A HISTORY OF FISGARD LIGHTHOUSE AND THE WEST COAST LIGHTHOUSE SYSTEM TO 1920
by Susan M. Lambeth and Susanne L. Jeune

PART II
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Part II
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Part II  Aids to Navigation Excluding Fisgard Lighthouse  
1859-1920
Aids to Navigation

The term "aid to navigation" is used in this report to describe man-made structures which were established to direct shipping away from dangers and towards safe channels. They were also installed to assist mariners in calculating the bearings of a vessel.

This part of the report contains selected information about certain types of navigational aids which were used on the coast of British Columbia between 1859 and 1920. Descriptive histories of individual lighthouses (excluding Fisgard lighthouse), range lighthouses, and lightships have been included. This information has been supplemented by appendices which describe the other lights, unlighted beacons, and unlighted buoys which were in use during a selected year.
Individual Lighthouses

This chapter is concerned with the history of individual lighthouses established on the British Columbia coast prior to 1921. As the "Lighthouse Buildings" chapter in Part I indicates, lighthouses principally consisted of a tower or substantial building which supported a lantern and illuminating apparatus. A lighthouse was usually associated with auxiliary buildings such as a keeper's dwelling and a fog alarm building.

Each lighthouse history contained in this chapter is composed of sections which describe the position, character, elevation, visibility, type of apparatus, structure, and auxiliary aids associated with the original lighthouse. The builder, purpose, date of establishment, preceding aids to navigation, and significant alterations have also been described. In addition, an attempt has been made to illustrate each lighthouse with a representative, period photograph.

The history of Fisgard lighthouse is not discussed in this chapter. Instead, a more complete description of this important navigational aid is given in Part I. Range lighthouses and lightships are described in separate chapters in Part II.
Active Pass Lighthouse

Also Known As:
Georgina Point Lighthouse or Plumper Pass Lighthouse.

Date:
first put into operation on 10 June 1885.

Position:
located on the northernmost extremity of Mayne Island, in the District of Vancouver Island. In 1885, its magnetic bearings were:
- latitude N: 48° 52' 25"
- longitude W: 123° 17' 50"

Character of Light:
fixed white light.

Elevation:
55 feet above the high water mark.

Visibility:
12 miles in clear weather. It was visible between the bearings N.E. ½ N., through south, to W. ½ S. The light in sight cleared the dangers between Active Pass and East Point.

Purpose:
The light served as a coast light for the Strait of Georgia and it also indicated the eastern entrance to Active Pass.

Type of Lighting Apparatus:
dioptric of the sixth order. The lantern and illuminating apparatus were ordered from England.
Structure:
The structure was built of wood, painted white, and it consisted of a square tower with a keeper's dwelling attached. The tower measured 42 feet from the ground to the vane on the lantern.  

Builder:
It was built by Arthur Fenney, of Victoria, for $3,000.  

Additions and Alterations:
Fog Bell
During the year 1887, a fog bell, operated by machinery, was established at the site. The bell was housed in a belfry which stood on the extreme westerly part of the point about 40 feet from the lighthouse. The white, square, wooden building was situated about 30 feet from the high water mark. Put into operation before 19 October 1887, the bell was hung in the open part of the belfry, facing seaward, and it sounded one stroke every 15 seconds.

Steam Fog Alarm
By 1891, the Chief Engineer for the Department of Marine had determined that the mechanically operated fog bell was not adequate for the needs of the station. In its place, a steam fog alarm was recommended because it was felt this type of apparatus could better serve the "large traffic" using the Pass. The steam fog alarm was put into operation on 15 October 1893, and its signal consisted of blasts of 6 seconds with intervals of 24 seconds between the blasts. At this time, the fog bell was discontinued. A new building was constructed to house the steam fog alarm machinery. The new structure was a white, square, wooden building with a brown roof. It was situated 70 feet from the extremity of Georgina Point in a northeasterly direction from the lighthouse. The machinery was supplied
in duplicate, and the horns were elevated about 20 feet above the high water mark. A water tank-house, also constructed of wood and painted white, stood behind the fog alarm building.  

*Alteration in Fog Signal:*

By 1 January 1897, the steam fog alarm gave blasts of 8 seconds duration with intervals of 52 seconds.  

*Alteration in Fog Signal:*

By 1 April 1900, the steam fog alarm gave blasts of 10 seconds duration with intervals of 50 seconds.  

*Connected by Telephone with a Commercial Centre:*

The Government Telegraph Service constructed a line between Active Pass Lightstation and the community of Duncan in 1908. This line was capable of transmitting telephone communications, and it was linked with the Canadian Pacific Railway telegraph and the British Columbia Telephone System. The line was 30 miles in length.  

*Change in the Character of the Light:*

By 1 April 1909, the apparatus had been changed to a dioptric light of the sixth order which was illuminated by acetylene.  

*Light Improved:*

Immediately prior to 22 June 1910, the use of the sixth order lens was discontinued. In its place, a fifth order dioptric light was put into operation. This light burned petroleum vapour under an incandescent mantle.  

*Change in the Character of the Light:*

On 1 March 1911, the light was changed from a fixed white light to an occulting apparatus which showed a white light visible for 5 seconds and eclipsed for 5 seconds. The new lens was dioptric of the fifth order, and the light it emitted was visible in an arc from 63°, through E., S., and W., to 288°.
Alteration in the Fog Signal
In September of 1911, the fog alarm building was being altered to make room for diaphone machinery. On or about 1 October 1911, the steam fog alarm was discontinued, and a temporary steam whistle was put into operation.  

Alteration in Fog Signal
By 5 February 1912, the temporary steam whistle was replaced by a diaphone. This new apparatus was operated with air compressed by an oil engine. It gave one blast of 5 seconds duration every minute in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 seconds</td>
<td>55 seconds</td>
<td>5 seconds</td>
<td>55 seconds</td>
</tr>
</tbody>
</table>

The diaphone horn pointed 25° (north magnetic). In 1912, the true bearing of this lightstation was:

- latitude N: 48° 52' 11"  
- longitude W: 123° 17' 26"  

The diaphone machinery was supplied under a general contract by the Canadian Fog Signal Company, and once installed it was described as a class "D" plant.  

Lightkeepers of Note:
Henry Georgeson was appointed keeper by an Order-in-Council dated 21 July 1884.  

General Remarks:
Figure 1 illustrates Active Pass lighthouse during the period ca. 1887-1893. (See Figure 1).

Addenbrooke Island Lighthouse

Also Known as:
Addenbrooke Lighthouse
Date: put into operation on 15 April 1914.  

Position: located on the west point of Addenbrooke Island, Fitzhugh Sound, 123 feet back from the water's edge. In 1914, its true bearings were:

- **latitude N:** 51° 36' 10"
- **longitude W:** 127° 52' 28"

Character of Light: fixed white light.

Elevation: 81 feet above high water mark.

Visibility: 14 nautical miles over an arc of 195° 30', from 333° 30' (N. 54° W. magnetic) through N. and E. to 169° (S. 38° 30' E. magnetic).

Purpose: It was established as a result of increased maritime traffic to and from northern British Columbia and Alaska.

Type of Lighting Apparatus: dioptric of the fourth order with an illuminating capability of 1,500 candle-power.

Structure: The structure was a white, square, wooden building with a red, iron, octagonal lantern rising from the middle of the roof. The building measured 38 feet from its base to the top of the ventilator on the lantern.
Builder:
It was constructed by day labour under the foremanship of D. McLean. 39

Auxiliary Structure:
Fog Bell
It was rung by machinery and gave one stroke every 7 seconds. 40 The fog bell was located about 150 feet southwest of the lighthouse and it was placed on a platform 10 feet above the high water mark. The bell was hung in front of a 16-foot high open framework tower. The white, wooden tower 41 was erected by day labour under the supervision of L. Cullinson. 42
Boathouse. 43
Oilshed. 44

Lightkeepers of Note:
W.G. Guthro was appointed keeper on 23 March 1914. 45

General Remarks:
A period photograph or drawing of Addenbrooke Island lighthouse has not been located.

Amphitrite Point Lighthouse

Date:
put into operation on or about 23 March 1915. 46

Position:
located on Amphitrite Point, Barclay Sound, on the site of a previous light. The true bearings in 1915 were:
latitude N: 48° 55' 29"
longitude W: 125° 33' 13" 47
Character of Light:
occulting white light which was alternately visible for
7 seconds and eclipsed for 3 seconds. 48

Elevation:
58 feet above the high water mark. 49

Visibility:
13 nautical miles from all points of approach. 50

Purpose:
It assisted mariners entering the southwest part of Barkley
Sound known as Ucluelet Arm. 51

Type of Lighting Apparatus:
dioptric of the fourth order with a 25 mm burner. 52  It was
illuminated by petroleum vapour burned under an incandescent
mantle. The light had a capacity of 1,500 candle-power. 53

Structure:
It was a combined lighthouse and lookout station. The
structure consisted of a concrete, rectangular building with
a rounded front which stood on an 11 foot high concrete base.
It was painted white, 54  and it was surmounted by an 8 foot
red, cast-iron lantern. 55  The entire structure measured
33 feet from base to vane. 56

Builder:
It was constructed by day labour with H.L. Robertson as the
foreman. 57

Previous Aids to Navigation on the Site:
First Light Established
A light was first established on the extremity of the Point
in 1905. It was a fixed white light shown through a dioptric lens from a 31-day three wick Wigham lamp. The light was visible for 13 nautical miles from all points of approach by water. The apparatus was placed upon the top of a small, square, wooden tower which was painted white. The light was unwatched.

*Telephone Communication Established with a Commercial Centre:* In 1910, the Department of Marine and Fisheries constructed a telephone line between Ucluelet and Amphitrite Point. This line was 1/3 of a mile in length and it was operated by the life-saving crew.

*Temporary Light*  
Because the Wigham light was carried away by a storm, a temporary fixed light was put into operation at the lookout station of the Life-Saving Service on Amphitrite Point. This temporary light was replaced when the lighthouse was established in 1915.

*Alterations and Additions:*  
On or about 15 October 1918, the light was changed from an occulting white light, which was visible for 7 seconds and eclipsed for 3 seconds, to a quick occulting white light. The new illuminant was acetylene and the light was unwatched.

*Lightkeepers of Note:*  
A lightkeeper was appointed on 7 December 1914.

*General Remarks:*  
Figure 2 illustrates Amphitrite Point Lighthouse ca. 1916. (See Figure 2).
Ballenas Islands Lighthouse

Also Known As:
Ballinac Islands Lighthouse. 64

Date:
put into operation on 1 December 1900. 65

Position:
labeled on the southeastern part of the more easterly of
the Ballenas Islands in the Strait of Georgia. The magnetic
bearings in 1900 were:
latitude N: 49° 20' 35"
longitude W: 124° 7' 30"66

Character of Light:
fixed white light. 67

Elevation:
100 feet above high water mark. 68

Visibility:
Visible 16 miles all around the horizon. When bearing
from S. 75° E. through S. to S. 21° W., over an arc of 96°,
it might have been obstructed by trees on the islands. 69

Purpose:
It could be used to locate Ballinac Channel which was
southward of the islands. 70

Type of Lighting Apparatus:
dioptric of the seventh order. 71
Structure:
It was a square wooden building with sloping sides surmounted by a square wooden lantern. The entire structure was painted white and it was situated on the summit of a hill 50 feet above the water. The building was 33 feet high from the base to the vane on the lantern.72

Builder:
The builder is not identified by the description of this lighthouse in the Notice to Mariners.73

Additions and Alterations:
Fog Signal Established
On 15 September 1901, a hand horn was supplied to answer signals from vessels.74

Fog Alarm Established
A diaphone, operated with air compressed by an oil engine, was established in 1908 on the north point of the north Ballenas Island. It sounded one blast of four seconds duration each minute in thick or foggy weather. The fog alarm was housed in a rectangular wooden building, painted white, with a red roof.75 A 1½ inch diaphone plant was supplied by the Canadian Fog Signal Company of Toronto for $1,900, and the buildings were completed and the machinery installed by day labour under the supervision of the Victoria agency.76

Change in Position of Lighthouse
The lighthouse was moved from the southerly Ballenas Island to the northerly Ballenas Island. The new location was about 1,240 feet S. 42° E. from the fog alarm building and 5,126 feet N. 50° from the old lighthouse site. Its magnetic bearings in 1911 were:

- latitude N: 49° 21' 12"
- longitude W: 124° 10' 11"
A fixed light was shown on or about 1 January 1912. It was elevated 280 feet above the high water mark and it was visible for 14 nautical miles from all points of approach. The illuminating apparatus was temporarily dioptric of the seventh order. 77

Change in Character of Light

The fixed white light was replaced by an occulting white light which was alternately visible for 20 seconds and eclipsed for 10 seconds. The new apparatus was dioptric of the sixth order and it was put into operation on 1 April 1914. 78

New Lighthouse

A new lighthouse was constructed on the north point of the north Ballenas Island, 40 feet west of the fog alarm building, and about 1/5 of a mile northward of the old lighthouse. Its true bearings in 1916 were:

- latitude N: 49° 21' 25"
- longitude W: 124° 10' 12"

The new light was a flashing white catoptric light which showed 3 flashes at 3 second intervals every 18 seconds in the following pattern: flash; 3 second interval; flash; 3 second interval; flash; and 12 second interval. For half the time of revolution, or 9 seconds, the light was totally eclipsed. For the other half of the revolution a light of 500 candle-power was visible. The strong flashes showed through this light. The new apparatus was elevated 70 feet above the high water mark, and the light was visible for 14 nautical miles over an arc of 267°, from 40° (N. 15° E. magnetic) through E., S. and W., to 307° (N. 78° W. magnetic). The illuminant was petroleum vapour burned under an incandescent mantle. The lighthouse structure consisted of a reinforced concrete octagonal tower surmounted by a red, iron lantern. The tower was painted white, and it measured 35 feet from the base to the top of the ventilator on the
lantern. The light was put into operation on or about 1 September 1916.\textsuperscript{79} The new lighting apparatus consisted of a triple long focus reflector with a 35 mm burner.\textsuperscript{80} The lighthouse was constructed by day labour under the foremanship of W.H.P. Trowsdale.\textsuperscript{81}

Lightkeepers of Note:
William Henry Brown was appointed keeper on 3 October 1901.\textsuperscript{82}

General Remarks:
Figure 3 illustrates the tower as it appeared in 1902. (See Figure 3).

Bare Point Lighthouse

Date:
put into operation in 1897.\textsuperscript{83}

Position:
located on the extremity of Bare Point, Horseshoe Bay, Chemainus, 24 feet back from the water's edge.\textsuperscript{84} In 1898, the magnetic bearings were:
\[ \text{latitude N: } 48^\circ 56' 0'' \]
\[ \text{longitude W: } 123^\circ 42' 10'' \textsuperscript{85} \]

Character of Light:
fixed white.\textsuperscript{86}

Elevation:
36 feet above the high water mark.\textsuperscript{87}
Visibility:
was visible 13 miles in clear weather. 88

Purpose:
It was established to serve vessels bound for Chemainus, which by 1898 had developed into a community with stores, a post office, a railway station, and a sawmill. 89

Type of Lighting Apparatus:
dioptric of the seventh order. 90

Structure:
The structure consisted of a white, square, wooden dwelling with a wooden lantern on the roof. 91 It measured 30 feet from the base of the sills to the vane on the lantern. 92

Builder:
The builder is not identified by the description of this lighthouse in the Sessional Papers. 93

Additions and Alterations:
Change in Recorded Bearings
true bearings in 1915:
latitude N: 48° 55' 32"
latitude W: 123° 42' 19" 94

Change in Visibility
as of 1 April 1920, the light could be seen 11 miles in clear weather. 95

Lightkeepers of Note:
James Crozier was appointed keeper on 12 June 1897. 96

General Remarks:
To date, a photograph or drawing of Bare Point lighthouse has not been located.
Berens Island Lighthouse

Also Known As:
Berens's Island Lighthouse. 97

Date:
put into operation on 5 March 1876. 98

Position:
situated at the western entrance to Victoria harbour. In 1876, its magnetic bearings were:
latitude N: 48° 25' 24"
longitude W: 123° 24' 0" 99

Character of Light:
fixed blue. 100

Elevation:
44 feet above high water mark. 101

Visibility:
7 miles in clear weather. Light bears N.N.W. $\frac{1}{2}$ W. from Brotchie Ledge bell buoy. 102

Purpose:
This harbour light was established to serve the coasting class of vessels which frequented Victoria harbour. 103

Type of Lighting Apparatus:
catoptric. 104 The lantern, lamps, and lighting apparatus were purchased from E. Chanteloup. Chance Brothers and Company, of England, supplied the glass. 105
Structure:
The building consisted of a square, wooden tower, 30 feet high from base to vane, with an attached dwelling. The structure was painted white.  

Builder:
Louis Baker, of Montreal, was awarded the contract for the construction of both Berens Island and Entrance Island lighthouses.  

Additions and Alterations:
Fog Bell Established
A fog bell was established by 5 April 1887. It was suspended from a roofed framework belfry which was situated on the seaward side of the tower. The bell was rung by hand in answer to vessels' signals. In 1887, the magnetic bearings were:

- latitude N: $48^\circ 25' 15''$
- longitude W: $123^\circ 23' 50''$

Change in Characteristic of Light
On 1 May 1895, the characteristic was changed from a fixed blue to an occulting white light. The new illuminating apparatus was dioptric of the sixth order. The new occulting light was visible for 15 seconds and eclipsed for 5 seconds. The light was visible for 10 miles in clear weather and it bore N.N.W. $\frac{1}{2}$ N. over Brotchie Ledge buoy. In 1895, the magnetic bearings of this light were:

- latitude N: $48^\circ 25' 22''$
- longitude W: $123^\circ 24' 0''$

By 1897, the light was reported to show a red sector over Brotchie Ledge.  

Mechanical Fog Bell Established
A fog bell, operated by machinery, was established shortly before 18 May 1906. The bell was elevated 20 feet above
high water and it gave 1 stroke every 5 seconds in thick or foggy weather. The structure which housed the machinery was a white, square, wooden tower. The fog bell surmounted the structure.  

**Alteration in Red Sector of Light**

The red sector was increased on 1 May 1915 to show over Brotchie Ledge and the outer end of Ogden Point breakwater. The red sector was visible over an arc of $15^\circ$ from $347^\circ$ (N. $38^\circ$ W. Mag.) through N. to $2^\circ$ (N. $23^\circ$ W. Mag.). In 1915, the true bearings of this light were:

- **latitude** N: $48^\circ 25' 27"$
- **longitude** W: $123^\circ 23' 35"$

**Red Sector Removed from Light**

The red sector, which showed over an arc of $15^\circ$, from $347^\circ$ (N. $38^\circ 30' W. Mag.$) through N. to $2^\circ$ (N. $23^\circ 30' W. Mag.$), was removed on or about 15 April 1920. In this year, the true bearings of the light were:

- **latitude** N: $48^\circ 25' 28"$
- **longitude** W: $123^\circ 23' 32"

When the sector was removed, the light on Berens Island was used to clear the western extremity of Brotchie Ledge. This was accomplished when it was brought into line with the light on the outer end of Ogden Point breakwater.

**Lightkeepers of Note:**

Emanuel Cox was appointed keeper by an Order-in-Council dated 8 March 1876. Prior to Mr. Cox's appointment, Henry Guydon performed the services of acting-keeper. Mrs. McKinnon was put in charge of the light upon the death of her husband in 1895. Mrs. McKinnon's husband was the keeper of Berens Island light before he became paralysed by a debilitating stroke. When her husband was no longer able to carry on the duties of a keeper, she had operated the light. Mrs. McKinnon resigned her position as lightkeeper on 30 September 1897.
General Remarks:
In 1872, H.L. Langevin, Minister of Public Works for the Government of Canada, recommended that a fourth class light should be established at the entrance to Victoria harbour. The recommendation was put forward because it was difficult for vessels to enter the harbour at night. It was important that ships have improved access to this harbour because it was the main port of entry for British Columbia. Figure 4 illustrates Berens Island lighthouse ca. 1887-1906 (see Figure 4).

Brockton Point Lighthouse

Date: put into operation in 1902.

Position: located on Brockton Point in the First Narrows, Burrard Inlet, at the entrance to Vancouver harbour. The lighthouse was situated S. 5° W. and 85 feet from the site of the previous light. In 1902, its magnetic bearings were:
- latitude N: 49° 17' 44"
- longitude W: 123° 6' 54"

Character of Light: It was a fixed white light from all points of approach, except over Burnaby Shoal, which was covered by a red sector extending over an arc of 24° between the bearings of N. 73° W. and S. 83° W.

Elevation: 42 feet above high water.
Visibility:
visible 8 nautical miles.\textsuperscript{125}

Purpose:
It assisted mariners in locating Burnaby Shoal which was situated at the entrance to Vancouver harbour.\textsuperscript{126}

Type of Lighting Apparatus:
dioptric of the seventh order.\textsuperscript{127}

Structure:
The structure consisted of a wooden building, painted brown and yellow, with a red roof. The light was shown from the lantern which was located on the first floor in the front of the building. Since it was situated in a conspicuous location, "...it was made somewhat ornate to suit its surroundings."\textsuperscript{128} Once constructed, the building measured 30 feet in height.\textsuperscript{129}

Builder:
The contract for the construction was let to Messrs. Baynes and Horrie of Vancouver.\textsuperscript{130}

Auxiliary Structures:
The mechanical fog bell, which was associated with the first light on Brockton Point, was moved to a site on the high water mark at the northern extremity of the point. It was located N. 8° E. and 120 feet distant from the new lighthouse.\textsuperscript{131} At both its old and new locations it sounded 1 stroke every 20 seconds in thick or foggy weather.\textsuperscript{132}
Previous Aids to Navigation on the Site:

Light and Fog Bell Established

A light and fog bell were put into operation at Brockton Point on 15 September 1890. The light was exhibited from an anchor lens lantern which was hoisted to the top of a mast. It showed a fixed white light from all points of approach, except over Burnaby Shoal, which was covered by a red sector extending over an arc of $29\frac{3}{4}^\circ$ between the bearings of W.N.W. and W. 5/8 S. The illuminating apparatus was dioptric of the seventh order and the light was visible for 8 miles in clear weather. The 30 foot high mast, which supported the light, was painted dark red, and it was situated immediately behind the fog bell tower. This tower was 24 feet high and it was painted white. The fog bell faced N. by E. and it was worked by machinery. In thick or foggy weather, the bell sounded 1 stroke every 20 seconds. The light and fog bell were "...intended merely for harbour use to assist vessels in rounding the point and in clearing Burnaby Shoal."

Change in Location

In 1892, the bell tower was moved to the opposite side of the road on Brockton Point. The tower was re-located because its original site was subject to erosion. At this time, a shed was built to shelter the keeper while he attended to his duties.

Keeper's Dwelling Constructed

The keeper erected a small house for himself in 1893. It was situated to the rear of the bell tower. The construction work was performed without any assistance from the Department of Marine and Fisheries.

Additions and Alterations:

Telephone Communication with Vancouver Established

In 1906, the Meteorological Service constructed a telephone
line between Brockton Point lighthouse and Vancouver. The line was 2½ miles in length.\(^{139}\)

**Change in Character of Light**

On or about 15 December 1909, the light was changed to show a fixed red light from all points of approach, except over Burnaby Shoal, which was covered by a white sector extending over an arc of 24° between the bearings of N.73° and S.83° W.\(^{140}\)

**Light Improved**

By 12 February 1910, the seventh order apparatus had been removed.\(^{141}\) In its place, a fourth order 279° lens was substituted.\(^{142}\)

**Traffic Signals Established**

Traffic signals were put into operation on 1 July 1910 at Brockton Point and Prospect Bluff by the Government of Canada. The signals consisted of black balls in the day time and white lights at night. At Brockton Point, 3 balls or lights suspended in the form of a triangle, apex downwards, indicated to mariners leaving the harbour that an inward bound vessel was approaching. When a ball or light was shown beneath the triangle, it indicated that the obstructing vessel was passing with a tow. The signals were displayed from a mast.\(^{143}\)

**Change in Fog Bell Signal**

On 1 April 1911, the fog bell was altered to give 1 stroke every 5 seconds.\(^{144}\)

**New Lighthouse Constructed**

In 1914, "the grounds in the vicinity of Brockton Point lightstation [were] being improved for park purposes, a concrete retaining wall and boulevard [were] being built, and a new lighthouse [was] under construction".\(^{145}\) The new structure consisted of a reinforced concrete tower which was square in plan and had sloping sides. An iron octagonal lantern surmounted the tower. The structure was located on the extremity of the point about 100 feet and 30° (N.5° E. Mag.) from the original lighthouse. In 1914, the true bearings of the light were:
latitude N: 49° 18' 3"
longitude W: 123° 7' 2"
The tower measured 42 feet from its base to the top of the ventilator and it was situated 40 feet above the high water mark. The Vancouver Parks Board supervised the contract for the construction work.

When the construction of the new tower was completed, the illuminating apparatus was moved from the old lighthouse to the new concrete structure. The fog bell was taken from the belfry and placed on the front of the new lighthouse. The keeper's dwelling was moved a few feet back from the tower to conform with the improvement scheme.

The new lighthouse was put into operation before 13 March 1915. The light was visible for 8 nautical miles from all points of approach. The fourth order dioptric apparatus showed a fixed red light with a red sector over Burnaby Shoal. The white light covered an arc of 24° from 289° (S. 84° W. Mag.) to 313° (N. 72° W. Mag.). The fog bell gave 1 stroke every 5 seconds.

Storm Signal Station
This was established at Brockton Point prior to 1 April 1915.

Traffic Signals Discontinued
On 15 May 1918, the traffic signals displayed at Brockton Point were discontinued. After 1 June 1918, revised signals were shown exclusively at Prospect Point.

Lightkeepers of Note:
William David Jones was appointed keeper on 20 August 1890.

General Remarks:
Figure 5 illustrates the construction of the new concrete tower at Brockton Point ca. 1914. The original wooden lighthouse, belfry and traffic signals also appear in the photograph. (See Figure 5).
Cape Beale Lighthouse

Date:
put into operation on 1 July 1874.\textsuperscript{153}

Position:
on the southeast point of the entrance to Barclay Sound on the West Coast of Vancouver Island. In 1874, its magnetic bearings were:
\begin{align*}
\text{latitude } & N: 48^\circ 47' 48'' \\
\text{longitude } & W: 125^\circ 12' 52'' \textsuperscript{154}
\end{align*}

Character of Light:
A revolving white light which made 1 complete revolution in 30 seconds. It was visible from an easterly bearing, parallel with the coast, and it continued around to W. by N. \frac{1}{2} N.\textsuperscript{155}

Elevation:
164 feet above the high water mark.\textsuperscript{156}

Visibility:
19 miles in clear weather.\textsuperscript{157}

Purpose:
It was intended to be a coast light to indicate the entrance to Barclay Sound.\textsuperscript{158}

Type of Lighting Apparatus:
catoptric.\textsuperscript{159}

Structure:
It consisted of a square wooden tower with detached oblong dwelling. The tower was painted a light stone colour, and
it measured 35 feet from the base of the building to the vane on the lantern.\textsuperscript{160}

Builder:
Unlike other lighthouses built by the Government of Canada in British Columbia, the tower and dwelling at Cape Beale were erected by the Department of Public Works instead of the Department of Marine and Fisheries. This Department awarded the contract for construction to Messrs. Hayward and Jenkinson of Victoria.\textsuperscript{161} It seems that Public Works built this lighthouse because its estimated construction cost was greater than $10,000.\textsuperscript{162}

Additions and Alterations:
\textit{Telegraph Communication}
A telegraph line connecting Cape Beale, Carmanah lighthouse, Port San Juan, and Victoria was constructed during 1890.\textsuperscript{163}

\textit{Alterations in Recorded Bearings and Height}
By 1896, the tower was described as being 42 feet from base to vane and it was situated 178 feet above the high water mark. In this year the magnetic bearings were:

\begin{align*}
\text{latitude } N: &\quad 48^\circ 47' 30'' \\
\text{longitude } W: &\quad 125^\circ 13' 16''\textsuperscript{164}
\end{align*}

\textit{Telephone Communication Established with Bamfield}
In 1896, the Government of Canada constructed a line between Cape Beale lighthouse and Bamfield. It was 5 miles in length and it was capable of transmitting telephone messages. The line was operated by the life-saving crew of the Naval Service.\textsuperscript{165}

\textit{Signal Station Established}
A set of signals and a powerful telescope were supplied to this lighthouse during 1897. With this apparatus, messages could be exchanged between the keeper and passing ships. In this way, information could be conveyed from a vessel to
Cape Beale and, thence by telegraph, to a shipping company. This service was established because of the increase in shipping which resulted from the discovery of mineral wealth\textsuperscript{166} in northern British Columbia and Alaska.

\textit{Foghorn Supplied}

A mechanical foghorn was supplied to the keeper in 1898. It was operated in response to signals given by passing vessels.\textsuperscript{167}

\textit{Red Sector in Light}

On 1 May 1898, a red sector was introduced into Cape Beale light.\textsuperscript{168} Red was visible between the bearings of E. and S.S.E. and it showed over the dangers in Barclay Sound.\textsuperscript{169}

\textit{Temporary Light}

While the tower was being rebuilt in 1906, a fixed white light was temporarily shown from an anchor lens hoisted on a mast. This temporary light was located 100 feet southward of the lighthouse.\textsuperscript{170}

\textit{Permanent Light Resumed}

The exhibition of the permanent group revolving white light was resumed on 17 October 1906. The new tower was built on the old foundation, and it was similar in size and colour to the original building. When the new tower was constructed and the permanent light was put into use, the mast supporting the anchor lens light was removed.\textsuperscript{171}

\textit{New Light}

At the beginning of 1907, a quick flashing light was installed in the tower. The old illuminating apparatus continued in use and a revolving white light with a 30 second interval was produced. A red sector, showing the dangers in Barclay Sound, was continued.\textsuperscript{172}

\textit{Fog Alarm Established}

On 15 June 1908, a diaphone fog alarm was put into operation. The diaphone was operated by air which had been compressed by an oil engine. During thick or foggy weather, 1 blast
of 4 seconds duration every 94 seconds was emitted. The signal was produced in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 seconds</td>
<td>90 seconds</td>
<td>4 seconds</td>
<td>90 seconds</td>
</tr>
</tbody>
</table>

The fog alarm building stood on the incline of the cape in front of and below the lighthouse. It was a square, white, wooden building with a red roof. The diaphone plant was purchased from the Canadian Fog Signal Company and the fog alarm building was constructed by day labour. The Victoria Agency of the Department of Marine and Fisheries supervised the construction of the building and the installation of the machinery.

Lightkeepers of Note:
Robert Westmoreland was appointed keeper on 14 May 1874.

General Remarks:
As early as 1872, H.L. Langevin, Minister of Public Works for the Government of Canada, had recommended that a first class light and fog whistle should be established at Cape Beale. It was felt these aids to navigation would assist navigators entering Barclay Sound and Juan de Fuca Strait. Although Barclay Sound was considered to be the principal harbour on the west coast of Vancouver Island, by 1872 the sawmill operations, which had led to the exploitation and settlement of the upper reaches of the Alberni Canal, had ceased. By 1873, the impetus for the construction of a lighthouse at Cape Beale probably came from a move to make Barclay Sound the terminus of the transcontinental Canadian Pacific Railway.

Figure 6 illustrates Cape Beale lightstation in 1917. The diaphone building, dwelling, and lighthouse are visible in the photograph. (See Figure 6).
Cape Mudge Lighthouse

Date:
put in operation on 16 September 1898.\textsuperscript{179}

Position:
located on the western extremity of Cape Mudge, Valdez
Island, Discovery Passage, on the east coast of Vancouver
Island.\textsuperscript{180} In the spring of 1899, the magnetic bearings
were:

\[
\begin{align*}
\text{latitude N: } & 50^\circ 0' 5'' \\
\text{longitude W: } & 125^\circ 13' 18'' \textsuperscript{181}
\end{align*}
\]

Character of Light:
fixed white light.\textsuperscript{182}

Elevation:
32 feet above high water mark.\textsuperscript{183}

Visibility:
10 miles in clear weather. It was visible over an arc of
205° between the bearings of S. 48° E., around through N.,
to N. 73° W.\textsuperscript{184}

Purpose:
Orange Point, in line with the lighthouse N. 60° W., was
used as a guide when entering Discovery Passage.\textsuperscript{185}

Type of Lighting Apparatus:
dioptric of the seventh order.\textsuperscript{186}

Structure:
The structure consisted of a white, square, wooden dwelling
with a red, square, wooden lantern in the middle of the roof.
It measured 30 feet from the sills to the vane on the lantern. The roof was red in colour.\textsuperscript{187}

Builder:
G.H. Frost, of Nanaimo, was awarded the contract for the construction of the lighthouse.\textsuperscript{188}

Additions and Alterations:

\textit{Light Improved}
By 25 June 1908,\textsuperscript{189} the seventh order apparatus was replaced by a $270^\circ$ fifth order dioptric lens.\textsuperscript{190} It was a 25 mm diamond vapour installation\textsuperscript{191} which burned petroleum vapour under an incandescent mantle.\textsuperscript{192}

\textit{Fog Alarm Established}
A fog alarm was established on or about 1 March 1913 immediately south of the lighthouse. In this year, the true bearings of the lightstation were:

\begin{align*}
\text{latitude N: } & 50^\circ 0' 5'' \\
\text{longitude W: } & 125^\circ 13' 18''
\end{align*}

The fog alarm consisted of a diaphone, operated by air compressed by an oil engine, which gave 1 blast of 2 seconds duration every 30 seconds. The diaphone was housed in a white, square, wooden building. The horn pointed $145^\circ$ (S. $60^\circ$ E. Mag.).\textsuperscript{193} The installation of the class "C" duplicate diaphone plant and the type "F" diaphone was completed by day labour under the supervision of A. Fairfull.\textsuperscript{194}

\textit{New Lighthouse and Change in Character of Light}
By 6 July 1915, a new lighthouse had been constructed at Cape Mudge. It was located near the western extremity of the Cape about 35 feet northwest of the old lighthouse. In 1915, its true bearings were:

\begin{align*}
\text{latitude N: } & 50^\circ 0' 5'' \\
\text{longitude W: } & 125^\circ 13' 18''
\end{align*}
The new lighthouse exhibited a flashing white light which showed 1 bright flash every 5 seconds. The light was elevated 57 feet and it was visible for 12 nautical miles over an arc of 199°, from 307° (N. 79° W. Mag.) through N. and E., to 146° (S. 60° E. Mag.). The 30,000 candle power light was transmitted through a fourth order dioptric lens. It was illuminated by petroleum vapour which was burned under an incandescent mantle. The new lighthouse consisted of a white, reinforced concrete, octagonal tower which had sloping sides. The tower was surmounted by a red, iron lantern. The entire structure measured 54 feet from the base to the top of the ventilator. After the lantern was removed from the original, wooden lighthouse, the building was used as a dwelling. The construction of the new lighthouse was performed by day labour under the supervision of H.L. Robertson.

Telegraph Communication Established
Prior to 31 March 1916, a telegraph line was constructed by the Government Telegraph Service. The line was 3 miles in length, and it connected Cape Mudge lightstation with Quathiaski Cove.

Lightkeepers of Note:
John Davidson was appointed keeper on 27 June 1898.

General Remarks:
Figure 7 illustrated Cape Mudge lightstation ca. 1913-1915. (See Figure 7).
Cape St. James Lighthouse

Date:
established on or about 15 February 1914. 199

Position:
on Cape St. James, St. James Island, in the Queen Charlotte Islands. The site was 279 feet above high water mark and about 85 feet from the waters edge. In 1914, the true bearings were:

\[
\begin{align*}
\text{latitude N:} & \quad 51^\circ 52' 48'' \\
\text{longitude W:} & \quad 131^\circ 1' 45''
\end{align*}
\]

Character of Light:
flashing white light showing one bright flash every five seconds. 201

Elevation:
310 feet above the high water mark. 202

Visibility:
24 nautical miles over an arc of 275° from 207° (S. Mag.) through W., N. and E. to 122° (S. 85° Mag.). 203

Purpose:
It was established as a landfall light for ships coming from the Orient. 204

Type of Lighting Apparatus:
dioptric of the third order with a candle-power of 100,000. The illuminant was petroleum vapour burned under an incandescent mantle. 205
Structure:
It consisted of a white, reinforced concrete, octagonal tower surmounted by a red, circular metal lantern. The tower measured 44 feet from base to vane. Other structures built at the site at this time included a wooden dwelling, an oil store, and a boat house. The dwelling was painted white and it stood 80 feet north of the tower.

Builder:
The contractor was R. Chrystal and the work was performed by day labour.

Lightkeepers of Note:
Taylor Ash was appointed keeper on 28 January 1914.

General Remarks:
Figure 8 illustrates the Cape St. James Lighthouse tower as it appeared in 1914 (see Figure 8).

Carmanah Lighthouse

Date:
put into operation on 15 September 1891.

Position:
located on the extremity of the point immediately to the westward of the Indian village of Carmanah, and 2 miles W. by N. ½ N. from Bonilla Point. In 1895, its magnetic bearings were:

- latitude N: 48° 36' 40"
- longitude W: 124° 46' 30"
Character of Light:
Group-flashing white light showing three bright flashes, with intervals of 15 seconds between the points of greatest brilliancy, followed by an interval of 30 seconds during which the light was eclipsed. The light completed a revolution in 1 minute. 214

Elevation:
173 feet above high water mark. 215

Visibility:
Visible 19 miles from all points of approach by water. 216

Purpose:
This station was intended to indicate the entrance to Juan de Fuca Strait and to be the first point made by vessels from China and Japan. 217

Type of Lighting Apparatus:
Catoptric apparatus. 218

Structure:
It was a white, wooden building with a dwelling attached. A red, iron lantern surmounted the tower. The height of the building from its base to the vane on the lantern was 46 feet. 219

Builder:
George H. Frost, of Nanaimo, was awarded the contract for the construction of the lighthouse, fog alarm building, and outbuildings. 220

Auxiliary Aids:
Telegraph and Signal Station
A telegraph and signal station were maintained at this
lighthouse to provide immediate communication with major British Columbia ports. The international code of signals was used to exchange messages with passing vessels.\textsuperscript{221}

\textit{Fog Alarm}

The fog alarm building was built of wood and it was painted white. It was situated immediately in front of, and below, the lighthouse tower. Facing S. by E. $\frac{1}{2}$ E., the building housed steam fog alarm machinery which emitted 1 blast of 6 seconds duration in an interval of 30 seconds in thick or foggy weather. A duplicate horn was provided and it was used when the other horn was not able to function. The horn was located 125 feet above the high water mark. Unpainted shingles covered the roof of the fog alarm building.\textsuperscript{222}

\textbf{Additions and Alterations:}

\textit{Signal Station}

By 1 January 1897, vessels were able to communicate with the station by using whistle sounds in Morse or Continental Code.\textsuperscript{223}

\textit{Change in Recorded Bearings}

By 1 April 1902, the magnetic bearings were recorded as being:

\begin{align*}
\text{latitude } & N: 48^\circ 36' 25'' \\
\text{longitude } & W: 124^\circ 45' 55'' \textsuperscript{224}
\end{align*}

\textit{Change in Character of Light}

On or about 1 April 1909, the revolving white light was discontinued when repairs were made to the lighthouse tower. While the work was in progress, a fixed white light was temporarily exhibited. On or about 15 May 1909, a quick-flashing dioptic light of the third order was installed in the lantern. This apparatus exhibited 1 white flash every 3 seconds.\textsuperscript{225} The repairs to the lighthouse tower were performed by day labour under the direction of contractor L. Cullinson.\textsuperscript{226}
Change in Fog Alarm

On 1 October 1909, the steam fog alarm was replaced by a diaphone which was operated with air compressed by an oil engine. The new apparatus gave the following signal in thick or foggy weather:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent</th>
<th>Blast</th>
<th>Silent</th>
<th>Blast</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 seconds</td>
<td>2 seconds</td>
<td>2 seconds</td>
<td>2 seconds</td>
<td>2 seconds</td>
<td>50 seconds</td>
</tr>
</tbody>
</table>

The new diaphone building stood in the same location as the previous fog alarm. The diaphone was elevated 127 feet above high water mark and it was housed in a square, white, wooden structure. The new building was erected by day labour under the supervision of L. Cullinson. The 3-inch duplicate diaphone plant with 2 - 12 h.p. engines, supplied by the Canada Fog Signal Company, was installed by day labour under the direction of W.H. Peters.

Change in Recorded Bearings

By 1 April 1915, the true bearings were:

- latitude N: 48° 36' 45"
- longitude W: 124° 44' 59"

Maintenance of Whistle Communication with Vessels Discontinued

The use of a steam whistle to communicate with passing vessels was discontinued by 8 February 1916.

Erection of New Dwelling

A new dwelling was constructed in 1917 by Warnock and Cockrane of Port Alberni.

Lightkeepers of Note:

On 4 November 1890, W.P. Daykin was appointed lightkeeper. He was transferred to this post from Race Rocks light-station.

General Remarks:

Provisions and other supplies for shipwrecked persons were maintained in a depot at the lighthouse.
Figure 9 illustrates Carmanah lighthouse as it appeared in 1899 (see Figure 9).

**Comox Bar Range Lighthouses**

See chapter following on range lighthouses.

**Denman Island-West Side Lighthouse**

Also Known As:
Denman Island Lighthouse. 234

Date:
put into operation on 1 July 1906. 235

Position:
located on the reef on the west side of Denman Island, Baynes Sound, about 1½ miles to the southward of Village Point. In 1906, the magnetic bearings were:

- latitude N.: 49° 32' 15"
- longitude W.: 124° 49' 12"

Character of Light:
fixed white light. 237

Elevation:
23 feet above high water mark. 238

Visibility:
visible 7 mautical miles from all points of approach by water. 239
Purpose:
It indicated the position of the reef off Village Point and Reef Point.\(^{240}\)

Type of Lighting Apparatus:
dioptric of the sixth order.\(^{241}\)

Structure:
The structure consisted of a white, square wooden tower on a 12 foot high concrete foundation. The tower had sloping sides and was surmounted by a white, square, wooden lantern. The building was 27 feet high from its base to the top of the ventilator on the lantern. A foot bridge connected the lighthouse with the shore.\(^{242}\)

Builder:
D. Menzies, of Vancouver, was awarded the contract for the construction of the lighthouse.\(^{243}\)

Auxiliary Structures:
A beacon was erected on the outer edge of the reef, 200 feet S. 45° W. from the lighthouse, and it consisted of a pole with a white latticework drum on top. The foundation for the beacon was concrete.\(^{244}\)

Additions and Alterations:
Red Sector Inserted in Light
On 1 May 1912, red sectors covered the shoal extending westward from Reef Point and the shoal water extending westward from Village Point. The light showed white over an arc of 176° from 319° (N. 67° W. Mag.) through N. and E. to 143° (S. 63° E. Mag.), and it showed red to vessels coming from the southward east of 319° (N. 67° W. Mag.), and to vessels coming from the northward east of 143° (S. 63° E. Mag.).\(^{245}\)
Lightkeepers of Note:
J.A. McMillan was appointed keeper on 15 August 1906.\textsuperscript{246}

General Remarks:
No period photograph or drawing has been located to date.

\textbf{Discovery Island Lighthouse}

\textbf{Date:}
put into operation on or about 10 April 1886.\textsuperscript{247}

\textbf{Location:}
situated near Sea Bird Point, the most easterly extremity of Discovery Island, in Haro Strait. In 1886, its magnetic bearings were:

\begin{itemize}
  \item latitude N: 48° 25' 20"
  \item longitude W: 123° 13' 50"\textsuperscript{248}
\end{itemize}

\textbf{Character of Light:}
fixed white light.\textsuperscript{249}

\textbf{Elevation:}
91 feet above high water mark.\textsuperscript{250}

\textbf{Visibility:}
visible 15 miles when bearing S.E. ½ S. round by S.W. and N. to N.E. by N. ½ N.\textsuperscript{251}

\textbf{Purpose:}
Discovery Island lighthouse was situated 2 miles from Gonzales Point at the junction of Haro and Juan de Fuca Straits. Its light, therefore, was visible over an arc which included Haro Strait, Sidney Channel, and the
direction of Race Islands. 252

Type of Lighting Apparatus:
dioptric of the fifth order. 253 The lamps and apparatus were purchased from Chance Brothers and Company of England. 254

Structure:
The wooden building was painted white, and it consisted of a square tower with a keeper's dwelling attached. The tower was surmounted by a metal lantern. The entire structure was 47 feet from the base of the building to the vane. 255

Builder:
The contract for the construction was awarded to Alex Mennie of Port Moody. 256

Additions and Alterations:
Foghorn Established
A steam foghorn was put into operation on 1 July 1890, and it sounded blasts of 8 seconds duration with an interval of 1 minute between blasts. The fog alarm building was located about 300 feet south-east of the lighthouse, and it was a white, wooden structure with a brown roof. The horn was elevated 45 feet above the high water mark. This fog signal was established to "...mark an important turning point at the junction of the Juan de Fuca and Haro Straits." 257

Change in Recorded Bearings
By 1 January 1896, the magnetic bearings were recorded as follows:

<table>
<thead>
<tr>
<th>Latitude N</th>
<th>Longitude W</th>
</tr>
</thead>
<tbody>
<tr>
<td>48° 25' 20&quot;</td>
<td>123° 13' 42&quot;</td>
</tr>
</tbody>
</table>

Change in Character of Light
On or about 10 August 1906, an occulting white light was exhibited. 259 It was dioptric of the fourth order. 260
lens showed over 360° of the horizon. It had an occulting screen operated by a clockwork mechanism which made the light visible for 10 seconds and eclipsed it for 5 seconds. The apparatus was supplied by Chance Brothers and Company of Birmingham, England. The light was visible for 15 miles from S.E. ¼ S., round by S., W. and N., to N.E. by N.¼ N.

Change in Fog Alarm

On or about 1 January 1914, a diaphone fog alarm was put into operation. This machinery was operated by air which had been compressed by an oil engine, and it gave 1 blast of 5 seconds duration every minute. The sequence of the signal was as follows:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 seconds</td>
<td>55 seconds</td>
</tr>
</tbody>
</table>

The new fog alarm building stood 50 feet northward of the structure which housed the old steam fog horn. It was a square, white, wooden building with a gable roof. The horn was elevated approximately 45 feet above the high water mark. The type "F" diaphone and the installation of a class "D" duplicate plant was supplied by H.T. Peter of the Canadian Fog Company. The contract for the construction of the diaphone building was awarded to W.H. Rourke.

Change in Recorded Bearings

By 1 April 1915, the true bearings were recorded as follows:

- latitude N: 48° 25' 30"
- longitude W: 123° 13' 26"

Lightkeepers of Note:

Richard Brinn was appointed keeper on 14 June 1886.

General Remarks:

As early as 1875, representations were made to the Agent of the Department of Marine and Fisheries (British Columbia
Division) for the construction of a light on Discovery Island.\textsuperscript{267}

Figure 10 illustrates the northeastern side of the lighthouse in 1908 (see Figure 10).

\textbf{Dryad Point Lighthouse}

\textbf{Also Known As:}
Turn Point Lighthouse.\textsuperscript{268}

\textbf{Date:}
put into operation on 7 November 1899.\textsuperscript{269}

\textbf{Position:}
situated on the extremity of Dryad Point (Turn Point). This point is located on Campbell Island, at the northern entrance of Main Passage, in Seaforth Channel. In 1899, the magnetic bearings were:

\begin{itemize}
  \item latitude N: 52° 11' 14"
  \item longitude W: 128° 8' 24"
\end{itemize}

\textbf{Character of Light:}
fixed white light.\textsuperscript{271}

\textbf{Elevation:}
36 feet above high water mark.\textsuperscript{272}

\textbf{Visibility:}
visible 11 miles in clear weather over an arc of 257° between the bearings of S. 63° E. (S. 37° E. true) through S., W., and N. to N. 14° E. (N. 40° E. true).\textsuperscript{273}
Purpose:
It was established because of an increase in marine traffic to northern British Columbia and Alaska.\textsuperscript{274} The increase in shipping was the result of the discovery of gold fields in the North.

Type of Lighting Apparatus:
dioptric of the seventh order.\textsuperscript{275}

Structure:
It consisted of a white, square, wooden tower with sloping sides. The building was surmounted by a red, square, wooden lantern. The lighthouse was placed upon a red, wooden foundation. The tower was 39 feet from the base of the building to the vane on the lantern.\textsuperscript{276} This station was also provided with a small dwelling house.\textsuperscript{277}

Builder:
M. Fraser was the foreman of the works, and the construction was undertaken by the Department of Marine and Fisheries.\textsuperscript{278}

Additions and Alterations:
\textit{Fog Signal Established}
By 15 September 1901, a hand horn was used to answer signals from passing vessels.\textsuperscript{279}

\textit{Red Sector Inserted in Light}
A red sector had been inserted in the light by 25 November 1903. It showed over an arc of 147° from N. 44° W. through W. and S. to S. 11° E. The light was visible for 5 nautical miles in clear weather.\textsuperscript{280} Mariners requested that a red sector be put into use because the light was too bright when viewed "close aboard."\textsuperscript{281}
Temporary Light
A temporary fixed white light was shown on or about 1 October 1918. At this time, the old light was discontinued pending the construction of a new tower.282

New Tower Completed and Change in Bearings
By 2 July 1919, a new, square, reinforced concrete tower was constructed on Dryad Point. It was painted white, and it was surmounted by a red, wooden lantern. The temporary light was discontinued, and in its place a fixed white light with a red sector was re-established. The new light showed red from 339° (N. 49° W. Mag.). It was visible over an arc of 257° from 142° 30' (S. 65° 30' E. Mag.) through S.W. and N. to 39° 30' (N. 11° 30' E. Mag.). In 1919, the true bearings of the light were:

latitude N: 52° 11' 13"
latitude W: 128° 8' 22"

Lightkeepers of Note:
On 7 November 1899, C. Carpenter was appointed to the position of keeper.284

General Remarks:
This site was recorded as Turn Point on Admiralty charts prior to 1899. To distinguish this location from others of the same name, the Geographic Board of Canada changed the name to Dryad Point. The word "Dryad" apparently derives from the name of a Hudson's Bay Company brig which was used to bring materials for the construction of Fort McLaughlin in 1833. This fort was situated near Bella Bella.285

Figure 11 shows Dryad lighthouse as it appeared in 1902 (see Figure 11).
East Point Lighthouse

Also Known As:
Saturna Island Lighthouse.

Date:
put into operation on 1 January 1888.

Position:
situated on East Point, Saturna Island, at the junction of Stuart Channel and the Gulf of Georgia. In 1888, its magnetic bearings were:

- latitude N: 48° 47' 0"
- longitude W: 123° 3' 2"

Character of Light:
revolving white light. The light attained its greatest point of brilliancy every 30 seconds.

Elevation:
140 feet above high water mark.

Visibility:
visible for approximately 18 miles over an arc of 278 7/16° through the bearings of N.E. ½ N., around by W., to S.E. by E. ½ E.

Purpose:
It was intended to serve as a leading light for the Gulf of Georgia from the Fraser River and Turn Point.

Type of Lighting Apparatus:
catoptric.
Structure:
The structure consisted of a square, wooden, white tower surmounted by a red, iron lantern. A keeper’s dwelling was attached to the tower. The building was 60 feet from the ground level to the vane on the lantern.

Builder:
George Fraser was awarded the contract for construction.

Additions and Alterations:
Change in Recorded Visibility
By 1 January 1896, the light was recorded as being visible 17 miles in clear weather.

Foghorn Supplied
In 1898, a mechanical foghorn was supplied to this station. It was used to answer signals from passing vessels.

Change in Recorded Bearings
By 1 April 1915, the true bearings were recorded as being:
- latitude N: 48° 47' 05"
- longitude W: 123° 2' 44"
At this time, the light was visible from 63° round by W. to 144° 30'.

Change in Character of Light
On or about 1 July 1918, a flashing white catoptric light replaced the original revolving white light. The new apparatus gave the following signal:
Flash - Interval of 6 Seconds - Flash - Interval of 18 Seconds. During half of the revolution, or 12 seconds, the light was totally eclipsed. During the other half of the revolution, an 800 candle power light was visible. The stronger flashes of 50,000 candle power showed through this dimmer, naked light. The illuminant was petroleum vapour and it was burned under an incandescent mantle. A temporary fixed white light was shown from the middle of June to the beginning of
July while the new apparatus was being installed. This new catoptric apparatus had a double flash reflector.

Lightkeepers of Note:
John B. Wick was appointed keeper on 3 September 1887.

General Remarks:
Figure 12 illustrates East Point Lighthouse in 1920 (see Figure 12).

Egg Island Lighthouse

Date:
put into operation on 7 October 1898.

Position:
located on the west side of Egg Island in Queen Charlotte Sound. In 1899, its magnetic bearings were:
- latitude N: 51° 14' 43"
- longitude W: 127° 50' 58"

Character of Light:
revolving white light. The flashes attained their points of greatest brilliancy every 30 seconds.

Elevation:
72 feet above high water mark.

Visibility:
It was visible for 14 miles in clear weather between the bearings N. 45° W. round through E. to S. 6° W. Over the remainder of the horizon, the light was obscured by the high
land on Egg Island.  

Purpose:  
It was established because of an increase in shipping traffic to Northern British Columbia and Alaska.

Type of Lighting Apparatus:  
catoptric. The lantern and lighting apparatus had formerly been in use at Yellow Island.

Structure:  
The structure consisted of a square, wooden tower which was painted white. It was surmounted by a red, polygonal, iron lantern. The keeper's dwelling was attached to the tower, and the building was 50 feet high from the vane on the lantern to the base of the structure.

Builder:  
D.M. Fraser, of Vancouver, supervised the construction of the lighthouse. The work was performed by day labourers.

Additions and Alterations:  
Foghorn Supplied  
By 15 September 1901, a hand foghorn had been supplied to this station. It was intended to be used to answer signals from vessels.

Lighthouse Moved  
The lighthouse was moved 64 feet N. 22° E., from its former location, to stand on the summit of the Island. After the move, the light was 85 feet above the high water mark, and it was visible 15 nautical miles between the bearings of N. 39° W. round by E. to S. 6° W. Through the remainder of the horizon, over an arc of 135°, the light was obscured by the high land of the Island. The change in location had been
affected by 14 July 1903.\textsuperscript{313}

\textit{Fog Alarm Established}

A diaphone fog alarm was put into operation on or about 1 August 1906. The diaphone machinery was operated by air compressed by an oil engine, and it gave a blast of 5 seconds duration every minute. The wooden fog alarm building was situated about 100 feet north of the lighthouse, and it was painted white with a red roof.\textsuperscript{314} The diaphone machinery was supplied by the Canadian Fog Signal Company of Toronto, and the building was constructed by day labour under the superintendence of John Montgomery.\textsuperscript{315}

\textbf{Lightkeepers of Note:}
William Brown was appointed keeper on 15 June 1898.\textsuperscript{316}

\textbf{General Remarks:}
As early as 1875, a recommendation was put forward for the establishment of a light on Egg Island. The development of the Cassiar region provided the rationale for this recommendation.\textsuperscript{317}

Figure 13 illustrates the near view of Egg Island Lighthouse in 1902 (see Figure 13).

\textbf{Entrance Island Lighthouse}

\textbf{Date:}
put into operation on 8 June 1876.\textsuperscript{318}

\textbf{Position:}
located on Entrance Island in Nanaimo Harbour. In 1876, its magnetic bearings were:

\begin{itemize}
  \item latitude N: 49° 12' 50"
  \item longitude W: 123° 48' 45"
\end{itemize}\textsuperscript{319}
Character of Light:
fixed white light.  

Elevation:
65 feet above high water mark. 

Visibility:
14 miles in clear weather. 

Purpose:
The light was established to indicate the entrances to
Nanaimo Harbour and Departure Bay. 

Type of Lighting Apparatus:
catoptric. The lantern, lamps, and lighting apparatus
were supplied by E. Chanteloup. Chance Brothers and Company
of England, supplied the glass. 

Structure:
The building consisted of a square, white, wooden tower with
an attached keeper's dwelling. The tower measured 50 feet
from the base of the building to the vane on the lantern. 

Builder:
The contract for the construction of Entrance Island and
Berens Island Lighthouses was initially awarded to Louis
Baker of Montreal. However, Mr. Baker left British Columbia
before work on the lighthouse at Entrance Island was
completed. The contract was subsequently relet to the
foreman of the works. 

Additions and Alterations:
New Lighting Apparatus
By 1891, dioptric apparatus capable of showing a red sector
had been ordered from England for this station. During the summer of 1892, the fifth order dioptric apparatus replaced the original catoptric light. Once installed, the new fixed white light was visible from all seaward points, except through an arc of $7^{1/2}$°, (between the bearings of W. and W. 2/3 N.), which was covered by a red sector. This sector indicated the location of Gabriola Reef. The light was obscured by the Flat Top Islands and Gabriola Island.

*Steam Fog Alarm Established*

A steam fog alarm was put into operation on 8 September 1894. The horn was activated by steam and compressed air. It gave blasts of 8 seconds duration with intervals of 45 seconds between each blast. The duplicate boilers and fog alarm machinery were supplied by Messrs. Carrière, Laine and Company of Lévis, Quebec. A large water tank and a building used to house the machinery were constructed by Messrs. Baynes and Horrie. The brown roofed steam fog alarm building was square in plan and it was painted white. This wooden structure was situated eastward of the lighthouse. The water tank building was located behind the fog alarm building, and it was a white, wooden structure. The horns faced in a north-easterly direction and they were elevated 20 feet above the high water mark.

*Change in Recorded Bearings*

By 1 January 1896, the magnetic bearings were recorded as follows:

- latitude N: 49° 12' 30"
- longitude W: 123° 48' 45"

*Temporary Light*

During the early months of 1905, a seventh order dioptric lens was substituted for the fifth order apparatus because the lighting equipment had been damaged by fire. While repairs were being made, a fixed white light was shown. The light resumed its former characteristic once the apparatus
Signal Station Established

In 1913, Entrance Island light station was connected with North Gabriola by a cable 3 miles in length. Installed by the Government Telegraph Service at a cost of $5,000, the cable was capable of transmitting telephone messages. Marine Department messages were communicated free of charge, but a toll was levied on commercial calls.

Change in Red Sector

By 14 April 1915, the red sector covered an arc from 294° to 301°, or 7°, over Gabriola Reef.

Diaphone Installed and Change in Recorded Bearings

A type "B" diaphone plant was installed by day labour under the supervision of J.L. Cullinson. Put into operation on or about 10 October 1915, the diaphone was operated by air compressed by an oil engine. During thick or foggy weather it gave two blasts of 5 seconds duration every minute on the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silence</th>
<th>Blast</th>
<th>Silence</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 seconds</td>
<td>5 seconds</td>
<td>5 seconds</td>
<td>45 seconds</td>
</tr>
</tbody>
</table>

The diaphone building was located on the eastward side of the lighthouse, and it was a white, square wooden structure.

At this time, the true bearings were recorded as being:

- latitude N: 49° 12' 46"
- longitude W: 123° 48' 48'

New Lamp

Prior to 31 March 1917, a new Chance lamp had been installed by day labour under the supervision of the crew of the C.G.S. "Newington."

Lightkeepers of Note:

Michael Kenny was appointed keeper by an Order-in-Council dated 18 March 1876.
General Remarks:
In December of 1875, three construction workers were drowned when they tried to venture to Nanaimo during a squall. They were attempting to bring supplies to the lighthouse site.

Figure 14 illustrates Entrance Island Lighthouse in 1908 (see Figure 14).

**Estevan Point Lighthouse**

Date:
put into operation on 15 April 1910, when the temporary light was discontinued.

Position:
situated on the southwest extremity of Estevan Point on the west coast of Vancouver Island. In 1910, its magnetic bearings were:

- **latitude N:** 49° 22' 5"
- **longitude W:** 126° 32' 22"

Character of Light:
a flashing white light which showed a group of 3 flashes every 10 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Flash</th>
<th>0.30 second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eclipse</td>
<td>1.37 seconds</td>
</tr>
<tr>
<td>Flash</td>
<td>0.30 second</td>
</tr>
<tr>
<td>Eclipse</td>
<td>1.37 seconds</td>
</tr>
<tr>
<td>Flash</td>
<td>0.30 second</td>
</tr>
<tr>
<td>Eclipse</td>
<td>6.36 seconds</td>
</tr>
</tbody>
</table>

Elevation:
125 feet above high water mark.

Visibility:
17 nautical miles from all points of approach by water.
Purpose:
It was intended to be a, "...main seacoast lighthouse...."^350

Type of Lighting Apparatus:
dioptric of the first order.^351

Structure:
The structure consisted of a reinforced concrete structure which was supported by 8 flying buttresses. This tower was whitewashed and it was surmounted by a red, circular metal lantern. It measured 127 feet from the base of the structure to the vane on the lantern.^352

Builder:
The work was performed by day labour under the supervision of L. Humber.^353

Previous Aids to Navigation:
Temporary Gaslight Established
By 17 December 1907, a temporary gaslight was established at Hole-in-the-Wall on the southwest extremity of Estevan Point. The light was an occulting white light which was alternately visible for 3 seconds and eclipsed for 8 seconds. It was exhibited from a fourth order dioptric lens, and it was visible for six nautical miles in clear weather. The light was shown from a lantern which was placed on the top of a wooden platform. It was elevated 25 feet above the high water mark and it was illuminated by acetylene. This gaslight was only used until a permanent tower could be built.^354

Auxiliary Structure, Wireless Telegraph Station
The wireless telegraph station was put into operation on or about 1 January 1908. This station was intended to serve
as an aid to navigation as well as acting as a means of communication along the coast of Vancouver Island. Vessels with any type of wireless apparatus could call this station. To reach the Estevan Station, operators used the 300 meters wave length and called U.S.D. Auxiliary Structure, Fog Signal Established

A 5-inch duplicate 12-horsepower diaphone plant was installed in 1908. The apparatus was purchased from the Canadian Fog Signal Company for $12,500. The diaphone was housed in a white, square, wooden building with a red roof.

Change in Fog Signal

On or about 15 October 1908, the diaphone gave one 5 second blast every minute in thick or foggy weather. The pattern of the signal was as follows:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silence</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 seconds</td>
<td>55 seconds</td>
</tr>
</tbody>
</table>

Additions and Alterations:

Change in Wireless Signal

By 1 April 1915, mariners could communicate with this station by using the 600 meters wave length and by calling V.A.E.

Lightkeepers of Note:

J.P. Jensen was appointed keeper in April of 1907.

General Remarks:

On or about 15 October 1906, 6 notice boards were established near Estevan Point to direct shipwrecked mariners to the nearest place where help could be obtained. Figure 15 is an archival photograph of Estevan Lighthouse (see Figure 15).
Fiddle Reef Lighthouse

Date:
put into operation on 2 December 1898.

Position:
on the reef in Mayor Channel. In the early part of 1899, its magnetic bearings were:

- latitude N: 48° 25' 39"
- longitude W: 12[3]° 17' 26"

Character of Light:
fixed white.

Elevation:
30 feet above high water mark.

Visibility:
10 miles in clear weather.

Purpose:
It indicated the positions of Thames and Five Fathom Shoals.

Type of Lighting Apparatus:
dioptic of the seventh order.

Structure:
The structure consisted of a white, square, wooden tower surmounted by a square, wooden lantern. The building was situated on top of a 7 foot high concrete pier, and it measured 30 feet from the base of the tower to the ventilator on the lantern.
Builder:
The concrete foundation of the structure was built by the crew of the Quadra, and the superstructure was constructed by day labour under the foremanship of John H. Port.  

Previous Aids to Navigation on the Site:

Day Beacon
The lighthouse replaced a day beacon which had been located on Fiddle Reef. This beacon consisted of a 40 foot high whitewashed, wooden, conical structure which was surmounted by a 10 foot high black pole and cage. The entire beacon was 50 feet high and it was established in 1887.

Alterations and Additions:

Introduction of Red Sectors in Light
By 18 February 1899, red sectors had been introduced into the light. These red sectors showed over foul ground on the western side of the channel, and they were visible over an arc of 45° 30' between the bearings of S. by W. 3/4 W., (S. 36° W. true), around through S., to S.S.E. 3/4 E. (S. 9° 30' E. true) and over an arc of 48° 30', between the bearings of N. 3/4 W. (N. 13° 30' E. true) and N.E. 4/5 N. (N. 62° E. true). Over the remainder of the circle of light it remained fixed white. When the light changed from red to white the fairways of Baynes Channel and Mayor Channel were open.

Mariners had to keep the white light in view while passing through the Channels. The red sectors in Fiddle Reef light did not cover Thames Shoal in Mayor Channel or the 2 3/4 fathom patch on Five-Fathom Shoal in Baynes Channel.

Change in Recorded Bearings, Use of Hand Horn, Red Sectors
By 1 April 1915, the true bearings were recorded as being:

latitude N: 48° 25' 49"
longitude W: 123° 17' 0"
In the same year, a hand foghorn was reported as being in use to answer vessels' signals.

At this time, a fixed red light was visible over 45° 30', between 216° through S. to 170° 30', and over 48° 30' between 13° 30' and 62°. The remainder of the circle was fixed white. 377

Lightkeepers of Note:
John Davies was appointed keeper on 2 December 1898.378

General Remarks:
Figure 16 is a detail from an undated photograph of the lighthouse (see Figure 16).

**First Narrows Lighthouse**

Date:
put into operation by 27 May 1913.379

Position:
on the northern shore of the west entrance of the First Narrows, Burrard Inlet. In 1913, the true bearings were:

<table>
<thead>
<tr>
<th>Latitude North (°')</th>
<th>Longitude West (°')</th>
</tr>
</thead>
<tbody>
<tr>
<td>49° 18' 53&quot;</td>
<td>123° 8' 35&quot;</td>
</tr>
</tbody>
</table>

Character of Light:
occulting white light with the following characteristic:
visible 18 seconds, eclipsed 3 seconds, visible 6 seconds, and eclipsed 3 seconds.381

Elevation:
25 feet above high water mark.382
Visibility:
10 nautical miles from all points of approach. 383

Purpose:
It was established to assist mariners entering Burrard Inlet. 384

Type of Lighting Apparatus:
dioptric of the fifth order which produced a light of 150 candlepower. 385

Structure:
It was a white, wooden, rectangular building with a hip roof. The structure stood on a rectangular concrete foundation and it was surmounted by a lantern. It measured 23 feet from its base to the ventilator on the lantern. A fog alarm was installed in this building. 386

Builder:
The contract for the combined lighthouse and fog alarm building was awarded to J.W. Scott. The installation of the diaphone plant and dioptric lens was performed by day labour under the supervision of H.T. Peter. 387

Auxiliary Structure:
A diaphone, operated by air which had been compressed by an oil engine, gave 1 blast of 2 seconds duration every 15 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 seconds</td>
<td>13 seconds</td>
<td>2 seconds</td>
<td>13 seconds</td>
</tr>
</tbody>
</table>

The horn was elevated 15 feet above the high water mark and it projected from the west end of the lighthouse. 388 This diaphone plant replaced a mechanically operated fog bell 389 which was established in 1910. 390
Previous Aids to Navigation on the Site:

**Three Beacons at First Narrows**

Three beacons were erected at the First Narrows in 1889. Each beacon consisted of 5 piles which were held together in a cluster. They showed 8 feet above the high water mark and were 4 feet in diameter at the top. The beacons were painted black, and they were each surmounted by a white, 10 foot high triangle which was shown with its base facing upwards. 391

**Lighted Beacon Established**

In 1908, an occulting white light was established. The light was shown from a black, steel cylindrical tank which stood on a wooden pile foundation. The lighting apparatus was placed in a lantern which was supported by a black, pyramidal steel frame. The light was unwatched and it could be seen for 10 miles from all points of approach. It was placed 25 feet above the high water mark. In 1909, its magnetic bearings were:

- latitude N: 49° 18' 50"
- longitude W: 123° 8' 34" 392

**Change in Position of Beacon and Fog Bell Established**

Because of an intention to widen the channel in 1910, the gaslighted beacon was moved to a new position 300 feet N. 39° W. from its original site. Its new recorded magnetic bearings were:

- latitude N: 49° 18' 53"
- longitude W: 123° 8' 35"

The beacon was situated on a rectangular concrete foundation and it consisted of a steel cylindrical tank and a pyramidal steel frame which supported the lantern. The entire structure was painted black.

A mechanical fog bell was placed on the concrete base of the beacon. It was sounded at short intervals during thick or foggy weather. 393
Alterations and Additions:

Characteristic of Light Changed

It was changed on or about 13 March 1915 to exhibit an occulting white light with a 6 second interval. The light was shown in the following pattern:

<table>
<thead>
<tr>
<th>Visible</th>
<th>Eclipsed</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 seconds</td>
<td>3 seconds</td>
</tr>
</tbody>
</table>

In 1915, the true bearings of the light were recorded as being:

- latitude N: 49° 19' 7"
- longitude W: 123° 8' 34"\(^{394}\)

Change in Characteristic of Fog Alarm

On or about 15 April 1915, the fog alarm was changed to give one blast of 1 1/2 seconds duration every 8 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1/2 seconds</td>
<td>6 1/2 seconds</td>
</tr>
</tbody>
</table>

Description of Structure

By April of 1915, a dwelling, supported by a pile foundation, was described as being attached to the tower.\(^{396}\)

Lightkeepers of Note:

G.A. Harris was appointed keeper on 25 June 1913.\(^{397}\)

General Remarks:

Figure 17 is an undated archival photograph of First Narrows Lighthouse (see Figure 17).

Fisgard Lighthouse

See chapter in Part I concerned with the history of Fisgard Lighthouse.
General Remarks:
Figure 18 illustrates Fisgard Lighthouse in January of 1869 (see Figure 18).

Green Island Lighthouse

Date:
put into operation on or about 1 April 1906. 398

Position:
located on the southwesterly point of Green Island in Chatham Sound. In 1906, its magnetic bearings were:
latitude N: 54° 34' 1"
longitude W: 130° 42' 36" 399

Character of Light:
a flashing white light which exhibited 1 bright flash every 5.625 seconds in the following pattern:
Flash 0.787 second
Eclipse 4.838 seconds
Flash 0.787 second
Eclipse 4.838 seconds

Elevation:
81 feet above high water mark. 401

Visibility:
visible for 14 nautical miles in clear weather. It could be seen all around the horizon except where it was intercepted by a chimney to the northward. 402

Purpose:
It was established as an aid to shipping bound for Portland Canal and Alaska. 403
Type of Lighting Apparatus:
dioptric apparatus which burned petroleum vapour under an incandescent mantle. It was a single flashing light of the third order which consisted of 8 panels. Each panel subtended an angle of $45^\circ$ in the horizontal plane and $136^\circ$ in the vertical plane. The lantern was circular in plan, and it was manufactured by Messrs. Barbier, Benard and Turenne of Paris, France. The diameter of the lantern was 10 feet 1½ inches.

Structure:
The structure consisted of a square, wooden dwelling with a square, wooden tower rising from the southeastern corner of the building. The entire structure, excepting a circular metal lantern which surmounted the tower, was painted white. The lantern was painted red. The tower measured 45 feet from the base to the vane on the lantern.

Builder:
Day labour was used to build the lighthouse and the work was superintended by George Forrest.

Additions and Alterations:
Change in Recorded Bearings and Change in Character of Light
By 1 April 1915, the true bearings of the light were recorded as being:

- Latitude N: $54^\circ 34' 18"$
- Longitude W: $130^\circ 42' 34"$

At this time, the characteristic of the light was described as being a flash of $3/4$ of a second with an eclipse of $4 3/4$ seconds.

Hand Foghorn
By 15 March 1919, a hand foghorn had been put into operation. It was used to answer signals from passing vessels during
periods of thick or foggy weather.  

Lightkeepers of Note:
On 21 June 1907, S. Baker was appointed keeper.

General Remarks:
Figure 19 is a photograph of Green Island Lighthouse.

**Holland Island Lighthouse**

Also Known As:
Holland Rock Lighthouse.

Date:
put into operation on or about 25 January 1913.

Position:
located on Holland Island at the entrance to Prince Rupert in Chatham Sound. In 1913, its true bearings were:

- latitude N: 54° 10' 19"
- longitude W: 130° 21' 42" 

Character of Light:
fixed white light.

Elevation:
45 feet above high water mark.

Visibility:
12 nautical miles from all points of approach.
Purpose:
It assisted mariners travelling to Prince Rupert from southern points.\(^{417}\)

Type of Lighting Apparatus:
dioptric of the fourth order which produced a light of 750 candle power. It was illuminated by petroleum vapour which was burned under an incandescent mantle.\(^{418}\)

Structure:
The structure consisted of a white, wooden rectangular building which stood on a concrete foundation. The tower was square and rose from the northwest corner of the building. It was surmounted by a red, iron lantern. The structure measured 43 feet from the top of the concrete foundation to the ventilator on the lantern.\(^{419}\)

Builder:
The contract for the combined dwelling, fog alarm, and lighthouse was awarded to J. Hilditch.\(^{420}\)

Auxiliary Aids to Navigation:
A diaphone, operated by air which had been compressed by an oil engine, was put into operation before 18 March 1913. It gave 1 blast of 3 seconds duration every 20 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 seconds</td>
<td>17 seconds</td>
</tr>
</tbody>
</table>

Previous Aids to Navigation on the Site
A gaslighted beacon which had stood on Greentop Island was moved to Holland Island in 1908. The beacon consisted of a steel cylindrical tank which was placed on a steel framework and supported a lantern. The structure was painted red. The light was elevated 32 feet above the high water mark and
it was visible for 10 nautical miles from all points of approach. The apparatus exhibited a white light which was automatically occulted at short intervals. It was illuminated by acetylene and was unwatched. In 1908, the magnetic bearings of this beacon were:

\[
\begin{align*}
\text{latitude } & \text{N: } 54^\circ 10' 38'' \\
\text{longitude } & \text{W: } 130^\circ 21' 51''
\end{align*}
\]

Change in Recorded Description
By 1 April 1909, the structure of the beacon was described as being black in colour. \(^423\)

Temporary Light
While the permanent lighthouse and fog alarm were under construction a temporary fixed oil light was exhibited from a lens lantern. It was put into operation prior to 24 August 1912, and it was visible from all points of approach. Once the temporary light was established, the beacon was discontinued. \(^424\)

Additions and Alterations:
None recorded to 1920.

Lightkeepers of Note:
J.E. Gibson was appointed keeper on 25 January 1913. \(^425\)

General Remarks:
Figure 20 is an undated archival photograph of Holland Island Lighthouse (see Figure 20).

Ivory Island Lighthouse

Date:
was put into operation on 1 October 1898. \(^426\)
Position:
It was located on Surf Point, Ivory Island, in Millbank Sound. In 1899, its magnetic bearings were recorded as:

- latitude N: 52° 16' 15"
- longitude W: 128° 25' 50"

Character of Light:
fixed white light.

Elevation:
66 feet above high water mark.

Visibility:
It was visible 13 miles in clear weather over an arc of 233° between the bearings of S. 75° W., through N., to S. 52° E.

Purpose:
It was established as an aid to navigation for vessels bound for northern British Columbia and Alaska.

Type of Lighting Apparatus:
dioptric of the seventh order.

Structure:
It was a square, white, wooden building. A red, square, wooden lantern surmounted the structure, and the building measured 30 feet from the base to the vane on the lantern.

Builder:
Day labour was used to erect the structure, and the work was performed under the supervision of Alexander Bruce.
Additions and Alterations:

**Hand Foghorn Established**

On 15 September 1901, a hand foghorn was established for use in answering the signals of passing vessels.\(^{436}\)

**Fog Alarm Established**

By 25 June 1908, a diaphone fog alarm was established. It was operated by air which had been compressed by an oil engine, and it gave 1 blast of 4 seconds duration every minute. The diaphone building was a white, wooden structure which was situated on the southerly side of the lighthouse.\(^{437}\) The 1½-inch diaphone plant was supplied by the Canadian Fog Signal Company of Toronto, and it was installed in the building by day labour.\(^{438}\)

**Change in Recorded Visibility of Light**

By 1 April 1915, the fixed white light was visible over an arc of 233° between the bearings 282°, through N., to 155°.\(^{439}\)

Lightkeepers of Note:

Peter Wylie was appointed keeper on 30 June 1898.\(^{440}\)

General Remarks:

Figure 21 is an undated archival photograph of Ivory Island lighthouse (see Figure 21).

---

**Langara Island Lighthouse**

Date: was put into operation on or about 1 October 1913.\(^{441}\)

Position: It was situated on Langara Island in the Queen Charlotte Islands. The lighthouse site was on the northwest point of
the Island approximately 200 feet from the water's edge. In 1913, its magnetic bearings were:

- latitude N: 54° 15' 13"
- longitude W: 133° 3' 27"

Character of Light:
flashing white light which showed 1 bright flash every 5 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Flash</th>
<th>0.3 second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eclipse</td>
<td>4.7 seconds</td>
</tr>
</tbody>
</table>

Elevation:
160 feet above high water mark.

Visibility:
It was visible for 19 nautical miles over an arc of 210° from 55° (N. 27° E. Mag.), through E. and S., to 265° (S. 57° W. Mag.).

Purpose:
It was of assistance to mariners navigating the north coast of the Queen Charlotte Islands.

Type of Lighting Apparatus:
It was a first order single flashing light which had been purchased from Chance Brothers of England. This dioptric apparatus produced a light of 450,000 candle power. It burned petroleum vapour under an incandescent mantle.

Structure:
The structure consisted of a white, reinforced concrete, hexagonal tower which was surmounted by a red, circular, metal lantern. The tower was 57 feet from the base of the structure to the vane on the lantern. A dwelling was
situated 400 feet eastward of the lighthouse.  

Builder:  
It was erected by day labour under the supervision of R. Chrystal.

Auxiliary Aid:  
The fog alarm consisted of a diaphone which gave 1 blast of 5 seconds duration every minute in the following pattern:  

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 seconds</td>
<td>55 seconds</td>
</tr>
</tbody>
</table>

The apparatus was operated by air which had been compressed by an oil engine. It was housed in a white, square, wooden building with a gable roof. The horn was elevated 100 feet above high water mark and it pointed 329° (N. 59° W. Mag.). The class "E" fog alarm plant and duplicate machinery were supplied by the Canadian Fog Signal Company, of Toronto, under a general contract.

Additions and Alterations:  
none reported to 1920.

Lightkeepers of Note:  
J. Forsyth was appointed keeper on 30 October 1913.

General Remarks:  
Figure 22 illustrates Langara lighthouse as it appeared in 1937 (see Figure 22).

Lawyer Islands Lighthouse

Also Known As:  
Lawyer Island and Lawyer's Island lighthouse.
Date:
put into operation on 28 November 1901. 457

Position:
situated on the northernmost island of the Lawyer Group, on
the eastern side of Malacca Passage, at the southern
entrance to Chatham Sound. 458 In 1901, its magnetic
bearings were:

latitude N: 54° 6' 58"
longitude W: 130° 20' 47" 459

Character of Light:
fixed white light. 460

Elevation:
55 feet above high water mark. 461

Visibility:
was visible for 13 miles over an arc of 231° between the
bearings of N. 73° W., through N. and E., to S. 22° E.
Between the bearings of N. 73° W. and N. 65° W., the light
was obscured by trees. 462

Purpose:
It assisted mariners in locating Cruice Rock and Client
Reef. 463

Type of Lighting Apparatus:
dioptric of the fifth order. 464

Structure:
The structure consisted of a white, square, wooden tower
which was attached to the western corner of a white, square,
wooden dwelling. A red, polygonal, iron lantern surmounted
the tower. The structure measured 48 feet from the sills of the building to the vane on the lantern. 

Builder:
The construction work was performed by day labour under the foremanship of Joseph Dixon. The building materials were purchased in Vancouver and they were transported to the site aboard the D.G.S. Quadra.

Additions and Alterations:
New Lighthouse Tower Constructed
By 3 May 1909, a new wooden octagonal lighthouse tower was under construction. The new tower was situated north of the old structure on the summit of the northern Lawyer Island. Once built, the tower measured 66 feet from the base to the vane on the lantern. It was painted white and it displayed a light 126 feet above the high water mark. The light was visible for 17 miles from all points of approach by water. In 1910, the magnetic bearings of the new structure were:

- latitude N: 54° 6' 51"
- longitude W: 130° 20' 41"

The new tower was built by day labour under the supervision of J.F. Redmond.

Hand Foghorn Established
By 1 April 1915, a hand foghorn had been put into operation. It was used to answer the signals of passing vessels. In this year the true bearings were recorded as being:

- latitude N: 54° 6' 44"
- longitude W: 130° 20' 37"

Change in Character of the Light
Between the 1st and the 15th of July 1917, the fixed white dioptric light was replaced by a flashing white catoptric light which showed 3 flashes at 4 second intervals every 24 seconds in the following pattern: flash: 4 second
interval; flash; 4 second interval; flash; and 16 second interval. For half the time of the revolution, or 12 seconds, the light was totally eclipsed. For the remainder of the revolution, a light of 450 candle power was visible. Stronger flashes showed through this light. This apparatus had an illuminating capacity of 450 candle power for the naked light and 20,000 candle power for the flashes. It was illuminated by petroleum vapour which was burned under an incandescent mantle.471

Lightkeepers of Note:
Thomas W. Harvey was appointed keeper on 22 October 1901.472

General Remarks:
Figure 23 illustrates a view of Lawyer Islands lighthouse as it appeared in 1902 (see Figure 23).

Lennard Island Lighthouse

Date:
put into operation on 1 November 1904.473

Position:
located on Lennard Island at the entrance to Templar Channel, the southernmost approach to Clayoquot Sound, on the west coast of Vancouver Island. In 1904, its magnetic bearings were:

latitude N: 49° 6' 40"
latitude W: 125° 55' 55"474

Character of Light:
flashing white light which gave 1 flash every 11\(\frac{1}{2}\) seconds.475
Elevation:
115 feet above the high water mark.\textsuperscript{476}

Visibility:
16 nautical miles from all points of approach except where it was obscured by trees on Lennard Island.\textsuperscript{477}

Purpose:
It was established to serve as a coast light and also to act as an aid to mark the entrance to Clayoquot Sound.\textsuperscript{478}

Type of Lighting Apparatus:
dioptric of the first order which burned petroleum vapour under an incandescent mantle.\textsuperscript{479}

Structure:
It was a white, wooden, octagonal structure with sloping sides which was surmounted by a red, metal circular lantern. The tower measured 80 feet from its base to the vane on the lantern. A white, wooden dwelling and out buildings were also constructed on the island.\textsuperscript{480}

Builder:
The buildings were constructed by day labour under the foremanship of George Frost.\textsuperscript{481}

Alterations and Additions:
\textit{Fog Alarm Established}
A diaphone was put into operation on Lennard Island on 1 March 1906. It gave 1 blast of 5 seconds duration every 30 seconds in thick or foggy weather.\textsuperscript{482} The diaphone plant was housed in a rectangular, wooden structure which stood to the southward of the lighthouse. Since access to the site was difficult and population in the vicinity
was sparse, the fog alarm building could not be constructed by contract. Instead, the work was performed by day labour under the foremanship of George Frost. The Canadian Fog Signal Company, of Toronto, supplied the duplicate 3-inch diaphone machinery.

*Change in Characteristic of Fog Alarm*

The fog alarm characteristic was changed on 1 January 1907 to sound 1 blast of 4 seconds duration every 45 seconds.

*Telephone Connection Established*

To protect shipping, telephone communication was established between the light station and the Government telegraph office at Tofino. The telephone line consisted of a land line from the light station to a small cove at the northeast end of Lennard Island, a cable from this cove to a small cove on the west side of Low Peninsula, and a land line over the Low Peninsula to Tofino. This telephone line was established in 1912.

*Lightkeepers of Note:*

F.C. Garrard was appointed keeper on 1 November 1904.

*General Remarks:*

Figure 24 is an undated archival photograph of Lennard Island Lighthouse (see Figure 24).

*Lucy Island*

*Date:*  
put into operation 1 January 1907.

*Position:*  
situated on the northeast extremity of the easternmost Lucy Island in Chatham Sound. In 1907, its magnetic
bearings were:

latitude N: 54° 17' 55"
longitude W: 130° 36' 40" 488

Character of Light:
fixed white light. 489

Elevation:
65 feet above high water mark. 490

Visibility:
13 nautical miles from N. 75° E., through S. and W., to
N. 33° W. over an arc of 252°. 491

Purpose:
It indicated the presence of foul ground 6 cables south­
west and west, and nearly 5 cables north, of Lucy
Islands. 492

Type of Lighting Apparatus:
dioptric of the fifth order. 493

Structure:
It consisted of a white, rectangular wooden dwelling
surmounted by a white, square, wooden lantern. The lantern
rose from the middle of a red, hip roof. The building was
36 feet high from the base of the structure to the top of
the ventilator on the lantern. 494

Builder:
It was built by day labour under the supervision of
G.H. Frost. 495
Additions and Alterations:

Arc of Visibility Changed

By 31 December 1908, the light was visible from the bearing N. 31° W., through W., S., and E., to N. 67° E. It could not be seen over a small arc between the bearings S. 83° E. and S. 88° E. where it was obscured by trees. 496

Arc of Visibility

The Hydrographer of the Admiralty notified the Department of Marine and Fisheries in 1909 that the light was visible from the bearing of N. 66° E. Therefore, the light could be seen over an arc of 262°, from N. 66° E. through S. and W., to N. 31° W. except between the bearings of S. 83° E. and S. 88° E. where it was obscured by trees. 497

Hand Foghorn Established

By 4 June 1910, a hand foghorn had been put into use. It was used to answer signals from passing vessels. 498

Change in Recorded Bearings

By 1 April 1915, the true bearings were recorded as being:

\[
\begin{align*}
\text{latitude N:} & \ 54° 17' 40'' \\
\text{longitude W:} & \ 130° 36' 29''
\end{align*}
\]

Lightkeepers of Note:

L. Lindblow was appointed keeper in 1907. 500

General Remarks:

The east face of Lucy Island Lighthouse, as it appeared in 1926, is shown by Figure 25 (see Figure 25).

MacLaughlin Point Lighthouse

Date:

put into operation after 1 December 1859 501 and discontinued on 1 May 1860. 502
Location:
situated on MacLaughlin Point\(^\text{503}\) at the entrance to Victoria harbour.\(^\text{504}\) Although the bearings do not seem to have been recorded, it is possible that the markings on "Chart No. 54", Vancouver Island, N.W. America, Victoria Harbour", (see Figure 26) indicate the position of the light.

Character of Light:
unknown.

Elevation:
unknown.

Visibility:
unknown.

Purpose:
"The light...proved a great convenience to vessels making this port, [Victoria], during the night...."\(^\text{505}\)

Type of Lighting Apparatus:
The apparatus consisted of a lantern which Captain Nagle had purchased for $100.\(^\text{506}\) The tubes in the lamp melted on 7 April 1860, and the light was put out of commission.\(^\text{507}\)

Structure:
Although the appearance of the structure has not been established, it is known that it was originally intended to be a "temporary lighthouse."\(^\text{508}\)

Builder:
It was erected,\(^\text{509}\) and presumably owned, by Captain J. Nagle.
Additions and Alterations to 1 May 1860:
unknown.

Lightkeepers of Note:
It seems that Captain Nagle paid $80. per month in wages to a lightkeeper.\textsuperscript{510} The identity of the keeper is not known.\textsuperscript{511}

General Remarks:
The light was discontinued because Captain Nagle did not have funds to keep it in operation.\textsuperscript{512} By 19 May 1860, a petition was in circulation asking the House of Assembly to provide funds for the re-establishment of the light.\textsuperscript{513} This petition appears to have been the impetus for a proposed piece of legislation entitled the "Victoria Lighthouse Bill" which was read for the first time on 28 August 1860.\textsuperscript{514} The Bill made provisions for the erection and maintenance of a lighthouse on Work's Rock in Victoria harbour. Light dues were to be used to pay for the light, and it was to consist of a wooden lighthouse with different coloured lights placed 8 feet above the water.\textsuperscript{515} However, when the Bill was read for the second time on 12 September 1860, the light was referred to as a "beacon", and the proposed building site had altered to McCauley's Point.\textsuperscript{516} This site was apparently first considered by Nagle, prior to the construction of his lighthouse,\textsuperscript{517} but it was never utilized. The Bill was not passed, and by 13 October 1860, Captain Richards had convinced Captain Nagle that two colonial lights under construction, on Fisgard Island and Race Rocks, would be more serviceable to mariners than a light in Victoria harbour. He further recommended that Nagle's light should be moved to Colville Island.\textsuperscript{518} Although neither Colville Island in Victoria harbour,\textsuperscript{519} nor Colville Island at the western entrance to Rosario Strait,\textsuperscript{520} appears to have acquired a light in 1860, it
is possible that Nagle's apparatus was used elsewhere as an aid to navigation.

**Masset Lighthouses**

See Chapter following on range lighthouses.

**Merry Island Lighthouse**

Date: put into operation on 6 November 1903.

Position: situated on the southeastern extremity of Merry Island. This island is located at the southeastern entrance to Welcome Pass. In 1904, its magnetic bearings were:

- latitude N: $49^\circ 28' 5''$
- longitude W: $123^\circ 56' 11''$

Character of Light: fixed white. This light was shown until permanent illuminating apparatus was ready for installation.

Elevation: elevated 57 feet above high water mark.

Visibility: visible for 6 miles in clear weather from all points of approach by water.

Purpose: The light was used by mariners travelling through the Strait
of Georgia to Welcome Pass. It was also used as a guide through the Pass.\textsuperscript{527}

Type of Lighting Apparatus: temporary fixed white light.\textsuperscript{528}

Structure:
It was a white, rectangular wooden dwelling, with a mansard roof, surmounted by a white, octagonal, wooden lantern. It measured 35 feet from the base of the building to the ventilator on the lantern.\textsuperscript{529}

Builder:
It was built by day labour under the superintendence of P.G. Fenton of Vancouver.\textsuperscript{530}

Additions and Alterations:
\textit{New Illuminating Apparatus}
By 1 April 1909, the lighting apparatus was described as being dioptric of the seventh order.\textsuperscript{531} One year later, this light was no longer noted as having a temporary character.\textsuperscript{532}

\textit{Hand Foghorn Established}
By 15 March 1919, a hand foghorn was put into operation. It was used to answer signals from passing vessels.\textsuperscript{533}

Lightkeepers of Note:
William Thomas Franklin was appointed keeper on 8 January 1904.\textsuperscript{534}

General Remarks:
Figure 27 is an undated archival photograph of Merry Island lighthouse (see Figure 27).
Nootka Lighthouse

Also Known As:
Yuquot Lighthouse. 535

Date:
put into operation on or about 15 March 1911. 536

Position:
situated on the summit of the middle and largest island of
the San Miguel Group. These islands are located at the
entrance to Friendly Cove in Nootka Sound. In 1911, its
magnetic bearings were:
latitude N: 49° 35' 27"
longitude W: 126° 37' 35"537

Character of Light:
fixed white light. 538

Elevation:
108 feet above high water mark. 539

Visibility:
visible for 16 nautical miles over an arc of 237° from
S. 13° through S., W., and N., to N. 44° E. 540

Purpose:
It was established to assist mariners in entering Nootka
Sound and Friendly Cove. 541

Type of Lighting Apparatus:
dioptric of the fourth order. 542
Structure:
The structure consisted of a white, square, wooden dwelling surmounted by a red, octagonal, iron lantern. It measured 37 feet from the base of the building to the top of the ventilator on the lantern.

Builder:
The structure was built by day labour under the foremanship of B. Aussette.

Additions and Alterations:
Hand Foghorn Established
By 12 October 1915, a hand foghorn was put into operation. It was used to answer signals from passing steamers.

Change in Character of Light
On or about 1 December 1915, the light was changed to an occulting white light which was alternately visible for 10 seconds and eclipsed for 5 seconds. The apparatus was dioptric of the fourth order. The new light was visible over an arc of 237°, from 192° through W. and N., to 69°.

Lightkeepers of Note:
H.T.W. Smith was appointed keeper on 11 February 1911.

General Remarks:
Figure 28 illustrates Nootka Lighthouse in 1934 (see Figure 28).

Pachena Point Lighthouse

Also Known As:
Pachena Lighthouse.
Date:
put into operation on or about 1 July 1908.  

Position:
located on Pachena Point on the west coast of Vancouver Island. In 1908, its magnetic bearings were:

\[
\begin{align*}
\text{latitude N: } & \quad 48^\circ 43' 40'' \\
\text{longitude W: } & \quad 125^\circ 6' 20''
\end{align*}
\]

Character of Light:
flashing white light which showed 2 bright flashes of 0.44 seconds duration separated by an eclipse of 1.2 seconds duration and followed by an eclipse of 5.36 seconds duration. The total interval was 7.44 seconds and the light was produced in the following pattern:

<table>
<thead>
<tr>
<th>Flash</th>
<th>Eclipse</th>
<th>Flash</th>
<th>Eclipse</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.44 second</td>
<td>1.2 seconds</td>
<td>0.44 second</td>
<td>5.36 seconds</td>
</tr>
</tbody>
</table>

Elevation:
200 feet above high water mark. 

Visibility:
20 nautical miles from all points of approach by water. 

Purpose:
It was established to be a main sea coast lighthouse and fog alarm station. 

Type of Lighting Apparatus:
dioptric of the first order. 

Structure:
It consisted of a white, octagonal, wooden building, with sloping sides, and it was surmounted by a red, circular,
metal lantern. It measured 66 feet from its base to the vane on the lantern. A white, rectangular, wooden double dwelling was constructed to the northeast of the lighthouse. It was situated on the top of a bank behind a narrow gorge used as a landing place in fine weather.557

Builder:
It was constructed by day labour under the supervision of the Victoria Agency of the Department of Marine and Fisheries.558

Auxiliary Aids to Navigation:
On or after 1 June 1908, the fog alarm which had previously been installed gave 2 blasts of 3 seconds duration every 96 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 seconds</td>
<td>4 seconds</td>
<td>3 seconds</td>
<td>86 seconds</td>
</tr>
</tbody>
</table>

The fog alarm building stood 100 feet from the high water mark and 600 feet S. 62° E. from the lighthouse.559

In 1907, while the lighthouse was under construction, the site was connected with the Victoria-Cape Beale Government telephone line. The line was constructed by the Government Telegraph Service of the Public Works Department.560

Previous Aids to Navigation on the Site:

Temporary Light
By 6 December 1906, a temporary light had been put into operation. It was a fourth order dioptric occulting white light which was alternately visible for 5 seconds and eclipsed for 5 seconds. It was illuminated by acetylene and it was shown from a lantern on a gas tank. The light was operated until the lighthouse could be established.561

Fog Alarm Established
A diaphone fog alarm was put into operation by 27 December 1907. It was operated by air compressed by an oil engine,
and it gave 1 blast of 6 seconds duration every 96 seconds. It was housed in a white, square wooden building with a red roof. The fog alarm consisted of a 5-inch diaphone plant.

Change in Interval of Light and Radio Telegraph

By 1 April 1915, the characteristic of the light had been altered to show a group flashing white light with a 7½ second interval. The time between the 2 flashes was 1½ seconds, and 5½ seconds elapsed between the groups of flashes.

In this year, a radio telegraph with a 600 meter wave length was in operation. The call signal was V.A.D. and the station could be reached by any type of radio telegraph apparatus.

Lightkeepers of Note:

J. Richardson was appointed keeper on 1 September 1907 and W.R. Pillar was appointed to the post on 5 September 1907.

General Remarks:

Figure 29 is an undated archival photograph of Pachena Point lighthouse (see Figure 29).

Pine Island Lighthouse

Date: put into operation on 1 April 1907.

Position: situated on the southwest point of Pine Island in Queen Charlotte Sound. In 1907, its magnetic bearings were:

- latitude N: 50° 58' 35"
- longitude W: 127° 44' 53"
Character of Light:
fixed white light. 568

Elevation:
80 feet above high water mark. 569

Visibility:
visible for 14 nautical miles over an arc of 232° from
S. 80° W., through W., N., and E., to S. 48° E. 570

Purpose:
In conjunction with the Balaklava lights, Pine Island lighthouse rendered New Channel navigable at all times in clear weather. 571

Type of Lighting Apparatus:
dioptric of the fifth order. 573

Structure:
The structure stood 100 feet back from the extremity of the point, and it consisted of a square, wooden tower which was attached to the western corner of a square, wooden dwelling. The tower was surmounted by a red, polygonal iron lantern, and it measured 43 feet from the base to the vane. The building was painted white. 573

Builder:
The lighthouse was built by day labour under the foremanship of Thomas Blair. 574

Auxiliary Structures:
By 10 June 1907, a diaphone had been put into operation. It was operated by air which had been compressed by an oil engine, and it gave one blast of 7 seconds duration every 2 minutes. The diaphone apparatus was housed in a white,
rectangular, wooden building which stood 200 feet northwest of the lighthouse. This building had a red roof. The diaphone machinery was supplied by the Canadian Fog Signal Company of Toronto.

Additions and Alterations:
Change in Character of Light
On or about 15 June 1914, the fixed white light was replaced by a flashing white light which showed 2 bright flashes every 10 seconds in the following pattern:

- Flash
- Eclipse; 2 seconds
- Flash
- Eclipse; 8 seconds

The new apparatus consisted of a fourth order dioptric lens with a capacity of 25,000 candle power. It burned petroleum vapour under an incandescent mantle. In 1914, the magnetic bearings of the light were:

- latitude N: 50° 58' 33"
- longitude W: 127° 43' 48"

The new machinery was installed by day labour under the foremanship of L. Cullinson. Once installed, the light was visible over an arc of 232°, from 284° through N. and E., to 156°.

Lightkeepers of Note:
A.B. Gurney was appointed keeper on 1 April 1907, T.C. Hayllar on 31 April 1908, and W. Hunt on 1 May 1908.

General Remarks:
Figure 30 is an undated photograph of Pine Island lighthouse (see Figure 30).
Point Atkinson Lighthouse

Date: put into operation on 1 May 1875.

Position: located at the northwestern entrance to English Bay and Burrard Inlet. In 1875, its magnetic bearings were:
- latitude N: 49° 19' 42"
- longitude W: 123° 15' 54"

Character of Light: revolving white light with a 1 minute interval.

Elevation: 119 feet above high water mark.

Visibility: 15 miles in clear weather.

Purpose: It was established as a coast light and as an aid to indicate the entrance to Burrard Inlet.

Type of Lighting Apparatus: catoptric apparatus. The lantern, floor, and lighting apparatus were supplied by E. Chanteloup. In 1875, the light burned coal oil exclusively.

Structure: It was a white, square wooden building with a dwelling attached. The building measured 49 feet from its base to the vane on the lantern.
Builder:
Arthur Fenny was awarded the contract for the construction of the lighthouse. 592

Alterations and Additions:
Fog Alarm Established
A fog alarm was first put into operation on 10 November 1888. It sounded blasts of 8 seconds duration with intervals of 1 minute between the blasts. The horn was housed in a white, wooden building which was situated 200 feet from the lighthouse. In 1888, its magnetic bearings were:

latitude N: 49° 19' 45"
latitude W: 123° 15' 45" 594

The contract for the construction of the fog alarm building was awarded to Arthur Kenny of Victoria. The building housed two neptune fog alarms manufactured by Messrs. Carrier, Lainé and Company of Lévis, Quebec. The additional trumpet was kept in readiness for use when the first horn was out of order. 595

New Lighthouse and Characteristic of Light
By 27 November 1912, a white, reinforced concrete tower with 6 buttresses had been constructed. This tower measured 60 feet from its base to the vane on its red, circular, metal lantern. The tower was elevated 108 feet above the high water mark, and the light was visible for 16 nautical miles in clear weather from the entrance of Burrard Inlet to a 95° bearing. 597

By 1912, the lighting apparatus had been changed to dioptric of the third order. This apparatus exhibited a flashing white light which showed 2 bright flashes every 5 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Flash</th>
<th>Eclipse</th>
<th>Flash</th>
<th>Eclipse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4 second</td>
<td>3/4 second</td>
<td>1/4 second</td>
<td>3 3/4 seconds</td>
</tr>
</tbody>
</table>
The light had a capacity of 55,000 candle power and it burned petroleum vapour under an incandescent mantle. W.H. Rourke, of Vancouver, was awarded the contract for the construction of the tower, fog alarm building, double dwelling and outhouses.

Diaphone Established and Change in Bearings
On or about 15 December 1912, a diaphone fog alarm was put into operation. It was operated by air compressed by an oil engine, and it gave 1 blast of 2½ seconds duration every minute in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2½ seconds</td>
<td>57½ seconds</td>
<td>2½ seconds</td>
<td>57½ seconds</td>
</tr>
</tbody>
</table>

The diaphone was housed in a white, square wooden building with a gable roof. The 3-inch diaphone and class "C" duplicate air compressing plant were supplied by the Canadian Fog Signal Company of Toronto. The new illuminating apparatus and fog alarm machinery were installed by day labour under the foremanship of W.H. Peter and A. Fairfull. In this year, the true bearings of this station were recorded as being:

- latitude N: 49° 19' 32"
- longitude W: 123° 15' 30"

Telephone
In 1913, Point Atkinson light station was connected by telephone with White Cliff. This service was part of the Vancouver-Powell River line and it was constructed by the Government Telegraph Service of the Public Works Department.

Lightkeepers of Note:
Edward Woodward was appointed keeper on 26 July 1875.

General Remarks:
Figure 31 shows Point Atkinson lighthouse as it appeared
prior to 1913 (see Figure 31).

**Pointer Island Lighthouse**

**Date:**
put into operation on 5 November 1899.

**Position:**
situated on Pointer Island in Fitzhugh Sound at the eastern entrance to Lama Passage. In 1899, its magnetic bearings were:

\[
\begin{align*}
\text{latitude N:} & \quad 52^\circ 3' 48'' \\
\text{longitude W:} & \quad 127^\circ 58' 40''
\end{align*}
\]

**Character of Light:**
fixed white light.

**Elevation:**
42 feet above high water mark.

**Visibility:**
was visible for 12 miles over an arc of 214° between the bearings of S. 56° E. (S. 31° E. true), through S. and W., to N. 22° (N. 3° E. true).

**Purpose:**
It assisted mariners entering Lama Passage.

**Type of Lighting Apparatus:**
dioptric of the seventh order.

**Structure:**
It was a square, wooden dwelling supporting a square, wooden lantern in the centre of the roof. It measured 30 feet from the sills of the building to the vane on the lantern. The
structure was painted white, and it had a red roof and lantern. 613

Builder:
It was erected by day labour by the Department of Marine and Fisheries. D.M. Fraser, of Vancouver, was the foreman. 614

Additions and Alterations:
Hand Foghorn Established
On 15 September 1901, a hand foghorn was established for use in answering signals from passing vessels. 615

Lightkeepers of Note:
James Codville was appointed keeper on 11 July 1900. 616

General Remarks:
Figure 23 shows a view of Pointer Island lighthouse in 1902 (see Figure 33).

Porlier Pass Lighthouses
See following chapter on range lighthouses.

Portlock Point Lighthouse
Date:
put into operation on 1 November 1895. 617

Position:
located on the northeastern extremity of Prevost Island in Trincomali Channel. In 1895, its magnetic bearings were:
Character of Light:
fixed white light with a red sector over Enterprise Reef.

Elevation:
72 feet above high water mark.

Visibility:
10 miles in clear weather.

Purpose:
It was principally intended to be a guide for vessels travelling up Swanson Channel to Active Pass and as a means of identifying the presence of Enterprise Reef.

Type of Lighting Apparatus:
dioptric of the seventh order.

Structure:
It consisted of a white, square, pyramidal wooden tower with a kitchen attached. It was surmounted by a red, square, wooden lantern. The building measured 48 feet from base to vane.

Builder:
The contract for the construction was awarded to G.A. Frost.

Alterations and Additions:
Fog Bell Established
On 1 September 1896, a machinery operated fog bell, which
had been in use at Active Pass, was put into operation at Portlock Point. It sounded 1 stroke every 15 seconds. The bell was suspended on a white, wooden tower which was situated on a low point 900 feet S.E. of the lighthouse.626

Light Improved

By 22 June 1910, a seventh order lens had been substituted for dioptric apparatus of the fifth order. The light was illuminated by petroleum vapour burned under an incandescent mantle.627

Change in Recorded Bearings

By 1 April 1915, the bearings were recorded as being:

latitude N: 48° 49' 33"
longitude W: 123° 21' 9"628

Lightkeepers of Note:

John Richardson was appointed keeper on 2 December 1895.629

General Remarks:

Figure 33 is an undated archival photograph of Portlock Point lighthouse (see Figure 33).

Prospect Point Lighthouse

Date:
put into operation on 1 October 1898.630

Position:
situated under the bluff at Prospect Point, First Narrows, Burrard Inlet, at the entrance to Vancouver harbour. In 1899, its magnetic bearings were:

latitude N: 49° 18' 34"
longitude W: 123° 8' 0"631
Character of Light:
fixed white. 632

Elevation:
28 feet above high water mark. 633

Visibility:
10 miles in clear weather. 634

Purpose:
It was established as an aid to vessels entering or leaving
Vancouver harbour. 635

Type of Lighting Apparatus:
dioptric of the seventh order. 636

Structure:
It was a white, square wooden structure with a red, square,
wooden lantern on the roof. A bell was hung under a gable
projecting from the front of the building. The lighthouse
was 31 feet in height. The foundation was built on the
beach between the high and low water marks. Since the
foundation had to withstand the impact of waves and drift-
wood, it had a substantial stone base. 637

Builder:
It was constructed by day labour under the superintendence
of D.M. Fraser, of Vancouver. 638

Auxiliary Structure:
A mechanical fog bell was struck twice in quick succession
every minute during thick or foggy weather. 639
Additions and Alterations:

Change in Fog Bell Signal
By 18 April 1899, the fog bell sounded 1 stroke every 20 seconds in foggy weather.  

Telephone
By 1910, a 1-1/3 mile long telephone line had been installed between Brockton Point and Prospect Point. Constructed by the Marine Department, it was operated in connection with the semaphore service.  

Traffic Signals Established
Signals were established at Prospect Bluff and Brockton Point, by 4 June 1910, to inform mariners of approaching vessels. The signal at Prospect Bluff consisted of black balls in the daytime and white lights at night. Three balls or lights suspended in the form of a triangle, apex upwards, indicated that vessels were in or approaching the narrows on an outward bound course. When a light or ball was displayed beneath the triangle, it indicated that the obstructing vessel had a tow.  

Change in Character of Light
The light was changed to an occulting white light by 17 August 1910. It was alternately visible for 6 seconds and eclipsed for 3 seconds. The apparatus was dioptric of the fifth order and it burned petroleum vapour under an incandescent mantle.  

Red Sector Inserted in Light
On 15 January 1911, a red sector was inserted in the light. It showed over an arc of 135° from S. 60° E., through S., to S. 75° W. It was established to diminish the brightness of the light.
Change in Fog Bell Signal
On or about 15 February 1911, the fog bell was changed to sound 1 stroke every 5 seconds.645

Fog Signal Altered
By 1 April 1913, the fog bell had been replaced by a mechanically operated 10,000 blow bell. The new bell was installed by day labour under the superintendence of the lightkeeper.646

Alteration in Traffic Signals
On or about 1 June 1918, new traffic signals were exhibited at Prospect Point. The signal pole was moved approximately 100 feet northward from its original location. It was painted white and it was surmounted by a cross-arm. In 1918, the true bearings of the signal pole were:

\[
\begin{align*}
\text{latitude N:} & \quad 49^\circ 18' 49'' \\
\text{longitude W:} & \quad 123^\circ 8' 33''
\end{align*}
\]

Signals to inbound vessels were shown on the south arm of the mast. One black ball indicated a single vessel, two black balls in a horizontal position indicated a vessel passing with a tow, and three black balls forming a triangle, apex upwards, indicated the presence of both a single vessel and a vessel with a tow (see Figure 35). At night, white lights were substituted for the balls. Signals to outbound vessels were exhibited on the north arm of the mast. One black cone denoted a single vessel, two black cones in a horizontal position denoted a vessel with a tow, and three black cones forming a triangle, apex upwards, denoted the presence of both a single vessel and vessel with a tow (see Figure 35). Red lights were substituted for cones at night. On 15 May, 1918, traffic signals at Brockton Point were discontinued.647

Fog Bell Machinery Altered
By 1 April 1920, the fog bell machinery was recorded as being driven by a gasoline engine.648
Lightkeepers of Note:
John Grove was appointed keeper on 21 June 1898.649

General Remarks:
Figure 34 is a view of Prospect Point lighthouse in 1918 (see Figure 34).

Pulteney Point Lighthouse

Also Known As:
Graeme Point Lighthouse 650

Date:
put into operation on 12 September 1905.651

Position:
located on Graeme Point, Malcolm Island at the spot where Broughton Strait runs into Queen Charlotte Sound. In 1905, its magnetic bearings were:

\[ \text{latitude N: } 50^\circ 37' 50'' \]
\[ \text{longitude W: } 127^\circ 9' 50'' \]652

Character of Light:
fixed white light.653

Elevation:
38 feet above high water mark.654

Visibility:
11 miles in clear weather from S. 75° W., round through W. and E., to S. 55° E. over an arc of 230°. The light was obscured by the high land on Malcolm Island.655
Purpose:
It was established to indicate the entrance to Broughton Strait to vessels coming from Queen Charlotte Sound.656

Type of Lighting Apparatus:
dioptric of the seventh order.657

Structure:
It was a white, square, wooden building with a square, wooden lantern rising from the middle of a red, cottage roof. It was situated on the extremity of a low gravel spit, and it measured 35 feet from its base to the ventilator on the lantern.658

Builder:
It was built by day labour.659

Additions and Alterations:
Hand Foghorn Established
By 11 October 1906, a hand foghorn had been supplied. It was sounded in answer to signals from passing vessels in thick or foggy weather.660

Fog Bell Established
A fog bell, rung by machinery, was put into operation by 24 November 1915. It sounded 1 stroke every 25 seconds, and it was suspended in the front of a small, white, square tower. The use of the hand foghorn was discontinued when the fog bell was installed.661 The fog bell tower was situated 42 feet south of the lighthouse.662

Lightkeepers of Note:
E. Huukla was appointed temporary keeper on 1 February 1907.663 The identity of the first keeper is not presently known.
General Remarks:
Pulteney Point was known as Graeme Point prior to 11 October 1906. The name was changed by the Geographic Board of Canada to conform to local usage. The name of the lighthouse was correspondingly changed from Graeme to Pulteney Point. 664

Figure 36 shows the lighthouse as it appeared on 12 September 1905 (see Figure 36).

Quatsino Lighthouse

Also Known As:
Entrance Island Lighthouse. 665

Date:
put into operation 1 October 1909. 666

Position:
located on the southeast end of Entrance Island in Quatsino Sound. In 1909, its magnetic bearings were:

- latitude N: 50° 26' 30"
- longitude W: 128° 2' 40" 667

Character of Light:
fixed white light. 668

Elevation:
89 feet above high water mark. 669

Visibility:
15 nautical miles in clear weather over an arc of 27° from N. 72° E., through N., W. and S., to S. 18° E.
Purpose:
A Wigham light was originally established on the site to act as a guide to vessels entering Quatsino Sound, and it seems that the lighthouse served the same purpose.

Type of Lighting Apparatus:
dioptric of the fifth order.

Structure:
It consisted of a white, square, wooden dwelling surmounted by a red, octagonal, iron lantern. The building stood on land 57 feet above the high water mark, and it measured 37 feet from its base to the top of the ventilator on the lantern.

Builder:
It was built by day labour under the foremanship of H.C. Killeen.

Previous Lights on the Site
Wigham Light Established
A 31-day Wigham light was established prior to 24 January 1907. The illuminating apparatus was dioptric of the seventh order and it showed a fixed white light. It was elevated 90 feet above high water and it was visible 15 nautical miles to the southward. The lantern stood on top of a small, white, enclosed wooden tower, which was placed on an open framework platform. The light was unwatched, and in 1907 its magnetic bearings were:

- latitude N: 50° 26' 31"
- longitude W: 128° 2' 38"

Additions and Alterations:
Hand Foghorn
By 20 February 1912, a hand foghorn had been put into
operation. It was used to answer signals from passing vessels.676

Lightkeepers of Note:
N.C. Nelson was appointed keeper on 29 January 1907.677

General Remarks:
Figure 37 is an undated photograph of Quatsino lighthouse (see Figure 37).

Race Rocks Lighthouse

Also Known As:
Race Islands678 or Race Rock679 Lighthouse.

Date:
light first exhibited on 26 December 1860.680

Location:
on Race Rocks in Juan de Fuca Strait. In 1861, the magnetic bearings were recorded as:

latitude N: 48° 17' 5"
longitude W: 123° 32' 2"681

Character of Light:
flashing white light which gave 1 flash every 10 seconds.682

Elevation:
118 feet above high water mark.683

Visibility:
18 miles in clear weather.684
Purpose:
By October of 1858, the Fraser River gold rush had caused commercial activity in the colonies of Vancouver Island and British Columbia to rapidly expand. This precipitated a sudden increase in shipping which acted as an impetus to lighthouse construction. Since all vessels bound for southern ports in the two colonies had to round Race Rocks against strong tidal currents, it became a primary site for a lighthouse.\textsuperscript{685}

Type of Lighting Apparatus:
dioptric of the second order.\textsuperscript{686} It seems that the Board of Trade’s request for apparatus consisting of 20 hologphotal panels was supplied under a contract by Trinity House.\textsuperscript{687} Since lighthouse stores for the maintenance of the light were purchased from Wilkins and Company, it is likely that the lighting apparatus was also supplied by this firm.\textsuperscript{688}

Structure:
It consisted of rough faced stone blocks laid in regular courses with a rubble stone dwelling attached.\textsuperscript{689} The tower had, "...a diameter of 19 feet at the base, and 12 feet at its summit, with a thickness of solid stone wall 5 feet 3 inches at bottom, and 2 feet 3 inches at top....", and it was constructed of two types of stone. Initially, building stone was quarried on the site,\textsuperscript{690} but when this material proved to be too hard to work cheaply, a softer sandstone was utilized.\textsuperscript{691}

Builder:
The colony of Vancouver Island’s Department of Lands and Works was responsible for the construction. John Morris was awarded the contract to erect the lighthouse, and the
work was performed by labourers and the crew of H.M.S. Topaz. In September of 1859, John James Cochrane was appointed Superintendent of Works. Cochrane had considerable expertise in the field of lighthouse engineering. In the employ of the Scottish Board of Northern Lighthouses, he superintended the castings, fittings, and erection of beacons on rocks at Stroma, Vasa, Loch Inver, Calliach Stone, Pabla, and Cavenlulg in Scotland. Prior to this appointment, he apprenticed as a millwright and engineer at Schotts Iron Works in Edinburgh. However, when construction was suspended for the winter season of 1859-60, Cochrane's services were terminated. On 23 May 1860, H.O. Tiedemann was assigned to the task of superintending the works.

Additions and Alterations:

Change in Appearance of Tower
After 1 October 1864, the tower was painted in alternating broad horizontal bands of black and white.

Fog Bell Established
A fog bell was put into operation on 1 December 1870. Trinity House, in London, had purchased the apparatus prior to 6 January 1865, and it was forwarded to Vancouver Island aboard the ship Ann Adamson. The bell was operated by machinery and it was apparently capable of being heard for at least 1 mile in a windward direction. Although the apparatus was shipped from England in 1865, it was not installed until 1870 because "...the finances of the Colony [would] not admit of the erection of the Fog Bell at Race Rocks...."

Change in Recorded Bearings
By 1871, the magnetic bearings were recorded as being:

latitude N: 48° 17' 45"
longitude W: 123° 32' 00"
Signal Station
By 29 July 1878, a signal station had been established for the special benefit of the Royal Navy. An itemized list of expenditures for the fiscal year ending 30 June 1868 indicates that J.J. Robinson was paid $20. for 1 spar and labour to erect a signal station. P. McQuade and Son were also paid a sum for hardware, flags, rope, and turpentine.

The exhibition of signals at Race Rocks was proposed as early as 1863, but it is not known if this recommendation was implemented by the colonial administration.

Steam Fog Whistle Established
On 18 August 1881, a steam fog whistle was put into operation. It sounded blasts of 5 seconds duration with an interval of 1 minute and 12 seconds between each blast. The firm of Messrs. Hinckley, Spiers and Company, of San Francisco, supplied the fog whistle, and it was "...acknowledged by all seafaring men as very efficient, and one of the most important additions to the coast service of the Province...."

Change in Recorded Bearings
By 1 January 1896, the magnetic bearings were recorded as:

latitude N: 48° 17' 30"
longitude W: 123° 32' 20"

Additional Whistle Signals Established
The 12-inch steam fog whistle was used, by 1897, to sound 4 short blasts in response to vessels' signals. This response indicated that the northern portion of the strait was clear of fog.

Change in Recorded Bearings:
By 1 April 1902, the magnetic bearings were recorded as:

latitude N: 48° 17' 36"
longitude W: 123° 32' 15"

Improvement in Light
On or about 1 September 1906, the light was strengthened by
the substitution of petroleum vapour which was burned under an incandescent mantle 55 mm. in diameter.712

**Diaphone Established**

A diaphone fog alarm was established on or about 1 December 1909. It was operated by air, compressed by an oil engine, and it replaced a steam fog whistle. The diaphone gave 1 blast of 3 seconds duration every 50 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 seconds</td>
<td>47 seconds</td>
<td>3 seconds</td>
<td>47 seconds</td>
</tr>
</tbody>
</table>

The apparatus was housed in a red, square, wooden building, with white trim, which was situated 190 feet S. 17° W. from the lighthouse. The horn was elevated 25 feet above the high water mark.713 The 3-inch duplicate diaphone plant was supplied by the Canada Fog Signal Company, Toronto, under a general contract.714

**Temporary Light Established**

For a period of approximately 3 weeks in 1914, a temporary light was exhibited while repairs were made to the lighting apparatus. The temporary, white, occulting light was shown from a lens lantern which had been established on top of the tower. It was illuminated by acetylene.715

**Lightkeepers of Note:**

W. Roberts was the first principal keeper at Race Rocks. However, by 9 February 1861, he was no longer retained in this position, and the Lighthouse Board had recommended that George Davies be given the appointment.716 This recommendation was subsequently confirmed, and William Roberts accepted the position of an assistant keeper.717

**General Remarks:**

Figure 38 illustrates Race Rocks lighthouse ca. 1880-81 (see Figure 38).
Sandheads Lighthouse

Also Known As:
Fraser River Lighthouse.

Date:
put into operation on or about 1 May 1884.

Position:
located at the southwestern end of Sturgeon Bank in the North Sandheads of the Fraser River, Strait of Georgia. In 1884, its magnetic bearings were:

latitude N: 49° 5'
longitude W: 123° 16'

Character of Light:
fixed white light.

Elevation:
52 feet above high water mark.

Visibility:
12 miles all around the horizon.

Purpose:
It was established as a general coast light and also as a means of indicating the entrance to the channel of the Fraser River through the Sandheads.

Type of Lighting Apparatus:
dioptric of the third order. The lantern, lamps, burners, wicks, chimneys, and plate glass were purchased from Chance Brothers, Birmingham, England.
Structure:
It consisted of a hexagonal wooden tower which was supported above the water on an iron screw pile foundation. The iron screw piles were ordered from England. The lighthouse was 49 feet high from its base to the vane on the lantern.

Builder:
Thomas McKay, of New Westminster, was awarded the contract for construction.

Auxiliary Aids:
Mechanical Fog Bell
The mechanical fog bell from Race Rocks was installed at Sandheads Lighthouse.

Previous Aids to Navigation in the Vicinity:
Fraser River Lightship
The lightship which was maintained off of the South Sandheads was withdrawn when this lighthouse was put into operation.

Additions and Alterations:
Piles Driven Close to Lighthouse
During 1891, two dolphins or clusters of piles were driven close to the iron base of the building. This was done to prevent ice and logs from striking the screw piles.

Change in Recorded Bearings and Fog Bell Interval
By 1 January 1896, the magnetic bearings of the white, wooden lighthouse were recorded as being:

latitude N: $49^\circ 5' 0''$
longitude W: $123^\circ 17' 10''$

At this time, the fog bell sounded 1 stroke every 20 seconds in foggy weather.
Change in Channel of River
By 1 April 1903, the lighthouse was about 1-1/5 miles south-east of the main channel of the Fraser River.

Light and Fog Bell Discontinued
The exhibition of a light and the use of a fog bell was permanently discontinued on 18 October 1905. At this time, a light vessel was stationed at a point where the main channel of the Fraser River reached the Strait of Georgia.

Disused Lighthouse Removed
By 9 November 1920, the disused lighthouse tower had been dismantled and removed from the site.

Lightkeepers of Note:
John Sproat was appointed keeper by an Order-in-Council dated 22 April 1884. Sproat declined the appointment, and in his place Hugh H. Fraser and Frederick Williams were appointed temporary keepers. Unfortunately, Fraser and Williams both drowned, and T. Ewen and J. Davis are recorded as being temporary keepers in 1884.

General Remarks:
Figure 39 illustrates Sandheads lighthouse ca. 1884-1891 (see Figure 39).

Scarlett Point Lighthouse

Date:
put into operation 12 April 1905.

Position:
located on Scarlett Point, Balaklava Island, at the north-west point of the entrance to Christie Passage. In 1905,
its magnetic bearings were:
latitude N: 50° 51' 45"
longitude W: 127° 36' 50"

Character of Light:
fixed red light.

Elevation:
90 feet above high water mark.

Visibility:
10 nautical miles from all points of approach by water.

Purpose:
It would have been of assistance to vessels travelling through Christie Passage.

Type of Lighting Apparatus:
dioptric of the seventh order.

Structure:
It was a white, rectangular wooden building, with a hip roof, which was surmounted by a white, square, wooden lantern. The building had a red roof, and the entire structure measured 37 feet from its base to the ventilator on the lantern.

Builder:
It was constructed by day labour under the foremanship of G. Blain.

Previous Lights on the Site:
Temporary Light
Pending the completion of the lighthouse, a temporary fixed white light was shown near the construction site. In 1904,
its magnetic bearings were:

latitude N: 50° 51' 40"
longitude W: 127° 37' 28" 749

Additions and Alterations:

Hand Foghorn

By 12 November 1906, a hand foghorn had been put into operation. In foggy weather, it was used to answer signals from passing vessels. 750

Change in Character of Light

On 1 February 1907, the light was changed from fixed red to fixed white, with a red sector over Noble Islets. At this time, it was visible for 15 nautical miles from all points of approach by water. 751

Fog Bell

A fog bell was put into operation by 31 December 1908. It was suspended in a small, white, wooden tower which was situated on the extremity of the point and N.N. eastward of the lighthouse. The bell sounded 1 stroke every 30 seconds in foggy weather. When it was installed, the hand foghorn was discontinued. 752 The wooden tower was erected by day labour. 753 The bell was operated by machinery. 754

Red Sectors Removed

By 1 July 1915, 755 the red sector showing over Noble Islets was removed from the light, and after that date the light showed fixed white from all points of approach. 756 It was visible for 10 miles in clear weather. 757

Diaphone Established

On or about 1 September 1915, a diaphone fog alarm was established. It was operated by air compressed by an oil engine, and it gave double blasts of 5 seconds duration every minute in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 seconds</td>
<td>5 seconds</td>
<td>5 seconds</td>
<td>45 seconds</td>
</tr>
</tbody>
</table>
The diaphone was housed in a white, square, wooden building with a gable roof. This building was situated 50 feet eastward of the lighthouse. The horn pointed 25° 40' (N. Mag.) and it was elevated 30 feet above the high water mark. When the diaphone was put into operation, the fog bell was discontinued. The Class "B" diaphone plant was installed by day labour under the foremanship of W.H.P. Trowsdale.

Lightkeepers of Note:
J. William Davies was appointed keeper on 2 May 1905.

General Remarks:
Figure 40 illustrates Scarlett Point light station, in 1915, before the fog bell was discontinued (see Figure 40).

**Sheringham Point Lighthouse**

Date:
put into operation before 30 September 1912.

Position:
60 feet from the extremity of Sheringham Point. In 1912, its true bearings were:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>latitude</td>
<td>N: 48° 22' 20&quot;</td>
</tr>
<tr>
<td>longitude</td>
<td>W: 123° 55' 45&quot;</td>
</tr>
</tbody>
</table>

Character of Light:
A flashing white light which showed three bright flashes every 7½ seconds in the following pattern:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash</td>
<td>¼ second</td>
</tr>
<tr>
<td>Eclipse</td>
<td>1½ seconds</td>
</tr>
<tr>
<td>Flash</td>
<td>¼ second</td>
</tr>
<tr>
<td>Eclipse</td>
<td>1½ seconds</td>
</tr>
<tr>
<td>Flash</td>
<td>¼ second</td>
</tr>
<tr>
<td>Eclipse</td>
<td>3½ seconds</td>
</tr>
</tbody>
</table>
Elevation:
72 feet above the high water mark.\textsuperscript{764}

Visibility:
14 nautical miles from all points of approach by water.\textsuperscript{765}

Purpose:
It was of assistance to vessels since the surrounding coastline did not have many distinctive features.\textsuperscript{766}

Type of Lighting Apparatus:
a third order dioptric apparatus with a capacity of 55,000 candle power.\textsuperscript{767} The triple flashing optic and accompanying 7-foot lantern were supplied by J. Inglis of Toronto.\textsuperscript{768} Petroleum vapour, burned under an incandescent mantle, was used as the illuminant.\textsuperscript{769}

Structure:
It consisted of a reinforced concrete, hexagonal tower, surmounted by a red, circular metal lantern. The tower was painted white, and it measured 64 feet from its base to the vane on the lantern.\textsuperscript{770} In addition to the tower, a wooden dwelling, boathouse, and oil shed also stood on the site.\textsuperscript{771}

Builder:
T. Stedham was awarded the contract for the construction of the tower and auxiliary buildings.\textsuperscript{772}

Additions and Alterations:
none to 1920.

Lightkeepers of Note:
E.T. Arden was appointed keeper on 30 August 1912.\textsuperscript{773}
General Remarks:
Figure 41 illustrates Sheringham Point lighthouse prior to 1920 (see Figure 41).

Sisters Lighthouse

Also Known As:
Sisters Rock\textsuperscript{774} and The Sisters Lighthouse.\textsuperscript{775}

Date:
put into operation in December of 1898.\textsuperscript{776}

Location:
on the easterly and largest of the three rocks forming the Sisters Group in the Strait of Georgia.\textsuperscript{777} In 1899, its magnetic bearings were:

\begin{align*}
\text{latitude} & \; N: \; 49^\circ 29' \; 3'' \\
\text{longitude} & \; W: \; 124^\circ 27' \; 34''
\end{align*}

Character of Light:
fixed white light.\textsuperscript{779}

Elevation:
46 feet above high water mark.\textsuperscript{780}

Visibility:
12 miles in clear weather.\textsuperscript{781}

Purpose:
It assisted mariners travelling through Stevens Passage.\textsuperscript{782}
Type of Lighting Apparatus:
dioptric of the seventh order. 783

Structure:
It consisted of a white, rectangular, wooden dwelling-house with a square tower rising above the northwestern corner of the building. The tower was surmounted by a red, octagonal, wooden lantern. The building measured 36 feet from the masonry platform to the ventilator on the lantern. "The masonry foundation and platform [were] designed both to give good cellar accommodation and to provide a level surface for working around the building." 784

Builder:
The contract for construction was awarded to George Frost of Nanaimo. 785

Auxiliary Aids to Navigation:
A mechanically operated fog bell was hung from the northeastern corner of the building. It sounded 1 stroke every 30 seconds in foggy weather. 786

Previous Navigational Aids:
The lighthouse replaced a day beacon which had previously been maintained on the site. 787 The wooden, pyramidal beacon was erected prior to 1892. 788

Additions and Alterations:
Change in Character of Light
It was changed from a fixed white to an occulting white light which was alternately visible for 20 seconds and eclipsed for 10 seconds. The illuminating apparatus was dioptric of the sixth order. 789
**Fog Alarm Established**

By 21 April 1908, a diaphone fog alarm had been put into operation. It gave 2 blasts of 3 seconds duration every 90 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 seconds</td>
<td>4 seconds</td>
<td>3 seconds</td>
<td>80 seconds</td>
</tr>
</tbody>
</table>

The diaphone was housed in a white, rectangular, wooden building. It had a red roof and was situated eastward of the lighthouse. The 1½-inch diaphone plant was supplied by the Canadian Fog Alarm Company of Toronto, and the machinery was installed by day labour. The fog bell was discontinued when the diaphone was put into operation.

**Change in Character of Light**

On or about 10 December 1913, the occulting white light was replaced by a flashing white light. The new apparatus showed 2 flashes every 10 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Flash</th>
<th>0.25 second</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eclipse</td>
<td>1.75 seconds</td>
</tr>
<tr>
<td>Flash</td>
<td>0.25 second</td>
</tr>
<tr>
<td>Eclipse</td>
<td>7.75 seconds</td>
</tr>
</tbody>
</table>

It was dioptric of the fourth order and it burned petroleum vapour under an incandescent mantel. The apparatus had a capacity of 25,000 candle power. The occulting white light was discontinued on or about 20 November 1913, and a temporary white light was put into use until the new illuminating apparatus and a new lantern could be installed. The lantern was made of iron and it was octagonal in shape. It was installed by day labour under the foremanship of L. Cullinson.

**Lightkeepers of Note:**

Harry Higgins was appointed keeper on 1 October 1899.

**General Remarks:**

Figure 42 illustrates Sisters Lighthouse in 1902 (see Figure 42).
Trial Island Lighthouse

Date:
temporary light put into operation in 1906. 796

Location:
on Trial Island in Juan de Fuca Strait. In 1906, its magnetic bearings were:
   latitude N: 48° 23' 36"
   longitude W: 123° 18' 45" 797

Character of Light:
temporary fixed white light. 798

Elevation:
84 feet above high water mark. 799

Visibility:
visible for 15 miles from all points of approach by water. 800

Purpose:
It was of assistance to vessels venturing to and from Victoria harbour. 801

Type of Lighting Apparatus:
dioptric of the seventh order. 802

Structure:
It consisted of a white, square, wooden dwelling surmounted by a red, square, wooden lantern. It measured 40 feet from the sills to the vane on the lantern. 803

Builder:
The contract for the lighthouse and fog alarm building was
Auxiliary Aids to Navigation:
A diaphone was put into operation on 1 September 1906. It sounded 1 blast of about 3 seconds duration every minute in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 seconds</td>
<td>57 seconds</td>
<td>3 seconds</td>
<td>57 seconds</td>
</tr>
</tbody>
</table>

The diaphone apparatus was housed in a white, rectangular, wooden building which was situated southeast of the lighthouse. The horn projected from the south end of the red roofed building and it pointed S. 22° E.

Additions and Alterations:

**Change in Sounding of Fog Alarm**
On 1 June 1907, the fog alarm was changed to sound 2 blasts in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 seconds</td>
<td>2 seconds</td>
<td>2 seconds</td>
<td>84 seconds</td>
</tr>
</tbody>
</table>

**Permanent Light**
By 16 November 1908, the temporary light had been replaced by a double flashing white light of the fourth order. It showed a group of 2 flashes every 10 seconds with a short interval between each flash. The lighthouse was surmounted by a red, circular metal lantern. The building measured 41 feet in height.

**Change in Recorded Bearings**
By 1 April 1915, the true bearings were recorded as being:

- latitude N: 48° 23' 47"
- longitude W: 123° 18' 18"

**Lightkeepers of Note:**
H.S. O'Kell was appointed principal keeper on 20 August 1906 and J. McDonald was appointed keeper by 1907.
General Remarks:
Figure 43 is an undated photograph of Trial Island Lighthouse (see Figure 43).

**Triangle Island Lighthouse**

Date:
put into operation on 1 November 1910. 

Position:
on the summit of Triangle Island, the most western of the Scott Islands. In 1910, its magnetic bearings were:
latitude N: 50° 51' 48"
longitude W: 129° 4' 50"

Character of Light:
flashing white light which showed a group of 4 bright flashes every 10 seconds in the following pattern:
- Flash 0.28 second
- Eclipse 1.28 seconds
- Flash 0.28 second
- Eclipse 1.28 seconds
- Flash 0.28 second
- Eclipse 1.28 seconds
- Flash 0.28 second
- Eclipse 5.04 seconds

Elevation:
700 feet above the high water mark.

Visibility:
visible for 34 miles from all points of approach.

Purpose:
It was probably established to assist vessels travelling between Goletas Channel and Quatsino Sound.
Type of Lighting Apparatus:
dioptric of the first order. It was illuminated by petroleum vapour which was burned under an incandescent mantle. 818

Structure:
It was a white, octagonal, reinforced concrete structure which was surmounted by a red, circular, metal lantern. The height of the tower from the base to the vane on the lantern was 46 feet. 819

Builder:
It was built by day labour under the foremanship of J.D. MacDonald. 820

Auxiliary Aids:
By 26 July 1910, a wireless telegraph had been put into operation and vessels equipped with any type of wireless apparatus could communicate with the station. It had a range of 300 miles and the call letters were T.L.D. 821

Additions and Alterations:
Call Letters Changed
By 1 April 1915, the call letters for the wireless telegraph had been changed to V.A.G. 822

Light Permanently Discontinued
The maintenance of the group flashing white light was permanently discontinued without further notice after 6 June 1919. 823

Lightkeepers of Note:
J.W. Davies was appointed keeper on 14 October 1910. 824
General Remarks:
Figure 44 illustrates Triangle Island Lighthouse ca. 1919 (see Figure 44).

**Triple Island Lighthouse**

Date:
put into operation on or about 1 January 1921. 825

Position:
on the northwesterly rock of the Triple Islet Group. In 1920, the true bearings were:

- latitude N: 54° 17' 36"
- longitude W: 130° 52' 40" 826

Character of Light:
double flashing white light showing a double flash every 8 seconds. 827

Elevation:
97 feet above the high water mark. 828

Visibility:
16 nautical miles from all points of approach. 829

Purpose:
It was established as an aid to marine traffic travelling from the Inside Passage to Alaska, and for deep sea ships bound for Prince Rupert. 830

Type of Lighting Apparatus:
dioptric of the third order. It was illuminated by petrol-
eum vapour which was burned under an incandescent mantle. 831
Structure:
It consisted of a reinforced concrete tower which rose from a corner of a square concrete building containing a fog alarm and dwelling. The structure was painted white and the lantern was red. It measured 76 feet from the base to the ventilator on the lantern. 832

Builder:
J.H. Hilditch was awarded the contract for the construction of the lighthouse. In the course of erecting the structure, he encountered a number of difficulties which slowed the progress of the work. During October of 1919, nineteen thousand feet of lumber, and a scow loaded with supplies and gravel, were lost during heavy storms. In December of the same year, provisions valued at $1,200 were stolen from the works, and a very violent storm, in April 1920, washed all the camp buildings off the Island. 833

Auxiliary Aids to Navigation:
A diaphone sounded 1 blast of 4 seconds duration in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 seconds</td>
<td>26 seconds</td>
</tr>
</tbody>
</table>

The horn was elevated 50 feet above high water and it projected from the westerly corner of the building. It pointed 278° (S. 69° W. Mag.). 834

Previous Lights on the Site:
Gaslighted Beacon
A gaslighted beacon was established on the northwesterly rock of the Triple Islet Group on 1 July 1913. It was an unwatched white light which was automatically occulted at short intervals. It was elevated 47 feet above the high water mark, and was visible for 12 nautical miles from all points.
of approach. The light was displayed from a lens lantern, and it was illuminated by automatically generated acetylene. The structure consisted of a red, steel cylindrical tank, surmounted by a pyramidal steel frame, which supported the lantern.

**Change in Position of Beacon**

During the construction of the lighthouse, the gaslighted beacon was moved to the northeasterly rock of the Triple Islet Group.

**Lightkeepers of Note:**
The name of the first keeper stationed at Triple Island is not known.

**General Remarks:**
Figure 45 shows Triple Island Lighthouse, in November of 1919, while it was under construction (see Figure 45).

---

**Yellow Island Lighthouse**

**Date:**
put into operation on 1 January 1891.

**Location:**
on the summit, southeast of Denman Island, at the southeast entrance to Baynes Sound. In 1896, its magnetic bearings were:

\[
\begin{align*}
\text{latitude N: } & 49^\circ 28' 16'' \\
\text{longitude W: } & 12[4]^\circ 42' 10''
\end{align*}
\]

**Character of Light:**
group revolving white light which showed 3 bright flashes with intervals of 15 seconds between the points of greatest
brilliancy. The flashes were followed by an interval of approximately 30 seconds when the light was eclipsed. The apparatus made a complete revolution in 1 minute.

Elevation:
was elevated 120 feet above the high water mark.

Visibility:
was visible for 17 miles from all seaward points except where the light was intercepted by trees and high land on Denman and Hornby Islands.

Purpose:
It assisted mariners coming from an easterly direction by indicating the eastern entrance to Baynes Sound.

Type of Lighting Apparatus:
catoptric apparatus.

Structure:
It was a white, square, wooden building surmounted by a red, iron, lantern. A dwelling was attached to the structure, and it measured 55 feet from the base to the vane on the lantern.

Builder:
J.A. Bittancourt, of Nanaimo, was awarded the contract for construction. However, the work was not performed in accordance with the specifications, and it was completed under the supervision of Department officers.

Additions and Alterations:
Establishment of Range Lights
In 1898, the large revolving light was discontinued, and the
lantern and illuminating apparatus were put into operation at Egg Island. The upper part of the tower was removed, and the entire building was used as a dwelling. By 16 July 1898, two new range lights had been established. The front tower was 290 feet S. 74° W. from the back range tower. It was constructed of wood, and it measured 20 feet from base to vane. It was surmounted by a fixed, white catoptric light which was elevated 48 feet above the high water mark. It was only visible to the westward and in the direction of the fairway. The back range tower was situated near the eastern end of the island. It consisted of a wooden building, surmounted by a wooden lantern, which measured 28 feet from base to vane. The apparatus was dioptric of the seventh order, and it was elevated 71 feet above the high water mark. It produced a fixed white light. When the two lights merged to form one beam, mariners could mark the fairway between Maple Spit beacon and Reef Point. 847

Fog Alarm Established
A diaphone was put into operation by 21 April 1908. It was operated by air, compressed by an oil engine, and it gave 3 blasts in a period of 112\(\frac{1}{2}\) seconds in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent</th>
<th>Blast</th>
<th>Silent</th>
<th>Blast</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>2(\frac{1}{2})seconds</td>
<td>4seconds</td>
<td>2(\frac{1}{2})seconds</td>
<td>4seconds</td>
<td>2(\frac{1}{2})seconds</td>
<td>97seconds</td>
</tr>
</tbody>
</table>

The diaphone was housed in a white, rectangular, wooden building. The structure had a red roof, and it was situated on the eastern end of Yellow Island. The horn pointed to the eastward. 848 The 1\(\frac{1}{2}\)-inch diaphone plant was supplied by the Canadian Fog Signal Company, of Toronto, and the apparatus was installed by day labour. 849

Lightkeepers of Note:
T.H. Piercy was appointed keeper on 4 November 1890. 850
General Remarks:
Figure 46 is an undated photograph of Yellow Island (see Figure 46).
Range Lighthouses

Range lighthouses were in use as aids to navigation on the British Columbia coastline prior to 1920. They consisted of two leading lights which were housed in separate towers. Leading lights are intended, "... to indicate to the mariner a given line of direction by their being seen in one line." The line of the range directed the mariner away from dangers or shoals, and towards the best channel for navigation.

Comox Bar

Date:
lights were put into operation on or about 15 September 1915

Location of Front Lighthouse:
on the western shore of Baynes Sound, Vancouver Island. It was situated 20 feet from the water's edge. In 1915, its true bearings were:

  latitude N.: 49° 37' 26"
  longitude W.: 124° 54' 2"

Location of Back Lighthouse:
1000 feet and 222° (S.17° W. Magnetic) from the front range lighthouse.

Character of Lights:
fixed white lights.
Visibility of Front Light:
10 miles from all points of approach by water. 

Visibility of Back Light:
13 miles in the line of the range.

Purpose:
The lights in one bearing of 222° led over Kelp Bar.

Type of Lighting Apparatus:
The front light was dioptric of the fourth order and it was illuminated by electricity. The back light was catoptric, and it was also illuminated by electricity. The back light had an 18 inch reflector.

Structure of Front Lighthouse:
It consisted of a square, wooden, enclosed tower with sloping sides surmounted by square lantern. The structure was painted white.

Structure of Back Lighthouse:
It was a white, square, wooden, open-framed tower which was surmounted by a white, enclosed watchroom and lantern.

Builder:
It was built by day labour under the foremanship of W.H.P. Trowsdale.

Additions and Alterations:
none recorded to 1920.

Lightkeepers of Note:
This was a contract lightstation.
General Remarks:
Figure 47 illustrates both the front and back range light­houses in 1915 (see Figure 47).

Masset

Also Known As:
Masset Inlet

Date:
first put into operation in 1913

Location of Front Lighthouse:
on the western extremity of Entry Point. In 1915, its true
bearings were:

latitude N.: $54^\circ 2' 40''$
longitude W.: $132^\circ 11' 53''$

Location of Back Lighthouse:
900 feet and $155^\circ 50'$ from the front lighthouse.

Character of Lights:
fixed white lights.

Elevation of Front Light:
30 feet above high water.

Elevation of Back Light:
63 feet above high water.

Visibility of Front Light:
10 miles in clear weather.
Visibility of Back Light:
13 miles in clear weather. It was visible from all points of approach by water.23

Purpose:
The lights in a line of $155^\circ 50'$ led across the bar at the entrance to Masset harbour.24

Type of Lighting Apparatus:
The front light was catoptric and the back light was dioptric of the fourth order.25

Structures:
The front lighthouse26 consisted of a white, square, wooden structure which was 27 feet in height. The back light was exhibited from a red, square, steel, skeleton tower which was 62 feet in height. It had white, wooden slats on the upper portion facing the alignment.27

Builder:
The structures were built and the lighting apparatus installed by day labour under the foremanship of L. Cullison.28

Additions and Alterations:
By 18 June 1915, the arc of visibility of the front range light had been increased to the eastward because trees had been cleared off of the end of Entry Point. Consequently, the front light was visible from $155^\circ 50'$ (S. $52^\circ$ E. Magnetic) to $197^\circ 50'$ (S. $10^\circ$ E. Magnetic).29

Lightkeepers of Note:
Henry Weah was appointed keeper on 5 September 1913.30
General Remarks:
A period photograph of the Masset range has not been located.

Porlier Pass

Also Known As:
Portier Pass

Date:
on or about 15 November 1902

Location of Front Lighthouse:
situated on Race Point 40 feet from the end of the point.
In 1902, its magnetic bearings were:
latitude N.: 49° 0' 57"
longitude W.: 123° 35' 2"

Location of Back Lighthouse:
on Virago Point. It was situated 1200 feet S. 5° E. from the front light.

Character of Lights:
fixed white lights.

Elevation of Front Light:
21 feet above high water.

Elevation of Back Light:
32 feet above high water.

Visibility of Front Light:
9 miles in clear weather. It was visible in the line of the range.
Visibility of Back Light:
10 miles in clear weather. It was visible from all points of approach by water.

Purpose:
It is possible that range lights were established in Porlier Pass as a result of an accident which took place in the pass on 14 March 1901. On that day, the steamer Boscowitz struck a rock between Valdes and Galiano Islands.

The establishment of range lights on Race and Virago Points facilitated navigation of the pass.

Type of Lighting Apparatus:
The front light was catoptric and the back light was dioptric of the seventh order.

Structure of Front Lighthouse:
It consisted of a white, square, wooden structure with a red, octagonal, wooden lantern. It measured 24 feet from the base to the ventilator on the lantern.

Structure of Back Lighthouse:
It was a white, square, wooden structure surmounted by a red lantern. It was 31 feet in height.

Builder:
They were built by day labour under the supervision of Thomas Tubman.

Additions and Alterations:
Change in recorded bearings
By 1 April 1908, the magnetic bearings were recorded as being:

latitude N.: 49° 0' 32"
longitude W.: 123° 35' 5"
Arc of Visibility Increased
The light on Race Point showed an increased arc of visibility by 29 August 1912. The light could be seen eastward to Dionisio Point and in the line of the range over an arc of 68° from 196° 30' (S. 8° E. Magnetic) to 264° 30' (S. 60° W. Magnetic). It was dioptric of the fifth order.

Hand Fog Horn Established
By 8 January 1913, a hand fog horn was used to answer vessels' signals.

Lightkeepers of Note:
Frank Fagan Allison was appointed keeper on 12 November 1902.

General Remarks:
Figure 48 shows the lighthouses in Porlier Pass (see Figure 48).

Yellow Island Lighthouses
See the preceding chapter on "Individual Lighthouses" for a description of the range lighthouses on Yellow Island.
Lightships

Four lightships were used on the British Columbian coast prior to 1920, and each of these vessels was stationed at the entrance to the Fraser River.

"Eliza"

Date:
established on 4 May 1880\(^1\) and permanently withdrawn from service on or about 1 May 1884.\(^2\)

Position:
maintained off of the South Sandhead of the Fraser River.\(^3\)

Character of Light:
unknown.

Elevation:
unknown.

Visibility:
unknown.

Purpose:
When the South Sand Head lightship became unserviceable, it was replaced by this vessel.\(^4\) The Eliza was temporarily used pending the construction of the Sandheads lighthouse.\(^5\)
Type of Lighting Apparatus:
unknown. It was apparently illuminated by dog fish oil and fish oil.

Structure:
It was a schooner.

Owner:
The vessel was hired on a contract basis from Joseph Middleton.

Additions and Alterations:
None recorded to 1884.

Lightkeepers of Note:
It seems that Joseph Middleton, the master of the Eliza, acted as the keeper of the light.

General Remarks:
An illustration of this temporary lightship has not been located.

"Fraser River Light Vessel"

Also Known As:
South Sand Head

Date:
light was first exhibited on 4 January 1866.

Location:
at the entrance to the Fraser River. In 1866, its magnetic bearings were:
Character of Light:
fixed white light.\textsuperscript{15}

Elevation:
approximately 54 feet.\textsuperscript{16} The mainmast was "... exclusively used for the elevation of the lantern, and the hoist from the deck to the hounds [was] 48 feet; the rigging and stays [were] supported at the Mast head by iron cross trees, which [permitted] the Lantern to be hoisted close up."\textsuperscript{17}

Visibility:
It was reported that the light could be distinctly seen from high land in the town site of New Westminster. This community was 20 miles distant from the lightship. The light was also visible across the Strait of Georgia within a radius of 11 miles.\textsuperscript{18}

Purpose:
The first mention of the need for a lightship at the entrance to the Fraser River was made by Captain George Henry Richards in a report concerning the harbours of Vancouver Island and the coast of British Columbia. The report was forwarded to Governor Douglas on 23 October 1858, and it stated the following recommendations.

The measures I would propose to be adopted to render the navigation safe and easy, in the event of the [Fraser] river rising in commercial importance are as follows.--

A small vessel prepared for the purpose to carry a Signal by day and a light by night, should be moored with suitable anchors and chains near the South Sand head; on board her should be
stationed a Pilot provided with a whale boat, and whose special duty it should be to keep the buoys in their positions and replace them if carried away by tide or floating timber.¹⁹

Type of Lighting Apparatus:
8 argand lamps with parabolic reflectors were suspended in the lantern. The lamps burned colza oil.²⁰ Joseph Bien, of San Francisco, constructed the lamps and illuminating apparatus.²¹

Structure:
James Cooper forwarded the following description to the Colonial Secretary on 13 January 1866.

The Light Ship recently placed at the South Sand Heads of [the] Fraser River is as follows:
Built of Native growth timber of British Columbia.
Length of Keel 72 feet 0 inches
Breadth of Beam 20 feet 0 inches
Depth of Hold 8 feet 6 inches
Tonnage - Builders Measurement 128 80/95 tons

The Light Ship is strongly built, having a Serf boat Stern, 13 Kelsons, 2 bilge rolling chocks, Kneed with Wood and iron Knees fore and aft. Coppered and Copper fastened to the water line, provided with 2 boats (one of which is a life boat). The Vessel is painted red with the words "South Sand Head" in letters of 2 feet in length painted [in] white on the bulwarks. ...

The Vessel has two Masts and stump bowsprit and provided with Storm Sails.²²

Builder:
It seems that Messrs. Bolton and Cook, of Victoria, were awarded the contract for the construction of the lightship.²³
Auxiliary Aids:
A large steel bell was constantly rung in thick or foggy weather. A red, ribbed ball which was 5 feet in diameter was displayed from the head of the main mast. It served as a day beacon.

Additions and Alterations:
*Change in Recorded Bearings and Physical Description*

By 1872, the magnetic bearings were recorded as being:

- latitude N.: 49° 3' 50"
- longitude W.: 123° 16' 40"

At this time, the lantern was reported as being 70 feet above high water.

The vessel was damaged during a gale in November of 1871, and extensive repairs were made. In the course of refitting the ship, the fog bell was taken from the front of the vessel and it was hung near to the cabin hatch.

*Vessel Repaired*

On 20 April 1878, the vessel sustained damage during a gale. During May and June of that year, the vessel was taken out of the water and repaired. While out of the water, it was discovered that the lantern mast and keelson were decaying, and that dry rot had spread through the top sides and deck frame.

*Vessel Withdrawn from Service*

The lightship was withdrawn from service by 10 September 1879. It was removed and offered for sale because of the condition caused by dry rot in the hull.

Lightkeepers of Note:

In 1866, the crew of the lightship consisted of a master, who served as the principal keeper, 1 assistant lightkeeper, and 3 men. James Jolly, a mariner, was the master and keeper of the lightship when it was first established.
General Remarks:
To date, an illustration of this lightship has not been located.

"Sand Heads"

Also Known As:
Fraser River, Sandheads, Lightship

Date:
on or about 18 October 1905

Location:
at the outer edge of the Sandheads at the point where the main channel of the Fraser River reaches deep water in the Strait of Georgia. In 1905, its magnetic bearings were:
- latitude N.: [49°] 6' 55"
- longitude W.: 123° 18' 8".

Character of Light:
fixed white light.

Elevation:
56 feet above the water.

Visibility:
13 nautical miles from all points of approach.

Purpose:
The light in the Sandheads lighthouse was discontinued when this lightship was put on station.

Type of Lighting Apparatus:
anchor lens lantern supported above the fore topmast head.
Structure:
It was a wooden vessel with two bare masts and no bowsprit. It was painted red with the words "Sand Heads" painted in white on the forward bulwarks. It was copperbottomed and the upper works were painted light gray.

Owner:
This vessel was originally named the Mermaid, and it was purchased from the Victoria Sealing Company for $3,000. The schooner was thoroughly overhauled and converted to a lightship.

Auxiliary Aids:
A mechanical fog bell stood foreward of the mast and it gave 1 stroke every 10 seconds.

Additions and Alterations:
Additional Light
By 22 December 1905, a second fixed white light was shown from an anchor lens lantern at the mainmast head. Both lights were elevated 56 feet above the water and they were 29 feet apart. The lights were dioptric of the seventh order.

Diaphone Established
By 15 November 1912, the mechanical fog bell was replaced by a diaphone. The diaphone was operated by air compressed by an oil engine, and it gave one blast of 3 seconds duration every 30 seconds in the following pattern:

<table>
<thead>
<tr>
<th>Blast</th>
<th>Silent Interval</th>
<th>Blast</th>
<th>Silent Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 seconds</td>
<td>27 seconds</td>
<td>3 seconds</td>
<td>27 seconds</td>
</tr>
</tbody>
</table>

The diaphone was housed in the white, rectangular, wooden deck house which was situated between the masts of the vessel. The horn pointed about 271° (S. 67° W. Magnetic). In 1912, the true bearings of the lightship were:
Temporarily Removed for Repairs
By 23 December 1912, the lightship had been temporarily removed from its station for repairs. 47

Lightkeepers of Note:
Michael O'Brien was appointed Keeper on 26 September 1906. 48

General Remarks:
An illustration of this vessel has not been located.
Since the Sand Heads No. 16 was established in the spring of 1913, it seems that the services of the Sand Heads were discontinued in 1912.

"Sand Heads No. 16"

Date:
established by 15 April 1913 49

Location:
the point on the outer edge of the Sandheads where the main channel of the Fraser River reached deep water in the Strait of Georgia.

latitude N.: 49° 6' 17"
longitude W.: 123° 18' 15" 50

Character of Lights:
two fixed white lights. One light was shown from each masthead. 51

Elevation:
40 feet above the water. 52
Visibility:
11 miles from all points of approach.\textsuperscript{53}

Purpose:
It appears to have replaced the Sand Heads lightship which was established in 1905.

Type of Lighting Apparatus:
dioptric of the seventh order.\textsuperscript{54}

Structure:
It was a red, wooden, vessel with two masts. Sand Heads No. 16 appeared in white letters on the forward bulwarks. The upper works were painted light gray.\textsuperscript{55}

Builder:
The schooner was originally named the Thomas F. Bayard, and it was built in Brooklyn, New York, in 1880. It was a pilot boat and sealing schooner before being refitted as a lightship.\textsuperscript{56}

Auxiliary Aids:
A diaphone sounded 1 blast every 30 seconds in the following pattern: blast, 3 seconds; and silence, 27 seconds. It was operated by air compressed by an oil engine and the horn pointed approximately 271°.\textsuperscript{57}

Additions and Alterations:
\textit{Submarine Bell}
On or about 15 October 1913, the lightship was fitted with a submarine bell. It struck the number "22" every 16 seconds in the following pattern: stroke; interval of 2 seconds; stroke; interval of 4 seconds; stroke; interval of 2 seconds; stroke; interval of 8 seconds.\textsuperscript{58} The submarine apparatus
was purchased from the Submarine Signal Company of Boston.\textsuperscript{59}

\textit{Temporarily Removed for Repairs}

Between 15 May and 15 June 1914, the vessel was temporarily removed for repairs.\textsuperscript{60}

\textit{Change in Position of Lightship}

By 14 October 1914, the vessel was situated in 16 fathoms of water on the port side of the entrance to the new, main channel of the Fraser River. It was 0.71 miles and 357° (N. 28° W. Magnetic) from its old position, and 1 1/3 miles and 288° 30' (S. 83° 30' W. Magnetic) from the South Curve light.\textsuperscript{61} Its true bearings in 1915 were:

- \textit{latitude N.}: 49° 6' 53"
- \textit{longitude W.}: 123° 18' 20"\textsuperscript{62}

\textit{Temporarily Removed for Repairs:}

It was temporarily removed for repairs between 15 September and 1 November 1919.\textsuperscript{63} By 1 April 1920, it had returned to its station in 16 fathoms off of the main entrance to the river.\textsuperscript{64}

\textit{Lightkeepers of Note:}

It seems that M. O'Brien continued as Keeper of this lightship after the \underline{Sand Heads} was removed from service.\textsuperscript{65}

\textit{General Remarks:}

Figure 49 is an undated photograph of the \underline{Sand Heads No. 16} lightship (see Figure 49).
Appendix A. Other Lights maintained in the British Columbia District as of 1 April 1920.

The following list is taken from: Canada, Department of Marine and Fisheries, *List of Lights and Fog-signals of the Dominion of Canada on the Pacific Coast and the Rivers and Lakes of British Columbia corrected to the 1st April 1920* (Ottawa: King’s Printer, 1920).

The term "other lights" is used to describe lights which were attached to beacons, buoys, poles, masts, tanks and steel frame work structures.

**Aiskew Island**

Date:
1913

Location:
on the east extreme of the island, Observatory Inlet.

latitude N.: 55° 22' 42"
longitude W.: 129° 46' 0"

Character of Light:
occulting white light.

Elevation:
40 feet above high water.

Visibility:
8 miles in clear weather.
Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
White, steel, cylindrical tank, surmounted by white, pyramidal, steel frame, supporting the lantern. It was situated on a square concrete base.

Remarks:
It was visible from all points of approach and the light was unwatched.

Alberni
Date:
1910

Location:
on E. side of channel at entrance to Somass river, Alberni canal.
latitude N.: 49° 14' 28"
longitude W.: 129° 49' 46"

Character of Light:
fixed white light.

Elevation:
15 feet above high water.

Visibility:
5 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the seventh order.
Structure:
lantern on small white, square, wooden tower, on platform supported on piles.

Remarks:
It was visible from all points of approach. The light was unwatched.

Alford Reefs Gas Buoy

Date: 1919

Location:
about 1/10 of a mile from the west extreme of Alford reefs.
latitude N.: 54° 18' 3"
longitude W.: 130° 30' 33"

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
red, steel, cylindrical.

Barrett Rock

Date: 1919

Location:
on the rock in Prince Rupert harbour.
latitude N.: 54° 14' 32"
longitude W.: 130° 20' 38"
Character of Light:
occulting red light.

Elevation:
22 feet above high water.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, reinforced concrete tower, surmounted by a square concrete house, with a lantern on the top. It was 44 feet high.

Remarks:
A diaphone was installed in 1919 and it gave 2 blasts of 2 seconds duration every 30 seconds in the following pattern: blast 2 seconds; silent 3 seconds; blast 2 seconds; and silent 23 seconds. The horn pointed 198° and it was situated 13 feet above high water. The diaphone was operated by air compressed by electricity. It was controlled from the dwelling which was located on the shore directly east of the beacon.

Birnie Island

Date:
established in 1904 and altered in 1917.

Location:
on the rock 100 feet south of Knox Point.
latitude N.: 54° 35' 22"
longitude W.: 130° 27' 49"
Character of Light: occulting white light.

Elevation: 28 feet above high water.

Visibility: 10 miles in clear weather.

Type of Apparatus: dioptric; acetylene.

Structure: white steel cylindrical tank surmounted by a white pyramidal steel frame. It was situated on a concrete base.

Remarks: It was visible over an arc of $250^\circ$ from $256^\circ$ through W., N., and E. to $146^\circ$. It was unwatched.

Boat Bluff

Date: 1907

Location: on the western side of Boat Bluff on Sarah Island.

<table>
<thead>
<tr>
<th>Latitude</th>
<th>Longitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.: 52° 38' 42&quot;</td>
<td>W.: 128° 32' 48&quot;</td>
</tr>
</tbody>
</table>

Character of Light: occulting white light.

Elevation: 26 feet above high water.
Visibility:
5 miles in clear weather.

Type of Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank which was surmounted by white pyramidal steel frame; white steel framework foundation.

Remarks:
It was visible from all points of approach by water and it was unwatched.

**Brotchie Ledge Beacon**

Date:
1900.

Location:
off the entrance to Victoria harbour.

\[
\begin{align*}
\text{latitude N.:} & \quad 48^\circ 24' 23'' \\
\text{longitude W.:} & \quad 123^\circ 23' 7''
\end{align*}
\]

Character of Light:
occulting white light with a 15 second interval.

Elevation:
22 feet above high water.

Visibility:
9 miles in clear weather.
Type of Lighting Apparatus:
dioptric; pressed glass lens; electric.

Structure:
black, steel sheathed, conical beacon; black steel, open framework top.

Remarks:
The light was visible for 10 seconds and eclipsed for 5 seconds. It was visible from all points of approach. The light was not to be depended upon. In the event of a failure of electricity an oil light was shown.

An electric fog bell sounded once every 10 seconds. If the fog bell became disabled, an electric horn was sounded. Whenever the electricity was shut off, it was impossible to operate either alarm.

**Browning Entrance Gas and Whistle Buoy**

Date:
1909.

Location:
in 20 fathoms off White Rocks near the N.W. end of Banks Island.

latitude N.: 53° 39' 50"
longitude W.: 130° 35' 9"

Character of Light:
occulting white light.

Type of Apparatus:
dioptric; gas.
Structure:
red, steel, cylindrical; surmounted by a pyramidal, steel frame, supporting whistle and lantern.

Remarks:
The whistle was sounded by the motion of the buoy on the waves.

---

**Burnaby Shoal Beacon**

Date:
established in 1912 and altered in 1914.

Location:
on the shoal in 15 feet of water.
latitude N.: 49° 17' 39"
longitude W.: 123° 6' 38"

Character of Light:
fixed red light.

Elevation:
14 feet above high water.

Type of Lighting Apparatus:
electric; incandescent lamp.

Structure:
lantern and bell on tripod on a red wooden platform supported on piles.

Remarks:
The light was unwatched. An electric fog bell was installed in 1914. The bell gave 2 strokes in quick succession every 5 seconds.
**Camp Island**

Date:  
1911

Location:  
on the southern end of Lama Passage  
latitude N.: 52° 6' 6"  
longitude W.: 128° 8' 43"

Character of Light:  
occulting white light.

Elevation:  
32 feet above high water.

Visibility:  
4 miles in clear weather.

Type of Lighting Apparatus:  
dioptric; acetylene.

Structure:  
white, steel, cylindrical tank; surmounted by a white,  
pyramidal, steel frame; white steel framework foundation.

Remarks:  
It was visible over an arc of 218°, from 310° 30' through  
N. and E. to 168° 30'.

---

**Camp Point**

Date:  
1919
Location:
on the point opposite Yolk Point, south, entrance to Grenville Channel.
    latitude N.: 53° 22' 36"
    longitude W.: 129° 19' 20"

Character of Light:
occulting white light.

Elevation:
22 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptic; acetylene.

Structure:
concrete base surmounted by a staff carrying a white, wooden slatwork ball with lantern.

Remarks:
The light was unwatched.

Canadian Pacific Railway Pier D, Vancouver

Date:
1917

Location:
one light on the northwest corner of the pier.
    latitude N.: 49° 17' 18"
    longitude W.: 123° 6' 30"
one light on the northeast corner of the pier.
   latitude N.: 49° 17' 17"
   longitude W.: 123° 6' 27"

Character of Lights:
the light on the northwest corner of the pier was fixed red
and the light on the northeast corner was fixed green.

Elevation:
6 feet above high water.

Type of Lighting Apparatus:
electric.

Remarks:
The lights were maintained by the Canadian Pacific Railway
Company. In 1917, a fog bell was installed on the northerly end of the pier. It rang continuously during foggy
weather.

Canoe Rock

Date:
1911

Location:
on the rock.
   latitude N.: 48° 44' 1"
   longitude W.: 123° 20' 20"

Character of Light:
occulting white light.
Elevation:
25 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
red, steel, cylindrical tank, standing on a grey hexagonal concrete beacon, and surmounted by a red, pyramidal steel frame.

Remarks:
It was visible from all points of approach. The light was unwatched. Figure 50 shows the light on 28 July 1914 (see Figure 50).

Casey Point Gas Buoy

Date:
1908

Location:
in 7 fathoms 1/10 of a mile and 256° from the point.
latitude N.: 54° 16' 21"
longitude W.: 130° 21' 43"

Character of Light:
occulting red light.

Type of Lighting Apparatus:
dioptric; gas.
Structure:
red, steel, cylindrical; surmounted by a pyramidal steel frame.

**Channel Rock**

Date:
1914

Location:
on Channel Rock between Shark Spit and Cortes Island.

latitude N.: 50° 5' 33"
longitude W.: 125° 3' 43"

Character of Light:
fixed white light.

Elevation:
16 feet above high water.

Visibility:
5 miles in clear weather.

Type of Lighting Apparatus:
dioptric; pressed glass lens.

Structure:
pole set in a concrete base, surmounted by a white wooden lattice work ball, and a cross arm carrying a lantern.

**Channel Rocks Gas and Whistle Buoy**

Date:
1913
Location:
in 20 fathoms on E. side of rocks.
   latitude N.: 48° 49' 22"
   longitude W.: 125° 12' 10"

Character of Light:
occulting white light.

Type of Apparatus:
dioptric; gas.

Structure:
black, steel, cylindrical; surmounted by a pyramidal steel frame supporting whistle and lantern.

Remarks:
The whistle was sounded by the motion of the buoy on the waves.

Chatham Point Gas Beacon

Date:
1908

Location:
off of Chatham Point on a rock which dries 5 feet.
   latitude N.: 50° 19' 44"
   longitude W.: 125° 26' 19"

Character of Light:
occulting white light.

Elevation:
26 feet above high water.
Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the seventh order; acetylene.

Structure:
white, steel, cylindrical tank on a concrete base surmounted by a white, pyramidal steel frame.

Remarks:
It was visible from all points of approach. The light was unwatched.

Coffin Island
Date:
established in 1903 and altered in 1908.

Location:
on the islet on the northern side of the entrance to Oyster harbour, Stuart Channel.
latitude N.: 48° 58' 55"
latitude W.: 123° 45' 10"

Character of Light:
occulting white light.

Elevation:
29 feet above high water.

Visibility:
7 miles in clear weather.
Type of Apparatus:
dioptic; acetylene.

Structure:
white, steel, cylindrical tank, surmounted by a white, pyramidal, steel frame; white, steel framework foundation.

Remarks:
It was visible from all points of approach by water. The light was unwatched and was not to be depended upon.

Connis Islet

Date:
1911

Location:
on the islet, Beaver Passage.
latitude N.: 53° 45' 27"
longitude W.: 130° 19' 06"

Character of Light:
occulting white light.

Elevation:
25 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptic; acetylene.
Structure:
white, steel, cylindrical tank; white, pyramidal steel frame; white, steel framework foundation.

Remarks:
It was visible over an arc of 261° from 151° through S., W., and No. to 52°. The light was unwatched.

Copper Islands

Date:
established in 1909 and altered in 1916.

Location:
on the eastern extreme of the easternmost Copper Island, Skincuttle Inlet.

    latitude N.: 52° 19' 48"
    longitude W.: 131° 10' 00"

Character of Light:
occulting white light.

Elevation:
50 feet above high water.

Visibility:
12 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, square, concrete base, surmounted by a white staff carrying a white slatwork ball, with lantern on top.
Remarks:
It was visible over an arc of 235° from 38° 30' through S., W., and N. to 163° 30'. It was unwatched.

Cracroft Island

Date:
1913

Location:
on the southern side of the island about 3/4 of a mile west of Boat harbour.
latitude N.: 50° 31' 17"
longitude W.: 126° 34' 42"

Character of Light:
occulting white light.

Elevation:
60 feet above high water.

Visibility:
13 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white pyramidal steel frame; white steel framework foundation.

Remarks:
It was visible from all points of approach by water. The light was unwatched.
Crofton

Date:
1906

Location:
on the southeasternmost Shoal Island, Osborn Bay.
  latitude N.: 48° 52' 30"
  longitude W.: 123° 37' 43"

Character of Light:
fixed white light.

Elevation:
33 feet above high water.

Visibility:
10 miles in clear weather.

Type of Apparatus:
dioptric of the seventh order.

Structure:
small, white, square, wood; on white, wooden framework.

Remarks:
Visible from all points of approach by water. The light
was unwatched.

Dall Patch Gas and Whistle Buoy

Date:
1908

Location:
in 13 fathoms 300 feet and 117° from the rock north of
Dall Patch.
latitude N.: $52^\circ 12' 59''$
longitude W.: $128^\circ 10' 54''$

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
steel, cylindrical; red and black bands, surmounted by a pyramidal, steel frame supporting a whistle and lantern.

---

**Danger Reef**

Date:
established in 1904 and altered in 1907.

Location:
on the northern end of the easternmost rock of reefs.
latitude N.: $49^\circ 3' 1''$
longitude W.: $123^\circ 42' 49''$

Character of Light:
occulting white light.

Elevation:
25 feet above high water.

Visibility:
9 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.
Structure:
black, steel, cylindrical tank, surmounted by black, pyramidal, steel frame; black, steel framework foundation.

Remarks:
It was visible from all points of approach. The light was unwatched. The light was to be given a berth of at least 3 cables when a vessel passed to the southward.

**Danger Rocks**

Date:
1913

Location:
summit of the middle Danger rock.
latitude N.: 52° 11' 36"
longitude W.: 130° 58' 28"

Character of Light:
occulting white light.

Elevation:
65 feet above high water.

Visibility:
13 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, pyramidal, steel frame, supporting the lantern.
Remarks:
It was visible from all points of approach. It was unwatched.

David Point

Date:
1919

Location:
on the northeastern extremity of the point, Cousins Inlet.
latitude N.: 52° 21' 7"
longitude W.: 127° 44' 45"

Character of Light:
fixed red light.

Elevation:
16 feet above high water.

Type of Lighting Apparatus:
dioptric; pressed glass lens.

Structure:
white, wooden slatwork pyramid, surmounted by a slatwork ball, having the lantern suspended from a bracket on the north face of the beacon.

Remarks:
The light is maintained by the Pacific Mills Limited of Ocean Falls.
Deadtree Point Gas and Whistle Buoy

Date:
established in 1913 and whistle added in 1914.

Location:
1.55 miles and 130° from Deadtree Point.
latitude N.: 53° 20' 37"
longitude W.: 131° 53' 30"

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
black, steel, cylindrical; surmounted by a pyramidal steel frame.

Dock Island

Date:
1903

Location:
on the eastern end of the northeasterly islet of Little Group, Sidney Channel.
latitude N.: 48° 40' 20"
longitude W.: 123° 21' 18"

Character of Light:
occulting white light.
Elevation:
40 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white steel cylindrical tank, surmounted by a white pyramidal steel frame; white steel framework foundation. It was 24 feet in height.

Remarks:
It was visible from all points of approach by water. The light was unwatched and was not to be depended upon.

Drew Harbour

Date:
1916

Location:
on the northern extremity of Rebecca Spit at the entrance to the harbour.

latitude N.: 50° 6' 27"
longitude W.: 125° 13' 20"

Character of Light:
oculting white light.

Elevation:
28 feet above high water.
Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
white, steel, cylindrical tank surmounted by a white pyramidal steel frame.

Remarks:
It was visible from all points of approach by water and it was unwatched.

East Kinahan Island

Date:
1919

Location:
on the northeastern extremity of East Kinahan Island.
latitude N.: 54° 12' 45"
longitude W.: 130° 23' 45"

Character of Light:
occulting white light.

Elevation:
30 feet above high water.

Visibility:
7 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.
Structure:
white, steel, cylindrical tank surmounted by a white pyramidal steel frame supporting the lantern.

Remarks:
It was visible from all points of approach and it was unwatched.

False Creek

Date:
established in 1910 altered in 1913.

Location:
225 feet from the shore line at high water at the southern end of Nicola Street on the north side of the entrance to False Creek, Vancouver.
latitude N.: 49° 16' 39"
longitude W.: 123° 8' 31"

Character of Light:
2 fixed red lights.

Elevation:
26 feet above high water.

Visibility:
7 miles in clear weather.

Type of Apparatus:
electric.

Structure:
lanterns suspended from a cross arm at the top of a pole;
rose from a white pyramidal concrete base which was square in plan.

Remarks:
The lights were 4 feet apart and they were visible from all points of approach by water.

**Fog Rocks**

Date:
1907

Location:
on the largest rock, Fisher Channel.
latitude N.: \(51^\circ 58' 24"\)
longitude W.: \(127^\circ 56' 17"\)

Character of Light;
occluding white light.

Elevation:
27 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank surmounted by a white, pyramidal, steel frame on a white, steel framework foundation.
Remarks:
It was visible from all points of approach and it was unwatched.

Fraser River, Entrance to North Arm

Date of Westerly Light:
established in 1905 and altered in 1915 and 1919

Date of Easterly Light:
established in 1905 and altered in 1918 and 1919

Location of Westerly Light:
westerly light was on the south side of the channel at the outer entrance to the North Arm.
latitude N.: 49° 15' 4"
longitude W.: 123° 16' 24"

Location of Easterly Light:
easterly light was situated at the turn in the jetty 1 mile and 158° from Point No Point.

Character of Lights:
occulting white lights.

Elevation of Lights:
18 feet above high water.

Visibility of Lights:
9 miles in clear weather.

Type of Lighting Apparatus:
dioptric; pressed glass lenses; acetylene.
Structure:
small, white, square wooden towers on platforms supported on piles.

Remarks:
The lights were visible from all points of approach by water and they were unwatched.

Frasermouth Outer Range
Date of Front Light:
established in 1903 and altered in 1914 and 1919.

Date of Back Light:
established in 1915 and altered in 1919.

Location of Front Light:
1800 feet south of the channel of the Fraser River at
buoy No. 13F.

latitude N.: 49° 6' 40"
longitude W.: 123° 15' 20"

Location of Back Light:
350 feet and 88° from the front light.

Character of Lights:
occulting white lights.

Elevation of Front Light:
20 feet above high water.

Elevation of Back Light:
28 feet above high water.
Visibility of Front Light;  
6 miles in clear weather.

Visibility of Back Light:  
10 miles in clear weather.

Type of Lighting Apparatus:  
dioptric of the seventh order; acetylene.

Structure of Front Light:  
small, white, square, wooden tower supported on piles.

Structure of Back Light:  
small, square, steel, skeleton tower, on platform supported on piles.

Remarks:  
It was visible from all points of approach by water.  
The lights were unwatched.

**Gabriola Reefs Beacon**

Date:  
1907

Location:  
on Thrasher Rock on the northeasterly extremity of Gabriola reefs.

<table>
<thead>
<tr>
<th>latitude N.</th>
<th>longitude W.</th>
</tr>
</thead>
<tbody>
<tr>
<td>49° 8' 45&quot;</td>
<td>123° 38' 25&quot;</td>
</tr>
</tbody>
</table>

Character of Light:  
occulting white light.
Elevation:
30 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
black, steel, cylindrical tank on a black square stone beacon. It was surmounted by a black, pyramidal, steel frame.

Remarks:
It was visible from all points of approach and it was unwatched.

Garry Point Range
Date of Front Light:
established in 1898 and altered in 1919

Date of Back Light:
established in 1915 and altered in 1919

Location of Front Light:
on Steveston jetty.

latitude N.: 49° 7' 37"
longitude W.: 123° 13' 5"

Location of Back Light:
on the same pole as the Wingdam back range light. It was situated 900 feet and 305° from the front light.
Character of Front Light:  
fixed red light.

Character of Back Light:  
fixed white light.

Elevation of Front Light:  
15 feet above high water.

Elevation of Back Light:  
30 feet above high water.

Visibility of Front Light:  
6 miles in clear weather.

Visibility of Back Light:  
10 miles in clear weather.

Type of Lighting Apparatus:  
catoptric; electric incandescent.

Structure:  
pole.

Remarks:  
The lights were visible in the line of the range and they were unwatched.

**Genn Island**

Date:  
1919
Location:
on the western extreme of the island.
latitude N.: 54° 5' 47"
longitude W.: 130° 17' 33"

Character of Light:
occulting white light.

Elevation:
30 feet above high water.

Visibility:
7 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white; steel cylindrical tank surmounted by a white pyramidal steel frame supporting the lantern.

Remarks:
The light was unwatched and it was visible from all points of approach.

Georgia Rock Gas and Bell Buoy

Date:
1909

Location:
close southeastward of the rock.
latitude N.: 54° 13' 10"
longitude W.: 130° 21' 50"
Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
black, steel cylindrical; surmounted by a steel frame which supported the bell and lantern.

Remarks:
The bell was rung by the motion of the buoy on the waves.

Gillard Island

Date:
1907

Location:
on the northeastern extremity of the island, Yuculta rapids, Cordero Channel.
latitude N.: 50° 23' 38"
longitude W.: 125° 11' 29"

Character of Light:
occulting white light.

Elevation:
28 feet above high water.

Visibility:
2 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.
Structure:
white, steel cylindrical tank; surmounted by a white, pyramidal, steel frame; white, steel framework foundation.

Remarks:
It was visible from all points of approach by water and the light was unwatched.

Goose Spit

Date:
1910

Location:
on the western extreme of the spit, Port Augusta.
    latitude N.:  49° 39' 40"
    longitude W.:  124° 54' 58"

Character of Light:
occulting white light with a red sector. It showed red over an arc of 90° from 224° through W. to 314°.

Elevation:
30 feet above high water.

Visibility:
7 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the seventh order; acetylene.

Structure:
white, steel, cylindrical tank which was surmounted by a white, pyramidal, steel frame.
Remarks:
It was visible from all points of approach and the light was unwatched.

Gossip Shoals Gas and Bell Buoy

Date:
established in 1907 and altered 1917.

Location:
estoward of shoal off the eastern end of Gossip Island at entrance to Active Pass.

\[
\begin{align*}
\text{latitude N.:} & \quad 48^\circ 53' 6'' \\
\text{longitude W.:} & \quad 123^\circ 18' 16''
\end{align*}
\]

Character of Light:
occulting white light.

Type of Apparatus:
dioptric; gas.

Structure:
black, steel, cylindrical buoy, surmounted by a steel frame supporting the bell and lantern.

Remarks:
The bell was rung by the motion of the bell on the waves.

Granby

Date:
1912
Location: on Graves Point, Observatory Inlet.

latitude N.: 55° 25' 00"
longitude W.: 129° 48' 15"

Character of Light: fixed red light.

Elevation: 6 feet above high water.

Type of Lighting Apparatus: electric.

Structure: lantern on a white, stone cairn.

Remarks: It was maintained by the Granby Consolidated Mining, Smelting and Power Company.

Grey Point Fairway Gas and Bell Buoy

Date: established in 1905 and altered in 1909.

Location: at the entrance to Burrard Inlet about 1½ miles and 357° from Grey Point.

latitude N.: 49° 17' 00"
longitude W.: 123° 15' 50"

Character of Light: occulting white light.
Type of Lighting Apparatus:
dioptric; gas.

Structure:
red, steel cylindrical; surmounted by a steel frame supporting a bell and a lantern.

Griffiths Island

Date:
1913

Location:
Green Point rapids on the western end of Griffiths Island.
latitude N.: 50° 26' 00"
longitude W.: 125° 30' 16"

Character of Light:
occuling white light.

Elevation:
42 feet above high water.

Visibility:
2 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel cylindrical tank surmounted by a white, pyramidal steel frame supporting the lantern.

Remarks:
It was visible from all points of approach and it was unwatched.
Haddington Reefs Gas Buoy

Date:
1907

Location:
in 11 fathoms at the southern end of reefs, Broughton Strait.
latitude N.: 50° 36' 33"
longitude W.: 127° 00' 40"

Character of Light:
occuling white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
red, steel, cylindrical; surmounted by a pyramidal steel frame.

Harbour Entrance Beacon, Nanaimo

Date:
established in 1892 and altered in 1901 and 1908

Location:
on the southern side of the entrance to the harbour.
latitude N.: 49° 10' 12"
longitude W.: 123° 55' 31"

Character of Light:
occuling white light.

Visibility:
3 miles in clear weather.
Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
black, steel, cylindrical tank surmounted by a black, pyramidal, steel frame; black steel framework on a black platform on piles.

Remarks:
It was visible from all points of approach by water and the light was unwatched.

Helen Point
Date:
1908
Location:
on the point.
latitude N.: 48° 51' 13"
longitude W.: 123° 20' 39"
Character of Light:
occuling white light.
Elevation:
28 feet above high water.
Visibility:
6 miles in clear weather.
Type of Lighting Apparatus:
dioptric of the seventh order; acetylene.
Structure:
white, steel, cylindrical tank, on concrete base;
surmounted by a white, pyramidal, steel frame.

Remarks:
The light was unwatched. In 1909, a machinery operated fog
bell was installed, and it struck once every 5 seconds.
It was hung in a white, square, open frame.

Helmcken Island

Date:
1911

Location:
on the southern end of the island, Johnstone Strait.
latitude N.: 50° 23' 51"
longitude W.: 125° 52' 10"

Character of Light:
occulting white light with 2 red sectors. It showed white
over an arc of 195° from 280° 40' through E. to 115° 40'
and showed red over Ripple Shoal and Earl ledge.

Elevation:
35 feet above high water.

Visibility:
11 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.
Structure:
white, steel, cylindrical tank surmounted by a white, pyramidal steel frame; white, steel framework foundation.

Remarks:
The light was unwatched.

---

**Herbert Reef**

**Date:**
1913

**Location:**
on the southernmost rock of the reef, Arthur Passage.
latitude N.: 54° 1' 0"
longitude W.: 130° 14' 0"

**Character of Light:**
occulting white light.

**Elevation:**
32 feet above high water.

**Visibility:**
11 miles in clear weather.

**Type of Lighting Apparatus:**
dioptric; acetylene.

**Structure:**
white, steel, cylindrical tank; surmounted by a white, pyramidal, steel frame; on a concrete beacon.
Remarks:
It was visible from all points of approach and it was unwatched.

Hodgson Reefs Gas and Whistle Buoy
Date:
1907
Location:
to the westward of the reefs.
latitude N.: 54° 22' 47"
longitude W.: 130° 32' 22"
Character of Light:
occuling white light.
Type of Lighting Apparatus:
dioptric; gas.
Structure:
red, steel, cylindrical; surmounted by a red, pyramidal, steel frame.

Hospital Rock Light Buoy
Date:
1911
Location:
off Hospital Rock.
latitude N.: 48° 25' 30"
longitude W.: 123° 22' 23"
Character of Light:
fixed red light.

Visibility:
1 mile in clear weather.

Structure:
lantern on black platform buoy.

Remarks:
The light was maintained only during the winter months from
1 November to 31 March. It was not to be depended upon.

**Idol Point**

Date:
1916

Location:
on the extremity of the point.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>latitude N.</td>
<td>52° 14' 24&quot;</td>
<td></td>
</tr>
<tr>
<td>longitude W.</td>
<td>128° 18' 6&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Character of Light:
occulting white light.

Elevation:
25 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.
Structure:
white, steel, cylindrical tank surmounted by a white pyramidal steel frame.

Remarks:
It was visible over an arc of $211^\circ$ from $93^\circ$ through S. and W. to $304^\circ$. The light was unwatched.

Joan Point
Date:
1907

Location:
on the point, Dodd Narrows.

  latitude N.: 49° 7' 52"
  longitude W.: 123° 49' 2"

Character of Light:
occulting white light.

Elevation:
26 feet above high water.

Visibility:
6 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank, surmounted by white pyramidal steel frame; white steel framework foundation.
Remarks:
The light was unwatched.

Jorkins Point

Date:
1911

Location:
4/5 of a mile northward of its southeastern extremity.
latitude N.: 52° 26' 36"
longitude W.: 128° 30' 30"

Character of Light:
occulting white light.

Elevation:
38 feet above high water.

Visibility:
11 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white, pyramidal, steel frame; white steel framework foundation.

Remarks:
It was visible over an arc of 184° from 219° through W. and N. to 43°. The light was unwatched.
Kelp Reefs Beacon

Date:
1907

Location:
on the northeastern reef, Haro Strait.
latitude N.: 48° 32' 54"
latitude W.: 123° 14' 08"

Character of Light:
occulting white light.

Elevation:
32 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
black, steel, cylindrical tank, standing on black conical stone beacon, surmounted by black, pyramidal steel frame.

Remarks:
It was visible from all points of approach. The light was unwatched.

Kennedy Island

Date:
1909
Location:
on Marked Tree Bluff at the northern end of the island.
latitude N.:  $54°\ 4'\ 05''$
longitude W.:  $130°\ 9'\ 53''$

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric, acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white pyramidal, steel frame; white, steel framework foundation.

Remarks:
The light was unwatched.

Kingcombe Point

Date:
1914

Location:
on the northern extremity of the point.
latitude N.:  $53°\ 18'\ 10''$
longitude W.:  $128°\ 54'\ 30''$

Character of Light:
occulting white light.

Elevation:
30 feet above high water.
Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white, pyramidal, steel frame.

Remarks:
It was visible over an arc of 205° from 107° through S. and W. to 312°. The light was unwatched.

Klewnuggit

Date:
1907

Location:
on the northwestern rock of Morning reef, Grenville Channel.
latitude N.: 53° 39' 27"
longitude W.: 129° 44' 59"

Character of Apparatus:
occulting white light.

Elevation:
25 feet above high water.

Visibility:
10 miles in clear weather.
Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel cylindrical tank; surmounted by a white, pyramidal steel frame on a white, steel framework on a stone foundation.

Remarks:
It was visible from all points of approach. The light was unwatched.

Kyuquot Channel Gas and Whistle Buoy

Date:
1907

Location:
in 25 fathoms on E. side of Kyuquot Channel, in the entrance to Kyuquot Sound.

    latitude N.: 49° 56' 9"
    longitude W.: 127° 17' 32"

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
red, steel cylindrical; surmounted by red pyramidal steel frame, supporting whistle and lantern.
Remarks:
The whistle was sounded by the motion of the buoy on the waves.

Laurel Point

Date:
established in 1905 and altered in 1916

Location:
in Victoria harbour at the N.W. extremity of the point.
latitude N.: 48° 25' 27"
longitude W.: 123° 22' 38"

Character of Light:
fixed red light.

Elevation:
18 feet above high water.

Visibility:
1 mile in clear weather.

Type of Lighting Apparatus:
electric incandescent.

Structure:
square, concrete base, surmounted by a staff supporting a red wooden slatwork cone with a lantern on top.

Remarks:
It was visible from all points of approach by water.
**Lawn Point Gas and Whistle Buoy**

Date:
established in 1907 and altered in 1913

Location:
0.9 mile and 113° from Lawn Point.

latitude N.: 53° 25' 36"
longitude W.: 131° 53' 10"

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
red, steel, cylindrical; surmounted by a red steel frame
supporting a whistle and lantern.

---

**Lewis Reef**

Date:
1908

Location:
on the reef.

latitude N.: 48° 25' 35"
longitude W.: 123° 16' 42"

Character of Light:
occulting red light.

Elevation:
30 feet above high water.
Visibility:
7 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the seventh order; acetylene.

Structure:
red, steel cylindrical tank on a concrete base.

Remarks:
It was visible from all points of approach. The light was unwatched.

Lizard Point

Date:
1916

Location:
on the extremity of the point, Portland Inlet.
latitude N.: 54° 50' 7"
longitude W.: 130° 16' 10"

Character of Light:
occulting white light.

Elevation:
24 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.
Structure:
white, steel, cylindrical tank; surmounted by a white, pyramidal steel frame supporting the lantern.

Remarks:
It was visible from all points of approach by water and it was unwatched.

Lookout Island

Date:
1906

Location:
on the eastern end of the island, Halibut Channel.
latitude N.: 49° 59' 45"
longitude W.: 127° 27' 52"

Character of Light:
occulting white light.

Elevation:
53 feet above high water.

Visibility:
12 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the seventh order; acetylene.

Structure:
white, steel, cylindrical tank, surmounted by a white pyramidal steel frame; white steel framework foundation.
Remarks:
It was visible to the southward and eastward. The light was unwatched.

Low Island

Date:
established in 1911 and altered in 1916

Location:
on the N.W. end of the northernmost Low Island.
lat: 52° 54' 40"
lng: 131° 30' 50"

Character of Light:
occulting white light.

Elevation:
43 feet above high water.

Visibility:
12 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, square, concrete base surmounted by a white staff carrying a white slatwork ball with a lantern on top.

Remarks:
The light was obscured by the high land and trees of the island over an arc of 28° from 339° to 311°. The light was unwatched.
Lund

Date:
1907

Location:
on the eastern end of S. Ragged Island.
  \[
  \begin{align*}
  \text{latitude N.:} & \quad 49^\circ 59' 50'' \\
  \text{longitude W.:} & \quad 124^\circ 49' 0''
  \end{align*}
  \]

Character of Light:
occulting white light.

Elevation:
24 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the seventh order; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white, pyramidal, steel frame; on a white, steel framework foundation.

Remarks:
It was visible over an arc of 254° from 148° through S., W., and N. to 42°. The light was unwatched.

Mary Anne Point

Date:
1910
Location: on the point.

latitude N.: 48° 51' 29"
longitude W.: 123° 18' 45"

Character of Light: occulting white light with a red sector. The light showed red from 192° over Gossip reef buoy to the shore of Gossip island and to the westward.

Elevation: 30 feet above high water.

Visibility: 3 miles in clear weather.

Type of Lighting Apparatus: dioptric; acetylene.

Structure: white, steel, cylindrical tank on a concrete base. It was surmounted by a white, pyramidal steel frame.

Remarks: It was visible from all points of approach. The light was unwatched.

Masterman Islands

Date: 1915

Location: on the northeastern extremity of the northeasterly island
of the group.

latitude N.: 50° 45' 44"
longitude W.: 127° 25' 37"

Character of Light:
occulting white light.

Elevation:
50 feet above high water.

Visibility:
12 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank surmounted by a white, pyramidal, steel frame.

Remarks:
It was visible over arc of 200° from 107° 30' through S. and W. to 307° 30'. The light was unwatched.

Maud Island

Date:
established in 1907 and altered in 1912.

Location:
on the ledge of the rock on the western side of the island; Seymour Narrows.

latitude N.: 50° 7' 30"
longitude W.: 125° 20' 52"
Character of Light:
occulting red light.

Elevation:
27 feet above high water.

Visibility:
7 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank on a square, concrete base
6 feet high; surmounted by a white, pyramidal steel frame.
It was 22 feet in height.

Remarks:
It was visible from all points of approach by water and it
was unwatched.

Meares Spit Light Buoy

Date:
1911

Location:
at end of spit extending from S.W. end of Meares island.
  latitude  N.:  49° 10' 23"
  longitude W.:  125° 56' 27"

Character of Light:
fixed white light.
Structure:
lantern on a platform buoy.

Middle Ground Light Buoy

Date:
established in 1892 and altered in 1894 and 1918

Location:
in Nanaimo harbour 2,050 feet and 273° from Gallows Point fog bell.

- latitude N.: 49° 9' 58"
- longitude W.: 123° 55' 29"

Character of Light:
fixed white light.

Visibility:
2 miles in clear weather.

Type of Lighting Apparatus:
dioptric; pressed glass lens.

Structure:
black platform buoy with slatwork cage supporting the lantern.

New Westminster

Date:
1915

Location:
on the end of the Government wharf at the foot of Eighth Street.
Character of Light:
fixed red light.

Elevation:
38 feet above high water.

Visibility:
2 miles in clear weather.

Type of Lighting Apparatus:
electric.

Structure:
lamp on a pole.

Remarks:
It was maintained by the City Corporation.

New Westminster Railway Swing Bridge

Date:
1904

Location:
latitude N.: 49° 12' 43"
longitude W.: 122° 53' 43"

Character of Lights:
fixed white, red, and green lights.

Remarks:
A white light was placed at each end of the swing protection and on each side of the navigable channel.

A motor driven fog bell was placed on the top of the
tower house. It struck every 5 seconds.

In 1913, a fog horn operated by an oil engine was installed and it answered vessels' signals.

Noble Islets

Date:
1915

Location:
on the western point of the westerly Noble Islet.

latitude N.: 50° 49' 26"
longitude W.: 127° 35' 41"

Character of Light:
occulting white light.

Elevation:
40 feet above high water.

Visibility:
11 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank surmounted by a white, pyramidal steel frame; white, steel, framework foundation.

Remarks:
It was visible over an arc of 230° from 301° 30' through N. and E. to 171° 30'. It was unwatched.
Northside Range

Date of Front Light:
established in 1903 and altered in 1915

Date of Back Light:
1915

Location of Front Light:
latitude N.: 49° 7' 38"
longitude W.: 123° 14' 44"

Location of Back Light:
300 feet and 287° from the front light.

Character of Front Light:
fixed red light.

Character of Back Light:
fixed white light.

Elevation of Front Light:
24 feet above high water.

Elevation of Back Light:
36 feet above high water.

Visibility of Lights:
4 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the seventh order.

Structure of Front Light:
small, white, square wooden tower; on a platform supported on piles.
Structure of Back Light:
small, square, steel, skeleton tower; on a platform supported on piles.

Remarks:
The lights were visible in the line of the range. They were unwatched.

Ogden Point Breakwater

Date: 1917

Location:
on the outer end of the breakwater.
latitude N.: $48^\circ 24' 48"$
longitude W.: $123^\circ 23' 37"$

Character of Light:
occulting white light.

Elevation:
40 feet above high water.

Visibility:
11 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, pyramidal reinforced concrete beacon. It was 27 feet in height.
Remarks:
It was visible from all points of approach and the light was unwatched.

In 1918, a diaphone was established 38 feet above high water. The horn pointed 205°, and it sounded a blast of 2 seconds followed by a 13 second silence.

Parizeau Point Quarantine Station

Date:
1915

Location of South Light:
south light was on the south-east corner of the Quarantine wharf.

latitude N.: 54° 17' 9"
longitude W.: 130° 22' 12"

Location of North Light:
north light was on the northeastern corner of the wharf.

latitude N.: 54° 17' 14"
longitude W.: 130° 22' 12"

Character of Lights:
fixed white lights.

Elevation of Lights:
11 feet above high water.

Visibility of Lights:
3 miles in clear weather.

Structure:
posts 6 feet in height.
Remarks:
They were visible from all points of approach by water. They were maintained by the Department of Agriculture.

**Patey Rock**

Date:
1910

Location:
on the rock at the entrance to Saanich Inlet.

  *latitude N.: 48° 42' 03"
  *longitude W.: 123° 31' 8"

Character of Light:
fixed white light.

Elevation:
20 feet above high water.

Visibility:
9 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the seventh order.

Structure:
lantern on red, square, steel, skeleton tower; square concrete base. It was 13 feet in height.

Remarks:
It was visible from all points of approach. The light was unwatched.
Pelly Island Beacon

Date:
established in 1891 and altered in 1894 and 1918

Location:
on the south extremity of Pelly Island.
latitude N.: 48° 25' 31"
longitude W.: 123° 23' 2"

Character of Light:
fixed white light.

Elevation:
17 feet above high water.

Visibility:
3 miles in clear weather.

Type of Lighting Apparatus:
electric incandescent.

Structure:
concrete base, surmounted by a staff carrying a black
slatwork drum and a lantern.

Remarks:
It was visible from all points of approach. Mariners were
cautionsd not to depend upon this light in a storm.

Pointer Rocks

Date:
established in 1907 and altered in 1916
Location:
on the southernmost rock.

latitude N.: 54° 36' 15"
longitude W.: 130° 32' 16"

Character of Light:
occulting white light.

Elevation:
32 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptic; acetylene.

Structure:
white, pyramidal, steel frame on a concrete foundation.

Remarks:
It was visible from all points of approach and it was unwatched.

Port San Juan Gas and Whistle Buoy

Date:
established in 1905 and altered in 1907.

Location:
in 19 fathoms at entrance.

latitude N.: 48° 31' 35"
longitude W.: 124° 30' 0"
Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
black and white vertical striped, steel, cylindrical; surmounted by black pyramidal steel frame supporting whistle and lantern.

Remarks:
The whistle was sounded by the motion of the buoy on the waves.

Rebecca Rock

Date:
1914

Location:
on the summit of the rock.
latitude N.: 49° 48' 52"
longitude W.: 124° 39' 11"

Character of Light:
occulting white light.

Elevation:
30 feet above high water.

Visibility:
10 miles in clear weather.
Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank surmounted by a pyramidal steel frame.

Remarks:
It was visible from all points of approach and it was unwatched.

Reef Point Gas and Bell Buoy

Date:
1910

Location:
at the outer extremity of the ledge, off of the point;
Cortes Island.

latitude N.: 50° 00' 3"
longitude W.: 125° 1' 52"

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
red, steel, cylindrical; surmounted by a pyramidal, steel frame supporting a bell and lantern.

Richard's Point

Date:
1916
Location:
on the extremity of the point, Observatory Inlet.
    latitude N.: 55° 17' 10"
    longitude W.: 129° 49' 10"

Character of Light:
occulting white light.

Elevation:
23 feet above high water.

Visibility:
9 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank, surmounted by a white,
pyramidal, steel frame supporting the lantern.

Remarks:
It was visible from all points of approach by water and the
light was unwatched.

Roberts Bank Gas and Whistle Buoy
Date:
established in 1905 and altered in 1907

Location:
in 21 fathoms off the extreme western shoulder of Roberts
Bank.
    latitude N.: 49° 5' 20"
    longitude W.: 123° 18' 50"
Character of Light:
occulting white light.

Elevation:
30 feet above high water.

Type of Apparatus:
dioptric; gas.

Structure:
red, steel, cylindrical; surmounted by red pyramidal steel frame supporting a whistle and lantern.

Remarks:
The whistle was sounded by the motion of the buoy on the waves.

Rose Spit Gas and Whistle Buoy

Date:
1915

Location:
northeastward of Overfall Shoal.
latitude N.: 54° 15' 0"
longitude W.: 131° 30' 0"

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.
Structure:
black, steel, cylindrical buoy surmounted by a black pyramidal steel frame.

San Jose Islets

Date:
1914

Location:
on W. extremity of westerly islet.
latitude N.: 45° 54' 12"
longitude W.: 125° 3' 45"

Character of Light:
occulting white light.

Elevation:
30 feet above high water mark.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank, surmounted by pyramidal steel frame.

Remarks:
The light was visible from 15° through E. and S. to 270°.
The light was unwatched.
Seechelt

Date:
established in 1904 and altered in 1908

Location:
on White Islet.

latitude N.: 49° 24' 50"
longitude W.: 123° 42' 32"

Character of Light:
occulting white light.

Elevation:
36 feet above high water.

Visibility:
6 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white, pyramidal, steel frame on a white, steel framework foundation.

Remarks:
It was visible from all points of approach and it was unwatched.

Selkirk Water Railway Bascule Bridge

Date:
1918
Location:
about 250 feet west of Halkett Island.
latitude N.: 48° 26' 19"
longitude W.: 123° 22' 56"

Character of Light:
2 fixed white lights.

Elevation:
6 feet above high water.

Remarks:
A light was shown on each side of the opening. The lights were maintained by the Canadian Northern Railway.

Senanus Island

Date:
1913

Location:
on the western extremity of the island, Saanich Inlet.
latitude N.: 48° 35' 28"
longitude W.: 123° 29' 15"

Character of Light:
occulting white light.

Elevation:
30 feet above high water.

Visibility:
10 miles in clear weather.
Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel cylindrical tank, surmounted by a white pyramidal steel frame on a concrete base.

Remarks:
It was visible from all points of approach by water. The light was unwatched.

---

**Separation Point**

Date:
1913

Location:
on the point, Tolmie Channel.

latitude N.: 52° 41' 20"
longitude W.: 128° 34' 0"

Character of Light:
occulting white light.

Elevation:
31 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white,
pyramidal, steel frame; white, steel, framework foundation.

Remarks:
It was visible from all points of approach by water and it was unwatched.

**Shoal Point Beacon**

Date:
established in 1889 and altered in 1894.

Location:
about 300 feet westward of Shoal Point.

latitude N.: 48° 25' 24"
longitude W.: 123° 23' 20"

Character of Light:
fixed red light.

Elevation:
16 feet above high water.

Visibility:
3 miles in clear weather.

Type of Lighting Apparatus:
dioptric; pressed glass lens; electric incandescent.

Structure:
cluster of 4 piles, the middle pile supporting a red slatwork ball.
Remarks:
Mariners were cautioned not to depend upon this light in a storm.

In 1919, an electric fog bell was installed, and it rang continuously, at short intervals, during thick or foggy weather.

Sidney

Date:
1914

Location:
on N.E. end of the Government wharf.
latitude N.: 48° 38' 55"
longitude W.: 123° 23' 28"

Character of Light:
fixed red light.

Elevation:
25 feet above high water.

Visibility:
5 miles in clear weather.

Type of Lighting Apparatus:
dioptric of the sixth order; electric incandescent.

Structure:
pole.
South Surf Islands

Date:
1916

Location:
on the south islet of the South Surf Islands.
latitude N.: 52° 56' 25"
longitude W.: 129° 10' 00"

Character of Light:
occulting white light.

Elevation:
28 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, concrete base surmounted by a white staff,
supporting a white wooden slatwork ball with a lantern on top.

Remarks:
It was visible from all points of approach and the light was unwatched.

Spire Ledge Gas and Bell Buoy

Date:
1907
Location:
in 3½ fathoms off the eastern end of the ledge.
latitude N.: 54° 14' 49"
longitude W.: 130° 21' 17"

Character of Light:
occulting white light.

Type of Lighting Apparatus:
dioptric; gas.

Structure:
black, steel, cylindrical; surmounted by a pyramidal, steel frame.

Stubbs Spit Light Buoy

Date:
1911

Location:
at N.E. extreme of sand bank extending northward of Stubbs island.
latitude N.: 49° 10' 8"
longitude W.: 125° 55' 6"

Character of Light:
fixed red light.

Structure:
lantern on a platform buoy.
**Swale Rock**

Date:
established in 1906 and altered in 1916.

Location:
on E. end of the rock, E. entrance of Sechart channel.

\[
\begin{align*}
\text{latitude N.:} & & 48^\circ \ 55' \ 40'' \\
\text{longitude W.:} & & 125^\circ \ 13' \ 12''
\end{align*}
\]

Character of Light:
occulting white light.

Elevation:
35 feet above high water.

Visibility:
11 miles in clear weather.

Type of Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank, surmounted by a pyramidal steel frame supporting the lantern.

Remarks:
It was visible from all points of approach. The light was unwatched.

---

**Vancouver Rock Gas and Whistle Buoy**

Date:
established in 1905 and altered in 1907.
Location: in 40 fathoms, 1/5 of a mile westward of the rock, Milbank Sound.

   latitude N.:  52° 21' 18"
   longitude W.: 128° 31' 55"

Character of Light:
   occulting white light.

Type of Lighting Apparatus:
   dioptric; gas.

Structure:
   red, steel, cylindrical; surmounted by a red, pyramidal, steel frame supporting a whistle and lantern.

Walker Rock

Date:
   1900

Location:
   Trincomali Channel.

   latitude N.:  48° 55' 9"
   longitude W.: 123° 29' 36"

Character of Light:
   occulting white light.

Elevation:
   15 feet above high water.

Visibility:
   8 miles in clear weather.
Type of Lighting Apparatus:
dioptic of the seventh order; acetylene.

Structure:
red, steel, cylindrical tank; concrete base; surmounted
by a red pyramidal steel frame.

Remarks:
It was visible from all points of approach. The light was
unwatched.

Watson Rock

Date:
1907

Location:
on the rock at the western entrance to Grenville channel.
   latitude N.:  53° 55' 22"
   longitude W.: 130° 10' 26"

Character of Light:
occulting white light.

Elevation:
25 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptic; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white,
pyramidal, steel, frame; white concrete foundation.

Remarks:
It was visible from all points of approach and it was unwatched.

Wearing Point

Date:
1916

Location:
on the easterly end of the point, Cousins Inlet.
  latitude N.: 52° 18' 9"
  longitude W.: 127° 47' 27"

Character of Light:
occulding white light.

Elevation:
26 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank surmounted by a white, pyramidal, steel frame. It was placed on a concrete base.

Remarks:
It was visible from all points of approach and it was unwatched.
West Rocks

Date:
1907

Location:
on the summit of the southwestern islet.
latitude N.: 49° 13' 10"
longitude W.: 123° 55' 37"

Character of Light:
occulting white light.

Elevation:
30 feet above high water.

Visibility:
10 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
red, steel, cylindrical tank; surmounted by a red,
pyramidal, steel frame; red, steel framework foundation.

Remarks:
The light was unwatched.

Whiffen Spit

Date:
1906
Location:
on E. end of spit, Sooke inlet.

latitude N.: 48° 21' 27"
longitude W.: 123° 43' 15"

Character of Light:
fixed red light.

Elevation:
18 feet above high water.

Visibility:
5 miles in clear weather.

Structure:
light on a mast.

Remarks:
It was a fishing light. The light was unwatched.

White Rocks

Date:
1915

Location:
on the westerly White rock, Milbank Sound.

latitude N.: 52° 17' 15"
longitude W.: 128° 31' 53"

Character of Light:
occulting white light with a 3 second interval.
Elevation:
60 feet above high water.

Visibility:
13 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white, pyramidal, steel frame.

Remarks:
It was visible for 0.3 second and eclipsed for 2.7 seconds. It was visible from all points of approach and it was unwatched.

William Head Quarantine Station

Date:
established in 1898 and altered in 1919.

Location of Front Light:
extreme of William Head, 104 feet from the high water mark.

latitude N.: 48° 20' 23"
longitude W.: 123° 31' 45"

Location of Back Light:
48 feet, 220° from the front light.

Character of Front and Back Lights:
fixed red lights.
Height of Front Light:
32 feet above high water.

Height of Back Light:
38 feet above high water.

Visibility of Front and Back Lights:
4 miles in clear weather.

Type of Apparatus for Front and Back Lights:
electric; incandescent.

Structure of Front and Back Lights:
small, red, wooden tower on a concrete base.

Remarks:
A fog bell was associated with the back range light. It was operated by machinery and it gave 1 stroke every 5 seconds. It was established in 1919.

The aids to navigation at William Head Quarantine Station were maintained by the Department of Agriculture.

Wingdam Range

Date:
1915

Location of Front Light:
on Steveston jetty near its outer end.

\[
\begin{align*}
\text{latitude } N.: & \quad 49^\circ 7' 29'' \\
\text{longitude } W.: & \quad 123^\circ 13' 41''
\end{align*}
\]

Location of Back Light:
300 feet and 64º 45' from the front light.
Character of Front Light:  
fixed red light.

Character of Back Light:  
fixed white light.

Elevation of Front Light:  
15 feet above high water.

Elevation of Back Light:  
30 feet above high water.

Visibility of Front Light:  
6 miles in clear weather.

Visibility of Back Light:  
10 miles in clear weather.

Type of Lighting Apparatus:  
catoptric; electric incandescent.

Structure:  
lights on poles.

Remarks:  
The lights were visible in the line of the range and they were unwatched.

Date:  
1907

Location:  
on the rock at the entrance to Rivers Inlet.
latitude N.: 51° 25' 16"
longitude W.: 127° 42' 42"

Character of Light:
occulting white light.

Elevation:
38 feet above high water.

Visibility:
11 miles in clear weather.

Type of Lighting Apparatus:
dioptric; acetylene.

Structure:
white, steel, cylindrical tank; surmounted by a white,
pyramidal, steel frame; on a white, steel framework
foundation.

Remarks:
It was visible from all points of approach and it was
unwatched.

Commentary
The bearings are true, and they are given from seaward
in degrees.

Figures 51 - 54 illustrate different types of lighted
buoys and beacons used by the Department of Marine and
Fisheries to mark Canadian waterways (see Figures 51 - 54).
Appendix B. Unlighted Beacons and Dolphins maintained in the British Columbia District during the fiscal year ended 31 March 1919.


- Active Pass: 1 beacon
- Barkley Sound: 1 dolphin
- Baynes Sound: 1 beacon
- Burrard Inlet: 3 beacons
- Chatham Sound: 1 beacon
- Clayoquot Sound: 5 beacons
- Courtenay River: 12 dolphins
- Esquimalt Harbour: 1 beacon
- Finlayson Channel, Grenville Channel and Connecting Waters: 4 beacons
- Fisher Channel, Lama Passage and Seaforth Channel: 6 beacons
- Genoa Bay: 1 beacon
- Haro Strait: 1 beacon
- Johnstone Strait: 4 beacons
- Malaspina Strait: 4 beacons
- Mud Bay, Serpentine and Nicomek'1 Rivers: 27 beacons
- Nanaimo Harbour and Departure Bay: 1 beacon
- Observatory Inlet: 1 beacon
- Okisollo Channel: 3 beacons
- Prince Rupert Harbour: 1 beacon
Commentary
The term beacon refers to, "...a small unattended light, a superstructure on a floating buoy, such as a staff and cage, or a staff and globe, or an unlighted structure forming a conspicuous object at sea, used in each case to guide or warn sailors." ¹ Prior to 1921, unlighted beacons in British Columbia generally consisted of a wooden, stone, or iron base surmounted by slatwork. The distinctive shape of the slatwork enabled mariners to identify the beacon and to use it as a guide.

Figure 55 is a copy of a chart showing the entrance to Victoria harbour. The chart was prepared by the officers of the H.M.S. Plumper in 1860, and it shows the position of two beacons on Beacon Hill. These beacons might have been the first aid to navigation of this type to be used in British Columbian coastal waters (see Figure 55).

Figure 56 indicates the slatwork which surmounted a pile beacon, or dolphin, in the Alberni Canal (see Figure 56).

<table>
<thead>
<tr>
<th>Location</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Queen Charlotte Islands</td>
<td>4</td>
</tr>
<tr>
<td>Queen Charlotte Sound</td>
<td>2</td>
</tr>
<tr>
<td>Saanich Inlet</td>
<td>3</td>
</tr>
<tr>
<td>Satellite Channel</td>
<td>1</td>
</tr>
<tr>
<td>Sidney Channel</td>
<td>1</td>
</tr>
<tr>
<td>Skeena River</td>
<td>5</td>
</tr>
<tr>
<td>Strait of Georgia</td>
<td>3</td>
</tr>
<tr>
<td>Stuart Channel</td>
<td>4</td>
</tr>
<tr>
<td>Sutil Channel</td>
<td>1</td>
</tr>
<tr>
<td>Trincomali Channel</td>
<td>5</td>
</tr>
<tr>
<td>Victoria Harbour</td>
<td>2</td>
</tr>
</tbody>
</table>
Appendix C. Unlighted Buoys maintained in the British Columbia District during the fiscal year ended 31 March 1919.


<table>
<thead>
<tr>
<th>Location</th>
<th>Number of Buoys</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barkley Sound</td>
<td>1</td>
</tr>
<tr>
<td>Baynes Sound</td>
<td>10</td>
</tr>
<tr>
<td>Broughton Strait</td>
<td>1</td>
</tr>
<tr>
<td>Burrard Inlet</td>
<td>5</td>
</tr>
<tr>
<td>Chatham Sound</td>
<td>8</td>
</tr>
<tr>
<td>Clayoquot Sound</td>
<td>15</td>
</tr>
<tr>
<td>Colburne Passage</td>
<td>2</td>
</tr>
<tr>
<td>Esquimalt Harbour</td>
<td>4</td>
</tr>
<tr>
<td>False Narrows, Northumberland Channel</td>
<td>2</td>
</tr>
<tr>
<td>Finlayson Channel, Grenville Channel and Connecting Waters</td>
<td>1</td>
</tr>
<tr>
<td>Fisher Channel, Lama Passage and Seaforth Channel</td>
<td>1</td>
</tr>
<tr>
<td>Fraser River</td>
<td>30</td>
</tr>
<tr>
<td>Ganges Harbour</td>
<td>2</td>
</tr>
<tr>
<td>Haro Strait</td>
<td>2</td>
</tr>
<tr>
<td>Johnstone Strait</td>
<td>2</td>
</tr>
<tr>
<td>Malaspina Strait</td>
<td>2</td>
</tr>
<tr>
<td>Metlakatla Harbour</td>
<td>4</td>
</tr>
<tr>
<td>Nanaimo Harbour and Departure Bay</td>
<td>14</td>
</tr>
<tr>
<td>Observatory Inlet</td>
<td>3</td>
</tr>
</tbody>
</table>
Pender Island Channel - 2 buoys
Porpoise Harbour - 6 buoys
Prevost Channel - 1 buoy
Prince Rupert Harbour - 2 buoys
Queen Charlotte Islands - 1 buoy
Saanich Inlet - 2 buoys
Satellite Channel - 1 buoy
Shute Passage - 1 buoy
Sidney Channel - 6 buoys
Skeena River - 2 buoys
Strait of Georgia - 7 buoys
Strait of Juan de Fuca - 1 buoy
Stuart Channel - 6 buoys
Sutil Channel - 2 buoys
Trincomali Channel - 3 buoys
Victoria Harbour - 2 buoys

Commentary
A buoy is a, "...floating body used as a means of denoting any desired spot in a river, channel, or other place frequented by shipping."¹

Figure 57 illustrates a detail from the chart of the entrance to the Fraser River which was prepared by officers of the H.M.S. Plumper in 1859. The chart shows the outline of shoals, the soundings, and the position of the South Sandheads buoy and buoys No. 1 - 3. The channel of the Fraser River was one of the first parts of the British Columbian coastline to be systematically marked with buoys (see Figure 57).

Figure 58 indicates different types of buoys installed and maintained by the Department of Marine and Fisheries (see Figure 58).
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