believe, however, that the lights answer the purposes for which they were erected, and bear favourable comparison with those situated in other parts of the world.
- 2nd. That as "to their management, with regard to economy and efficiency," this Conference find that the rate of wages, cost of maintenance, and the exigencies of the positions in which they are placed, are so various as to render it impossible to apply any standard by which a trustworthy comparison between the lights of the different Colonies could be made.
- 3rd. That great economy would be effected if mineral oil could be substituted generally for vegetable oil. The former is used at several of the minor lights in the Colonies of New South Wales, South Australia, Queensland, and Victoria, and much attention has been devoted by the Conference to the question, substituting mineral for vegetable oil in the high class lights; but as the use of mineral oil in such lights has been but recently introduced in England, they cannot recommend its general adoption until its safety and advantages have been more fully tested.
- 4th. Whilst admitting that the existing lights are equal to the purposes for which they are specially intended, it is yet essential, in the interest of the vast and progressively increasing trade of these Colonies, that the new lights, now recommended by the Conference, should be erected with all reasonable expedition.

FRANCIS HIXSON, *Chairman.*

Marine Board Office, Sydney, 8 October, 1873.

Present :—

New South Wales : CAPTAIN HIXSON, President of the Marine Board.
Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.
South Australia : CAPTAIN FERGUSON, President of the Marine Board.
Tasmania : C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.
Victoria : CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.
Western Australia : CAPTAIN FERGUSON, President of the Marine Board of South Australia.

The Conference met at 10-30 a.m.

The Minutes of proceedings of yesterday's date were read and confirmed.

Captain Payne then moved,—

1. That in dealing with the question of general payment of lights, they shall be divided into two classes, namely :—
 - 1st. Highway or Ocean Lights, and
 - 2nd. Coast Lights.

And that the definition of highway lights be as follows, namely :—
 Lights placed on headlands and islands for the benefit of ocean traffic generally.
 Coast lights,—those which give special benefits to local shipping.
 That highway lights be maintained by the contributing Colonies rateably in proportion to the tonnage of the shipping using them.
 That coast lights be maintained by local Governments.
2. That for the purpose of this Conference the following lights be considered highway lights :—
 King's Island, Gabo Island, Cape Borda, Kent's Group, Cape Schanck, Cape St. George, Swan and Goose Islands, Cape Northumberland, South Head Light, Cape Otway, Cape Jaffa, Cape Willoughby, and Queensland Highway Lights.
3. That the above lights be maintained by different Colonies rateably in proportion to the tonnage using them, in accordance with the following scale A and B, subject to further adjustment.

TABLE A.

LIGHT-HOUSE.	CONTRIBUTING COLONY.	ON TONNAGE OF ALL VESSELS ENTERED INWARDS.	
		From	At
King's Island.....	Victoria.....	Europe, China, Mauritius	All ports of contributing Colony, except Portland Bay.
	New South Wales....	Europe, China, Mauritius	Ditto.
	Tasmania	Europe, China, Mauritius	Launceston.
	South Australia	Victoria, New South Wales, Queensland, and Tasmania	All ports of contributing Colony.
Kent's Group.....	Victoria.....	New Zealand, West Coast of America, Tasmania	Ditto.
	New South Wales ...	Europe, America (not including West Coast), India, Mauritius, South Australia, China, Launceston	Ditto.
	Tasmania	New South Wales, Queensland	Launceston.
	South Australia	Victoria	Hobart Town.
Swan Island and Goose Island	Victoria.....	New Zealand, South Sea Islands, West Coast of America.....	All ports of contributing Colony.
	New South Wales ...	Hobart Town and Southern Ports of Tasmania Nil.	Ditto.
	Tasmania	Victoria	Hobart Town.
	South Australia	New Zealand	Launceston.
Cape Otway	Victoria.....	Hobart Town	All ports of contributing Colony.
	New South Wales ...	Europe, America (not including West Coast), India, China, Mauritius, Africa, South Australia	Ditto.
	Tasmania	Europe, America (not including West Coast), India, China, Mauritius, Africa, South Australia.....	Ditto.
	South Australia	Europe, America (not including West Coast), India, China, Mauritius, Africa, South Australia.....	Launceston.
Wilson's Promontory	Victoria.....	Victoria, New South Wales, Queensland, Tasmania, West Coast of America, New Zealand	All ports of contributing Colony.
	New South Wales ...	Queensland, Tasmania, New Zealand, West Coast of America, New South Wales.....	Ditto.
	Tasmania	Victoria	Ditto.
	South Australia	Victoria	Hobart Town.
Gabo Island	Victoria.....	New South Wales, Queensland	All ports of contributing Colony.
	New South Wales ...	New South Wales, Queensland, West Coast of America, South Sea Islands	Ditto.
	Tasmania	Europe, America (not including West Coast), India, Mauritius, China, Africa, Tasmania, South Australia, Western Australia	Ditto.
	South Australia	New South Wales, Queensland, West Coast of America, South Sea Islands	Ditto.
Cape Schanck.....	Victoria.....	New South Wales, Queensland, West Coast of America, South Sea Islands	Ditto.
	New South Wales ...	All ports	Ditto.
	Tasmania	Port Phillip	Ditto.
	South Australia	Port Phillip	Ditto.
M'Donnel Light, Cape Northumberland ...	Victoria.....	Port Phillip	Ditto.
	New South Wales ...	South Australia, Western Australia	Ditto.
	Tasmania	South Australia, Western Australia	Ditto.
	South Australia	Victoria, New South Wales, Queensland, Tasmania, New Zealand, West Coast of America, South Sea Islands.....	Ditto.
Cape Willoughby	Victoria.....	South Australia.....	Ditto.
	New South Wales ...	South Australia.....	Ditto.
	Tasmania	South Australia	Ditto.
	South Australia	New South Wales, Victoria, Tasmania, New Zealand, Queensland, West Coast of America, South Sea Islands	Ditto.
Cape Borda.....	Victoria.....	Spencer's Gulf	Ditto.
	New South Wales ...	Spencer's Gulf	Ditto.
	Tasmania	Spencer's Gulf	Ditto.
	South Australia	Europe, India, China, America (not including West Coast), Africa, Mauritius, Western Australia	Ditto.
Cape St. George.....	Victoria.....	New South Wales, Queensland, South Sea Islands	Ditto.
	New South Wales ...	All ports except those in Queensland, New Zealand, West Coast of America, South Sea Islands	Ditto.
	Tasmania	New South Wales, Queensland, South Sea Islands	Ditto.
	South Australia	New South Wales, Queensland, South Sea Islands	Ditto.
South Head Light, Sydney	Victoria.....	New South Wales, Queensland	Ditto.
	New South Wales ...	All ports.....	Ditto.
	Tasmania	New South Wales, Queensland	Ditto.
	South Australia	New South Wales, Queensland	Ditto.

TABLE B.

LIGHT-HOUSES.	CONTRIBUTING COLONY.	ON TONNAGE OF ALL VESSELS CLEARED OUTWARDS.	
		<i>At</i>	<i>For</i>
King's Island....	Victoria	Port Phillip and eastern ports	South Australia, Western Australia, Africa, Mauritius, and half the tonnage to India and China.
	New South Wales	All ports of contributing Colony	South Australia, Western Australia, Africa, Mauritius, and one-fourth tonnage to India and China.
	Tasmania	Ditto	South Australia, Western Australia, Africa, Mauritius, and half tonnage to India and China.
	South Australia..	Ditto	Melbourne and eastern ports, New South Wales, Queensland, Launceston, New Zealand.
Kent's Group	Victoria	Ditto	Tasmania, two-thirds Europe, half west coast of America.
	New South Wales	Ditto	Launceston.
	Tasmania	Hobart Town	Victoria.
	South Australia..	Launceston	Port Albert, New South Wales, Queensland, and half tonnage to India and China.
Swan Island and Goose Island ..	Victoria	All ports of contributing Colony	New South Wales, Queensland, New Zealand, South Sea Islands.
	New South Wales	Ditto	Hobart Town, southern ports of Tasmania, one-third Europe, New Zealand, half west coast of America.
	Tasmania	<i>Nil.</i>	<i>Nil.</i>
	Tasmania	Hobart Town	Victoria, South Australia, Western Australia, Africa, Mauritius, and half tonnage to India and China.
Cape Otway	Tasmania	Launceston	Europe, New Zealand, West Coast of America.
	South Australia..	<i>Nil.</i>	<i>Nil.</i>
	Victoria	All ports of contributing Colony	South Australia, Western Australia, Africa, Mauritius, and half tonnage to India and China.
	New South Wales	Ditto	South Australia, Western Australia, Africa, Mauritius, and one-fourth tonnage to India and China.
Wilson's Promontory	Tasmania	Ditto	South Australia, Western Australia, Africa, Mauritius, and half tonnage to India and China.
	South Australia..	Ditto	Port Phillip and eastern ports, New South Wales, Queensland, Launceston, New Zealand, South Sea Islands.
	Victoria	Ditto	New South Wales, Queensland, Europe, New Zealand, West Coast of America, Tasmania, and half tonnage to India and China.
	New South Wales	Ditto	Victoria, South Australia, Western Australia, Africa, Mauritius, and one-fourth tonnage to India and China.
Gabo Island	Tasmania	Hobart Town	Port Phillip and eastern ports.
	South Australia..	All ports of contributing Colony	<i>Nil.</i>
	Victoria	Ditto	New South Wales, Queensland, South Sea Islands.
	New South Wales	Ditto	Victoria, South Australia, Western Australia, Africa, Mauritius, Tasmania, and one-fourth tonnage to India and China.
Cape Schank	Tasmania	Ditto	New South Wales, Queensland, South Sea Islands, and half tonnage to India and China.
	South Australia..	Ditto	New South Wales, Queensland, and South Sea Islands.
	Victoria	Ditto	All ports.
	New South Wales	Ditto	Port Phillip.
M'Donnell Light, Cape Northumberland	Tasmania	Ditto	Ditto.
	South Australia..	Ditto	Ditto.
	Victoria	Ditto	South Australia, Western Australia, Africa, Mauritius, and half tonnage to India and China.
	New South Wales	Ditto	South Australia, Western Australia, Africa, Mauritius, and one-fourth tonnage to India and China.
Cape Willoughby ..	Tasmania	Ditto	South Australia, Western Australia, Africa, Mauritius, and half tonnage to India and China.
	South Australia..	Ditto	Victoria, New South Wales, Queensland, New Zealand, West Coast of America, South Sea Islands.
	Victoria	Ditto	South Australia.
	New South Wales	Ditto	Ditto.
Cape Borda	Tasmania	Ditto	Ditto.
	South Australia..	Ditto	Ditto.
	Victoria	Ditto	Spencer's Gulf.
	New South Wales	Ditto	Ditto.
Cape St. George..	Tasmania	Ditto	Ditto.
	South Australia..	Ditto	Europe, India, China, Africa, Mauritius, and Western Australia.
	Victoria	Ditto	New South Wales, Queensland.
	New South Wales	Ditto	Victoria, South Australia, Western Australia, Africa, Mauritius, Tasmania, and one-fourth tonnage to India and China.
South Head Light, Sydney	Tasmania	Ditto	New South Wales, Queensland.
	South Australia..	Ditto	Ditto.
	Victoria	Ditto	Ditto.
	New South Wales	Ditto	All ports.
	Tasmania	Ditto	New South Wales, Queensland.
	South Australia..	Ditto	Ditto.

Mr. Maxwell seconded the resolution.

The Conference was engaged during the remainder of this sitting in discussing the above resolution.

Marine Board Office, Sydney, 9 October, 1873.

*Present :—**New South Wales :* CAPTAIN HIXSON, President of the Marine Board.*Queensland :* CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.*South Australia :* CAPTAIN FERGUSON, President of the Marine Board.*Tasmania :* C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.*Victoria :* CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.*Western Australia :* CAPTAIN FERGUSON, President of the Marine Board of South Australia.

The Conference met at 9 o'clock.

Discussion resumed on Captain Payne's motion, which, after long debate, was lost on a division as follows :—

For Captain Payne.
Mr. Maxwell.*Against* Captain Ferguson.
Captain Heath.
Captain Hixson.

Captain Heath then moved,—

That the cost of erection and maintenance of lights on the main coast line should be defrayed by the Colony in whose territory they are situated, except where coast lights are maintained especially for the use of the vessels of another Colony : provided always, that where any light is erected on or close to the line of demarcation between any two Colonies, that such light be maintained conjointly by such Colonies.

That the lights on the islands in Bass's, Banks', and Torres' Straits, and in channels away from the mainland, be paid for "rateably in proportion to the tonnage of the shipping entered inwards and cleared outwards in each Colony deriving benefit from the same."

This resolution was carried unanimously.

The Conference also unanimously resolved to recommend that the following system of distribution should be adopted in carrying out the foregoing resolution, and that it should come into operation on the 1st January, 1874.

(A.)

LIGHT-HOUSE.	CONTRIBUTING COLONY.	ON TONNAGE OF ALL VESSELS ENTERED INWARDS.	
		<i>From</i>	<i>At</i>
King's Island	Victoria	Europe, America (not including West Coast), India, Africa, South Australia, China, Mauritius	All ports of contributing Colony except Portland Bay
	New South Wales	Half Europe, America (not including West Coast), India, Africa, South Australia, China, Mauritius	All ports of contributing Colony.
	Queensland	Half Europe, America (not including West Coast), India, Africa, South Australia, Mauritius	Ditto.
	Tasmania	Europe, America, (not including West Coast), India, Africa, South Australia, China, Mauritius	Launceston.
	South Australia	Victoria, (East of Cape Otway), New South Wales, Queensland, Northern ports of Tasmania, New Zealand, South Sea Islands, West Coast of America	All ports of contributing Colony.
Kent's Group	Victoria	New Zealand, West Coast of America, Tasmania, New South Wales, Queensland, South Sea Islands	Ditto.
	New South Wales	Half Europe, America, (not including West Coast), India, Mauritius, South Australia, China, Launceston, Africa, Victoria	Ditto.
	Queensland	Half Europe, America, (not including West Coast), India, Mauritius, South Australia, Launceston, Africa, Victoria	Ditto.
	Tasmania	New South Wales, Queensland	Launceston.
	Tasmania	Victoria	Hobart Town.
	South Australia	New Zealand, South Sea Islands, West Coast of America, New South Wales, Queensland	All ports of contributing Colony.
Swan Island and Goose Island	Victoria	Hobart Town and Southern ports of Tasmania	Ditto.
	New South Wales	Nil	
	Queensland	Nil	
	Tasmania	Victoria	Hobart Town.
	Tasmania	New Zealand, West Coast of America, South Sea Islands	Launceston.
Lady Elliot's Island ..	South Australia	Middle Island, New Zealand	All ports of contributing Colony.
	Victoria	All ports of Queensland, North of Sandy Cape	Ditto.
	New South Wales	Ditto	Ditto.
	Tasmania	Ditto	Ditto.
	South Australia	Ditto	Ditto.
	Queensland	Ditto	All Queensland ports South of Sandy Cape.

LIGHT-HOUSES.	CONTRIBUTING COLONY.	ON TONNAGE OF ALL VESSELS CLEARED OUTWARDS.	
		At	For
King's Island ..	Victoria	Port Phillip and Eastern ports..	South Australia, Western Australia, Africa, Mauritius, half India and China.
	New South Wales	All ports of contributing Colony.	South Australia, Western Australia, Africa, Mauritius, and one-fourth tonnage to India and China.
	Queensland	Ditto	Western Australia and South Australia.
	Tasmania	Ditto	South Australia, Western Australia, Africa, Mauritius, and half tonnage to India and China.
	South Australia..	Ditto	Victoria (East of Cape Otway), New South Wales, Queensland, Launceston, New Zealand (Middle Island).
Kent's Group ..	Victoria	Ditto	Tasmania, two-thirds Europe, half West Coast of America.
	New South Wales	Ditto	Launceston, Victoria, South Australia, Western Australia.
	Queensland	Ditto	Ditto
	Tasmania	Hobart Town	Victoria.
		Launceston	Port Albert, New South Wales, Queensland, and half tonnage to India and China.
Swan Island and Goose Island	South Australia..	All ports of contributing Colony	New South Wales, Queensland, New Zealand, South Sea Islands, West Coast of America.
	Victoria	Ditto	Hobart Town, Southern Ports of Tasmania, one-third Europe, New Zealand, half West Coast of America.
	New South Wales	Nil	Nil.
	Queensland	Nil	Nil.
	Tasmania	Hobart Town	Victoria, South Australia, Western Australia, Africa, Mauritius, and one-quarter tonnage to India and China.
Lady Elliot's Island	Tasmania	Launceston	Europe, New Zealand, West Coast of America.
	South Australia..	Nil	Nil.
	Victoria	All ports of contributing Colony	All ports of Queensland North of Sandy Cape.
	New South Wales	Ditto	Ditto
	Tasmania	Ditto	Ditto
Lady Elliot's Island	South Australia..	Ditto	Ditto
	Queensland	All ports of Queensland South of Sandy Cape	Ditto
			Ditto

Having disposed of the question of the proportion in which contributions should be paid by the various Colonies, it was resolved,—

That Gabo Island Light be maintained conjointly by Victoria and New South Wales, in proportion to the amount of tonnage entered inwards and cleared outwards from the one Colony to the other.

On the motion of Captain Heath,—

It was finally resolved that the lights recommended to be erected on Cape Hamelin (near Cape Leeuwin), in Western Australia, and on Eddystone Point, in Tasmania, should be considered to be lights “maintained especially for the use of vessels of another Colony.” The question of their erection and maintenance to be left to the decisions of the Governments interested.

FRANCIS HIXSON, *Chairman.*

Marine Board Office, Sydney, 10 October, 1873.

Present :—

New South Wales : CAPTAIN HIXSON, President of the Marine Board.

Queensland : CAPTAIN HEATH, R.N., Chairman of the Marine Board and Port-master.

South Australia : CAPTAIN FERGUSON, President of the Marine Board.

Tasmania : C. M. MAXWELL, Esquire, Warden of the Hobart Town Marine Board.

Victoria : CAPTAIN PAYNE, R.N., Chief Harbour-master, and Chairman of the Steam Navigation and Pilot Boards.

Western Australia : CAPTAIN FERGUSON, President of the Marine Board of South Australia.

The Conference met at 10.30 a.m.

The Minutes of proceedings of yesterday's date were read and confirmed.

The Conference went through the whole of the Minutes of the proceedings, which were amended and passed.

The Sub-Committee, who agreed to draw up the report of the proceedings of the Conference, submitted the same, which having been read over and amended, was approved, and signed by the Members of the Conference.

Captain Payne proposed and Captain Heath seconded the following resolution :—

That the thanks of the Conference be given to Captain Hixson, for the services he has rendered in the important position he has occupied as Chairman of the Conference.—*Carried.*

Captain Ferguson proposed and Mr. Maxwell seconded the following resolution :—

That the Chairman convey the thanks of the Conference to Mr. Wilshire, for the services rendered by him as Secretary.—*Carried.*

FRANCIS HIXSON, *Chairman.*

APPENDICES.

TABULATED STATEMENT of the LIGHTS belonging to each Colony.
VICTORIAN LIGHTS.

Name or Place.	Order.						Description.		Con- sumption of Oil.	Description of Oil.		No of Men.	Wages.	Con- tingencies.	Total Cost.
	1	2	3	4	5	6	Cate.	Diop'te.		Mineral.	Veg.				
*Wilson's Promontory..	1	..	..	..	..	..	Fixed	..	gallons. 1600	..	Colza	3	£ 442 17 0	£ 660 0 0	£ 1102 17 0
Cape Otway	1	..	..	..	..	..	Revol.	..	1400	..	"	3	482 17 0	615 0 0	1097 17 0
*Gabo Island	1	..	..	..	..	..	..	Fixed	700	..	"	3	510 5 0	457 10 0	967 15 0
Cape Schanck	1	Fixed & flash	..	..	..	..	..	..& flashd.	700	..	"	3	510 5 0	300 0 0	810 5 0
Queenscliff (High)	1	..	..	..	..	..	..	Fixed	600	..	"	2	327 15 0	225 0 0	552 15 0
" (Low) .....	..	1	..	..	..	..	..	..	164	..	"	2	255 10 0	116 0 0	371 10 0
Point Lonsdale .....	..	..	..	1	..	..	Fixed	..	70	..	"	†1	109 10 0	50 0 0	159 10 0
Swan Spit. ....	..	..	1	..	..	..	Fixed	..	80	..	"	2	255 10 0	63 0 0	318 10 0
South Channel (East) .....	..	..	1	..	..	..	..	..	80	Min.	"	2	282 17 6	63 0 0	345 17 6
" (West) .....	..	..	1	..	..	..	..	..	80	"	"	2	255 10 0	63 0 0	318 10 0
Warnambool (High) .....	..	..	1	..	..	..	..	..	80	..	Colza	2	282 17 6	78 0 0	360 17 6
" (Low) .....	..	..	1	..	..	..	..	..	70	..	"				
Port Fairy .....	..	..	1	..	..	..	Revol.	..	80	..	"	2	282 17 6	63 0 0	345 17 6
Portland .....	..	..	1	..	..	..	Fixed	..	80	..	"	2	282 17 6	63 0 0	345 17 6
Port Albert .....	..	..	1	..	..	..	Revol.	..	80	..	"	2	282 17 6	63 0 0	345 17 6
West Channel	1	Light-ship	..	..	..	..	Fixed	..	900	..	"	4	689 3 6	220 0 0	909 3 6
Geelong	1	"	..	..	..	..	..	..	500	..	"	3	428 16 6	132 10 0	561 6 6
Gellibrand's Point....	1	"	..	..	..	..	Revol.	..	400	..	"	3	428 16 6	110 0 0	538 16 6
	7	1	1	7	2	..			7664			41			

Beacon and Jetty Lights unclassified (ten), averaging £25 each per annum 250 0 0
£ 9703 3 0

* Total cost of Wilson's Promontory Light-house, of £1102, is paid

Victoria	£640
New South Wales	430
Tasmania	82

Total..... £1102

* Total cost of Gabo Island Light-house, of £967, is paid rateably,

Victoria	£430
New South Wales	500
Tasmania	37

Total..... £967

Cost of Victorian Lights £8704
Contributions to Bass's Straits Lights 2109

Total cost to Victoria..... £10,813

During year 1872, cost of the lights marked *, viz. —

Wilson's Promontory	Gabo Island	Victoria, 2,	Swan and Goose Island Kent's Group King's Island	Tasmania, 4.
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amounted to £5555 11s. 8d., which was defrayed by New South Wales, Victoria, and Tasmania—

Tasmania contributing	£ 434 17 11
New South Wales contributing.....	1775 1 5
Victoria contributing	3325 12 4
	£5555 11 8

Amount of tonnage using these lights, 2,002,141 tons.

† Signal-man at Point Lonsdale assists at light, but is employed as signal-man.

NEW SOUTH WALES LIGHTS.

Name or Place.	Order.						Description.		Con- sumption of Oil.	Description of Oil.		No. of men em- ployed.	Wages.	Con- tingencies.	Total Cost.
	1	2	3	4	5	6	Cate.	Diop'te.		Mineral.	Veg.				
Nelson Bay	1	..	..	..	..	Fixed	..	gallons. 200	1	..	1	£ 96 0 0	£ 60 10 0	£ 156 10 0
Port Stephens	1	..	..	..	..	Rev.	..	499	..	1	3	372 0 0	192 16 0	564 16 0
Newcastle (Leading Lights), 2 pairs.	Fixed	..	100	1 pr. & gas 1 pr.	..	..	48 0 0	75 17 6	123 17 6
Nobby's	1	..	..	..	..	..	Fixed	260	..	1	3	442 0 0	142 0 0	584 0 0
Broken Bay (2)	temp. lights	..	..	..	..	..	..	185	1	..	2	240 0 0	81 13 9	321 13 9
Hornby Light	1	..	..	..	..	Fixed	..	364	..	1	3	372 0 0	162 10 0	534 10 0
Macquarie Light	1	..	..	..	..	Rev.	..	435	..	1	3	372 0 0	152 18 0	524 18 0
"Bramble" Light-ship	285	..	1	5	564 0 0	147 0 0	711 0 0
Fort Denison	red harbour light.	..	..	..	..	Fixed	..	100	..	1	1	96 0 0	55 0 0	151 0 0
Wollongong	1 red	..	..	..	Fixed	..	95	..	1	3	*367 0 0	84 0 0	451 0 0
Cape St. George	1	..	..	..	..	Rev.	..	439	..	1	3	372 0 0	177 18 0	549 18 0
Ulladulla	1 red	..	..	..	Fixed	..	127	..	1	1	144 0 0	60 8 0	204 8 0
Eden	1	red	..	..	..	Fixed	..	322	..	1	4	*538 0 0	129 11 0	667 11 0
									3411			32	4023 0 0	1522 11 3	5545 11 3

New South Wales Lights £5545 11 3
Position Lights 150 0 0
Contribution to neighbouring Colonies 1750 0 0

Total expenditure by New South Wales £7445 11 3

* The light-house staff at these places also perform the duties appertaining to the pilot stations; half only of their wages should therefore be chargeable to lights.

In addition to the above, there are seven position lights at different pilot stations on the coast, at a total cost of £150.

Apart from her own lights, New South Wales contributes on an average £1750 towards the maintenance of the lights in Bass's Straits and in the neighbouring Colony of Victoria.

QUEENSLAND LIGHTS.

Name or Place.	Order.						Description.		Con- sumption of Oil.	Description of Oil.		No. of Men empld.	Wages.			Con- tingencies.			Total Cost.		
	1	2	3	4	5	6	Cate.	Dioptr.		Mineral.	Veg.		£	s.	d.	£	s.	d.	£	s.	d.
c ^e Cape Moreton	1	..	..	..	..	..	R.	..	gallons. 900	..	Veg.	4	576	0	0	360	0	0	936	0	0
Sandy Cape	1	..	..	..	..	..	..	R.	950	..	..	4	500	0	0	374	0	0	874	0	0
Bustard Head	1	..	..	..	..	..	F.&Fl.	600	..	..	3	392	0	0	280	0	0	672	0	0
a Cape Capricorn	1	..	..	..	..	R.	190	Min.	..	2	246	0	0	90	0	0	336	0	0
a Cape Bowling-green	1	..	..	..	..	..	190	..	..	4	500	0	0	125	0	0	625	0	0
b Cowan Cowan Point	1	..	..	..	F. Conds	110	..	..	1	108	0	0	38	0	0	146	0	0
b Comboyura Point	1	..	..	..	..	110	..	..	d..	..	..	38	0	0	38	0	0	
c Woody Island	2	..	..	..	..	220	..	..	2	246	0	0	90	0	0	336	0	0
Lady Elliot's Island	1	..	..	..	R.	110	..	..	2	175	0	0	48	0	0	223	0	0
Yellow Patch, Moreton Island	1	..	..	F.	95	..	..	d..	..	..	30	0	0	30	0	0	
b Cleveland Point	1	..	..	..	95	..	..	1	25	0	0	30	0	0	55	0	0
b Burnett River Head	1	..	..	..	95	..	..	d..	..	..	35	0	0	35	0	0	
Gatecombe Head	1	..	..	..	95	..	..	1	120	0	0	45	0	0	165	0	0
Port Denison	1	..	..	F.&Cond	95	..	..	d..	5	0	0	40	0	0	45	0	0
Oyster Rock, Gatecombe Head	1	..	..	F.	75	..	..	d..	..	..	32	0	0	32	0	0	
Holophote & apparent light																					
Lightships—																					
^f Brisbane Bar	180	..	..	3	342	0	0	136	0	0	478	0	0
Keppel Bay	Three	..	..	..	..	..	180	..	..	3	312	0	0	136	0	0	448	0	0
^f Fitz Roy River	180	..	..	2	216	0	0	86	0	0	302	0	0
Unclassified Lights	Seventeen	..	..	..	F.	..	650	..	..	d..	12	0	0	180	0	0	192	0	0
" "	Three	..	..	..	..	F.	650	..	..	d..	..	..	..	..	..	..	..	..
	2	1	2	5	5	1			5120			32	3775	0	0	2193	0	0	5968	0	0

^a Lights in course of construction. ^b Lights in course of alteration. ^c Lamps being changed for burning mineral oil. ^d These lights are attended to by men employed on and paid for other duties. ^e Also telegraph and signal stations. ^f Tidal signals are made from these light-ships by day and night.

TASMANIAN LIGHTS.

Name or Place.	Order.						Description.		Con- sumption of Oil.	Description of Oil.		No. of Men em- ployed.	Wages and Rations,	Con- tingencies.	Total Cost.							
	1	2	3		5	6	Cate.	Dioptr.		Min.	Veg.											
TASMANIA.																						
Iron Pot, River Derwent	1	F.	..	gallons.	368	..	Veg.	3	£	s.	d.	£	s.	d.	£	s.	d.
South Bruny . . . . .	..	1	..	..	..	..	R.	..	467	..	..	4	326	10	0	117	10	0	383	0	0
Low Head, River Tamar . . .	..	1	..	..	..	..	R.	..	375	..	..	3	295	9	0	181	9	11	507	18	11
Swan Island, Banks' Straits	1	..	..	..	..	..	..	R.	518	..	..	4	324	6	8	141	11	4	436	18	0
Goose Island, Banks' Straits	1	..	..	..	..	..	..	F.	578	..	..	4	324	1	1	297	11	6	621	12	7
Kent's Group, Bass's Straits	1	..	..	..	..	..	R.	..	578	..	..	4	324	13	6	382	2	6	700	16	0
King's Island, Bass's Straits	1	..	..	..	..	..	..	F.	865	..	..	4	337	5	1	398	14	11	736	0	0
	1	..	..	..	..	..	..	..	723	..	..	5	468	0	0	387	5	4	855	5	4
	4	2	1	..	..	..	4	3	3894	..	..	27	2341	5	4	1906	5	6	4247	10	10

MEMO.—The above statement is an average of the cost of the Tasmanian Light-houses for the three years 1870, 1871, and 1872. The cost of repairs to buildings is not included.
Sydney, 1 October, 1873.

SOUTH AUSTRALIAN LIGHTS.

Name or Place.	Order.						Description.		Con- sumption of Oil.	Description of Oil.		No. of Men em- ployed.	Wages.	Con- tingencies.	Total Cost.
	1	2	3	4	5	6	Cate.	Dioptr.		Mineral.	Veg.				
									gallons.		Teil seed.		£ s. d.	£ s. d.	£ s. d.
Cape Jaffa.....	1	..	..	..	..	..	R. Hol.	..	900	..	Veg.	4, 1 boy	550 0 0	320 0 0	870 0 0
Cape Borda	1	..	..	..	..	..	Rev.	..	480	..	..	3	400 0 0	250 0 0	650 0 0
Cape Willoughby.....	1	..	..	..	..	..	..	..	480	..	..	2, 1 boy	360 0 0	220 0 0	580 0 0
Cape Northumberland..	1	..	..	..	..	..	..	..	480	..	..	2	310 0 0	220 0 0	530 0 0
Troubridge Island .....	..	1	..	..	..	..	..	..	480	..	..	3	400 0 0	200 0 0	600 0 0
Tipara Light-vessel .....	..	1	..	..	..	..	F. "	..	480	..	..	2, 1 boy	350 0 0	250 0 0	600 0 0
Port Adelaide Light- house .....	*	..	..	1	..	..	F.C. Diop	..	160	Min.	..	2	280 0 0	120 0 0	400 0 0
Cape Jervis .....	..	..	1	..	..	..	F.	..	320	..	..	1, 1 boy	230 0 0	100 0 0	330 0 0
COAST LIGHTS.															
Semaphore .....	..	..	..	†	1	..	Fix. Cat.	..	108	Min.	..	..	50 0 0	50 0 0	100 0 0
Glenelg .....	..	..	About †	1	..	..	..	..	108	..	..	..	50 0 0	50 0 0	100 0 0
Port Wakefield.....	..	..	..	1	..	..	..	..	40	..	..	..	4 0 0	20 0 0	24 0 0
									4036			19m 4	2984 0 0	1800 0 0	4784 0 0

* A first-class revolving holophotal light ordered for this light-house.

† Keepers allowed fuel and oil for cottages.

‡ A fourth order fixed catadioptric apparatus to be substituted for the present catoptric light.

The amount of light dues collected for twelve months ending 30th June, 1873, was £5729 2s.—this being an exceptionable year. Former years always showed a deficit, which was defrayed from the general revenue.

No. 1.

RETURN showing the Number and Tonnage of Vessels arrived at the Port of Melbourne during the Years 1860-1871 respectively, and the first Six Months of 1872.

Year.	From United Kingdom.		From British Possessions.		From United States.		From Foreign States.		Total.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
1860	193	200,756	1189	250,603	55	38,054	80	38,726	1517	528,139
1861	159	164,540	1235	281,277	45	31,190	72	29,794	1511	506,801
1862	145	152,047	1214	307,916	34	22,413	96	39,856	1489	522,832
1863	180	182,365	1198	314,781	38	29,038	102	48,434	1518	574,618
1864	150	163,124	1289	337,895	42	26,278	91	39,019	1572	566,316
1865	128	146,629	1288	344,011	35	22,975	106	43,549	1557	557,164
1866	127	146,045	1377	367,241	72*	45,032	123	52,120	1699	610,438
1867	128	142,442	1259	344,094	39	25,515	83	41,270	1509	553,321
1868	133	137,074	1366	393,451	37	22,760	99	43,187	1635	596,472
1869	155	163,305	1489	418,422	35	25,852	99	45,231	1778	654,810
1870	134	153,853	1365	388,167	30	19,203	107	46,120	1636	607,343
1871	114	134,989	1396	408,044	30	20,978	79	33,880	1619	597,891
1872 (Jan.—June)	52	62,696	672	201,254	13	10,482	35	14,860	772	289,292

* In 1866 there were 47 vessels (23,553 tons) entered inwards from San Francisco, many of which were laden with grain, flour, &c.; cargoes valued at £323,028.

No. 2.

RETURN showing the Number and Tonnage of Vessels arrived at the Port of Melbourne, from 1st July, 1870, to 30th June, 1872.

Year.	From United Kingdom.		From British Possessions.		From United States.		From Foreign States.		Coastwise.			Total.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.		No.	Tons.	No.	Tons.
From 1st July, 1870, to 30th June, 1871	115	136,499	1416	399,718	29	18,965	92	38,056	Steamers	228	43,148	2272	661,387
									Sailing-vessels..	392	24,401		
From 1st July, 1871, to 30th June, 1872	111	133,475	1361	406,127	29	21,707	81	35,341	Steamers	216	45,485	2112	659,841
									Sailing-vessels..	314	17,706		
TOTAL.....	226	269,974	2777	805,845	58	40,672	173	73,397		1150	130,740	4384	1,321,228

BASS'S STRAITS LIGHTS.

TOTAL Tonnage of each Colony using the Lights, and Total Amount paid in each year, from 1863 to 1872.

	Tonnage.			Total.	Maintenance.				
	Victoria.	New South Wales.	Tasmania.		Victoria.	New South Wales.	Tasmania.	Total.	
1863	1,821,600	944,944	152,214	2,918,758	£ 3131 7 2	£ 1364 16 0½	£ 319 9 6½	£ 4815 12 9	1863
1864	1,748,039	748,971	303,229	2,800,239	3478 16 1	1270 17 7	720 12 10	5471 6 6	1864
1865	1,894,703	1,317,013	254,551	3,466,273	2959 14 5	1629 19 6	586 10 6	5176 4 5	1865
1866	2,127,652	1,562,564	164,578	3,854,794	3814 16 0	1940 14 3	541 19 10	6297 10 1	1866
1867	1,995,597	1,305,443	151,973	3,453,013	3330 3 7	1630 3 6	441 4 3	5401 11 4	1867
1868	1,956,512	1,315,220	160,063	3,461,795	3190 8 1	1407 8 2	593 10 9	5191 7 0	1868
1869	2,230,500	1,562,226	185,248	3,977,974	3907 1 7	1742 12 2	639 5 10	6378 19 7	1869
1870	2,021,560	1,459,363	214,835	3,695,758	3133 18 0	1571 12 11	534 12 0	5240 2 11	1870
1871-½	1,009,532	736,272	100,082	1,845,886	1612 11 4	710 1 6	290 15 9	2613 8 7	1871-½
1871-½	1,037,314	740,183	109,803	1,887,300	1273 6 3	671 10 11	202 3 2	2147 0 4	1871-½
1872-½	1,052,094	829,609	69,259	1,950,962	2125 11 10	1076 5 0	283 0 4	3484 17 2	1872-½
1872-½	1,077,655	840,209	84,280	2,002,144	1200 0 0	698 16 5	171 17 7	2070 14 6	1872-½

1871—Cost per ton = 1.22 farthings.
1872— " = 1.09 "

WESTERN AUSTRALIA.

COAST LIGHT-HOUSES, ABROLHOS AND CAPE LEEUWIN.

IN looking into the matter, I find that my predecessor, Captain Roe, R.N., has clearly dealt with the question of lighting the Abrolhos Islands and the Geelvink Channel, between that Group and Champion Bay, in a letter, dated 23rd July, 1858, to the Honorable the Colonial Secretary. I enclose an extract. The opinion expressed therein I carefully endorse, merely remarking that the Champion Bay Light is now in course of erection on the same site as indicated.

I find also the Leeuwin and Cape Naturaliste Lights have been proposed also by Captain Roe, in a report dated 9th April, 1858. Extract herewith. I have marked up a chart with the positions and range of the light-houses existing, or in course of erection, in red, and those proposed in blue.

MALCOLM FRASER, *Surveyor-General*.

12 July, 1873.

EXTRACT from a Letter dated 23rd July, 1858, from Captain ROE, R.N., late Surveyor-General, to the Honorable the Colonial Secretary.

"To elucidate my remarks, I have shown on the accompanying two charts the positions in which I consider light-houses might be most advantageously placed for meeting present requirements, and by which the Houtman Rocks, and the whole of the channel, 10 leagues wide, between them and the main, might be effectually lighted.

"Although abundance of limestone and of good lime are procurable on the spot for the construction of light-houses at the Abrolhos and at Champion Bay, I fear the former would be found too porous and soft for buildings of this nature, which require the very best materials. Iron shafts, in portable sections constructed in England, would be far preferable, if lined with the same material, to obviate the heat in 28½° south latitude, and such could be readily and securely erected by the aid of the skilled labour in the Colony.

"I should recommend the height of each tower to be 50 feet above its base; that at Champion Bay to be erected on the northern pitch of a projecting hill, about 50 feet in height, immediately over the tower of Geraldton. The tower for East Wallabi Island to be on Flag Hill, which has an elevation of 50 feet above the sea; and that for the Pelsart Group to be on Hammock Island, 13 feet above sea-level, or preferably on any island of greater elevation which may be found amongst those lying off the north end of Pelsart Island."

EXTRACT from a Report dated 9th April, 1858, by Captain ROE, R.N., late Surveyor-General.

"AND for the convenience and safety of the postal steamers and shipping generally, navigating these seas, a good light-house on Cape Naturaliste and another off Cape Leeuwin would prove most valuable. 17 or 18 miles to the north of the former headland lies the Naturaliste Reef, a large patch of rocks nearly awash; and Cape Leeuwin is fronted by rocks above and below water to the distance of 6 to 8 miles. The currents near both are very uncertain, and during the winter season heavy gales from seaward are of frequent occurrence, attended with very thick weather. Several ships have at different times been wrecked on the reefs adjoining Cape Leeuwin, which might probably have been saved by the existence of a light-house in the neighbourhood.

"The cost of building and maintaining light-houses at Capes Naturaliste and Leeuwin could not fairly be charged altogether to Western Australia; their chief value being to shipping voyaging to and from the Colonies to the eastward."

AMOUNT of Tonnage arriving at, and departing from, Port Adelaide, to and from Australasian ports, for twelve months ending 30th June, 1873.

	Tons.
From Victoria, inwards.....	72,600
New South Wales, ditto.....	44,400
Queensland, ditto.....	700
Tasmania, ditto.....	5700
New Zealand, ditto.....	2800
Total inwards.....	126,200
To Victoria, outwards.....	42,000
New South Wales, ditto.....	37,400
Queensland, ditto.....	9000
Tasmania, ditto.....	2000
South Sea Islands, ditto.....	2000
New Zealand, ditto.....	1800
Total outwards.....	94,200

Port Office, 18 June, 1873.

SIR,

As the mail steamers will probably in a few months be running through Torres Straits, I have the honor to address you with reference to lighting the inner route, so that in ordinary weather the vessels might continue their course day and night without delay.

You are doubtless aware that this question has given rise to the expression of various opinions as to the proper means to be adopted to insure safe and expeditious navigation through the Straits from the ports on the eastern coast of Australia. The original and broader question of the respective merits of the outer and inner routes is set at rest, as far as a mail route is concerned, by the necessity for steamers calling at the northern ports of this Colony, and communicating at the earliest opportunity by Electric Telegraph.

In using the inner route it has been suggested that the steamers should pass out through the Barrier Reef, near Cape Melville, which forms a good mark for the purpose, and thus keeping by night in open water for about 150 miles, avoiding the most intricate part of the inner route, and entering again by the Raine Islet passage, and *vice versa*. This course is about 25 miles longer than that through the inner passage, and, were the latter not lighted, it would offer in fine weather some advantages, but in bad weather it exchanges the advantage of the smooth water, and the anchorage to be found inside the reefs, for the heavy sea and exposure to the current and tides near the outer edge of the Barrier, while, though with a well-appointed steamer, probably the dangers are reduced to a minimum, yet it must be borne in mind that a large proportion of the wrecks and casualties in the neighbourhood of Torres Straits have taken place in trying to make Raine Islet entrance, or in getting from that island to the channel of the inner passage at Sir Charles Hardy's Islands and Cockburn Reefs; the marks being low and badly defined, and the ground too frequently studded with coral patches for safe navigation. If the steamer arrived off Raine Islet at daylight, then she would not reach Somerset by some 40 miles before dark, so that a great portion of that night would be lost; and similarly, on coming southwards, she would have to leave Somerset in the middle of the night, to clear Raine Islet before dark the following evening. The adoption of this route would also necessitate the establishment of two powerful lights—one on Raine Islet and one on Cape Melville, which would be expensive to establish, and the former difficult to communicate with.

It has also been proposed by Captain Van Rees, of the Dutch corvette "D'Jambi," that the inner route should be divided into day and night portions, and that the latter only should be lit up. His proposal was forwarded to the Board of Trade for their consideration, and Admiral Sullivan reported against it, as necessitating an equal speed for all vessels, but recommended instead that the most important positions for leading through difficult channels should be marked by third-order revolving lights, and that at any future time intermediate lights could be placed where necessary, as trade increased.

It appears to me, however, that these important positions are the very places where light-houses cannot be advantageously established. Where the islands and prominent points of the mainland form the beacons by which to navigate the channel, the objects which are the real dangers are the reefs, which are either awash or sunken, and which cannot be used, except at a very heavy outlay, as sites for light-houses, which if erected would be unsuited for dwellings for the light-keepers, who must be left several months at a time without being relieved or communicated with.

I would therefore suggest that, now a regular speed has to be maintained by the mail steamers, the proposal of Captain Van Rees be adopted so far as the division of the route into day and night portions is concerned, and I would take as the starting point the part of the passage which appears to require the greatest caution in navigating, namely, from about 5 miles westward of Flinders' Group to Lloyd Bay in 12° 45' S. latitude, thus passing *e*, *d*, and *f* reefs in Princess Charlotte's Bay, the Heath, Chilcott, and Dugdale sunken rocks, the shoal water off Cape Direction, *y* reef, and other dangers, by daylight. From thence northwards, by night, Restoration Island gives a good bold mark. The first danger to be avoided would be Middle Reef; and off its northern end, in 12° 30' S. latitude, I would place a light-vessel, which would make this sunken danger a point of safety. From that as a point of departure the Piper Islands could be picked up; and the passage between Young Islet and *m* reef—both of which by night are as sunken dangers—I would also point out by a second light-vessel so placed to the north-west of *m* reef, in about 12° 5' S. latitude, as to give a line of bearing through the centre of the passage, and for clearing the north-west extremity of *m* reef. A vessel would then steer to round the Home Islands, and from thence past Bird Islets, and towards a third light-vessel moored to the northwest of *v* reef, in 11° 36' S. Cairncross Island would be the next island ahead, and by the time it was reached it would be daylight; a four hours' run from thence would take the vessel to Somerset.

If Somerset were a coaling-station, by leaving not less than five hours before sunset the vessel would be clear of Torres Straits before dark; if merely a place of call, a delay of three hours would still give her time to run clear of the Prince of Wales' Channel by daylight.

I would recommend the erection of a first-order revolving light on Booby Island, for the use of vessels entering the Straits from the westward, so that by night, in thick weather, they might pick up the light and retain their position, so as to make the entrance of the Prince of Wales' Channel at daylight.

From the westward of the Flinders' Group, southwards, vessels could, at dusk, round the Flinders' Group, and, with caution, pick up the Pipon Islands on a west-half-north bearing; thence pass Barrow Point and the Howick Group; pass southwards of the supposed position of Megæra Rock, and pick up, if desired, and pass northwards of *n* Island; make Lizard Island, and from thence proceed to Cape Flattery, in 15° south latitude, when the day run would commence, thus allowing *c* and *d* reefs off Monkhouse Point and *a* reef near the Hope Islands to be passed, and Cape Grafton to be approached within 18 miles by daylight. Fitzroy Island and the Frankland Islands would be passed by night, and the passage be clear to Port Hinchinbrook, or past the Palm Islands. The only other danger southwards is Cape Bowling Green, where the building for the light-house is in course of erection, and the light will be exhibited probably before the end of the year.

The advantages which for this route I think light-ships possess over lights on shore are as follows, viz. :—

That they mark the fairway of the channel, when lights on shore could not be made available.

They make the most dangerous part of the channel the most safe.

They give the men greater protection from the attacks of the natives.

They are easily communicated with by vessels passing.

They can be shifted to any position as may be found the most desirable.

Should the mail route be discontinued at any time, they can be removed and be made available for lights in other parts of the Colony, or sold for use as sailing-vessels.

At the same time, the lights exhibited from them would be sufficiently powerful for the purposes for which they are required.

The three vessels proposed should be above 100 tons measurement, and could be fitted out and placed in position for about £3000 each; while the light on Booby Island, which would be in some respects of lesser importance, as being of use only to vessels bound through the Straits from the westward, would cost about £9000, and could be attended to by the Government cutter at Somerset.

The annual cost for	Would be about.	Total.
Light at Booby Island	£ 1000	£ 1000
Each light-ship, allowing crew of four men	800	2400
		£3400

There are several reefs upon which it would be advisable to erect beacons, especially :—

a Reef, Hope Island.

e Reef, off Endeavour Bay.

d and *f* Reefs, Princess Charlotte's Bay.

Reef northward of No. VII, Claremont, should the construction of one on the Chilcott Rocks be impracticable.

Reef abreast Cape Direction.

z Reef off Newcastle Bay.

Ipili Reef.

Buoy off the spit of Wednesday Island.

The beacons I would propose to build of blocks of coral or stone, where they could be conveniently obtained, and elsewhere of three hollow iron piles, carrying a wooden cage for a beacon; the piles being braced together and let into the coral rock, or screwed into the broken coral; care being taken not to place them upon the sand patches on the reefs, which have been found to shift with the monsoons.

It must not of course be supposed, from the foregoing suggestions, that strangers could with the aid of the proposed lights navigate the inner route without anchoring at night, but that they could do so after making two or three voyages and getting a good general knowledge of the appearance of the islands and head-lands. As, however, it would at least take from nine to twelve months—provided vessels were built expressly for the service—before they could be got ready, the masters of the mail steamers would have ample time to gain the necessary experience.

I have, &c.,

G. P. HEATH, *Commander, R.N., Portmaster.*

The Honorable the Colonial Treasurer.