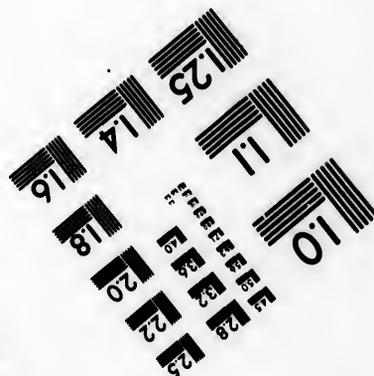
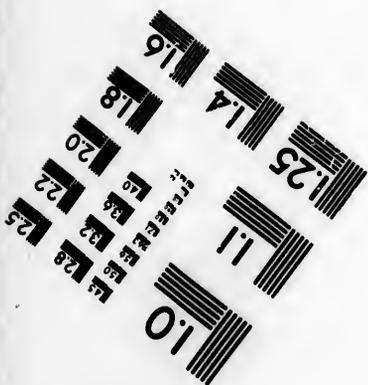
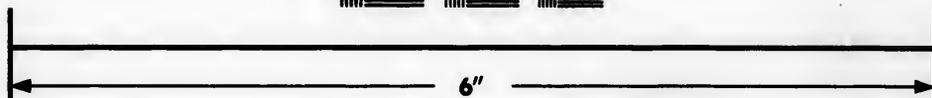
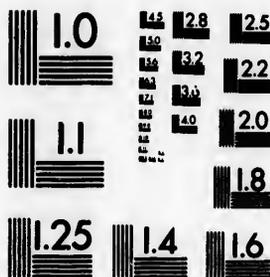


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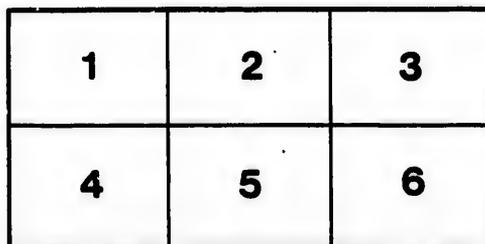
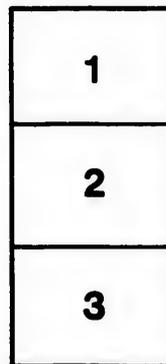
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THE INDIAN OCEAN; comprising the Navigation from the Entrances to the RED SEA and GULF of PERSIA to KARACHI, BOMBAY, CEYLON, CORINGAH, MADRAS, CALCUTTA, ARACAN, RANGOON, MOULMEIN, and MALACCA; including the LACCA-DIVA ARCHIPELAGO, MALDIVA ISLANDS, BAY of BENGAL, ANDAMAN and NICOBAR ISLANDS, and part of the STRAIT of MALACCA and ISLAND of SUMATRA; with plans, on an enlarged scale, of the BAY of ADEN, KARACHI, BOMBAY HARBOUR, COLOMBO, POINT DE GALLE and TRINCOMALIE HARBOURS, CHITTAGONG, PORT DALHOUSIE, RANGOON, and MOULMEIN RIVERS, and AMHERST ROAD 12 0

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PUBLI

SAILING DIRECTIONS
FOR
THE GULF AND RIVER
OF
ST. LAWRENCE.

London:
PUBLISHED BY CHARLES WILSON,
(LATE J. W. NORIE & WILSON,
PUBLISHER OF CHARTS AND NAUTICAL WORKS, &c.
AT THE NAVIGATION WAREHOUSE AND NAVAL ACADEMY,
157, LEADENHALL STREET, E.C.

1871.

NOTES.

Alterations and additional information will be given in supplementary pages as occasion may require, for which SEE ADDENDA; these are also transferred at once to the Chart, which this book is intended to accompany; so that it may sometimes happen the Chart itself has the later information.

Any remarks or communications from our Nautical friends, for the future improvement of this, or other of our works, are respectfully solicited.

ABBREVIATIONS

Adopted in this work; although in some instances, where more explicit, the words are used in full length:—

N.....	north.	fms.....	fathoms.
S.....	south.	ft.....	foot—feet.
E.....	east.	Pt.	point.
W.....	west.	Id.	island.
m.....	miles.	sand-bk.....	sand-bank.
R.....	river.	Hd.	head.
Rk.	rock.	lat.	latitude.
Lt.	light.	long.	longitude.
Lt.-ho....	lighthouse.	H.W.	high water.
min.....	minute.	F. and C.....	full and change.
vis.	visible.		

ADDENDA.

The following lights are required to be inserted, viz.:—

Page 48.—(4.) BARTIBOQUE, LOWER NEWCASTLE.—Two white Lt.-hos., bearing N.E. and S.W. of each other, 36 ft. in height, and elevated 120 and 140 ft. above H.W., exhibiting fixed lights, vis. 10 m.

N.B.—The lights Nos. 1, 3 and 4 are lighted only during the season of navigation.

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SAILING DIRECTIONS

FOR THE

GULF & RIVER ST. LAWRENCE.

The Variation near St. Paul's Island is 26° 40' Westerly.—S. side of Anticosti, 27°. —N. side of Prince Edward's Island, 24°. Between the Seven Islands and Cape St. Ann, 26½°. At Bic, 20°; and at Quebec, 15°.

On the N. Shores of the Gulf, off Cape Whittle, 23°; between E. end of Anticosti and Newfoundland, 29°; and on the N. side of Anticosti, 29° 30'.

The Annual increase of Variation is about 4' in the River St. Lawrence, 2' in the Gulf, and decreasing a little on the Coast of Newfoundland and Strait of Belle Isle.

MARINERS sailing from the British Channel for the Gulf of St. Lawrence usually endeavour to strike soundings on the Great Bank of Newfoundland, somewhere in or about the lat. of 46° or 46° 30' N., always taking care to go to the southward of the Virgin Rks.; when, having passed the meridian of Cape Race, and reached the long. of 53°, a N.W. ¼ W. course will carry them clear of St. Peter's Id., and across the centre of St. Peter's Bk., and directly to the N.E. Cape of the Id. of Breton. This N.E. Cape of Breton and Cape Ray, the S.W. point of Newfoundland, form the two points of entrance to the Gulf of St. Lawrence; they lie E.N.E. ¾ E. and W.S.W. ¾ W., distant 54 miles from each other. Between them, and about 12 miles E.N.E. from Cape North, is the Id. of St. Paul, appearing with three hills upon it, and deep water all round.

Ships bound for the Gulf of St. Lawrence, after passing the Id. of Miquelon and St. Peter's, will do well by endeavouring to steer a middle course between Newfoundland and Cape Breton Id., passing on either side of St. Paul's Id.; but by no means should they run beyond the parallel of 47° 30', until they are assuredly well past Cape Ray, for the harbours on the south coast of Newfoundland, to the westward of Fortune Id., are full of dangers, and but imperfectly known; while the whole shore is frequently enveloped in thick fogs, and the rocks cannot then be perceived before getting entangled among them. In this part also shifts of wind are common; and it will often happen that after blowing a gale from one point of the compass, it will suddenly vary to the opposite point, and continue equally strong; thus it has been known that while one vessel has been lying-to with a heavy gale, another, not more than 90 miles distant, has been in another gale equally heavy, but with the wind in a direct contrary direction; this has proved fatal to many ships. The winds within the gulf are not so liable to such sudden changes as on the outside or the eastward of Cape Breton Id.

THE ISLAND OF ST. PAUL is not dangerous, and may easily be recognised, even when the weather is foggy, by keeping a good look-out. There are now two excellent lights on this island. The shores of Cape Breton Id. are high, and although fogs do frequently obscure the land, yet by proper attention it will generally be discovered time enough to avoid danger. To persons who may unfortunately be driven too near this coast, it may be serviceable to be apprised that a settlement is formed at Ashpée Bay, and good anchorage is to be had behind the island, where boats can land and water and provisions be obtained; while for the want of knowledge of such an establishment many have been obliged to endure both hunger and fatigue unrelieved.

[ST. LAWRENCE.]

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Lights.—On the southern point of St. Paul's Id., in lat. 47° 11' 20", and long. 60° 9' 36", is an octagonal Lt.-ho. of wood, exhibiting a revolving light every minute, elevated 140 ft., and vis. 20 miles on all bearings, except between S.S.E. southward to W. A bell is sounded during a fog; and a gun fired every four hours, commencing at 4 a.m. On a rock, 26 ft. from the end of the island, in lat. 47° 13' 50", and long. 60° 8' 20", is another similar building of the same height, showing a fixed light, vis. 20 miles, between N. by E. $\frac{1}{2}$ E. northward to E.N.E.

Having entered the gulf, you will seldom fail to see the Magdalen and Bird Ids., and as you must pass them in your route to the R. St. Lawrence, you had better, particularly in thick weather, go either to the eastward and northward of these, between them and Newfoundland; or to the southward and westward, between them and Prince Edward's Id., and not attempt to go between them in such weather. The weather to the southward of the Magdalens, and between them and Prince Edward's Id., is generally much clearer than to the northward; therefore the passage that way is to be preferred, particularly after the early part of the year, for then south-westerly winds are most prevalent; clear and good anchorage is to be had at the south-eastern part of the Magdalens in Pleasant Bay, very near the shore; this is a safe place for vessels to ride in, with westerly winds, and greatly more to be recommended than to hazard the beating about in the gulf with a foul wind; the passage into it is safe.

Bearings and Distances of the principal of Points and Places.

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From Cape Ray to the northern side of Bird Islands ..	N.W. by W.	74
" " eastern point of Anticosti	N.N.W. $\frac{1}{2}$ N.	130
Cape North to the N.E. end of the Magdalen Ids.	N.N.W. $\frac{1}{2}$ W.	54
" " Bird Islands	N. $\frac{1}{2}$ W.	57
N.E. end of the Magdalen Ids. to the Bird Ids.	N.E. by E. $\frac{1}{2}$ E.	16
E. side of St. Paul's Id. to the E. side of the Bird Ids.	N.N.W. $\frac{1}{2}$ N.	55
North Bird Id. to the S.W. point of Anticosti ..	N.N.W., northerly	134
" " Eastern point of Anticosti	N. $\frac{1}{2}$ E.	78
Cape North to South Cape of Amherst Id.	N.W. by W.	67
Southern point of Amherst Id. to northern point of Prince Edward's Island	W. by N. $\frac{1}{2}$ N.	84
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" " Cape Rosier	N.W. $\frac{1}{2}$ N.	136
Cape Rosier to the S.W. point of Anticosti.	N.E. by E. $\frac{1}{2}$ E. ...	38 $\frac{1}{2}$
" " Western end of Anticosti	N. by E.	61

In crossing the Gulf of St. Lawrence even during the summer months, islands of ice have frequently been met with. The ice that drifts out of the river all disappears by the latter end of May, but these masses make no part of it. The conjecture is that they are not formed on any of the neighbouring coasts, but descend from the more northerly region of Davis's Strait, &c., where, it is presumed, they are severed by the violence of storms from the vast accumulation of the Arctic winter; and passing near the coast of Labrador, are drawn by the indraught of the current into the Strait of Belle Isle. They are often 100 ft. in height, with a circumference of many thousands; the temperature of the atmosphere is very sensibly affected by them, which even in foggy weather, when they are not visible, sufficiently indicates their neighbourhood. By day, from the dazzling reflection of the sun's rays, as also by moonlight, their appearance is brilliant and agreeable.

Currents at the entrance of the Gulf.—*Captain Bayfield, R. N.*, says, "It is a general received opinion, that a current sets constantly to the south-eastward out of the Gulf of St. Lawrence, between Newfoundland and Cape Breton Id.; and also that it is frequently deflected to the southward, towards the shores of the island last named, by another current from the northward, which is said to enter the gulf by the Strait of Belle Isle.

"I have myself observed that a current sets out between Cape Ray and St. Paul's Id. during westerly winds and in calm weather, but it is checked by easterly

winds; and I believe it may sometimes run in a contrary direction from the same cause; northerly winds, and perhaps also the above-named current from the northward, may cause the stream to set to the southward towards Cape Breton Id.: but the truth is that winds, both present and at a distance, possess so powerful and irregular an action upon the set and strength of the currents and tides, in the entrance of the gulf, that I can say nothing certain or definite respecting them.

"The reality of a current inward, through the Strait of Belle Isle, is confirmed by the presence of icebergs. After entering the gulf it runs along the Labrador coast at the distance of 2 or 3 m. from the outer islands, leaving a narrow space in-shore, in which the streams of the tides, when uninfluenced by the winds, are tolerably regular. Passing outside Mistanoque, Grand Macattina, and the South Maker's Ledge, it pursues a direction given to it by the trending of the coast, till it is turned gradually to the southward by the weak current which is often found coming from the westward, between Anticosti and the north coast during westerly winds, and which is set off to the southward by Natashquan Pt. The united streams continue their course southward at a rate diminishing as they become more widely spread, and which seldom exceeds $\frac{1}{2}$ a knot; and finally joining the main downward current, out of the St. Lawrence, they all pursue a S.E. direction towards the main entrance of the gulf, between Cape Ray and the Island of St. Paul. It is this current from the northward, which is felt by vessels crossing from off the Bird Ids. towards Anticosti, and which, together with the neglecting to allow for the local attraction of the compasses, has been the principal cause of masters of vessels so often finding themselves, unexpectedly, on the south coast. Many shipwrecks have arisen from this cause near Cape Rosier, Gaspé, Mal Bay, &c."

The dense fogs met with in this gulf are one of the greatest sources of danger in its navigation; they sometimes last several days in succession; and to a vessel either running up or beating down during their continuance, there is no safe guide but a constant use of the deep-sea lead, with a chart containing correct soundings. The fogs during easterly gales, extend high up into the atmosphere; but those dense fogs which occur in calms, or even light winds, may sometimes be seen over from the mast-head, when objects from the deck cannot be seen 50 yards distant.

Winds.—The prevailing winds, during the navigable season, are either directly up or down the river; a S.E. wind in the gulf becomes E.S.E. between Anticosti and the south shore; then E.N.E. above Pt. de Monts; and N.E. at Green Id. A W.S.W. wind at Bic Id. will frequently become W., W.N.W., and N.W., as you run down along the south coast. South-easterly winds almost always bring rain and fogs, while with westerly winds you generally have fine dry weather. Easterly winds prevail mostly in the spring; westerly winds as the summer advances, and S.W. winds are the most prevalent during the summer months, both in the river and gulf. In October and November, N.W. winds frequently blow with great violence, with heavy squalls, and with hail and snow. Late in the season the snow storms often continue a considerable time, and have occasioned many losses.

THE MAGDALENS, ANTICOSTI, &c.

The **MAGDALEN ISLANDS** are a long range of islands, forming an irregular curve, between lat. $47^{\circ} 13'$ and $47^{\circ} 38'$; the greatest length from the east point to the S.W. Cape of Amherst Id. is nearly 36 miles. When first made they appear like several hilly islands, with channels between them; but on a nearer approach, they are seen to be all connected together, with the exception of Entry Id. by a double line of sand bars and beaches, enclosing extensive lagoons. Entry Id., when first made from the eastward, appears like a double-peaked hill, sloping somewhat abruptly down to perpendicular and high cliffs on either side. The central part of these islands attains an elevation of 200 to 580 ft. The principal dependence of the inhabitants is upon the cod fishery. Wood, for fuel, is scarce near the settlements, and large spars are not to be had. Ships may obtain small

supplies of fresh provisions, especially from Entry Island; and water may be had from Amherst Harbour. These islands possess no harbours for ships; but there are three fit for small vessels, named Amherst, House, and Grand Entry Harbours.

AMHERST ISLAND, the largest and south-westernmost of the Magdalens, is 550 ft. above the sea. About a mile N.W. of Amherst Harbour is a remarkable conical hill, named Demoiselle, which is 280 ft. high, and serves as a mark for clearing Pearl Reef to the northward.

Pleasant Bay is to the N.E. of Amherst Id.; it is the best roadstead in the Magdalens, and the only one vessels can venture to lie in, with all winds, during the summer months. The best anchorage is in 4 fms., the rocky point off the entrance of Amherst Harbour bearing S.W. $\frac{1}{2}$ W., $\frac{3}{4}$ of a mile. Amherst Harbour is in the S.W. corner of Pleasant Bay; this harbour is the easiest of access and egress of any of the Magdalens, with the advantage of a good roadstead before it; nevertheless, the entrance is narrow and rather crooked, with only 7 ft. on the bar at L.W.

GRINDSTONE ISLAND is to the northward of Amherst Island, and is the second in size, and elevated 550 ft. above the sea; these islands are connected together by a double line of sand-bars. The northern shore of Grindstone Island is of red sandstone cliffs, but not so high as those of Amherst Id.

WOLF ISLAND.—From Hospital Cape the sand-beaches continue in an E.N.E. direction for 10 miles, to Wolf Id. proper, which is about $\frac{2}{3}$ of a mile long, with low sandstone cliffs; from Wolf Id. the sand-beaches recommence, and continue with occasional sand-hills, 9 or 10 miles further, to the North Cape in Grosse Id., a precipice of considerable height. The North Cape Rks. lie about 600 fms. from the shore off the cape. The sandy beaches and hills continue curving to the eastward, 6 miles further up to the east point.

EAST ISLAND.—The east point is of low sand, with several sand-hills, which extend westerly to near the N.E. cape. A long spit of sand, with 2 or 3 fms. upon it, runs off S.E. $\frac{1}{2}$ S., $1\frac{1}{2}$ m. from the point; and the depth is only 4 to 6 fms. for $1\frac{1}{2}$ m. further, in the same direction. To clear this spit in 5 or 6 fms., care must be taken not to bring Old Harry to bear to the southward of west. The tides set rapidly over this spit, causing a heavy breaking sea.

COFFIN ISLAND.—Old Harry, the N.E. point of Coffin Id., is W.S.W., $4\frac{1}{2}$ m. from East Pt. Coffin Island extends 4 miles westward from Old Harry. At the S.W. end of this island, between it and the sand-bars, is the entrance to Grand Entry Harbour; it is only 50 fms. in breadth, and should not be attempted without a pilot. The depth at L.W. in the entrance is 10 ft., with 13 ft. at H.W. springs; it is a well-sheltered and extensive harbour.

ALRIGHT ISLAND is S.W. of Coffin Id., and forms the east coast of the group, and the east shore of House Harbour. Cape Alright, the south point of the island, is a very remarkable headland, a mile inland; it is 420 ft. above the level of the sea. To the N.W. of Cape Alright, about $2\frac{3}{4}$ m., is the entrance to House Harbour; it is narrow and crooked, with only 6 ft. in it.

SHAG ISLAND is W.S.W. $\frac{1}{2}$ W., 6 m. from the Grand Entry, and about 6 m. to the northward of Cape Alright, near to the shore.

ENTRY ISLAND bears S. $\frac{1}{2}$ E., 7 m. from Cape Alright, and the channel into Pleasant Bay is between them, having passed between Alright Reef and Pearl Reef. Entry Id. is 680 ft. above the level of the sea, and may be seen 24 or 27 m. in clear weather; its red cliffs rise at the N.E. point to 350 ft., and at the south point to 400 ft. The S.W. cliffs of Amherst are also steep, but of less height, and as there is no land to the southward and westward it cannot be mistaken.

SHOALS EASTWARD OF THE MAGDALENS.—The principal dangers are the Doyle Reef, Columbine Shoals, Alright Reef, and Pearl Reef.

The Doyle Reef is S.E. $\frac{1}{2}$ E., $6\frac{1}{2}$ m. from East Point, and has only 3 fms. on it, with 12 or 13 fms. round it; it consists of sharp rocks, and, as it seldom shows, it may be considered the worst danger on the east side of the Magdalens. The only mark for this reef is the north cape of the Magdalens open to the north of the N.E. cape.

COLUMBINE ROCKS are a patch of rocks with only 3 fms. on them, S.S.W. $\frac{1}{4}$ W., $2\frac{1}{2}$ m. from Old Harry Head. Within them, towards Coffin Id., are numerous small shoals and patches, on some of which are only 3 ft. This part is dangerous to approach at night in foggy weather.

ALRIGHT REEF is S. 80° E. from Cape Alright to the outer edge of the reef which is 400 fms. long by 300 wide; it is composed of white-pointed rocks, having only 6 ft. over them. To clear it on the S.W. side, keep the well-marked summit of Grindstone Id. open to the S.-westward of Cape Alright, and to clear the S.E. side of the reef, keep the east side of the woods of Wolf Island (seen over the bars) open to the eastward of Shag Id.

PEARL REEF is a small dangerous reef of white-pointed rocks, having only 8 ft. over it. It bears E. by N., $4\frac{1}{2}$ m. from the N.E. part of Entry Id., and S.E. $\frac{1}{4}$ S., $9\frac{1}{2}$ m. from Cape Alright; even with a moderate swell the sea breaks heavily upon it. Demoiselle Hill kept more than $\frac{1}{2}$ a point open to the northward of Entry Id., will clear it to the northward.

SHOALS AND DANGERS ON THE WEST SIDE OF THE MAGDALENS.—These are the Deadman's Islet, White Horse, Pierre de Gros Cap, and Wolf Rks.

DEADMAN'S ISLET is $7\frac{1}{2}$ m. N.W. $\frac{1}{2}$ W. from the western part of Amherst Id. It is very remarkable, standing alone, and is about 3 cables in length and $1\frac{1}{2}$ in breadth; about 170 ft. above the sea, and has a reef extending from it nearly $\frac{1}{2}$ of a mile towards Amherst Id.

The **WHITE HORSE** is a very dangerous reef, N. 60° E., 7 m. from Deadman's Islet, and 5 m. W.N.W. from Gull Islet; it is small, being only about a cable's length in diameter; it has 10 ft. on it, on which the sea often breaks.

The **PIERRE DE GROS CAP** is another dangerous reef of rocks with 18 ft. on it, so that the sea breaks upon it in heavy weather; it lies N.E. by E. $\frac{1}{2}$ E., 6 m. from the White Horse, and N.W. by W., $3\frac{1}{2}$ m. from the nearest part of Grindstone Id. A vessel will pass clear outside of it, and also the White Horse, if Deadman's Islet be not brought to the westward of S.W. $\frac{1}{2}$ W.

The **WOLF ROCK** is a rocky shoal of 3 fms., about $\frac{1}{2}$ a mile from the shore, off Wolf Id., and 10 m. N.-eastward of Hospital Cape.

The **BIRD ISLANDS** are small and not far apart; they are of coarse red sandstone, and moderately high, flat at the top, and have a white appearance; the southern one is the largest; from the east end a small ridge of rocks runs out; in the passage between them there is also a rocky ledge. The edge of the bank of soundings, on which are 55 fms., is 12 miles to the eastward of these islands. In thick weather come no nearer the east side than 40 fms.

Light.—On the Great Bird Rk., in lat. $47^{\circ} 50' 40''$ and long. $61^{\circ} 8' 20''$, a white Lt.-ho. is erected, 50 ft. in height and 140 ft. above the sea, showing a fixed light, visible 21 m. Exhibited only during the season of navigation.

BRYON ISLAND is about 4 m. long, in an E. by S. and ∇ . by N. direction; it is only a mile broad, and uninhabited; the north side is the highest, about 200 ft. above the level of the sea: on the south side are some coves, where boats can easily land with off-shore winds. The S.W. end of the island is N.N.E. $\frac{1}{4}$ E., $8\frac{1}{2}$ m. from the North Cape in the Magdalens; a reef runs off this end $1\frac{1}{2}$ m. The east end bears from the Bird Islands W. $\frac{1}{2}$ N., 11 m., and a reef runs off $\frac{1}{2}$ of a mile to the N.E., There is also a reef to the southward, from the S.W. point of the island $1\frac{1}{2}$ m. Close to the eastward of this latter reef there is good anchorage in 4 or 5 fms., or in 6 fms. a mile from the shore. Small vessels often ride out heavy N.W. gales under this island, close to the reef.

About midway between the Bryon and Bird Ids. there is a rocky shoal, said to have only 4 fms. on it in one part, but no less than 7 have been found on it; there is also a patch of 5 fms. $3\frac{1}{2}$ m. W.S.W. from Bryon Id. In blowing weather both these patches should be avoided by large ships.

The **ISLAND OF ANTICOSTI** lies nearly N.W. and S.E., being 123 miles long, and of irregular breadth; about the middle it is 30 miles wide, but its N.W. part is not above 9 or 10 miles broad. The island has been reported to be entirely destitute of either bays or harbours calculated to afford shelter for large shipping.

Its soil is unpropitious, and its aspect forbidding. The elevation is nowhere more than 700 ft. above the sea: the south coast is low and shelving, with reefs of flat limestone, which dry at L.W.; the north coast for 70 or 80 miles to the westward of East Pt. is bold, precipitous, and of considerable elevation, some of the cliffs being 400 ft. high; but the remainder of the north coast is low. The only inhabitants on the island, are the people in charge of the Lt.-hos. and provision posts, and at Fox Bay.

Anticosti divides the approach of the River St. Lawrence into two passages; these are called the North and South Channels; the former is, at its narrowest part, 15 miles broad, and the latter 37½ miles.

Provision Posts have been established by the Government, for the relief of the crews of vessels unfortunately wrecked upon the island; for if wrecked at the close of the navigable season their crews would perish from want, and the severity of the climate. One of these provision posts is at Ellis Bay, 6 m. S.E. from the west end of the island; the second at the Lt.-ho. on the S.W. point; a third at Jupiter R., or Shallop Creek; a fourth at Heath Pt., and a fifth at Fox Bay, 12 miles northward of Heath Pt.

Direction Boards have been placed at different parts of the island, near the beach, in order to assist persons who may have the misfortune to be wrecked, in finding the provision posts above named. The boards are nailed to trees with their branches cut off to render the writing visible. They are placed as follows:—1st, on the west point of the island; 2nd, 12 m. S.-eastward of Ellis Bay; 3rd, 45 m. westward of Jupiter R.; 4th, 21 m. eastward of Jupiter R.

Beacons.—Four conspicuous beacons, painted white, have been placed on the south coast of Anticosti, the plans of which will be found on the chart of the Gulf of St. Lawrence. The easternmost is placed on the south point of the island, in lat. 49° 3' 43" and long. 62° 16' 0", and is 40 ft. high; the 2nd at Pavilion Rk., in lat. 49° 9' 45" and long. 62. 50, 0", also 40 ft. in height; the 3rd stands 6 m. east of Salt Lake, in lat. 49° 17' 30", long. 63° 16' 0"; the 4th at Cape St. Mary, in lat. 49° 40' 30", and long. 63° 55' 0".

Lights.—There are three excellent lights on the Island of Anticosti. The S.W. point Lt.-ho. is built on the extremity of the point. The tower is of conical form, 75 ft. high. The light is bright, and revolves every minute, and can be seen from N.N.W. to about S.S.E. The lantern is elevated about 100 ft. above the sea at H.W., and can be seen 15 miles, from the deck. To the Lt.-ho. is attached a provision post, which forms a conspicuous landmark.

HEATH POINT Lt.-ho. is of the same form, dimensions, and colour as that on the S.W. point of the island. It shows a bright fixed light from W.N.W. to N.E. by N. The lantern is elevated 110 ft. above the sea. This light is visible 15 or 18 m. in clear weather, lighted from April to the 15th December; the Lt.-ho. must always be kept open southward of Cormorant Pt.

WEST POINT Lt.-ho. shows a fixed light, elevated 112 ft., and is visible 15 m.; its position is lat. 49° 52' 5" and long. 64° 32' 0". The tower is circular, stone, faced with white fire brick.

EAST CAPE is in lat. 49° 8' and long. 61° 40'. It is a perpendicular cliff, 100 ft. high. S.-westward of this, distant 3¼ m., is Heath Pt. Between the two points is Wreck Bay, affording no anchorage. It is H.W. at East Cape, F. and C. at 1 o'clock. Springs rise 6 ft., neaps 4 ft.

SOUTH COAST OF ANTICOSTI.—HEATH POINT REEF.—This is a dangerous reef, running out 2 m. in an E.S.E. direction to 5 fms, all large stones; 3 m. from the point are 7 fms. To avoid the foul ground, come not nearer to the east side of the point than 20 fms.; to the S.-westward of the point the shoal water only extends off ¼ of a mile. A little farther to the westward is one of the best open anchorages on this side of the island. Anchor in 10 fms., with the Lt.-ho. E. by N., and Cormorant Pt. W.N.W., bottom sand and mud, and you will be nearly 2 miles from the shore.

During westerly winds it would be dangerous to stand in too near the east side of Heath Pt., for the winds coming along the land on each side of the island, sometimes do not meet until several miles to the eastward of the point; between

them you will be becalmed, and a strong current round the point might set you upon the reef.

Cormorant Pt. is W. $\frac{1}{2}$ N., 6 miles from Heath Pt.; and W. N.W. $\frac{1}{2}$ N., 16 $\frac{1}{2}$ m. farther, is the south point: the coast between is low. South Pt. Reef runs off to the southward 1 $\frac{1}{2}$ m., on which the sea generally breaks. Heath Pt. Lt.-ho. and Cormorant Pt. in one, E. $\frac{1}{2}$ S., clears this reef full 2 miles. South Pt. is about 50 ft. high—a sandy clay cliff.

From South Pt. to the Lt.-ho. on the S.W. Pt., the distant is 56 m., and the land has much the same appearance all the way. In this space are the Jupiter River, or Shallop Creek, Pavilion River, and Salt Lake River and Bay.

Jupiter River is 13 m. N.W. of South Pt. The houses of the provision post are here. Pavilion River is 10 m. from Jupiter River; the coast is all low, but may be approached safely by the deep-sea lead, the reefs extending nowhere more than a mile off. Salt-Lake River and Bay lie 21 m. north-westward of Pavilion River; between which the coast is higher and bolder all the way to the S.W. Pt. than on any other part, and should, in dark, foggy weather, be approached with caution. When far enough to the westward, tack, at night, with the Lt. bearing N.N.W. Salt-Lake Bay has fine sandy beaches, enclosing lagoons, into which the tide flows.

The S.W. Pt., on which the Lt.-ho. stands, is 11 m. north-westward of Salt-Lake Bay. It is a low projecting point of limestone, and has a cove on its north side, forming it into a small peninsula. A reef extends from the point $\frac{1}{2}$ of a mile in a W. and S.W. direction; boats can land on the south side of the beaches, as well as in the cove on the north side; a vessel may anchor, in case of necessity, to the northward of the Lt.-ho., in 12 or 13 fms., sand and gravel, the extremity of the point S.S.W. $\frac{1}{2}$ W., $\frac{1}{2}$ of a mile; but this can be recommended as a roadstead only with off-shore winds. Between the S.W. Pt. and Ellis Bay there is no safe anchorage; and the reefs of flat limestone run off in most places a full mile, and have often 10 or 12 fms. close to them.

Observation River is the largest stream on the island; its entrance is 5 $\frac{1}{2}$ m. northward of the S.W. Pt., but it is mostly barred up with sand. There are some high sandy cliffs on the north side of this river. St. Mary's Cliffs lie 18 m. north-westward of Observation River; they are of sand, and not so high as the former. When in sight of the Lt., a vessel should tack when it bears S.S.E.

Becscie River is a small stream at the head of a cove, affording shelter for boats. Its entrance is 7 m. north-westward of St. Mary's Cliffs.

ELLIS BAY is the only good anchorage in the island; it runs in between Cape Eagle and Cape Henry. A reef of flat limestone runs off a mile S.-westward from Cape Henry; and another reef runs off $\frac{1}{2}$ of a mile to the westward from Cape Eagle; the entrance between them is 600 fms., from 3 fms. on each side. Both the reefs show themselves by a line of breakers.

In approaching this bay from the westward, run down along the reefs of Cape Henry in 10 fms. until the west side of the White Cliff, which is on the east side of the bay, comes on with the east side of the westernmost of two remarkable hills, back in the country, bearing N.E. $\frac{1}{2}$ N., then haul up with these marks on, which will lead you into smooth water, close under Cape Henry Reef, in 3 $\frac{1}{2}$ fms. Continue running on until Gamache House bears N. by E., then haul up for it, and anchor in 3 fms., muddy bottom, about $\frac{1}{2}$ a mile from the Flats at the head of the bay, and 300 fms. from those on either side.

In approaching the bay from the eastward, with an easterly wind, keep along Cape Eagle Reef, in no less than 7 fms., till the east end of the White Cliff comes on with the east side of the same hill, as before; then haul up till the houses bear N. by E., and proceed as before. It is H.W. at Cape Henry, F. and C., at 1h. 43m.; spring-tides rise 7 ft., neaps 4 ft.

Ellis Bay may be readily known by Cape Henry, which is a bluff point, and the opening to the southward shows distinctly.

WEST POINT is low and wooded, the reefs do not extend above a mile from shore. Between West Pt. and Cape Henry the reefs run off 1 $\frac{1}{2}$ m.; this part

should be approached with caution, by keeping the lead going. The light on West Point will be a good guide to vessels in approaching these reefs.

NORTH COAST OF ANTICOSTI.—From West Pt. to North Pt. the coast is low, with reefs running off about a mile; come no nearer than 25 fms. From North Pt. to High Cliff the distance is 13 miles; it is low and wooded. High Cliff may be known by being the only one on the island that has not its base washed by the sea.

White North Cliff may be seen 18 or 21 m. and is 26 miles S.-eastward of High Cliff; this part of the coast is dangerous; for about $\frac{1}{2}$ of the distance from High Cliff the reefs extend full 2 miles from the land, and continue so for some distance. On approaching White North Cliff they only reach about $\frac{1}{2}$ a mile from the shore.

Charlton Pt. is 10 m. south-eastward of White North Cliff; under this point vessels may anchor in fine weather, and procure wood and water.

Cape Observation is 10 m. south-eastward of Charlton Pt.; this cape is a high, bold, remarkable headland. Bear Hd. is $12\frac{1}{2}$ m. south-eastward of Cape Observation, between which are high greyish cliffs. Bear Hd. is similar to Cape Observation, being 400 ft. high; they may easily be distinguished by the latter being the westernmost high land; this part is bold, having 100 fms. within 3 m. of the land. Bear Bay is the best anchorage on the north side of Anticosti; it has a moderate depth, and good holding ground; it is situate between Bear Hd. and Cape Robert, 6 m. S.S.E. $\frac{1}{2}$ E. from it. The best anchorage is in 13 fms., with Bear Hd. N. by W. $\frac{1}{2}$ W., and Cape Robert S.E. by S.

Table Hd. is 19 m. south-eastward of Cape Robert; the coast is broken into small bays, which afford no anchorage. Table Hd. is remarkable by the hill from which it derives its name, that rises immediately from the summit of the cliffs. Fox Pt. is 4 m. further to the S.E., and is much lower than Table Hd. Fox Bay is less than 2 m. southward of the point, and a mile wide, and deep; there is a house and store at the N.W. part of the bay, and a stream and lake at its head. Reef Pt. is the southern point of Fox Bay, from which a reef runs out $1\frac{1}{2}$ m., having only a few feet over it, with 10 fms. close to it.

Between Fox Bay and East Cape, the limestone cliffs are 100 ft. high, bold, and free from danger. You may anchor at the distance of a mile from the shore, between Cape Sandtop, and East Cape, in 16 to 20 fms., find sand.

The island has hitherto been considered dangerous to vessels bound to Quebec; but with care it will not be found so, for so soon as the land can be seen, you may advance towards, and sail freely along it; by which you will always get faster to the westward with foul winds, than you can do in the offing. There can be no danger of getting embayed, and the flood tide is regular near the island. Mr. Lambley, in a fast-sailing schooner, frequently laid-to during the night with westerly winds, and always found himself to windward of the place in the morning.

THE NORTH, OR CANADIAN CHANNEL, is bounded on the southward by the Id. of Anticosti, and on the northward by the mainland; here, in about the long. of $64^{\circ} 20'$, is the R. of St. John; the coast to the eastward of which, together with the adjacent islands, including Anticosti, is under the Government of Newfoundland; to the westward of that river is under the Government of Quebec. To the eastward of St. John's R. are the Mingan Ids.; these are a numerous cluster of islands off the main, with passages between, and places of good anchorage; the westernmost is named Mingan Id., and bears from the western point of Anticosti N.E. by E. $\frac{3}{4}$ E., distant $25\frac{1}{2}$ miles; the Mingan settlements are to the E.N.-eastward of the island, distant about 7 or 8 miles. The harbour is formed between Harbour Id. and the main; here vessels may ride securely in all weathers; the ground is good, and the anchorage in from 5 to 10 fms., with plenty of cod-fish, salmon, and seals. The soil surrounding the settlement is fertile and the land level.

THE NORTH COAST.

FROM CAPE WHITTLE TO THE R. ST. JOHN, INCLUDING THE MINGAN ISLANDS.

From Cape Whittle, the western point of Lako Id., the coast runs W.N.W. $\frac{1}{2}$ N., nearly 63 miles. From the cape to Kegashka R. the coast is of granite, which rises into steep hills and ridges, which are seldom higher than 200 ft.; this part of the coast is studded with innumerable rocks, islets, and small islands, some of which are 5 miles from the mainland; these islands, as well as the main, are bare of wood. From Kegashka to Natashquan Pt., a distance of 16 miles, the cliffs are all sandy, covered with spruce trees, and fronted by fine sandy beaches. It is H.W., E. and C., on this part of the coast at 10h. 45m.; springs rise 5 ft., neaps 3 ft.

This coast, when seen from a distance, is all so much alike that it is almost impossible to distinguish one part from another; it is only when you approach within 3 or 4 miles of the outer rocks, its broken, dangerous nature becomes apparent.

The outer rocks off this part of the coast are so bold that there is no warning by the hand-lead, but there are soundings with the deep-sea lead in moderate but irregular depths off every part of the coast; these, with the assistance of the chart, and due attention, are sufficient to warn a vessel of her approach toward danger at night, or in foggy weather.

WHITTLE ROCKS.—These are a number of rocks, above and under water, south-westward of the cape, the outermost of which are half-tide rocks, and are about $2\frac{1}{2}$ miles from the cape.

Wolf Id. is N.W. by W. $\frac{1}{2}$ W., $6\frac{1}{2}$ miles from Cape Whittle; it may be readily known by being larger and higher than the other islands in its vicinity, 150 ft. high, and making in two hills. Wolf Bay is between the island and the cape; it runs in 6 or 7 miles, and has sufficient water in it; but a number of rocks and ledges extend across its mouth, rendering the approaches to it very dangerous. The Outer Islet is small, and is a mile S.W. of Wolf Id.

GRANGE ROCK.—A dangerous isolated sunken rock has been discovered by Mr. W. Grange, in the steamer "North America," upon which she struck. It appears to lie about 3 miles S.S.W. $\frac{1}{2}$ W. from the Outer Wolf Islet, and has 16 ft. upon it.

COACOCCHO BAY is to the westward of Wolf Id.; it is the only place affording anchorage for large vessels upon this part of the coast, and is not at all difficult of entrance, although the number of islets and rocks in every direction make it appear so. There is an excellent harbour at the head of the bay, called the Basin, and another formed by an arm running into the bay E. by N., named Tertiary Shell Bay, which is equally safe; farther out than these harbours the bay is more than $\frac{1}{2}$ a mile wide, and quite sufficiently sheltered from the sea, for the safety of any vessel with good anchors and cables.

The entrance is formed by Outer Islet and Wolf Id. to the eastward, and by the Audubon Ids. and Rks. to the north-westward. There are three small dangerous ledges outside of the entrance, which must be carefully avoided; the first is the S. Breaker, with only 12 ft. over it, and only shows in heavy weather; it bears W.N.W. $\frac{1}{2}$ W., 2 miles from the Outer Islet, having a clear channel between them; the second a shoal of 18 ft., $\frac{2}{3}$ of a mile S.W. by W. from the S. Breaker; the third is the S.W. Breaker, with only 3 ft. over it, and bears N.W. by N., $2\frac{1}{2}$ miles from the S. Breaker; the channel between them is clear and deep.

To enter this bay from the south-eastward, steer so as to clear the Grange Rk., and leave the Outer Islet and its rocks about 300 fms. to the eastward. When abreast of these rocks you will see, right ahead, a chain of low rocks running

[G. & R. ST. LAWRENCE.]

S.W. from Emery Id.; bring the point of these rocks to bear N.E. $\frac{1}{2}$ N., when it will appear on with the extreme point of the mainland on the N.W. side of the bay; continue running on this mark, leaving several rocks 600 fms. from the eastern side of Audubon, on your port hand, and passing them, haul to the northward a little, so as to leave the Emery Rks. on the starboard; their outer points lie N.N.E. $\frac{1}{4}$ E., 3 miles from the Outer Islet; when up to them, the bay is open before you, and clear of danger; the farther you go in the better the ground, and less sea with S.W. winds.

If you run into Tertiary Shell Bay there is nothing in the way excepting a small rock, above water, $\frac{1}{4}$ of a mile within the entrance, which must be left on your starboard hand; it is quite bold; within you will lie land-locked, in 5 to 11 fms. mud. At $\frac{1}{4}$ a mile within the entrance it is only 120 fms. wide, but it is wider farther in.

When running for the basin, keep the N.W. shore on board, leaving Tertiary Shell Bay, and rocks north of it, to the eastward, until within $\frac{1}{4}$ a mile of the island at the head of the bay; then steer over to the eastward, towards the island, to avoid a shoal of boulder stones, extending 200 fms. from the west side of the bay, with a deep channel between it and the island 100 fms. wide; leave the island about 50 fms. to the eastward, and as you pass through, you will deepen your water from 9 to 19 fms.; as soon as past the inner end of the island, haul to the N.W., in the mouth of a small bay, and anchor in 8 fms., mud. On the east side of the entrance of the river there is a house occupied by the fur traders.

Olomanoshebo River is 12 miles westward of Coacoacho; this is a considerable river, falling 20 ft., over granite, into the head of a bay 4 miles deep; it is so shallow that boats can hardly enter at L.W.; the coast is studded with innumerable islands. Near the falls, on the east side, is a trading post.

TREBLE ISLET AND LOON ROCK.—These rocks lie off the entrance to the above river; the latter, 6 miles to the westward, can always be seen, and is 3 miles from the mainland.

Wash-schecootai Bay is 10 miles to the westward of Olomanoshebo, is 2 $\frac{1}{2}$ m. wide, and has off its entrance several small rocky ledges, which make its entrance very difficult. Up this river, on the east side, there is one of the Hudson Bay Company's trading posts. About 4 $\frac{1}{2}$ m. farther westward is the entrance to Musquarro River, where there is another of the Hudson Bay Company's trading and fishing posts; the entrance is intricate and dangerous, and only fit for boats; it may be known by some houses on the east side of the entrance. Curlew Pt. is about 5 miles westward of the Musquarro River, and is in the east point of Kegashka Bay.

Kegashka Bay is between Curlew and Kegashka Pt., it is 3 m. wide, and 1 $\frac{1}{2}$ m. deep. This is a wild place, the small islets being too far apart to afford any shelter. It is only in the N.W. corner of the bay, behind Kegashka Pt., that a vessel can be sheltered from southerly winds; there is room there for several small schooners, which may shelter themselves during the summer months. Wood and water may be had on the western part of the bay.

Kegashka Bay has this advantage: there are no ledges or other dangers off its entrance. At 3 m. to the westward of this bay is the Kegashka River, having falls 40 ft. high: but they cannot be seen from the sea; here is another fishing station of the Hudson Bay Company; it only affords shelter for boats. About a mile S.W. from the west point of entrance there is a shoal of 2 $\frac{1}{2}$ fms. At 2 $\frac{1}{2}$ m. farther westward fine sandy beaches, in front of sand-hills, covered with spruce trees, commence, and continue to Natashquan Pt., a distance of 15 m.

NATASHQUAN POINT.—This remarkable sandy point is the southernmost point on the north side of the gulf, eastward of the Seven Ids, and bears from the east point of Anticosti N.N.E. $\frac{1}{4}$ E., distant 57 m. About 1 $\frac{1}{2}$ m. from the mouth of Long River, and 11 m. eastward of Natashquan Pt., there is a shoal, on which the sea breaks; by not going nearer the shore than 17 fms. you will avoid it. At 1 $\frac{1}{2}$ m. S.W. from Natashquan Pt., there is a small cod bank of 4 $\frac{1}{2}$ fms.; and between Musquarro and Natashquan, at from 6 to 11 m. from the

land, are several banks of sand, gravel, and shells, of 24 to 40 fms., having upwards of 50 fms. between them and the land. Abundance of cod fish are caught on these banks by the American fishing schooners.

NATASHQUAN RIVER, the mouth of which is about a mile wide, enters the sea between two sandy points, about 3 m. N.-westward from the south extremity of the point; in the middle of the entrance is a low sandy island, having a narrow channel on each side of it; in the southern are from 9 to 11 ft. at H.W. Small schooners enter and lie where the Hudson Bay Company's houses are, on the south side within the entrance. It discharges a great body of water in the spring of the year, and makes the surface of the sea fresh for several miles around. Immense quantities of cod fish are caught here in the early part of the spring.

LITTLE NATASHQUAN HARBOUR, $3\frac{1}{2}$ m. N.N.E. $\frac{1}{2}$ E. from the river, is formed by numerous rocks and islets, and only fit for small schooners under 100 tons. It is a convenient place for the fishing vessels, and is resorted to principally by the Americans; its entrances are between reefs only 90 fms. wide, and a pilot is necessary for those unacquainted. There are thousands of rocks and small granite islands along this coast, and many anchorages like this, which no chart could show the way into. With a clear sky and a smooth sea, when the bottom can be seen in 3 fms., with a handy, quick-working vessel, and a bright look-out, you may find your way to such places, the existence of which is always shown by crosses, or piles of stone, or drift-wood upon the islets; these are placed as guides for the fishermen. It is H.W. off this harbour at 11 h. Spring-tides rise 5 ft., neaps 3 ft.

The coast between Natashquan Pt. and St. Genevieve is low near the sea, rising a short distance back into mounds and ridges, nowhere exceeding 400 ft. in height. There is a sandy tract of coast between Agwanus and Nabesippi River; the sandy tracts are always thickly wooded with spruce trees. There are numerous coves and small bays for boats. The small bare islets are innumerable, but they do not extend above 2 m. from the mainland, and should not be approached within 20 fms. The current along this shore from the westward seldom exceeds $\frac{1}{2}$ a knot.

Between Natashquan and Genevieve there is no safe harbour for shipping; but there are several rivers and small bays (as shown on the chart), where boats, and even small schooners, might find shelter occasionally. The Hudson Bay Company have also two or three settlements on this part of the coast.

The **MINGAN ISLANDS** are a long chain of islands running nearly parallel with the coast, between long. $63^{\circ} 0'$ and $64^{\circ} 13'$. The general character of these islands is low, nowhere exceeding 300 ft. in height. They possess very little soil, yet are thickly wooded on the side towards the mainland; but towards the sea, barren tracts often occur. There are 29 islands in all, none of which are inhabited. Wood and water may be obtained at all the principal islands.

Mount St. John, which is 1416 ft. high, is the highest part of the mainland in this neighbourhood, and northward of the westernmost Mingan Ids. There are other hills farther eastward, about 1000 ft. in height; these are opposite Quarry Id.: farther eastward the mainland is low. The tides among these islands seldom exceed a knot, except in very narrow channels.

St. Genevieve Id. is the easternmost of the Mingan Ids., and is about 5 m. in circumference; the N.E. point is bluff, and about 200 ft. high. Mount St. Genevieve is on the main, about $2\frac{1}{2}$ m. northward of the island; it is about 300 ft. in height. In approaching this island there are two patches of rocks to be avoided, called the Saints and Bowen Rks.

The Saints are two low bare rocks, $\frac{1}{2}$ a mile to the southward of the islands, having a channel of 5 fms., foul ground, between. The Bowen Rks. are $\frac{1}{4}$ of a mile apart: the N.W. Bowen has only 3 ft. on it, and E.S.E. $\frac{1}{2}$ E., distant $1\frac{1}{2}$ m. from the eastern Saint; the S.E. Bowen has 6 ft. over it, and $\frac{1}{4}$ of a mile S.E. $\frac{1}{2}$ S. from the N.W. Bowen. The soundings near these rocks are very irregular—from 6 fms., rock, to 43 fms., sand, sometimes in a single cast of the lead. These dangers are 2 m. from the islands, and should be carefully avoided.

Collins Shoal is a small patch of rocks, having 15 ft. over them; $2\frac{1}{2}$ m. south from the S.E. point of Hunting Id. The marks on this dangerous shoal are, the east point of St. Genevieve just open to the eastward of the western Saints N. 38° E., and the north point of Wood Id. on with the south side of the Garde Rk., bearing N.W.

Hunting Id. is the next westward of St. Genevieve; it is bordered with rocks on all sides, low, and thickly wooded, about 4 m. in length, and 2 in breadth. The Garde Rk. is about a mile to the southward of the centre of the island, having no safe passage between; the S.E. point of the island is likewise beset with reefs, nearly $\frac{1}{2}$ of a mile off. Off the S.W. point is Wood Id. and Gun Id.; they are both low, and have reefs running off $\frac{1}{2}$ of a mile to the southward of them; these reefs are nearly 2 m. from the island, and have no safe passages between them.

ST. GENEVIEVE HARBOUR is to the northward of the island, between it and the main. It may be safely entered either by the Eastern, or Saints' Channel, and is fit for the largest ships.

TO ENTER BY THE EASTERN CHANNEL.—In order to clear the Bower Rks., when at least 3 m. from the island, bring the N.E. bluff point of St. Genevieve in one with Indian Pt. which is a woody low point on the main, forming the east point of Pillage Bay, bearing N.W. by N.; continue on with these marks, leaving the Bower Rks. $\frac{1}{2}$ a mile to the westward; and when the S.E. part of St. Genevieve comes on with the West Saint, change course a little to the northward, to clear a flat shoal, which extends about 600 yards from the east side of the island. Give the N.E. point of the island a berth of a cable's length passing close to the shingly north point of the island, and bring up, in 10 fms., muddy bottom, half-way between the point and Anchor Id.

To enter by the Saints' Channel, when at least 5 m. from St Genevieve Id., bring the west points of St. Genevieve and Anchor Ids. in one, bearing north; with this leading-mark run in, until the north side of the two Saints come in one, bearing E.S.E. $\frac{1}{2}$ E.; at the same time the east sides of Mount Partridge and Hunting Id. come in one, bearing N.W. by N.; steer in upon this last leading-mark, to avoid the reef, which runs 280 fms. from the S.W. point of St. Genevieve, until the east side of Mount Genevieve, seen over the sandy S.E. point of Anchor Id., comes in one with the N.W. point of St. Genevieve bearing N.N.E. $\frac{1}{2}$ E.; now alter course to north, which will lead through the centre of the channel between the Hunting and St. Genevieve Ids.; then proceed round Anchor Id. (giving its west end a berth of 2 cables' length), to the anchorage at St. Genevieve.

BETCHEWUN HARBOUR is to the westward of St. Genevieve, and between Hunting Id. and Partridge Pt. If bound through the Saints' Channel, the former directions given for it will lead in between St. Genevieve and Hunting Id., which is quite bold up to the anchorage. In entering this harbour from the eastward, instead of anchoring at St. Genevieve, pass on to the northward of Anchor Id., which is quite bold on that side; you will then see the entrance of Betchewun bearing W. by N., between the north point of Hunting Id. and Partridge Pt.; Mount Partridge, to the N.E. of the island, will be easily recognised, being a wooded steep-sided hill. Pass close to Hunting Id. to avoid a shoal that runs $\frac{1}{2}$ of a mile from Partridge Pt. to the southward, diminishing the entrance to 250 fms.; when within it, steer for a low islet in the middle of the harbour, bearing W. by N., and anchor $\frac{1}{2}$ of a mile from it.

Within St. Genevieve and Hunting Ids. there is scarcely any sea, and the whole may be considered a harbour capable of affording shelter for a great number of large ships. Water may be obtained either from the main or the islands; and wood may be had on the main. The tides here are very weak, and seldom amount to one knot.

CHARLES ISLAND is next to the westward of Hunting Id.; its S.E. point bears N.W. by W., about $2\frac{1}{2}$ m. from Gun Id.; is about 3 m. long, and $1\frac{1}{2}$ m. wide, bold, and free from shoals; its elevation is about 200 ft. Puffin's Bay is the space between Hunting and Charles Ids.

CHARLES HARBOUR is between the mainland and the island, and though narrow, it is very secure; the entrances are only 80 fms. wide; within the harbour is anchorage in from 4 to 6½ fms., mud.

To enter the harbour from the eastward, bring the N.E. end of Charles Id., which is high and cliffy, to bear N.W.; then steer for it, giving it a berth of 100 to 180 fms., as you round it to the westward into the harbour. To enter the harbour from the westward by Trilobite Bay, give the N.W. point of Charles Id. a berth of 60 to 140 fms., as you haul round it to the S.E. by E. into the harbour. The tides, with strong winds, will sometimes run 2 knots in the entrances to the harbour, but in the streams they are only weak.

Whale Island is on the western side of Trilobite Bay; it is bold-to, and has excellent anchorage to the eastward, sheltered from all but southerly winds; the only danger to be avoided in working into Trilobite Bay is a reef off Ammonite Pt., which includes a small islet, and extends ¼ a mile off shore.

CLEARWATER POINT is 2½ miles to the westward of Whale Id., and about 2 miles from Ammonite Pt.; it is low, but the shoal water off it only extends about ¼ of a mile to the southward. This point projecting so far to the southward, divides the range of the Mingan Ids. into two parts.

A rocky shoal of 3 fms. lies westward, 1½ mile from the point; and there are three other shoals, of 2 to 3 fms., to the northward of the former, nearly midway between Sea Cow Id., southern end, and Clearwater Pt., the westernmost rock being 2 miles from the point. To pass outside, or to the southward of these shoals, keep the southern point of Gull and Freight Ids. in one, bearing N.W. by W.; this clears them full ¼ a mile.

Sea Cow Id. is 3½ miles W.N.W. of Clearwater Pt., having a good channel between it and the Clearwater Rks.; to the westward of Sea Cow Id. is Walrus and Green Ids.; these latter islands are small, but there is a clear passage between them, called Walrus Channel. Gull Id. is a mile W. ¼ S. from Green Id.; both the latter are covered with grass; but it is only ¼ a mile S.W. from the S.E. point of Esquimaux Id., having no passage between. The southern end of Gull Id. is bold-to within 2 cables' length.

ESQUIMAUX ISLAND is 2½ miles long, and 1½ mile wide, about 200 or 250 ft. in height on the northern side. From its S.W. point a shoal runs out towards Fright Id., which also has a shoal off it, stretching towards the latter, narrowing the channel leading to Esquimaux Harbour to about 3½ cables' length. Fright Id. is about a mile westward of Esquimaux, and is about ¼ of a mile long; it has reefs running off from both the N.W. and N.E. points 3 cables' length; you may pass within 100 fms. of its S.W. point. Quin Id. is ½ a mile N.E. by N. from Fright Id.; it is larger than the latter island, is bold all round, except its N.W. point, off which a reef runs to the westward ¼ a mile. Quin Channel is between the northern end of the island and Port aux Morts on the main, in which are 5 to 7½ fms.; this is the best channel from the westward towards the Esquimaux Harbour; the reefs do not extend more than 2 cables' length from the main, and about a cable's length from the northern end of the island.

ESQUIMAUX HARBOUR.—This excellent harbour is situated between the northern side of the Esquimaux Id. and the main; the island is about 4 cables' length from Esquimaux Pt., which forms the N.E. point of the harbour.

To enter the harbour with easterly winds, the best passage is through the Walrus Channel, keeping midway between Walrus and Green Ids. When you are a few miles to the southward of Walrus Id., endeavour to bring the N.E. point of Esquimaux Id. to appear midway between the two Ids., bearing about north; then steer for it, giving it a berth of about a cable's length; haul round it to the north-westward into the harbour, and anchor in 5 to 10 fms., sandy bottom.

To enter the harbour from the westward, the best passage is through the Niapisca Channel, leaving the island of that name to the westward, and Fright and Quin Ids. to the eastward. To clear the southern reef of Niapisca 2 cables' length, the mark is the N.W. point of Fright Id. in one with the southern end of Quin Id.; you must not, therefore, open these islands clear of each other, until

the Moniac Id., near the main, $2\frac{1}{2}$ miles N. $\frac{1}{2}$ E. of Niapisca, is in sight to the eastward of the latter island; then haul through the channel, steering N.N.E. $\frac{1}{2}$ E., until Montange Id., which is next west of Moniac, is open to the northward of Niapisca; you will then be clear of the reefs on the eastern side of the island; you must now haul a little more to the north-westward, if necessary, to clear the reef running off W.N.W. from the northern point of Quin Id., until you open Sea Cow Id. to the northward of Esquimaux Id., then run in between the Quin and Point aux Morts, with the last-named marks just open, bearing S.E. $\frac{1}{2}$ E., passing about 2 cables' length north of Quin Id.; continue your course towards the north point of Esquimaux Id., and haul round it to the southward into the harbour.

Observe that the marks to clear the shoals and islets westward of Point aux Morts, are the N. and N.E. points of Esquimaux in one, bearing S.E. $\frac{1}{2}$ E.; if you open these marks before you are abreast of Quin you will be ashore.

Good water may be had from the river near the Esquimaux Pt., as well as from the streams on the island. The tides running through Esquimaux Harbour seldom exceed a knot; the flood setting in from the eastward, and the ebb the contrary.

Quarry Island is about $3\frac{1}{2}$ cables' length to the westward of Niapisca Id., having no safe passage between; it is about $2\frac{1}{2}$ miles in length, and 200 ft. in height. Some reefs run off from the southern side of the island nearly $\frac{1}{2}$ a mile. Quarry Cove is on the northern side of the island, about $\frac{1}{2}$ from the eastern end. This is a snug little land-locked harbour; when entering, keep nearest the western side, and anchor near the middle, in 9 or 10 fms. This cove runs in about 4 cables' length; and you may obtain good water from a small stream in the S.W. corner.

LARGE ISLAND is 400 fms. to the westward of Quarry Id., having a clear navigable channel of about $3\frac{1}{2}$ cables' length between them. This island is 11 miles in circumference, thickly wooded, and the highest part about 200 ft. above the sea. Reefs run off from the S. and S.W. points nearly $\frac{1}{2}$ of a mile. The Middle Reef, a part of which is always above water, is surrounded by a shoal $\frac{1}{2}$ a mile long, in a N.E. by N. direction, and $\frac{1}{2}$ of a mile wide, and is a mile south-eastward of Outer Birch Id. The part above water is not above 30 fms. in diameter.

Large Channel, between Middle Reef and Large Id., is $1\frac{1}{2}$ mile wide, having 40 to 50 fms. in the middle. This is the best channel when bound to Mingan Harbour with an easterly wind; the only thing to be guarded against is the reefs that extend 2 or 3 cables' length off the western shore of Large Id., as far in as the Flower Pot Columns; the island then becomes bold. The Middle Reef may be approached to 13 fms.; when farther in, the Birch Id. forms the western side of the channel. Middle Reef Channel, between the Outer Birch Id. and Middle Reef, is a mile wide, with deep water in it; the shoals, off the southern point of the Outer Birch, only reach off about $1\frac{1}{2}$ cable's length.

The Birch Islands are 2 miles to the westward of the northern end of Large Id., and are named the Outer and Inner Birch Ids.; the latter is the largest of the two. The channel between the islands is about 3 cables' length in width, all foul ground, and not recommended; these Ids. are 300 ft. high. The Outer Birch Id. has a reef running off its western side full $\frac{1}{2}$ a mile. Off the N.W. point of the Inner Birch Id., which is low, an extensive reef runs off nearly a mile; about $\frac{1}{2}$ a mile S.W. of this point is a remarkable rock, called the Hulk Rk., resembling the hull of a wrecked vessel; the reef runs south-westward about 3 cables' length from the rock.

MINGAN ISLAND, $3\frac{1}{2}$ miles westward of Inner Birch Id., is 2 miles long, in a N.N.E. direction, and nearly a mile broad; bare of trees, and about 100 ft. in height; the eastern side is bold; but the reefs run off from the S.W. point 600 fms., and from the southern point 300 fms.

MINGAN PATCH.—This is a rocky patch of 9 fms., on which there is a heavy swell at times; it lies $3\frac{1}{2}$ miles S.W. $\frac{1}{2}$ S. from the southern point of Mingan Id., and with the southern point of the Outer Birch on with the northern point of Large Id.

The Perroquets are four small islets, low and bare of trees; these are the westernmost of the Mingan group. The easternmost is 2 miles N.W. by W. from the centre of Mingan Id.; a reef runs out S.S.W. from them $\frac{1}{2}$ of a mile; and another reef, from their northern end, runs off $\frac{1}{2}$ of a mile. The north-westernmost islet is the highest, and has shoal water off it, both to the eastward and westward, full $\frac{1}{2}$ of a mile; you may go to the northward of it within 2 cables' length, in 14 or 15 fms. The Perroquet Channel is $1\frac{1}{2}$ mile wide, with deep water in the middle. Both flood and ebb set out through it; the flood sets to the S.W., and the ebb to the southward.

The MINGAN CHANNEL, between the islands and the mainland, is safe throughout; all the islands are bold, and free from danger on their northern sides.

MINGAN HARBOUR is between Harbour Id. (which is N.N.E. of Birch Ids.) and the mainland, which latter is low and has a fine sandy beach; but the Id. is about 100 ft. in height, and bold towards the harbour; on the southern side it is shelving, and shoal $\frac{1}{2}$ of a mile from shore. The length of the island is about 2 miles, its breadth about $\frac{1}{2}$ a mile; it is thickly wooded, and has a reef off both the eastern and western ends to the distance of 240 fms. The harbour is narrow and well sheltered; the anchorage within it is about a mile long, and 270 fms. wide, with plenty of water for the largest ships; bottom fine sand. Northward of the eastern end of the island is the mouth of Mingan R., off which there is a shoal extending 700 fms. out from the entrance; this shoal dries at L.W., and shelters the harbour from easterly winds. This harbour, like Esquimaux Harbour, has the advantage that vessels can enter or leave it with either easterly or westerly winds. The western entrance is 170 fms. wide, and the eastern entrance, between the above sandy shoal and the island, 200 fms.

To enter the harbour from the eastward, bring the northern or inner side of the harbour to bear N.W.; the houses of the Hudson Bay Company ought to appear then full their own breadth open to the northward of the island; keep the houses thus open and steer for them, leaving the eastern end of the island 150 fms. on your port hand, or southward of you; taking care to keep the southern side of the sandy point of the main, which forms the western entrance of the harbour, shut in behind the northern side of the island; for when they are in one you will be aground on the sandy shoal off Mingan R.; when past the eastern end of the island, run along its northern side, at the distance of a cable's length, and anchor near the centre of the harbour, in 9 to 13 fms.

When coming in by the western entrance, run in towards the sandy beach of the mainland, at the distance of $\frac{1}{2}$ of a mile to the westward of the island, until the sandy point of the main, which forms the western end of the harbour, comes in one with the face of the clay cliffs, to the eastward of the Company's houses, bearing E. by S., or into 11 fms.; with this mark on, run in along the beach, giving the above sandy point a berth of $\frac{1}{2}$ a cable in passing; then choose your anchoring berth as before. H.W. at Mingan Harbour at 1 h. 10 m. Springs rise 6 ft., neaps 4.

Montage Island is on the north side of Mingan Channel, opposite to Quarry Id.; and $1\frac{1}{2}$ m. farther eastward is Moniao Id. These islands are $\frac{2}{3}$ of a mile from the shore, having numerous islets between them; the shoals between the islands, all the way to the main, dry at L.W.; but they only extend about 3 cables' length to the southward of the islands, with irregular soundings of 4 to 8 fms. a mile off; therefore, when beating through, keep within $1\frac{1}{2}$ m. of the north side of the outer islands, standing no farther northward than 10 fms.

Long Point is 5 m. to the westward of Harbour Id., between which there are no dangers. From Long Pt. a broad beach of fine sand extends to the River St. John, a distance of 7 m.; without this beach, shoal water extends off all the way for full $\frac{1}{2}$ of a mile.

**CAPE BRETON ISLAND (EAST COAST).
FROM CAPE NORTH TO THE GUT OF CANSO.**

This part of the coast is commonly made by vessels from Europe, when bound through the Gut of Canso, or to ports in Nova Scotia. The shores appear to some distance up the country, barren and rocky; the tops of the hills being much alike, and having nothing remarkable to distinguish them. The new Lt.-hos. however, on this coast, may serve to point out the several parts of the island on which they stand.

Lights.—**SCATARI ISLAND N.E.** point, on Trap Rk., in lat. $40^{\circ} 2' 13''$, and long. $69^{\circ} 40' 18''$, a Lt.-ho. painted white; this exhibits a revolving Lt., 90 ft. high, visible 1 minute and invisible $\frac{1}{2}$ a minute at the distance of 15 m. The Lt. should never be brought to bear to the eastward of N.N.E., or to the southward of S.S.W., nor approached nearer than $\frac{1}{2}$ m. Gun fired as signal, and a boat for assistance.

FLINT ISLAND Lt. is between Scatari Id. and Flat Pt., and is a revolving Lt.; every 15 sec., and easily distinguished from the neighbouring Lts.; it is elevated 65 ft. and visible 12 m. all round the compass.

FLAT ISLAND POINT Lt. is on the eastern side of the entrance to Sydney Harbour; this shows a fixed Lt. 70 ft. above the sea; visible 14 m. This latter Lt.-ho. will easily be distinguishable by its being painted vertically red-and-white.

BLACK ROCK POINT.—South side of entrance to Great Bras-d'Or, a square, white, Lt.-ho., 23 ft. in height and 45 ft. above H.W., in lat. $48^{\circ} 19' 0''$, and long. $60^{\circ} 24' 0''$, about 100 ft. from the Pt. exhibiting a fixed Lt. visible 10 m.

BIRD ISLAND Lt. is placed on Ciboux Id. $\frac{1}{2}$ of a mile from north end, in lat. $46^{\circ} 23' 10''$, and long. $60^{\circ} 22' 30''$. It revolves every minute, showing alternate red and white flashes; is elevated 77 ft. and visible 14 m.

LOUISBOURG Lt. stands on the north side of the entrance of the harbour, 60 fms. inshore on Lt.-ho. Pt. It shows a fixed Lt., elevated 85 ft., visible 16 m.; and in order to distinguish it from the other Lt.-hos., and to render it conspicuous when the back land is covered with snow, it is built square, painted white, with vertical black stripes on either side.

Along the N.E. coast of Cape Breton Id., from Cape North to Cape Smoke, the water is deep, except near the shore. From Cape Smoke to St. Anne Bay is high land; but from St. Anne Bay to Scatari Id. it becomes lower, and a vessel may stand inshore, in clear weather, to 15 or 10 fms.

CURRENTS.—Captain Bayfield observes, "Notwithstanding the bold nature of this coast, wrecks have not been unfrequent upon it in the dense fogs which accompany the easterly winds. They have generally occurred to vessels running and steering, as they supposed, a safe course to pass St. Paul's Id. into the Gulf of St. Lawrence. Unaware of, or not allowing for, the current so frequently found running out of the Gulf from the northward, and which had been acting upon their starboard bows for many hours, setting them many miles to the S.W. of their reckoning, they ran on shore under full sail. On one occasion we found this current running out of the Gulf for many successive hours, at the rate of 2 knots, from N.N.E.; at another time its rate was 1 knot from N.N.W., and at a third it was imperceptible. After long-continued winds from the E. or N.E., which raise the level of the water in Bras-d'Or and neighbouring harbours, it is not unusual to find a current of 1 knot running for several successive days along the land from off St. Anne to near Cape North, where it meets the current out of the Gulf, and is turned to the eastward with great rippling. The fishermen affirm that it as often runs in the opposite direction; and again, that at other times there is a regular alternation of the flood and ebb streams. These remarks are intended to show the inconstant nature of these currents, and the consequent great care required for the safety of a vessel when approaching this neighbourhood in the fogs, which so often hide the lights on St. Paul's Id."

From the North Cape the land runs in a S.W. by W. $\frac{1}{2}$ W. direction, 7 m. to Aspée Harbour, where vessels can find shelter. There is good anchorage behind the island, where boats can land, and water and provisions be obtained. For the want of a knowledge of such an establishment, many have been obliged to endure both hunger and fatigue unrelieved.

Aralson Cove, or South Pond, is 2 m. to the southward of Aspée; the coast then turns to the eastward, 3 m., to White Head, and from thence S. by E. $\frac{1}{2}$ E., $3\frac{1}{2}$ m. to Cape Egmont, and S.W. by S., 10 m., to Inganish Id., between which and Cape Smoke (4 m. in the same direction) are two good bays $2\frac{1}{2}$ m. deep, with 4 to 9 fms. in them. Middle Head, a narrow slip of clifly land, stretches out $2\frac{1}{2}$ m. from the mainland, and forms these bays. There is a rock of 12 ft. water, close S.E. of Middle Head. The bay to the north of the head is called North Bay, where is the township or settlement of Inganish, on its northern shore. The lesser or South Bay is to the southward of Middle Head, and has a great salt water pond in the S.W. and a fresh water pond in the N.W. part. Both these bays are open to easterly winds. From Cape Smoke, which is 950 ft. high, to Bentinok Pt., the course is S.W., and the distance 13 m. In this course the depths will be from 17 to 20 fms., and the coast clifly and bold pretty close to until you come up to Breeding Cove, about $1\frac{1}{2}$ m. to the northward of Bentinok Pt. Here a shoal of 2 to 1 fm. borders the coast $\frac{1}{2}$ to $\frac{1}{4}$ a mile from the land, right up to the narrows of St. Anne Harbour. Bentinok Pt. forms the western, and Ciboux Ids. the eastern side of St. Anne Harbour.

ST. ANNE HARBOUR, or PORT DAUPHIN, Captain Bayfield says, "is capable of containing any number of vessels in security; but the entrance is very narrow, with a tide of 4 knots; and there is a dangerous bar outside, over which a depth of 16 ft. can be carried at L.W. "

"In a strong N.E. wind, and especially when the tide is running out, the bar is covered with heavy breakers. The harbour is completely sheltered by Beach Pt., which is formed by large rolled stones and shingles, and reaches across from the northern to within 90 fms. of the southern shore; it is quite bold at the southern extremity, and the entrance channel between it and Weed Pond Shoal is 13 fms. deep, but only 65 fms. wide. Within the entrance, on the north side of the channel, is the Port Shoal, of mud, extending $\frac{1}{2}$ a mile in from Beach Pt., and just cleared to the southward by the line of Weed Pond Beach and Bar Pt. in one. On the eastern side of the entrance, the small green mound of the old fort will be easily recognised: its summit forms with the plaster or white gypsum cliff of Macleod Pt., in the head of the harbour, a leading-mark for crossing the bar in the best water."

A stranger, unacquainted with the leading-marks, should always endeavour to obtain a pilot. It is H.W. in the harbour, F. and C., at 8 h. 42 m. Springs rise 6 ft., neaps $4\frac{1}{2}$ ft.; in the entrance the tides run 3 to 4 knots.

LA BRAS D'OR.—This place having recently been visited by many vessels in the timber trade, some description may be acceptable. It appears from the charts, there are two entrances to this lake or inlet,—the Northern or Great Entrance, and the Southern or Little Entrance; the former is thus described by Mr. Thomas Kelley, pilot of the place; but the names of the places he refers to are probably unknown, thereby rendering the directions not so explicit as could be desired.

SAILING DIRECTIONS FOR THE GRAND BRAS D'OR ENTRANCE.—"Ships from the southward must give Pt. Aconi a berth of about 2 m., and steer from thence for the eastern end of the inside Bird Id., called Hertford Id., until you bring M'Kenzie Pt. and Carey's Beach in one. Make for the Black Rk. Pt. until you have Messrs. Duffus's Store just open of Pt. Noir; then steer for Gooseberry Beach until you bring a clearing on Duncan's Head over M'Kenzie Pt. It is to be observed that ships coming in with the tide of flood, must keep Pt. Noir well aboard, to avoid the eddy and whirlpools on the north side of the gut, which has various settings.

* By an Admiralty notice there appears to be 2 in. more water on the bar than is shown in the Admiralty charts.

You must then steer for Pt. Jane, to keep the fair stream of tide as far as the Round Cove, where there is fair anchorage in 7 or 8 fms., good holding ground. When abreast of the Round Cove, steer over for Duncan's Head; and when abreast of this head, steer for Long Beach, until you bring a tall pine tree on the Upper Seal Id., in one with a notch or valley in the mountain. You will then make for the point of the Upper Seal Id., which will carry you clear of the shoals on the islands, as also the South Shoal, or Middle Ground. The marks for this shoal are, a white rock in the bank for the eastern end, and a white birch tree for the western end. When abreast of the western end of this shoal, you may keep the middle, there being no difficulty until you come to Red Hd. If bound to Kent Harbour, after doubling the Red Hd., steer for a remarkable red bank, covered with small bushes, until you bring Mr. Duffus's house entirely open of the beach which is on the island. There is a depth of from 4 to 5 fms. in this harbour, and good holding ground."

OBSERVATIONS.—Messrs. Duffus's store is a fishing establishment. Mr. Duffus's house is on Kent Id., formerly called Mutton Id. The aforesaid Thomas Kelley piloted the ship *Pitt*, of St. Kitt's, burthen nearly 400 tons, laden with timber, and drawing about 18 ft. safely through the foregoing described channel, from Kent Harbour.

Ships bound to the Great Bras d'Or Entrance should always endeavour to obtain a pilot, as there are dangers off the entrance on both sides, which render the channel indirect as well as narrow, and together with the rapid tides and the want of buoys and beacons, make this a very dangerous pass for a stranger to attempt, except under favourable circumstances of weather, wind, and tide. It is H. W., F. and C., at Carey Pt., at 8 h. 40 m. Springs rise 3 ft., neaps 1 ft. 8 in. In the entrance the tides run 4 and 5 knots, and sometimes amount to 6 knots.

Captain Bayfield remarks, "If the entrance of the Great Bras d'Or were buoyed, a large ship might back and fill in against the wind, with the aid of the strong tide; but without that guidance, a fair wind, and weather clear enough to allow the leading marks to be seen, are indispensable."

SYDNEY HARBOUR, formerly called Spanish River, the entrance to which is 12 m. S.E. of that of St. Anne, is another excellent harbour, having a safe and secure entrance, with soundings, regular from sea into 5 fms. This place abounds with excellent coal.

SYDNEY is the capital of Cape Breton Id.; it is a free port, and the residence of the principal officers of the island. Here are the courts of justice, and other public offices, barracks, &c. It is a thriving place, and an extensive coal trade is carried on; and the land in the vicinity well cultivated.

Sydney Harbour, Captain Bayfield observes, "is one of the finest ports in the world, being equally easy of access and egress, and capable of containing any number of the largest vessels in perfect safety. It is 3 m. wide at the entrance; but the navigable channel contracts rapidly to the breadth of $\frac{1}{2}$ a mile between the two bars which are of sand and shingle, and extend from the shore on either side at 5 m. within the Lt.-ho. on Flat Pt. Inside of these bars the harbour divides into the W. and S. Arms; the former being open to E.N.E. winds, except at the Coal-loading Ground, where the vessels anchor under the shelter of the N.W. bar; and at North Sydney, where they may lie in like manner under Allen Pt. The South Arm being completely sheltered from the sea by the S.E. bar, affords safe anchorage in every part. The town of Sydney, $3\frac{1}{2}$ m. above this arm, is exceedingly well situate on the west side and summit of a peninsula 55 ft. high. It has deep water close to the wharves, and the arm continues navigable for vessels to Sydney Bridge, a distance of 2 m. But at present the principal business is carried on at the Loading Ground, within the N.W. bar, where the railroad from the mines terminates; where a fast increasing village is springing up; and where the numerous vessels from the United States and the Colonies anchor, to take in their cargoes of coals.

When approaching the harbour from the northward, with a leading-wind, steer so as to pass the reef off Cranberry Hd., the western point of the entrance (on

which lies Cran Rk., with only 16 ft., $\frac{1}{2}$ a mile off shore), in 10 fms.; and when the high cliff of Mine Pt. opens out to the eastward of Swivel Pt., haul into the harbour. If bound to the Loading Ground run along the N.W. shore, in not less than 5 fms., until past Mine Pt., then sheer to the southward, sufficiently to bring Jackson and Allen Pts. (two shingle points up the West Arm) in one; or until the Lt.-ho. comes on with Petre Pt.; either of which, or at night the depth of $6\frac{1}{2}$ fms. will lead clear of the N.W. bar, which is very steep, having $5\frac{1}{2}$ fms. close to it. When the wharves at the Loading Ground bear N.W. the vessel will be well within the bar, and may haul in and choose her berth in 5 or 6 fms. mud bottom.

When approaching from the eastward, pass the Lt.-ho. no nearer than $\frac{1}{2}$ a mile, or in not less than 7 fms.; to avoid Petre Reef (dry at L.W., a mile within the Lt.-ho.), do not haul into the harbour until Daly Pt. opens out to the northward of Gillivray Pt.; and to clear the shoal at Petre Pt., and farther in, do not approach nearer than $\frac{1}{2}$ a mile, or in $5\frac{1}{2}$ fms., as you run along the eastern shore. When the Lt.-ho. and Petre Pt. come in one, keep them so as you run from them, and they will lead to the Loading Ground as before.

Those unacquainted with the leading marks should take a pilot, as both the S.E. and N.W. bars are steep-to. H.W., F. and C., at 9 h. Springs rise about 5 ft., neaps 4 ft.

On Flat Pt., without the east side of the entrance, is the Lt.-ho. noticed in p. 16.

S.E. of Sydney Harbour are Indian Bay and Glace Bay, both places of anchorage, although little frequented at present; beyond these is Morien, or Cow Bay, at the northern Pt. of which is Flint Id.; there is a passage between this island and the main, with 12 fms., but this should be adopted with the greatest caution, on account of the numerous rocks under water off its west end. This bay is open to the north-eastward, and its farther end is encumbered with an extensive shallow flat, which dries at L.W.

Flint Island Lt.—See p. 16.

MIRA BAY is to the southward, and its entrance is bounded by Cape Morien and the Id. of Scatari; the bay is wide, and runs in 9 m., branching off at its upper part into two rivers; there is deep water within it, from 20 to 6 fms., and clear from dangers, but it affords no shelter for shipping.

SCATARI ISLAND is in about the lat. of $46^{\circ} 1'$; its length E. and W. is 5 m., and its breadth about 2 m.; it is separated from Cape Breton by a channel into Mira Bay; but this is too hazardous for strangers, and frequented only by those coasters who are well acquainted with its dangers.

Scatari Id. Lt.—See p. 16.

As vessels from Europe frequently first make the land about Scatari Id., the revolving Lt. on the eastern point will be found of great service; and it appears by the late survey of the St. Peter's Bk., that in lat. 46° , the western edge of the bank, in 40 fms. pebbles and broken shells, lies E.S.E. or E. true, 11 m. from the Lt.-ho. on Scatari Id.; and S. $\frac{1}{2}$ W., distant 9 m. from the Lt.-ho., is the Curdo Bank; this is a small spot of one cast, 10 fms., 15 m. true east of Louisbourg.

LOUISBOURG HARBOUR is situate on the S.E. side of Cape Breton Id. to the westward of Scatari Id., and is very easy of ingress and egress. Be careful to avoid the Nag's Hd., a sunken rock, on the starboard hand going in. The east part of the harbour is the safest. Water is plentiful here, but wood is scarce. The entrance to the harbour is $\frac{1}{2}$ a mile wide, and the Nag's Hd. Rk., a sunken rock on the starboard hand, is nearly one-third from the Lt.-ho. point, and has no more than 3 ft. on it at L.W. The port side going in is the boldest.

Louisbourg Lt.-ho. stands on the north side of the entrance to the harbour.—See p. 16.

The following remarks may be of service to vessels bound to Louisbourg:—When coming from the eastward, they should bring the Lt. to bear W. by N., or more northerly before running for it; and from the westward N. by E., or more northerly, in order to clear Green Id. and the ledges $\frac{1}{2}$ of a mile S. by W. $\frac{1}{2}$ W. from the Lt. When in the entrance of the harbour, with the Lt. bearing N.N.E.,

ing-wind, steer
the entrance (on

2 or 3 cables' length distance, steer W.N.W. for $\frac{1}{2}$ a mile, to avoid the Nag's Hd., bearing W. by N. from the Lt. The N.E. arm of the harbour affords the safest anchorage.

GABARUS BAY.—From the entrance of Louisbourg to Guyon Isle, called also the Portland Isle, (30 ft. high,) the course is W.S.W., and the distance 10 $\frac{1}{2}$ m. Between is the bay called Gabarus Bay, which is spacious, and has a depth of from 20 to 7 fms. Off the south point of this bay, called Cape Gabarus, and between that and Guyon Id. are a number of islets and rocks, which are dangerous. About 9 m. to the westward of Gabarus Bay is the Fourché Inlet, a narrow winding inlet, where small vessels may run into and lie land-locked; and 9 m. south-westward of this is the remarkable white cliff, called Cape Blancherotte. The shore now winds to the westward to Red Head and the Isle of Madame.

FOURCHE BAY is a slight indentation of the land between Guyon Id. and Fourché Hd. This is full of rocks and shoals, and should be avoided. A good mark to avoid these dangers and also the Pot Rk. of 9 ft., nearly a mile S.S.E. of Fourché Hd., is Shag and Green Rks., in line N.E. by E. $\frac{3}{4}$ E. The Shag Rk. is a rock lying W. by S., $1\frac{1}{2}$ m. from Guyon, and is 20 ft. high. The Green Rks. are W.N.W., $\frac{1}{2}$ of a mile from Guyon.

Blancherotte, or White Cliff, is a remarkable cliff of whitish earth, in lat. 45° 39', and long. 60° 25'. At 3 m. to the westward is a small woody island, upwards of $\frac{1}{2}$ a mile from shore, and off the little harbour of Santesprit. The land from hence to Madame Id. is generally low, and presents several banks of bright red earth, with beaches between them.

From the White Cliff, which is called in the late survey, West Hd., the coast trends west, 11 $\frac{1}{2}$ m. to Michaux Pt., and Red Pt. about 3 m. more to the westward. Between West Pt. and Michaux Pt. are several rocks, and the Basque Ids., $1\frac{1}{2}$ m. before you come to the point. Westward of Michaux Pt. are the Michaux Ledges, and Red Id. off Red Pt. The north side of Michaux Pt. and of Basque Ids. in one will clear the rocks off the coast, and lead just inside a 3 fms. patch, called Bad Neighbour; and Red Id. open of Michaux Pt. will clear the Basque Ids. and shoals to the southward, but will lead on the Michaux Ledges, if continued past the point; therefore, haul off to the southward when past the Basque Ids.

MADAME ISLAND.—This is the largest island of a group between Red Hd. and the southern entrance of the Gut of Canso. The northern extent from E. to W. is about 10 m., and from the northern coast to Cape Hogan, the southern point of the island, the distance is about 7 $\frac{1}{2}$ m.; thus forming a kind of triangle. Petitdegrat Id., of some 2 $\frac{1}{2}$ m. in extent, almost joins it to the S.E., and forms the southern shore of the Bay of Rocks, on the east side of Madame Id. Green Id. is a small island about 1 m. S.E. of the Petitdegrat. Fiddle Rk., described hereafter, awash at L.W. is $1\frac{1}{2}$ m., E.S.E. of Green Id. On the S.W. side of Madame Id. there are several islands close to; that to the extreme west being the largest and called Janvrin Id. To the southward of Janvrin is the Creighton Id., forming what is called Arichat Head, with the settlement of Little Arichat within.

Arichat Harbour is situate at the S.W. extreme of Madame Id., with the Jerseyman's Ids and Henley Rks. before it, thus forming the Crid Passage to the northward, and the principal entrance to the harbour to the southward of the group. These islands are situate on a shoal that surrounds them. Marachi Pt., on the south side of the harbour where the light is placed (see p. 21) has two shoals off it, the outer one lying W.S.W., distant a mile, with 2 fms. on it; the other about midway between it and the point. Cape Hogan, as before observed, forms the most southern part of Madame Id., and here rises Albion Cliff, which is rocky, remarkably high, and precipitous.

The channel to the northward of Madame Id., called Lennox Passage, from abreast of Red Pt., runs up about N.W. by N., but when having proceeded about 5 m. on the course you must near the N.E. coast of the island in order to avoid the Horse-shoe Heads. This passage leads up to St. Peter's Bay, Coteau Inlet, and some others, but of little note.

FIDDLE AND CERBERUS ROCKS.—The two outlying dangers, near Madame Id., are the Fiddle Rk., already noticed, and the Cerberus Rk., also awash; this latter lies W. $\frac{1}{2}$ N. from Arichat Lt.-ho., distant $3\frac{1}{2}$ m., and S.S.W. $\frac{1}{2}$ W. from Arichat Hd. $2\frac{1}{2}$ m. The Cerberus Rk. has a red buoy placed upon it, moored in 15 fms., about $\frac{1}{2}$ a cable's length S.S.W. of the rock.

Fiddle Rock is E.S.E., $1\frac{1}{2}$ m. from Green Id.; it is awash at L.W., and the sea breaks on it almost always. It is small, deep all round, and has 50 fms., at a cable's length S.W. of it. Heath Id., the extreme south head of Petitdegrat Id. will lead clear of this rock, either to the northward or southward, according as it is kept open to the north or to the south of Green Id.

Cerberus Rock is exceedingly dangerous in dark nights or foggy weather. Cape Hogan and Green Id. in one, bearing E. by S. $\frac{1}{2}$ S., will lead clear to the southward of it 4 cables' length. Arichat Church steeple, and the eastern extremity of the western peninsula of Jerseyman Id., in line E. by N. $\frac{1}{2}$ N., will lead a cable's length to the S.E.; and Eddy Pt. and Ship Pt., in one, N.W. by N. $\frac{1}{2}$ N., will lead a mile to the westward; as the above marks are distant, to avoid danger when bound westward, keep some part of Green Id. in sight to the southward of Cape Hogan, until Arichat Hd. bears N.E. $\frac{1}{2}$ N., then shape a course direct for the Gut of Canso.

ARICHAT HARBOUR has two entrances: the north-western one being very narrow, ought never to be attempted without a leading wind, as there is not room for a large ship to swing to her anchors, should she be taken aback. When going in, give the ledge, to the westward of Seymour Id., a good berth, not approaching it nearer than 8 fms., and keep as near as possible in mid-channel. To enter by the south-eastern passage, steer for Pt. Marache, rounding it in 8 fms., at about 2 cables' length off; and keep that shore on board, at nearly the same distance and depth of water, until the church bears north; you will then see a small house (the Dead House) on the top of the hill behind the church; bring that on with the east end of the church, and then steer in that direction; you will thus pass midway to the eastward of the Eleven and Five-Foot Shoals, and also to the westward of the Fiddle Head Shoal. Proceed with this mark on, until a red house on Fiddle Head Pt. comes on with the dark rocky extreme of the point, bearing E. $\frac{1}{2}$ S.; you will then be to the northward of the Twelve-Foot Shoal, and may haul up to the westward, where you will find excellent anchorage, on fine soft mud, opposite to the low sandy beach on the middle of Seymour Id., in 10 fms. H.W., F. and C., at 8 h. 10 m. Springs rise 5 ft., neaps 4 ft.

CHEDABUCTO BAY is wide and spacious, and may be said to be comprehended between Cape Hogan and Cape Canso to the east, and to extend 20 m. to Guysborough Harbour, and to the Gut of Canso; it is bold to on both shores, and pretty free from dangers; the Cerberus Rk., already described, and the Hydra Shoal, of 2 fms., lying $1\frac{1}{2}$ m. S. by E. from Murdock Hd., on the N.W. shore of the bay, and on the meridian of Crow Harbour. The southern shore of the bay is high, and runs nearly true east and west, having Fox Id. Bay and Crow Harbour for shelter along it.

Lights at the Southern entrance of the Gut of Canso.

CAPE CANSO.—The Lt.-ho. is situate on the north part of Cranberry Id. in lat. $45^{\circ} 19' 49''$ and long. $60^{\circ} 55' 29''$. It exhibits two fixed lights, placed vertically, 12 yards apart; the upper 75 ft., the lower 40 ft. above H.W.; visible 15 and 9 m. respectively. The building is of wood, octagon, striped red and white, horizontally.

ARICHAT HARBOUR.—This Lt.-ho. is placed on Marache Pt., the south point of entrance. It is a square wooden building, painted white, and shows a fixed Lt., elevated 34 ft. and visible 8 m.

GREEN ISLAND.—This Lt.-ho. is a square wooden building, painted white, 31 ft. in height, and 70 ft. above H.W., erected on the summit of the island, in lat. $45^{\circ} 28' 51''$ and long. $60^{\circ} 53' 40''$, and exhibits a fixed red light, visible 10 m. all round the compass.

GUYSBOROUGH HARBOUR.—A square wooden tower, painted white, on the west side of entrance, near Peart Pt., in lat. $45^{\circ} 22' 47''$ and long. $61^{\circ} 29' 11''$, shows a fixed light, elevated 30 ft., visible 8 m., all night.

EDDY POINT, GUT OF CANSO.—A wooden square building, painted white, with a black diamond, shows two horizontal fixed lights, 8 yards apart, elevated 25 ft. each, and visible 8 m.

STAPLETON POINT, SOUTH SIDE OF SHIP HARBOUR.—A square white Lt.-ho., 24 ft. in height and 44 ft. above the sea, exhibiting a fixed red light, visible 7 m., lat. $45^{\circ} 36' 40''$ and long. $61^{\circ} 22' 0''$.

Cape Canso is environed by a cluster of islands, reefs, and shoals, to the distance of 4 m. from the cape, the outermost lies E.N.E., and is the Grime Rk., having a spar buoy upon it. The Bass is $\frac{1}{2}$ a mile S.W. of it. Between the Grime Rk. and Cape Canso is Cranberry Id., where the light is exhibited. The Harbour of Canso is inside the Derabie Ids., between the group and the mainland, and east of Durell Id., which latter is separated from the main by the Tickle Channel. To take the Harbour of Canso, or to seek shelter within the various islands surrounding the cape, you must have a pilot or local knowledge.

Fox Id. anchorage is one of the greatest mackerel fisheries in North America during the months of September and October. When sailing in you must pass to the westward of Fox Id., giving it a berth of $\frac{1}{2}$ of a mile, as there are rocks both above and below water, with 3 and 4 fms. close to them. You may anchor in 4 to 10 fms., with the west end of the island bearing from E.N.E. to N.N.E., keeping about midway between the island and the main. The water shoals gradually to the bar, which extends from the island to the opposite shore; it has not more than 6 or 7 ft. on its deepest part, and dries in one place about $\frac{1}{2}$ of the distance from the island to the main. With northerly and with westerly winds the fishing-vessels ride to the eastward of it, in from 2 to 4 fms., and shift to the westward with easterly winds.

Crow Harbour, on the south side of Chedabucto Bay, is capable of containing small ships of war, merchant vessels, &c. The bottom is good, and the mark for entering is, to keep the beacon, on the south side of the harbour, in line with a remarkable fine tree, upon the high land, which will lead you clear of the Corbyn Rks., and also of Rook Id. Rk., 25 fms. from the N.W. point of Rook Id.

GUYSBOROUGH HARBOUR or Milford Haven, at the head of Chedabucto Bay, is 10 m. from Crow Harbour. It is an extensive inlet running to the northward, with a depth sufficient for large ships, but with a dangerous bar, an entrance so narrow and crooked, and such rapid tides, that the assistance of an experienced pilot is indispensable, even for a small vessel. H. W., F. and C., 8 h. 20 m. Springs rise $6\frac{1}{2}$ ft., neaps $4\frac{1}{2}$ ft.

TIDES IN THE NEIGHBOURHOOD OF THE GUT OF CANSO.—Eastward of Madame Id. and between that and Red Hd. the flood runs N.N.W., ebb S.S.E., about $\frac{1}{2}$ a knot; off the S.E. part of the island it runs W. $\frac{1}{2}$ N. and E. $\frac{1}{2}$ S., 1 knot; off Durells Id. N.W. $\frac{1}{2}$ N. and S.E. $\frac{1}{2}$ S., about $\frac{1}{2}$ a knot, and approaching the Gut of Canso, off Cape Argos, N.N.W. $\frac{1}{2}$ W. and S.S.E. $\frac{1}{2}$ E., $\frac{1}{2}$ of a knot.

HABITANTS HARBOUR, on the main of Cape Breton Id., before you enter the Gut of Canso, is well sheltered, and has good anchorage throughout; when you are sailing in, keep near Evans Id., to avoid Long Ledge, stretching off the northern shore, then run in mid channel. Tarbalton Bay and Sea Coal Harbour have each good anchorage in 4, 5, and 6 fms., muddy bottom, and well sheltered. These latter are convenient anchorages when taken short by a N.W. wind at the S. entrance of the Gut. When bound downwards, if caught with a southerly wind, you will find good shelter under Tarbalton Head, where you may ride safely in the bay, in 5 or 6 fms.

The GUT OF CANSO.—When off Cape Canso, and bound for the Gulf of St. Lawrence, the best passage is through the Gut of Canso, being shorter and having the advantage of several anchoring places, out of the strength of the tide, in case of contrary winds or bad weather. Having passed the dangers of Cape Canso, be careful to avoid the Cerberus Rk., on which the sea breaks when there is any wind; it bears from Arichat Hd. S.S.W. $\frac{1}{2}$ W., $2\frac{1}{2}$ m. Round Eddy Pt., at the distance of at least $\frac{1}{2}$ a mile, in order to clear the shoal stretching off that point, and which will readily be perceived by the race of the tide it forms. You may stop a tide in moderate weather, abreast of Eddy Cove, within a mile of the point, in from

7 to 12 fms., and thence by keeping about mid-channel, you may run through the Gut free from danger. Holland Cove affords good anchorage out of the strength of the tide, in 6 or 7 fms., muddy bottom. At Ship Harbour there is excellent anchorage in 4 and 5 fms., soft bottom. In entering, give the starboard side, which is flat, a berth of a cable's length, and run on until you shut in the N. entrance of the Gut. You may obtain wood here, and water at Venus's Cove on the opposite shore. Plaster Cove is plainly distinguished by its white appearance, when opposite to Holland Harbour; the anchorage, at its entrance, is of soft mud, in from 4 to 10 fms. In the Gut of Canso it is H.W., F. and C., at 9 h. 10 m.; springs rise $4\frac{1}{2}$ ft., neaps 3.

**CAPE BRETON ISLAND (WEST COAST).
FROM CAPE NORTH TO THE GUT OF CANSO.**

The N.W. coast of Cape Breton Id., all along from Cape North to Cape Linzee is, in the inland part of the country, very high, but in some places it falls down gradually towards the shore. Sailing along on this side of the island, which is all bold, you may safely run along it at the distance of 6 m., until you arrive at the parallel of 46° , when, if bound to the Gut of Canso, you may haul in S. clear of all danger; or bring the high land of Cape Porcupine (which is a mount on the western shore, 4 m. within the entrance of the Gut of Canso, 640 ft. high), just open, and it clears the Indique Banks and Shoals.

In the winter season the shores of Cape Breton Id., when the weather is mild, abound with all sorts of fish; plenty of lobsters and oysters are to be found towards Prince Edward's Id., especially at Hillsborough Bay.

CAPE NORTH, which forms the western point of the entrance to the Gulf of St. Lawrence, is in lat. $47^{\circ} 2' 35''$, and long. $60^{\circ} 24' 56''$; Cape St. Lawrence is W.N.W. $\frac{1}{2}$ N., 7 m. from Cape North, between which the land curves in a little to the southward; near the head of this bight are 12 fms. From Cape St. Lawrence the land runs in a S.W. by W. $\frac{1}{2}$ W. direction, 32 m., to Chetican Pt.; $3\frac{1}{2}$ m. to the N.-eastward of the Cape is the entrance to an inlet, which runs in S.-westward $2\frac{1}{2}$ m., in which is a settlement; its entrance is about $\frac{1}{2}$ a mile wide, on the eastern side of which is Chetican R., fit for small vessels. Salmon R. is S.W. $\frac{1}{2}$ S., 10 m. from Chetican Pt.

SEA WOLF ISLAND is $7\frac{1}{2}$ m. W.S.W. $\frac{3}{4}$ W. from the western point of Salmon R., and $2\frac{1}{2}$ m. from the shore, having 6 fms. between; this island is about $1\frac{1}{10}$ m. in length, and bold-to, and is 200 ft. high. You can only land in fine weather, at other times the sea rolls completely round it, and the anchorage behind it is never safe, the ground being rocky.

Light.—The Lt.-ho. is on the summit of the island and shows a fixed Lt., 298 ft. above H.W., and is vis. 21 m. The tower is square and white. To vessels in dangerous proximity to the island, the light may become obscured by the abrupt cliffs on the sides of the island.

CAPE MABOU is 14 m. S.W. by W. $\frac{1}{2}$ W. from the Sea Wolf Id.; and $4\frac{1}{2}$ m. S.W. of the Cape is Mabou R. This river is $\frac{1}{2}$ a mile wide and continues so for full 3 m., where two streams fall into it. The entrance to Mabou R., is at the southern end of a low sand bar, is only $\frac{1}{2}$ a cable wide, with 4 ft. at L.W., and the tide frequently runs there at the rate of 4 knots; it is, therefore, a dangerous place to enter, except with flood-tide and smooth sea. H.W., F. and C., at 9 h., springs rise 4 ft., neaps 2 ft.; the shores are well settled by flourishing farms on either side; the scenery is beautiful, the mountains to the N., 1000 ft. above the sea, are a very remarkable feature of the coast.

Cape Linzee is 4 m. W.S.W. of Mabou R.; this Cape, with Smith and Henry Ids., 4 m. in a S.W. direction from it, forms the N.E. point of George Bay, and

Cape George the S.W. point. From Cape Linzee to the entrance of the Gut of Canso, the coast runs nearly S. by W. $\frac{1}{2}$ W., 20 m., and from Cape George the entrance of the Gut bears S.E. by S., 20 m.

PORT HOOD is the only safe anchorage on the W. coast of Cape Breton Id., it was formerly a much more secure harbour; Smith Id. being then a peninsula, united to the mainland by a range of high sand-hills, which has since been entirely swept away, and the sands spread over the harbour. During a gale from the N., the sea made a breach in this sand-bar; the width has since increased, and the present channel is 6 cables wide, with 9 ft. at L.W. The anchorage is still safe in 3 to 4 $\frac{1}{2}$ fms. on the E. side of Smith's Id., which forms a bay, and is safe in all winds. The village at Port Hood is on the mainland, opposite the N. part of Smith's Id., and has a church and court-house. Supplies and fresh provisions may be obtained here, but there is no good watering place, the supply from the wells being scanty and not very good. H.W., F. and C., at 9 h.: springs rise 4 $\frac{1}{2}$ ft., neaps 2 ft. The flood comes from the N., and ebb from the S.

Light.—**PORT HOOD LT.-HO.**, in lat. 46°, and long. 61° 31' 40", is a square white tower, and shows a fixed Lt. 54 ft. above the sea, vis. 10 m.; the Lt. shows red on the N. side, and white to the southward.

SMITH'S ID. is 2 m. long, and 210 ft. high, and has flourishing farms on the inner side of the island, where there is a sandy beach.

HENRY ID. (Just-au-Corps), is a mile W.S.W. of Smith's Id., is only a mile long and 205 ft. high; it is bold to seaward, but shallow water runs off from its S.E. extremity $\frac{1}{4}$ of a mile to 3 fms., and at $\frac{2}{3}$ of a mile to 5 fms. The passage between these islands is extremely dangerous and should never be attempted, being full of rocky shoals.

JUDIQUÉ BANK, with only 4 $\frac{1}{2}$ fms. on it, is on the E. side of George Bay; its inner edge is 2 m. from the eastern shore, with a clear channel of 11 to 7 fms. between them; its northern edge is S. by W. $\frac{3}{4}$ W., 5 $\frac{1}{2}$ m. from Henry Id.; and its centre is E. by S. $\frac{2}{3}$ S., 13 m. from Cape George. A vessel will pass to the westward of this bank, by keeping Cape Linzee shut in behind Smith's Id.; or the whole of the high land of Cape Porcupine open to the westward of Heffernan Pt.

JUDIQUÉ SHOALS.—The greatest danger in St. George's Bay is a rock, about $\frac{1}{2}$ a mile in length, if the very shallow part only is reckoned, on which is 4 ft., but there are patches of 2 or 3 fms. and much rocky ground both to the N. and S. of it.

On the outer point of the shoal, Port Hood Church is just shut in behind Susan Pt., a point 3 m. south of Port Hood Lt., bearing N.N.E.; Long Pt. S. by E., 2 $\frac{1}{2}$ m.; Campbell Pt. the nearest part of shore E. $\frac{1}{2}$ S., 1 $\frac{1}{2}$ m.; and Judique Church N.E. by E. By keeping the whole of the high land of Cape Porcupine open to the west of Heffernan Pt. S. $\frac{1}{4}$ E., it will lead to the westward of the shoal in 6 or 7 fms.; or the Church of Port Hood kept open of Susan Pt., clears it in not less than 4 fms.

THE GUT OF CANSO may be considered the best and most frequented passage for ships bound to or from Prince Edward's Id., and other places in the Northumberland Strait, because it is shorter, and has the advantage of anchorage in case of contrary winds or bad weather. Its length is about 15 m., and its breadth about $\frac{2}{3}$ of a mile. The east side is low, with beaches, but the west shore is for the most part high and rocky; Cape Porcupine is remarkably so. The deepest water is on the western shore, but both shores are bold-to and sound, except some sunken rocks, near to the shore; one near the western side of Plaster Cove, about $\frac{1}{2}$ a cable's length from shore: one off Cape Porcupine on the opposite shore; a third on the western side about 2 m. to the southward of Ship Harbour; then one about midway between the southern entrance of the Gut and Ship Harbour, and nearly a cable's length from the eastern shore; and a fifth about 100 fms. without Bear Hd., the S.E. part of the Gut. On the opposite shore there is a rock close in to the land, about a mile to the southward of Melford Creek; these rocks have 6 or 8 ft. on them. Mill Creek, Gypsum or Plaster Cove, Venus Creek, Ship Harbour, Holland Cove, and Eddy Cove, afford excellent anchorages, with a moderate depth, and out of the stream of the tide, which generally sets in from the southward,

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but very irregularly, being much influenced by the winds. After strong N.W. winds, which happen daily during the fall of the year, the water in the Gulf of St. Lawrence is rendered low, which causes the current to run northward through the Gut at the rate of 4 or 5 knots, and the contrary happens after southerly winds.

Light.—A Lt.-ho., exhibiting a fixed light, is established on the western side of the entrance to the Gut, in lat. 45° 41' 42". The tower is white, and stands 120 yards from the shore. The light is 110 ft. above H.W., and may be seen 18 m. distant, or between Cape George and Port Hood. There is good anchorage under the Lt.-ho., with off-shore winds. Vessels frequently stop there to wait for the tide.

It is H.W., F. and C., in the Gut (Plaster Cove) at 9 h. 15 m., but the tide in mid-channel runs an hour after H. and L.W.; springs rise 4½ ft., neaps 3 ft. Sometimes, in or after strong winds, the currents appear as if not influenced by the tide, but run at the rate of 3 or 4 knots.

From Cape George to the entrance of the Gut the course is S.E. by S., 20 miles; but it is to be observed that there is Jack Shoal, a ledge of rocks in the offing, near Aushesee, some of which are nearly dry at L.W., and nearly in the direct course towards the Gut; these must, of course, be avoided. Jack Shoal runs out N.E. by N. from Cape Jack 1 mile to 3 fms., and 1¼ mile to 5 fms. It has often proved dangerous to vessels in thick weather, and should be approached with great caution.

Upon entering the Gut from the northward there will be seen on your port hand a red house on a point called Belle Ashe's Pt., off which, nearly a cable's length from the shore, is a sunken rock, already noticed, which may readily be distinguished by the eddy of the tide; within this point to the S.E. is Gypsum or Plaster Cove. To sail into the cove keep nearly in the middle, and when in 10 fms. let go your anchor. You will find sufficient room for swinging round in 7 fms., or smaller vessels in 4 or 5 fms., bottom mud. In going in keep the cove open, so that the whole of the Bridge, as well as Plaster Cliffs above it, may be seen, and you will avoid the Dixon Rk.

There is an excellent watering place directly opposite Plaster Cove, in the bay between Cape Porcupine and Keaton Pt.

SHIP HARBOUR is about half-way down the Gut on the eastern side; here there is excellent anchorage in 4 or 5 fms., soft bottom. In entering, give the starboard side a berth of a cable's length (it being flat), and run on until you shut in the northern entrance of the Gut. On the N.E. side of the harbour is a fine settlement, with stores and wharves, where vessels may receive repairs, or winter in safety. Vessels of less than 12 ft. draught may run in without difficulty, passing over the Kinvir Shoal at all times, but larger vessels should pass northward of that danger.

Holland Cove is nearly opposite to Ship Harbour; it also affords for small vessels good anchorage off its mouth. The best berth for anything larger than a fishing schooner is in 7 or 8 fms., mud bottom, with Pirate Id. bearing S.E. by S., and distant a cable's length out of the strength of the tide, in 6 or 7 fms.

Ships from the northward may proceed through the Gut with safety, by keeping nearly in mid-channel, there being no danger till they arrive at the southern point, called Eddy Pt., but from which extends a long spit of sand, with large round stones, which must be left on the starboard side, at the distance of ½ a mile. The race of the tide will serve to guide you from it. Having passed the spit of Eddy Pt., you may steer to the S.S.E., until the fixed light at Marache Pt., Arichat Harbour, bears E.N.E. Hence you can proceed to sea by the chart.

Ships coming down the Gut of Canso, and having reached Eddy Pt., or as far as Cape Argos, and having met with a S.E. or S.S.W. wind, that cannot hold their own by beating, may bear up and come to an anchor in Turbalton Bay, under Turbalton Hd., where they may ride safely in from 5 to 7 fms., muddy bottom. Turbalton Bay is that space to the northward of Rabbit Id., and between it and Evans Id. The marks for anchoring in Turbalton Bay are to bring the peninsula point in a line with Turbalton Hd., bearing S. or S. ½ W.; you are then sheltered

by the rocks or spit that runs from Turbalton Hd., in 4 to 5 and 6 fms., and will ride very safely on good holding ground. But with a large vessel go no further in than the line of Turbalton Hd. and Cape Argos touching, in $4\frac{1}{2}$ fms. at L.W., mud bottom; the reef will break off the swell from the southward. Should the wind shift to the S.W. or N.W., you must up anchor, and beat out of the bay into Chedabucto Bay, or proceed on your passage to the southward. Should the wind overblow at S.W., so as to prevent your beating to windward into Chedabucto Bay, you must come to an anchor in Eddy Cove, bringing the low point of Eddy Cove to bear S.S.E. or S. by E., in 5, 6, or 7 fms., taking care to give the ship sufficient cable, lest you drive off the bank into deep water, from 15 to 20 fms. Be cautious when coming downwards, after passing Eddy Pt., of running in the direction of the Cerberus Rk.

THE SOUTH COAST OF THE GULF.

FROM THE GUT OF CANSO TO POINT ESCUMENAC, PRINCE EDWARD ISLAND, AND NORTHUMBERLAND STRAIT.

GEORGE BAY, OR ST. GEORGE'S BAY, to the north of the Gut of Canso, has been partially described in a former chapter relating to the Western Coast of Cape Breton Id.; we here take up the Coast of Nova Scotia from the Gut of Canso.

The Lt.-ho. at the northern entrance of the Gut of Canso has been already noticed (p. 25). Half a mile S.E. of the Lt.-ho. there is pretty good anchorage to stop or wait tide in all winds from the southward.

HAVRE BOUCHE.—This inlet is the first harbour west of the Gut between that and Cape Jack. It is small, but convenient for small vessels. There are but 4 ft. at L.W. at the entrance, but 13 or 14 ft. within. It is H.W., F. and C.; about 9 h. 30 m. Rise 4 and 2 ft., springs and neaps.

CAPE JACK is 2 m. to the westward, which, together with Jack Shoal, was noticed in p. 25.

TRACADIE HARBOUR is $4\frac{1}{2}$ m. W. by S. from Cape Jack. The entrance is narrow, and the depth over the bar at L.W. is only 2 ft., and is only fit for very small vessels at H.W. The village and church are about a mile within the entrance; its large church can be seen from a great distance out at sea.

LITTLE TRACADIE is about midway between the former and Cape Jack, and is a similar but smaller harbour, with only 1 ft. on the bar at L.W. H.W., F. and C., in these latter inlets, same as Havre Bouche.

To the N.N.W. $\frac{1}{2}$ W. of the entrance to Tracadie is the Bowman Bank, which must not be approached in a vessel of great draught; you will clear it by not bringing the north point of the island of Pomquet to the westward of W.S.W. The bank extends 2 m. off the coast, with several rocky points.

POMQUET ROAD is 7 m. to the westward of Cape Jack; ships of any size may lie in safety. In sailing in from the northward you will leave the Island of Pomquet on the starboard side, keeping close to a rock, which appears 5 or 6 ft. above water. This rock is steep-to, and off the east end of the island. Outside of it, at the distance of $\frac{3}{4}$ of a mile, are several sunken rocks, which are dangerous. After passing the rock, a bay will open on the starboard side, which you must stand into, till you are shut in with the island, where there is anchorage in $3\frac{1}{2}$ fms., at about $\frac{1}{2}$ a mile from the island, with the south point of the island N. by E. $\frac{1}{2}$ E.

Light.—POMQUET ISLAND.—A square white Lt.-ho. is erected on the N.E. end of this island, 23 ft. in height, and 50 ft. above H.W., showing a fixed red Lt., visible 10 m. when bearing from W. round N. to S.

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The Pomquet Banks lie off Pomquet Id. to the N.N.E., distant from 3 to 6 m. The soundings on them are rocky and irregular, the least water 6 fms., having been found on the outer or smaller of the two banks, where the church at Little River was shut in behind the east side of the island, bearing S.S.W.

POMQUET HARBOUR is 1½ m. to the westward of Pomquet Id., but of no note to shipping.

ANTIGONISH HARBOUR.—The entrance to this harbour lies 11 m. S.S.W. from Cape George. Here small vessels load with timber and gypsum, or plaster, of which there is an abundance in the neighbourhood, but the harbour is so shoal that even these complete their cargoes outside the bay, although the anchorage is not safe. Two beacons, on the northern point of the entrance, kept in one bearing W. by N. led over the bar in 6 ft. at L.W. during the late survey. The rivers which fall into this harbour run through many miles of fine land, and the population is considerable.

ISAAC ROCK, with only 9 ft. over it, is on a small shoal about 3 cables from the shore; it is distant 2½ m. to the northward of the entrance of Antigonish, and is shown occasionally by heavy breakers.

CAPE GEORGE.—The N.W. point of George Bay is a bold headland, attaining an elevation of 600 ft. above the sea; the shallow water only extends a quarter of a mile from shore; there are 20 fms. at double that distance, and the lead affords but little warning, and great caution is necessary in dark or thick weather.

Light.—On the north side of the cape, and in lat. 45° 52' 35", and long. 61° 55' 0", a Lt.-ho. elevated 350 ft. above the level of H.W., showing a revolving Lt. every half minute, visible 25 m. The tower is square, white, and 39 ft. high.

Malignant Cove is 10 m. W.S.W. of Cape George; it has a small stream at its head, and affords good landing for boats. It may be known by the sugar-loaf hill, 680 ft. above the level of the sea, which stands about a mile in the rear of it.

ARISAIG.—The wooden pier at the village of Arisaig is 4 m. west of Malignant Cove; it only affords shelter for boats and shallops during easterly winds, there being no shelter with the wind between W. and N. Nearly a mile to the eastward of this pier, and about ½ a mile N.E. by E. of Arisaig Church, there is a remarkable rock, called Frenchman's Barn.

MERIGOMISH HARBOUR.—The entrance to this harbour is 14 m. to the westward of the Arisaig, and 27 m. W. ½ S. of Cape George. The coast between is bold, and free from danger, is well settled and cultivated, the land rising a few miles from the shore to the height of 1100 ft. in some parts.

There are 14 ft. at L.W. over the bar, with sufficient water for large ships within; but its entrance is so intricate, that a pilot is necessary; and as the northerly winds send in a heavy sea, were a ship to take the ground going in, she would probably be lost. The bar is formed by rocky shoals running out from the points of the entrance. At present this harbour is seldom frequented by anything larger than coasting schooners. It was formerly visited by larger vessels for timber; but that article is now exhausted. It is H.W. at 10 h. 6 m. Springs rise 5½ ft., neaps 3½ ft. From the entrance, the east end of Pictou Id. bears N. by E. ¼ E., distant 10 m.; here you may anchor, in moderate weather, in 6 to 6 fms., until you obtain a pilot.

LITTLE HARBOUR is between Merigonish and Pictou Harbours, with Roy Id. before it. This place is of little note, being nearly dry at L.W., excepting the intricate narrow channels. Roy Ledge, of 9 ft., lies off the north shore of Roy Id., distant 3½ cables, and ¾ of a mile N.W. ½ W. of Colquhoun Pt. This latter point has a reef running out ½ a mile to the eastward, partly dry at L.W.

The Roaring Bull is a cliffy point, 4 m. eastward of Pictou Lt.-ho., from which a reef of sandstone runs out to the N.E., full 3 cables' length, to 3 fms.

PICTOU ISLAND is about 4½ m. long from E. to W., and 1½ m. wide. Its highest central part towards the east end is 150 ft. above the sea, and is wooded on the northern side; there are farms and settlements along its southern shore; low cliffs form its outline. The best landing for boats is on the south side, at Roger's Pt.

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Light.—Pictou Id. Lt.-ho. is a square white tower; it stands on the east point of the island, and exhibits a fixed white Lt., elevated 52 ft., visible 12 m. in clear weather.

Pictou Id. Reefs extend from each end of the island a considerable distance. The East Reef runs off from the east point of the island, and is dangerous, being partly dry at L.W.; it runs out $\frac{1}{2}$ a mile to 3 fms., and nearly a mile to 5 fms. This reef should be approached with caution at all times, particularly at night, and on a flood-tide, as there are 9 fms. not far from its N.E. point.

The west end of the island may be passed within $\frac{1}{2}$ a mile in 3 fms.; but there are rocks on either side of the west end of the island, nearly dry at L.W., just within the 3 fms. line, extending 3 cables' length from the shore, and it shallows the same distance along the north shore; at night, come no nearer the north shore than 8 or 9 fms., or to the south shore than 5 fms.

The Middle Shoals are a chain of rocky patches, of 11 ft., running $1\frac{1}{2}$ m., in a W. by S. direction; they reach from within $\frac{1}{2}$ a mile of the Caribou Channel to within $1\frac{1}{2}$ m. of the west end of Pictou Id., between which there are about $3\frac{1}{2}$ fms.; to clear these shoals to the northward in 4 fms., keep Roger's Pt. and west point of Pictou Id. bearing E.S.E.; large ships should come no nearer than 7 fms. on that side.

Mackenzie Hd. is recognised by a sharp-pointed cliff of clay and sandstone 40 ft. high, and by its bearing south from Logan Pt., distant $1\frac{1}{2}$ m.; these points form the entrance to Pictou Bay, which is $1\frac{1}{2}$ m. deep. Mackenzie Shoal is N.E. by E. from the head, $\frac{1}{2}$ of a mile, and is a rocky bank of 16 ft. Caribou and Doctor's Pt. in one, bearing N. by W., clears it to the eastward a cable's length; and the Lt.-ho. and town point of Pictou in one, bearing west, clears it to the northward, 2 cable's length. The shallow water extends a full $\frac{1}{2}$ mile from Mackenzie Hd. to the northward to 3 fms., and trends to the westward towards the Lt.-ho.; all that side of the bay being shallow, with ridges of sand drying at L.W.

Cole Pt. is a cliff, 30 ft. high, of clay and sandstone, nearly a mile within, or S.W. of Logan Pt.; it has also a shoal running off to the S.E. $\frac{1}{2}$ of a mile, and shallow water continues on to the westward as far as Loudon Beach. Logan Pt., likewise, has reefs running off to the E.S.E., $\frac{1}{2}$ a mile to the 3 fms. line.

Pictou light (described hereafter) can be seen on a clear night 12 m., and when in one with Cole Pt., bearing W.S.W., clears the reef off the E. end of Pictou Id., $\frac{1}{2}$ a mile, and also the southern extremity of Pictou Id. Bank, in 5 $\frac{1}{2}$ fms. If beating in, tack, when standing to the northward, the moment the light begins to disappear behind Cole Pt. If running in, keep the Lt. W.S.W. $\frac{1}{2}$ W. till you get soundings in 6 fms., at L.W., off Logan Pt., and follow that depth $1\frac{1}{2}$ m. to the S.W., taking care not to bring the light to the northward of W. Here you may anchor in the roads till daylight.

PICTOU HARBOUR is in every respect the finest on the southern shores of the Gulf, capable of containing ships of any burthen; here are coal mines, valuable quarries of building stone, and a finely settled country in its neighbourhood. Pictou has been declared a free warehousing port, and its trade is very considerable in lumber, coal, and the fishery. The trade of this port appears to be rapidly increasing, and the town of New Glasgow, in the neighbourhood of the coal mines, promises to be of considerable importance. Coasters from all parts of the Gulf resort to Pictou, and its exports have amounted to £100,000 in one season. A steamer runs regularly between Pictou and Quebec; and there is a regular communication by land with Halifax.

Light.—Pictou Lt.-ho. is an octagonal wooden structure on the S. point of the entrance, painted vertically with red-and-white stripes, exhibiting a fixed white Lt. 65 ft. above the sea, and vis. 12 m. A small fixed red Lt. is shown below the lantern.

The branch pilots of Pictou (who are generally active experienced men), are always on the look out for vessels: should you not meet with one, there is good anchorage in Pictou Roads in 5 or 6 fms., with the Lt.-ho. bearing W. Here you might wait for daylight to obtain a pilot. A stranger, particularly in a large ship, should not attempt to cross the bars without one, although there is good water on

both. The outer bar has 21 ft. at L.W., bottom of sand; crossing this bar you fall into 4, 5, or 6 fms. for about a mile, when you suddenly shoal again to 18 or 19 ft. on the inner bar; this bar is also sand, and distant 4 cables' length from the Lt.-ho. and is a cable's length wide; when across this inner bar, the water continues deep to the entrance of the harbour. There is very good anchorage between the bars, but it is open to N.E. winds. From the Lt.-ho. to the anchorage off the easternmost wharves at Pictou, the channel of the harbour is direct, nearly $\frac{1}{2}$ of a mile wide, deep enough for the largest ships, and clear of danger.

The TOWN of PICTOU stands on the N. side of the harbour, 2 m. within the Lt.-ho.; the houses are crowded together along the shores of a small bay, but they are hidden, with the exception of the steeples of three churches, from vessels entering the harbour, by Battery Pt., which shelters them from easterly winds; many of the dwelling-houses are of stone, and the population in 1843 upwards of 2000. Opposite the town the harbour expands into three arms, at the heads of which are the East, West, and Middle Rivers. The Albion coal mines and New Glasgow are up the East River; the other two branches are only used by boats.

To enter Pictou Harbour with a fair wind, when without Mackenzie Shoal, bring the Lt.-ho. and town point of Pictou in one, bearing 1 or 2 degrees to the northward of W.; or, which will be the same thing, with Smith Pt., the extreme of the land, on the same side beyond the town. Run with these marks on, until Logan and Cole Pts. come in one, bearing N.E., when instantly sheer a little to the northward sufficient to bring the town point in one with the N. extreme of the sandy spit. Keep the last-named marks exactly in one, until the Roaring Bull comes in one with Mackenzie Hd. bearing S.E. by E. $\frac{1}{2}$ E., when change the course smartly, and run from those marks, keeping the Roaring Bull just in sight, until the N. extreme of Moodie Pt. (the first point on the S. side within the Lt.-ho.) opens out to the northward of the sandy spit; then haul to the westward, at first towards the S.W. extreme of Loudon Beach, and afterwards so as to pass midway between it and the sandy spit into the harbour. With a beating wind a pilot is indispensable. It is H.W., F. and C., at the Lt.-ho. at 10 h.; spring-tides rise 6 ft., neaps 4 ft. With good tides you will carry 4 fms. over the bar.

DOCTOR'S ISLAND is $\frac{1}{2}$ m. to the northward of Logan Pt., forming two entrances into Caribou Harbour; the northern one, between two sandy points, is 4 cables' length wide, with only 4 ft. in it at L.W.

DOCTOR REEF is very dangerous, stretching out from the point $\frac{1}{2}$ m. to the eastward, to 3 fms., with rocks dry at L.W. full $\frac{1}{2}$ a mile out. To the southward of this reef, and $\frac{1}{2}$ of a mile S.E. of Doctor Point lie the Seal Rocks, dry at L.W., and from which the shallow water, forming the bar of Caribou Harbour, extends to Logan Pt., the N. point of Pictou Bay.

CARIBOU REEF, 2 m. to the northward of Doctor Reef, stretches out $\frac{1}{2}$ a mile N.N.E. from N.E. point of Caribou Id. to the 3 fms. line, is very dangerous, and dries out to the distance of 3 cables from shore; it consists of large stones, with deep water very near its E. side and N. point.

CARIBOU HARBOUR is an extensive place, being 6 m. long and a mile wide, but the whole is occupied by shallow water; and its bar and entrance being too difficult and dangerous to be attempted without a pilot, it is not likely it will ever be much used by shipping. It is H.W. here at 10 h.; springs rise 6 ft., neaps 4 ft.

Light.—On the N.E. part of Caribou Id. a square white Lt.-ho. is erected 26 ft. in height and 35 ft. above the sea, exhibiting a revolving Lt. every minute, vis. 12 m., lat. 45° 46' 0" and long. 62° 40' 20".

CARIBOU CHANNEL is between Pictou Id. Bank and the shoals off Caribou. It has a sufficient depth of water for the largest ships; its breadth in the narrowest part exceeds $\frac{1}{2}$ a mile to the 3 fm. line, or $\frac{1}{2}$ of a mile to the 5 fm. line; but being crooked, no marks can lead through its whole length.

Going to the westward, the safest way is to strike soundings in 6 or 7 fms. on the edge of the shoal off Doctor Id., and follow it to the N.W. until Mackenzie Hd. is just shut in by Logan Pt., bearing S. $\frac{1}{2}$ W.; then steer from these marks, keeping the head just in, and they will lead across the deep water, and afterwards along the western edge of the Pictou Id. Bank out to sea.

If with an ebb-tide and strong S.W. wind, you must keep on the weather side of the channel by following the edge of the shoal water off Doctor Id. further to the N.W., until Logan Pt. is only a little open to the eastward of Doctor Pt.; bearing S. These points in one lead along the E. side of Caribou Reef, at the distance of a cable, in 4 fms. Keep Logan Pt. a little open, and it will lead clear out to sea, in not less than $4\frac{1}{2}$ fms. The same marks and directions, taken in a reverse order, will enable a ship to take the channel from the northward or westward.

Observe, not to haul to the eastward until the Hawksbill is well shut in behind Caribou Pt.; nor open the former again after having shut it in, until the Lt.-ho. at Pictou is open to the southward of Cole Pt.

From Caribou Pt. to Cape St. John the course is N.W. by W. $\frac{1}{4}$ W., 15 m.; the coast is straight and free from danger everywhere to within $\frac{1}{4}$ of a mile. This coast is chiefly cliffs of clay and sandstone, seldom above 50 ft. in height, but often much lower; and in fine weather boats may land all along it.

CAPE JOHN, the northern point of the bay, is composed of sharp-pointed cliffs of sandstone, 40 to 50 ft. high. A reef extends from it to the N.W., 4 cables' length, on the inner part of which are two rocks, always above water. This reef is steep at its western point, where there are 7 fms. close to it, being deeper here than anywhere else. On the N. side of the cape shallow water runs off $\frac{1}{4}$ a mile to 3 fms.; large ships should keep in $3\frac{1}{2}$ to 4 fms. at L.W.

JOHN BAY runs in 4 m. to the S.E.; from the cape to Murphy Pt. it is free from danger, but the shoal water extending from the shore is often very steep, therefore come no nearer than $3\frac{1}{2}$ fms. at L.W. Sandy shoals occupy the head of the bay, drying out $\frac{1}{2}$ a mile. On the bar of the R. John there is only a foot at L.W. Several ships are built here; and they load their cargoes of lumber outside, moored in $2\frac{1}{2}$ to 3 fms., mud, and lie safely during the summer months.

On either side of the R. John there are extensive and flourishing settlements. The English church will be known by its spire, and the Presbyterian chapel by its cupola.

AMET SOUND is very extensive, affording excellent anchorage for any number and class of vessels, Tatamagouche Bay being its S.W., and John Bay its eastern arm; Mullegash Pt. and Cape John its western and eastern points of entrance.

Amet Id., situate on the western part of Amet Shoals, is very small, and divided into two parts; the western is the largest, presenting clay cliffs on each side. It is flat at the top, and bare of trees; it is covered with coarse grass, and about 20 ft. above the sea at H.W. It was formerly much larger than at present; shallow water extends off this island 300 fms. to the westward, and will be cleared in not less than $3\frac{1}{2}$ fms., if the English steeple at R. John be not shut in behind the western side of Cape John; but large ships should stand in only to 6 fms., and take notice that in every other direction shallow water extends from the island to a far greater distance.

Light.—On the centre of Amet Island, a square wooden Lt.-ho. is erected, painted white, 32 ft. in height, and 44 ft. above the sea, exhibiting a fixed Lt., vis. 12 m. all round the horizon.

The AMET SHOALS are much more extensive and dangerous than have been hitherto represented. They extend nearly 4 miles to the eastward of the island, and 2 miles to the south-eastward towards Cape John; in both directions are rocky patches of 5 or 6 ft., a long mile from the island; but there is not less than 16 ft. at a greater distance than 2 miles; there is one patch of that depth full 3 miles to the eastward of the island. The marks for this latter patch are the northern extremes of Amet Id. and Treen Bluff in one, bearing W. $\frac{1}{4}$ N., and Cape St. John S.W. $\frac{1}{4}$ S.

Waugh Shoal is $1\frac{1}{2}$ mile to the N.W. of Amet Id., and is a rocky dangerous bank. It is nearly $1\frac{1}{2}$ mile long, and $\frac{1}{2}$ a mile broad, with only 2 fms. at its northern end; the rest $3\frac{1}{2}$ to 5 fms. Do not approach from the northward into less than 7 fms., but in other directions you may to 5 fms. at L.W. The only mark for the western side is the eastern end of Saddle Id. S.W. $\frac{1}{2}$ S. The N.E. side is cleared by the western side of Cape John, and the English church steeple at the R. John in line bearing S.S.E. $\frac{1}{4}$ E.

TATAMAGOUCHE BAY is $2\frac{1}{2}$ miles wide at the entrance between Mullegash Pt. to the northward and Brulè peninsula to the southward; it runs in 7 miles to the westward, affording good anchorage everywhere, bottom soft mud; but large ships cannot go far up. From 5 fms. at the entrance the depth decreases to 3 fms. $1\frac{1}{2}$ mile up the bay, and to 2 fms. at 4 miles, the remainder being all shallow, partly drying at L.W. A rock, with only 7 ft. on it, lies $3\frac{1}{2}$ cables' length off the northern shore, 2 miles within Mullegash Pt.; Amet Id. and Mullegash Pt. touching, bearing E.N.E., clear it to the southward, distant 120 fms. A stranger may safely approach to 3 fms. at L.W.; but in entering, keep well over to the northward, to avoid the Brulè Shoals, which extend from Brulè Pt. $1\frac{1}{2}$ mile to the northward, having only 9 ft. near their outer edge. On the N.E. side, the English church steeple at R. John just open to the northward of Long Pt., bearing S.E. $\frac{1}{2}$ E., clears them in 3 fms. The N. and N.W. sides are very steep, but the E. and S.E. sides may be approached by the lead.

Tatamagouche River is in the S.W. corner of the bay, 5 m. within the entrance. Several vessels visit this river for lumber every year; they anchor off it in 11 or 12 ft. at L.W. and ground on soft mud, as the tide falls, without injury. H.W., F. and C., at 10 h.; spring-tides rise 8 ft., neaps 5 ft.

When approaching Tatamagouche Bay from the eastward, between Cape St. John and Amet Id., keep nearest the cape, to avoid the Amet Shoals, that narrow this channel to about $\frac{1}{2}$ of a mile. When coming in to the westward of Amet Id., the passage between Amet Id. and the Waugh Shoal to the westward is full a mile wide, and from 6 to 10 fms. deep; the leading mark for running through this passage is Brulè Pt. and Conn's House* in one, bearing S. by W. The western passage into Amet Sound, between Waugh Shoal and Saddle Reef, is a mile wide, with 5 to 8 fms. in it. When bound to John River, or Tatamagouche, pilots may be obtained by making the usual signal.

Oak Id. is N.W. by W., $10\frac{1}{2}$ m. from Cape John; it is low and partly wooded, and separated from Pt. Mackenzie by sand-bars, and a gully for boats, which is nearly dry at L.W. Within, to the southward of Oak Id., a bay runs in to the N.W., called Fox Id. Harbour, 3 or 4 m.; it is shallow, and not frequented by shipping.

WALLACE HARBOUR is to the southward of Fox Bay, and is the best harbour on the coast, excepting Piotou; there are 16 ft. water on the bar at L.W., spring-tides, and 24 ft. at H.W.; it is capable of admitting large ships. The entrance is W.S.W. $\frac{1}{2}$ W., $2\frac{1}{2}$ m. from Oak Id.; and between two sandy points, named Palmer and Caulfield, is 2 cables' length wide, and $6\frac{1}{2}$ fms. deep; above this the channel is crooked and difficult, although it is 160 fms. wide. A pilot is always necessary, and may be obtained by making the usual signal. It is H.W. at Wallace Harbour at 10 h. 30 m., on F. and C.; spring-tides rise 8 ft., neaps 5 ft., and their velocity does not exceed $1\frac{1}{2}$ knot.

When approaching Wallace Harbour from the northward, Oak Id. should have a berth given it of nearly a mile; or keep in from 5 fms., to avoid the reefs off its east side.

Cape Cliff is $3\frac{1}{2}$ m. N.W. $\frac{1}{2}$ N. of Oak Id.; and W.N.W., 9 m. further, is Pugwash Pt. All along this part of the coast there are numerous and flourishing farms.

PUGWASH HARBOUR is to the southward of the point, and at the head of the bay of that name; there are 14 ft. at L.W. on the bar, and sufficient water inside for larger vessels than cross the bar. This is a snug little harbour, and the vessels lie in a small land-locked basin to load, where there is plenty of water for large ships; the town and the church are on the east side of the river. The timber trade of this place has much decreased of late years, the stock of timber in the neighbourhood being nearly exhausted, and there are no fisheries here of any consequence; but the settlements in this neighbourhood are increasing.

* Conn's white house stands on the southern shore, is 50 ft. above the sea, and the only one that is two stories high; it has a large barn close to it on the east side. It bears S. by W., $1\frac{1}{2}$ m. from Brulè Pt.

The bar is about $\frac{1}{2}$ a mile within the entrance of the bay; and thence, to the harbour, the channel is crooked, and from 50 to 100 fms. wide. A pilot is always necessary; they are able, experienced men, and may be obtained by making the usual signal.

It is H.W. at Pugwash, on F. and C. days, at 10 h. 30 m.; spring-tides rise 7 ft., neaps 4 ft. In the roads it seldom runs a knot, but sometimes in the entrance of the harbour the tides run nearly 2 knots.

PUGWASH REEFS surround the point of that name to the distance of $\frac{1}{2}$ of a mile, and dry $\frac{1}{2}$ a mile out. A stranger, when approaching, should not come within the 5 fms. line, as shown by the chart. In Pugwash Road there is excellent anchorage, in 3 fms. at L.W., sand and clay, well sheltered by Phillip's Reef to the N.W., and Pugwash Reef to the N.E. There is seldom any sea here in the summer, even with northerly winds.

To take Pugwash Roads, if without a pilot, being to the northward in 5 fms., you must bring the English church steeple at Pugwash, so as to be seen over, and only just within the west extreme of the low cliff of Fishing Pt., (the east point of the bay), bearing S. by E. $\frac{1}{2}$ E.; running with these marks you must not open the church in the least to the westward of the point until the south point of Phillip River (Bergamen Pt.) bears S.W. by W., or until the water decreases to $3\frac{1}{2}$ fms., you will then be close to the N.W. end of the Pugwash Reef; now change your course to S.S.W., $\frac{1}{2}$ of a mile, when you may anchor in 16 or 18 ft. at L.W., with Fishing Pt. E. by S. $\frac{1}{2}$ S., distant about $\frac{1}{2}$ a mile, or you may lie in 14 ft., $\frac{1}{2}$ a mile farther to the southward.

PHILLIP RIVER.—Lewis Hd. is 2 m. to the westward of Pugwash Hd., and is the north point of the entrance to Phillip River. Lewis Reefs run off to the N.E., $2\frac{1}{2}$ m. from the head, as shown by the chart, and are extremely dangerous for strangers to approach. The inner part of this reef is shallow, having only 6 ft. on it at the distance of $1\frac{1}{2}$ m. from the shore; but on the outer part there are from 15 to 18 ft. on rocky patches, with deeper water between.

Phillip River has a dangerous bar of stones and sand, having only a narrow, crooked channel of 8 ft. at L.W. This river is not used as a loading port; but boats can go up 9 m. The new vessels built here are brought down to Pugwash to load; and the lumber is likewise taken to Pugwash to be shipped. There are increasing settlements along the borders of this river.

BAY VERTE.—Cold Spring Hd. is N.N.W., 8 m. from Lewis Hd. Vessels bound up the Bay Verte, may run along between the latter heads in $6\frac{1}{2}$ to 7 fms. The Bay Verte is 9 miles wide across the entrance from Cold Spring Hd. to Indian Hd., in New Brunswick; it is about 11 miles deep, and $2\frac{1}{2}$ miles in breadth near its head, where the two provinces of Nova Scotia and New Brunswick separate. The head of the bay is very shallow some distance from the shore. In the entrance to this bay are some shoals, which should be carefully avoided when navigating this part of the strait; these are the Aggermore Rk., Laurent Shoal, Heart Shoal, and Spear Shoal.

The Aggermore Rock, with only 18 ft. on it, is N.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ miles from Cold Spring Hd., having a deep-water channel between; but in a N.N.W. direction towards Cape St. Laurent, not more than $3\frac{1}{2}$ fms. will be found at L.W., and in some places less.

Laurent Shoal, with 16 ft. least water on it, is of sand and rock, about $\frac{1}{2}$ of a mile long, and $\frac{1}{2}$ a mile broad. From the shoalest part Cape St. Laurent bears N.W. by N., $2\frac{1}{2}$ miles; Cold Spring Hd., S.S.W. $\frac{1}{2}$ W.; and Indian Pt., N.E. by E. $\frac{1}{2}$ E. There are $4\frac{1}{2}$ fms. close to the eastern side of this shoal.

Heart Shoal is S.W. by S., $1\frac{1}{2}$ mile from Cape Spear; the least water on it is 6 ft., with $2\frac{1}{2}$ fms. between it and the shore, as will be seen by the chart.

Spear Shoal is about a mile E.S.E. from Heart Shoal; it has a patch of rock of only 10 ft. near its east end, with 15 to 18 ft. on other parts; it is a bank of stones and sand, about a mile long from E. to W., and $\frac{1}{2}$ of a mile broad. In approaching this shoal from the eastward the lead gives little warning, there being 4 to $4\frac{1}{2}$ fms. very near it. From the shoal part of the bank Indian Pt. bears N.N.E., $2\frac{1}{2}$ miles, and Cape Spear N.W. by N., $1\frac{1}{2}$ mile.

Boss Spit is $3\frac{1}{2}$ miles N.W. by N. of Cold Spring Pt.; it dries full $\frac{2}{3}$ of a mile from the shore, and is dangerous, as its outer edge is steep-to, there being 17 ft. close to its point; you should keep in $3\frac{1}{2}$ fms. when passing this spit.

Tignish Head is $4\frac{1}{2}$ miles north-westward of Boss Spit; there are no dangers between, the water shoaling gradually, until you arrive off the head, where there are two shallow patches of 5 to 6 ft., all stones, N.N.E. $\frac{1}{2}$ E. from the head, $\frac{2}{3}$ of a mile.

Tignish River is the principal stream in the Bay Verte, and has only 3 ft. at L.W., it is both narrow and crooked, and unfit for shipping; but it is frequented by schooners. About 5 miles up the river there are saw mills, where large quantities of deal are cut, which are sent down by small craft to Pugwash to be shipped for the British market; in the summer they are sometimes sent along shore in rafts. Spring-tides rise 9 ft., neaps 5 ft. From here it was proposed to cut a canal to Cumberland Fort, Bay of Fundy.

Gaspereaux River is on the northern side, near the head of the bay, on the southern shore of which stands Fort Monckton, on Old Ford Pt., now washed by the sea. The Bay Verte is rising considerably in importance in consequence of its proximity to the Bay of Fundy; and the interior is in a highly improving state, with an increasing population. There are thriving settlements on both sides of the bay, particularly near its head, where large tracts of meadow land have been formed by embanking out the tide.

Vessels bound up the Bay Verte should keep the Nova Scotia coast on board, running up in $6\frac{1}{2}$ and 7 fms. until they arrive off Cold Spring Hd., where, at the distance of about $1\frac{1}{2}$ mile from the shore, they will find the water deepen to 8 or 9, and even nearly to 10 fms., as they pass to the southward of the banks and shoals which have been described. After passing Cold Spring Head about 3 miles, the depth decreases to less than 5 fms., and continues to shoal gradually, with mud and sand bottom, to the head of the bay. A reference to the chart will show the general extent of the shoal water off the shore. Vessels should be careful not to go into less water than $3\frac{1}{2}$ fms. until they are past Boss Spit. Farther up the bay there is nothing in the way, excepting two patches of stone already noticed.

CAPE TORMENTINE is the great headland which forms the eastern extremity of New Brunswick within the Gulf. Indian Pt. may be said to form the southern, and Cape Jourmain the northern points of this headland; they are nearly N. and S. of each other, distant $4\frac{1}{2}$ miles. This promontory is surrounded by dangerous and extensive shoals.

The Tormentine Reefs are rendered very dangerous by the strong tides in their vicinity. From Indian Pt. they run off E.S.E. full 3 miles, and foul ground runs off a mile farther to 4 fms.; a small part of this reef dries at L.W.; this bears E.S.E. $\frac{1}{2}$ E., $2\frac{1}{2}$ miles from Indian Point. These reefs should at all times be approached with caution by the lead, and, particularly with light winds, not nearer than 9 fms., when to the north-eastward of them, as the flood-tide sets over them to the southward, into Bay Verte, at the rate of 3 knots, which causes a great rippling over the part that dries. There is another patch of 6 ft. at L.W., a mile within this, in the direction of the point; small vessels pass between the latter patch and Indian Pt., in $2\frac{1}{2}$ fms. at L.W., and often anchor under the point with northerly winds.

To run through the $2\frac{1}{2}$ fm. channel, between Indian Pt. and the dry part of the Tormentine Reefs, bring Indian Pt. and Cape Spear in one, bearing W.S.W. $\frac{1}{2}$ W., and run towards them, until the eastern extreme of Cape Tormentine touches the western side of the Outer Cape Jourmain Id. N. by W., then run out to the S. by E. with the last-named marks astern, until the water deepens to 5 fms. at L.W.; you will then be to the southward of the reefs.

CAPE JOURMAIN is the northern point of the Jourmain Ids.; and to vessels running through the strait it forms the extreme point of land either from the westward or eastward. The Jourmain Shoals are very dangerous to vessels in the night, and the lead should always be kept going when approaching them in dark weather; and when to the eastward of them, come no nearer than 9 fms., but to

[G. & R. ST. LAWRENCE.]

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the westward they may be approached within 7 or 6 fms. From the cape shoal water extends N. by W., $1\frac{1}{2}$ mile, and from thence it extends $4\frac{1}{2}$ miles to the S.E. $\frac{1}{2}$ S.; near this point of the shoal is a patch of only 6 ft. at L.W., as shown by the chart; this is $1\frac{1}{2}$ mile from the shore, and is very dangerous, being bold-to on the eastern side. To the westward of the cape the shoal water extends full 4 miles, and runs off 2 miles from the shore; but you may approach this part to 6 or 5 fms.

Light.—An octagonal white Lt.-ho. is erected on Jourmain Island, 40 ft. in height, and 70 ft. above the sea, exhibiting a fixed white light, vis. 14 miles. It stands 60 ft. from the extremity of the cliff, in lat. $46^{\circ} 10' 0''$, and long. $63^{\circ} 50' 0''$. The keeper's dwelling is 50 ft. westward of the Lt.-ho., and is also painted white.

Cape Bruin is N.W. by W. $\frac{1}{2}$ W., $6\frac{1}{2}$ miles from Cape Jourmain. Cape Bald is a sandstone cliff, 40 ft. high, 12 miles N.W. $\frac{3}{4}$ W. of Cape Bruin; between there is good anchorage in 5 fms., muddy bottom, off the mouths of the Great and Little Shemogus R.; these rivers are only fit for boats. You may safely approach this part of the coast at night to 6 fms. Bouleaux Pt. is W.N.W., 7 miles from Cape Bald; off the former point shoal water runs off a full mile.

Chêne Pt. is $4\frac{1}{2}$ miles to the W.N.W. of Bouleaux Pt., and is the point whereon the light of Shediac is exhibited.

SHEDIAC BAY.—Shediac Point is N.N.W., $6\frac{1}{2}$ miles from Bouleaux Point, between which is Shediac Bay, 5 miles deep; on the western side of the bay is Shediac Id., about 2 miles in length. Shediac Village is on the western shore, about W. by S. from the southern end of the island, and there is a narrow channel within the island for vessels of 7 or 8 ft. The harbour is between the S.W. point of Shediac Id. and Pt. Chêne, the latter bearing from the former S.S.E., $\frac{2}{3}$ of a mile. From Pt. Chêne a bar runs out to the northward $\frac{1}{2}$ of a mile, and nearly all dries, which makes the harbour more secure. Near the middle of the bay, which is all shallow, there are two rocks, of 6 and 9 ft., E.S.E. from the centre of Shediac Id. The easternmost, called Medea Rk., is 2 miles from the island; the western rock is called Zephyr Rk., and is nearly midway between Media Rk. and the Id., and a full mile to the westward of the former; between the Zephyr Rk. and the shallows running off a short distance from the island, is the passage into the harbour.

Light.—On Chêne Wharf is a fixed Lt., from a lantern on a pole, elevated 15 ft., and vis. 6 m. It is only shown in the summer season.

SHEDIAC is not a place of much trade; a few cargoes of deals are shipped here. Strangers bound to this place should take a pilot. By making the usual signal, the harbour-master, or a pilot will attend. The depth that can be carried in by a good pilot is 14 ft. at L.W., and 18 ft. on spring-tides. In the space where the shipping is moored, are 12 to 17 ft. at L.W., mud; it is about $\frac{2}{3}$ of a mile long, and from $1\frac{1}{2}$ to 3 cables' length wide. The Shediac and Schoudouc are very small rivers, only navigable for boats a few miles to the saw mills. Spring-tides rise 4 ft., neaps about 2 ft.

Shediac Bay ought not to be entered by large vessels, as there are little more than 3 fms. in it, and it is rendered dangerous by the Medea and Zephyr Rks.; the shoal water extends full 2 m. from Shediac Pt. Between Cape Bald and Cocagne Hd., 5 fms. is near enough for a large ship to approach this part of the coast.

COCAGNE HARBOUR.—Renouard Pt. is $1\frac{1}{2}$ m. N.W. by W. of Cocagne Hd., and forms the southern point of the entrance to this harbour; as the S. point of Cocagne Id. does the northern point. It is a very small harbour; the channel over the bar of sand and gravel is narrow and crooked, with 10 ft. at L.W., and 14 ft. at H.W., spring-tides; within the bar the water deepens for a short distance, where a few vessels load lumber. To enter this harbour, a good pilot and fine weather are absolutely necessary. The shores of this bay and river are all well settled.

From the entrance of Cocagne R. to the N. point of Buctouche Sand Bar, the course is N. $\frac{1}{4}$ E., $5\frac{1}{2}$ m. The North Patch, of only 12 ft., must be carefully avoided when approaching Buctouche Roads from the northward; it has 5 fms.

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just outside of it. It lies on the N.E. part of the outer bar of Buctouche, and 2 m. off the shore, with Cocagne steeple and the N.W. extreme of Cocagne Id. in one, bearing S.S.W. ¼ W., and the S. end of Buctouche Sand Bar S.W. by W.; by keeping in 5 fms. you will pass outside of it. The outer bar is a long ridge of sandy and rocky ground, with 2½ to 2¼ fms. on it; it extends from the North Patch, nearly parallel with the shore, almost to Cocagne, a distance of 7 m. There is a narrow channel of deep water within it, having 5 to 6 fms. good ground.

BUCTOUCHE ROADS.—Vessels of too large a draught of water to enter the river, lie moored in the roads to take in their cargoes; this is just within the outer bar, and is perfectly safe for vessels with good ground tackle, the ground being stiff clay, and sheltered by the outer bar from any heavy sea. When approaching this anchorage there is nothing in the way of vessels that do not draw too much water to cross the outer bar, except the North Patch, before mentioned. The marks for anchoring in the roads are, the two white beacons (placed on the S. side of the entrance of the river) in one, bearing N.W. by W. ¼ W.; Buctouche steeple just open to the westward of a small sandy islet that forms the S.W. point of Buctouche Sand Bar; Cocagne steeple will then be open its own breadth to the eastward of Dickson Pt. (a small peninsula point about 2½ m. to the southward of the sand-bar); here you will have 4 fms. good ground. To enter the river the assistance of a pilot is absolutely necessary, as the channel is narrow and intricate. Several vessels visit this port for lumber, and the banks of the river are well settled.

A large ship will, when bound to Buctouche Roads, find the best water in not less than 3½ fms., by coming in to the northward of the North Patch, and running to the southward in the channel within the outer bar. To clear the North Patch run in with Buctouche steeple to the southward of W., and you will, if the weather be clear, see Cocagne steeple open to the westward of Cocagne Id., and seen between the latter and the mainland; you must continue this course until the steeple comes on with Dickson Pt.; then immediately change your course, running with Dickson Pt. and Cocagne steeple in one, bearing S.S.W. ¼ W., and they will lead close inside the outer bar, and clear of a small shoal between it and the shore, with not less than 2½ fms. on it. Take care not to shut the steeple in behind Dickson Pt. as you run along the sand-bar, and as soon as Buctouche steeple opens to the westward of the small sandy islet which forms the S.W. point of Buctouche Sand Bar, anchor as before with the beacons in one.

From the S.E. point of Buctouche Sand Bar to Richibucto Hd., which is composed of sandstone and clay cliffs, 50 ft. high, and where the Lt.-ho. is built, the course is N. ¼ E., 13½ m.; and this part of the coast is clean, and may be approached by the lead; but between Richibucto Hd. and Richibucto R., a reef of sandstone runs off nearly a mile from H.W. mark.

Light.—On Richibucto Hd., a white wooden square tower is erected 50 ft. in height, and 70 ft. above the sea, exhibiting a fixed Lt., vis. 14 m. Lat. 46° 39' 40" and long. 64° 42' 30".

RICHIBUCTO.—The Richibucto R. is next in importance to Miramichi on this part of the coast, both to its depth on the bar, and to the distance which it is navigable. It is visited by a considerable number of vessels for cargoes of timber. On its banks there are flourishing and rapidly-increasing settlements. The town of Liverpool stands about 3 m. within the entrance, on the N. side of the river.

The entrance of the Richibucto is nearly 360 fms. wide; between two sand-bars, several miles in length, called the North and South Beaches, on which there are sand-hills 30 ft. high. Any vessel that can pass the bar may be taken 13 m. up the river; small vessels can go up nearly 20 m. The pilots of Richibucto keep a good look-out for vessels from the beacons at the mouth of the river, and are intelligent attentive men; their assistance is absolutely necessary, as the bar of Richibucto is extremely dangerous, being subject to changes from the effects of heavy gales. The situation of the narrow channel over the bar, 1½ m. S.S.E. from the river's mouth, is indicated by two white beacons on the S. beach, and a large black buoy moored off it, in 4 fms. at L.W., with the two beacons in one, distant about a mile. The N. beacon, which stands on a sand-hill 30 ft. high, at the

S. extremity of the N. beach, is white, and large; it is intended to point out the situation of the river to vessels out at sea.

The bar must always be crossed with the two beacons in one; the depth on the bar is 11 ft. at L.W., and 15 ft. at H.W., and is reported to be deepening; ordinary spring-tides rise 4 ft., neaps $2\frac{1}{2}$ ft. When running in with the beacons in one, as soon as you bring the S.W. point of the North Beach to bear N.W., steer for it: the channel, which is only 50 fms. wide, passes close to the North Beach at the N. beacon; when opposite this beacon, keep away W.S.W. for $\frac{1}{2}$ a mile, when you may anchor in a secure harbour.

From Richibucto Hd. to Sapin Pt. the course is N. by E., distant 19 m. across Kouchibouguac Bay, the shores of which are very low, with sand-bars and beaches, inclosing lagoons, through which rivers flow into the sea.

KOUCHIBOUGUAC RIVER enters the sea about 9 m. N. by W. $\frac{1}{2}$ W. of Richibucto Bar; this river has a bar of sand, which frequently shifts; there are 9 ft. on the bar at spring-tides, which rise from $2\frac{1}{2}$ to 4 ft., and flow 8 m. up the river. Large ships are sometimes built here, and towed by a steamer to Miramichi, or Richibucto, to be fitted and loaded. The banks of this river are well settled. In all the northern part of Kouchibouguac Bay, the shoal water (that is to 3 fms.) extends to some distance off shore, till it joins the Sapin Ledge.

The Sapin Ledge, directly off the point of that name, is very dangerous, having only 12 ft. on it, and right in the track of large ships running along the shore; at night you should not come nearer to it than 9 fms., as there are 5 fms. within 2 cables' length of its eastern side. The ledge is $1\frac{1}{2}$ m. long from E. to W., and $\frac{1}{2}$ a mile broad; from its outer edge Escumenc Lt.-ho. bears N. $\frac{1}{2}$ E., distant 6 m., and E.S.E., 2 m. from Sapin Pt., having $3\frac{1}{2}$ fms. in the channel between them.

Light.—Point Escumenc is N.N.E. $\frac{1}{2}$ E., $5\frac{1}{2}$ m. from Sapin Pt.; between is a very low and shallow shore. Escumenc Pt. is low, and wooded with spruce trees; but is now rendered remarkable by the conspicuous white Lt.-ho., showing a fixed Lt., 70 ft. above H.W., vis. 14 m., and serves to warn vessels of their approach to the reef, which runs off more than $2\frac{1}{2}$ m. N.E. from the point.

PRINCE EDWARD ISLAND.

This island is 102 m. long, and 30 m. broad towards its east end; but near the west end it is almost divided into two parts. It is well settled and possesses a good soil, fit for all general purposes. The climate is commonly healthy and temperate, and not subject to such frequent and heavy fogs as Newfoundland and the adjacent coasts of Breton and New Brunswick generally are, nor yet to the sudden changes of weather experienced in England. The winter sets in here about the middle of December and continues until April, during which period it is colder than in England; usually a steady frost, with frequent snow-falls, but not so severe as to prevent the exertions of the inhabitants in their various employments. The weather is commonly serene, and the sky clear. In April the ice breaks up, and the spring opens. In May the face of the country presents a delightful aspect, and afford a striking contrast to the surrounding shores. The first appearance of the island is like that of a forest emerging from the sea; the red cliffs, which are not very high, then appear; the lands are covered with lofty trees, and the sand-hills on the northern side of the island are covered with verdure. Vegetation is so exceedingly quick, that in July peas are gathered which were sown in the preceding month. The country is generally level, the highest ridges not exceeding 400 to 500 ft., but generally much lower, especially near the coast, and abounds with springs of fine water, and groves of trees, which produce great quantities of excellent timber. The greater part of the inhabitants are employed in farming and fishing. What is most important to seamen, is the rare occurrence of fogs in the Northumberland Strait, which are so embarrassing in other parts of the Gulf. The prevailing S.W. wind in summer,

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accompanied by thick fogs in the Bay of Fundy, parts with its moisture in passing over the heated land of Nova Scotia, and becomes a hot dry wind off its northern coast. Charlotte Town, situate between York and Hillsborough Rivers, on the southern side of the island, is the seat of government.

The coast forms numerous harbours, many of which are, however, fit for small vessels only. The principal loading ports at present are on the eastern side, Cardigan Bay, or the Three Rivers and Murray Harbour; on the S.E., Hillsborough Bay, and River; and Bedeque Bay on the southern side; and Richmond Bay and Holland Harbour on the northern side.

EAST POINT, in lat. $46^{\circ} 27' 15''$, and long. $61^{\circ} 57' 58''$, is a cliff 60 to 60 ft. high, composed of red sandstone. A reef runs off the point nearly a mile, to 5 fms., and $\frac{2}{3}$ of that distance to 3 fms. This reef should be approached with great caution, as the flood-tide sets strongly over it from the northward, and from thence to the south-westward, at the rate of $2\frac{1}{2}$ knots. This tide frequently causes great rippings off the point, and a large ship at night, or in dark weather, should not stand nearer than the depth of 20 fms. The sea is very heavy off this point in N.E. gales. To the southward of the point, between it and East Lake Outlet, there is good riding with northerly winds.

Light.—On East Point an octagonal wooden Lt.-ho., painted white, is erected about 200 yards inshore from the south side of the point, 60 ft. in height and 130 ft. above the sea, exhibiting a fixed Lt., visible 18 m.

MILNE BANK is S.E. of the Cape about 3 m.; it runs N.N.E. and S.S.E., $5\frac{1}{2}$ m. in length, and $1\frac{1}{2}$ in breadth, with $4\frac{1}{2}$ to 8 fms. on it; the shallowest part of the bank is between S. by E. and S. $\frac{1}{2}$ W. from East Pt., $4\frac{1}{2}$ to $5\frac{1}{2}$ m.

Harvey Reef extends 4 cables from Harvey Pt., and has on it the Shallop Rk. which always shows. Harvey Cove is just to the westward of Harvey Pt.

To the W. and S.W. of Harvey Cove are Colville River, Rollo Bay, leading to Fortune River; and Howe Bay leading to Little River; these are all tidal inlets, obstructed by sand-bars, having not more than 3 to 5 ft. over them at L.W. Of these, Colville River is the only place of any note, and here the trade of the eastern part of the island is principally shipped. In the bay there is good anchorage, with off-shore winds. Several reefs extend from the points of sandstone cliffs which separate these bays, but they are out of the way of vessels down the coast.

Broughton River is the next place to the southward, and has a dangerous bar of 6 ft., 1 m. from its entrance. This narrow channel is marked by 3 buoys. Inside the entrance the inlet widens, and the channels are marked out by stakes. Four miles south of the bar is Broughton Id., forming the north side of Cardigan Bay. Off the eastern side of the island, Broughton ledge extends 6 cables, with rocks at its extremity. The south extreme of the island is a red sandstone cliff 30 ft. high, with a rock off, which dries, and shallow water outside.

PANMURE ISLAND forms the south side of the entrance to Cardigan Bay, and is about 2 m. long, by 1 broad; and like Broughton Id., it is joined to the land by a narrow sand-bar, always above water. Panmure ledge runs out 6 cables from Panmure Hd. to the depth of 3 fms.

CARDIGAN BAY, or the **THREE RIVERS**, is between Broughton Id. and Panmure Id.; it is the common entrance to three rivers, viz.: Cardigan River, Brudenell River, and Montague River. George Town stands on a peninsula between the Rivers Brudenell and Cardigan. In these places many large ships have loaded with timber. There is anchorage without in Cardigan Bay, in from 10 to 6 fms., where a pilot must be obtained. The channel leading to George Town is narrow, but depth sufficient for large ships, there being 5 fms. off the town; the entrance is marked by three buoys; a red and black buoy are placed on the starboard or north side of the channel and a white buoy on the port or south side. It is H.W. at 8 h. 40 m. Springs rise 5 ft., neaps 3 ft.

Light.—On Panmure Hd., on the east extreme of Panmure Id., is a fixed white Lt., 89 ft. above H.W., and visible 14 m. The building is wood, painted white.

PANMURE SHOAL AND SPIT.—The shoal extends $\frac{2}{3}$ of a mile off the north shore of

the island, and the spit forms the western side of the shoal, and is dry at L.W., where the white buoy is placed.

FISHERMAN'S BANK is 3 m. long, E. and W., and $1\frac{1}{2}$ m. broad; in the centre part are only 4 to 5 fms.; this bears from Cape Bear, the nearest land, E.S.E., $7\frac{1}{2}$ m. It has deep water all round it. In a gale, this bank should be avoided by large ships.

MURRAY HARBOUR is close to the north-westward of Cape Bear; and the entrance is narrow, and shoal, and difficult of access, but small ships have frequently loaded here. Vessels coming from the eastward, and bound to Murray Harbour, must avoid approaching too near to Cape Bear, as a ridge of rocks stretches out a full mile from it.

The bar of Murray Harbour is exceedingly dangerous, having only 10 ft. at L.W.; and easterly winds send in such a heavy sea, that breakers extend all across the bay, upwards of $2\frac{1}{2}$ m. The channel in is buoyed and beacons, but a pilot is at all times necessary to ensure safety. The mark to run in by is the white beacon (on the south point of entrance) in line with the black ball on the white gable of the Transit Barn, bearing W. by S. $\frac{1}{2}$ S., until within 2 cables of the beacon, then haul a little to the northward, and pass Old Store Pt. at $\frac{1}{2}$ cable distance, and anchor within it.

It is H.W. at Murray Harbour, F. and C., at 9 h. 6 m. Springs rise $6\frac{1}{2}$ ft., neaps $3\frac{1}{2}$. From Cape Bear to Wood Id. to the westward, the coast is all clear; and near the shore is anchorage in 3 to 4 fms.

Cape Bear Reef runs out to the eastward from the cape $\frac{2}{3}$ of a mile to 3 fms. and a mile to 5 fms., and is composed of large stones. Panmure Hd. and Terras Pt. in one N. $\frac{1}{2}$ E., clears it 1 mile on the east side. At night Panmure Lt. must be kept open of Terras Pt. Guernsey Pt. kept well open S. of Blackwood Pt. leads to the southward.

Wood Islands are 13 m. to the westward of Cape Bear; they are inhabited, and only in parts covered with wood, and connected with the main by a narrow sand bar; they are about 50 ft. high. With N.W. winds you may anchor to the eastward of these islands, in from 3 to 9 fms. The space between the islets and the shore forms a good boat harbour; the entrance is from the eastward, but nearly dry at L.W.

Indian Rocks are about a mile S.W. by W. from Wood Id., running thence to the westward about $1\frac{1}{2}$ m., and $\frac{2}{3}$ a mile in breadth; their southern side is about $1\frac{1}{2}$ m. off shore. There is almost always a rippling on those parts which dry, or they would be very dangerous by day as well as by night. Spring-tides run 3 knots near these rocks, and rise 6 ft., and it is H.W., F. and C., at 9 h. 45 m. At night come no nearer the S.E. part than 13 fms., as there are 10 fms. within $\frac{1}{2}$ of a mile of the southern edge. There is a narrow channel between these rocks and the shore, but of no use to shipping.

Rifleman Rocks, $4\frac{1}{2}$ m. to the westward of Indian Rks., are one of the greatest dangers in the strait. There are only 5 ft. on the shoalest part, and from its outer point, in 3 fms., Prim Pt. Lt. bears N.N.W., 8 m. This shoal should always be approached with great care, particularly in foggy weather, as the soundings are very irregular; there are 16 fms. within $\frac{1}{2}$ a mile of it, and a less depth farther out. At night the Prim Lt. should not be brought to the westward of N. by W. $\frac{1}{2}$ W.

Pinnette Harbour is 4 m. eastward of Prim Pt.; it has a rocky dangerous bar, and is only fit for small schooners; the bar is nearly a mile without the entrance, and the shoals run off a mile farther. These shoals are dangerous, and should not be approached nearer than 6 fms. at L.W. At Pinnette it is H.W., F. and C., at 10 h.; springs rise 8 ft., neaps 5 ft. There are only 2 ft. on the bar at L.W.

Lights.—**PRIM POINT** is low, with cliffs 10 to 15 ft. high. The Lt.-ho. shows a fixed Lt. 68 ft. above the level of the sea at H.W., and may be seen 12 or 15 m. from the deck, and is of great service to vessels coming from the eastward, in guiding them clear of the Pinnette and Rifleman Shoals, and enabling them to enter Hillsborough Bay in the night. The Lt.-ho. stands 100 yards within the Point. The W. extreme of St. Peter's Id. bears from it N.W. by N., $7\frac{1}{2}$ m.; and the W. end of Governor's Id. N. by E. $\frac{1}{2}$ E., 5 m.

At **BLOCKHOUSE PT.**, W. side of entrance to Charlotte Town Harbour, a small fixed harbour Lt., 35 ft. high, is shown all night, and vis. 9 m.

Prim Point Reef runs out to the westward from the point, with uneven soundings, and is of a forked shape. Its western point is $4\frac{1}{2}$ fms., bears W.N.W., $2\frac{1}{2}$ m. from the Lt.-ho.; but to the depth of 5 fms. it extends out nearly 3 m. The marks to clear the extreme end in the latter depth are, the Blockhouse Pt. and the square tower of the Presbyterian Church at Charlotte Town in one, bearing N.N.E. As these objects cannot always be seen, you must attend to the lead, and may safely round the reef by it and the bearing of the Lt.-ho., in 3, 4, or 5 fms., according to your vessel's draught of water.

St. Peter's Island, on the N.W. side of Hillsborough Bay, is about 3 m. in circumference; it is of moderate height, and its centre thickly wooded; there are settlers on each side. You may approach the S. side of the island within a mile; but there are extensive shoals running off to the eastward from the island, in an E. by N. direction, 3 m.; this spit dries 2 m. from the island. Off the end of the spit is the **Spit Hd.**, a rocky shoal of 8 ft. Close to the eastward of the spit, the **Spit Hd. buoy**, surmounted by a beacon, is moored; it lies in the channel in 5 fms., with the W. end of the Government-house in one with **Battery Pt.**, N. $\frac{1}{2}$ E.; and the N. side of **St. Peter's Id.**, W. $\frac{1}{2}$ S. The western side of the channel trends N., $2\frac{1}{2}$ m. from the Spit Hd. buoy to the Blockhouse Pt., at the entrance of Charlotte Town Harbour. About $\frac{1}{2}$ a mile S. by W. $\frac{1}{2}$ W. of Blockhouse Pt. is the **Trout Rk.**, of 7 ft., having 14 to 16 ft. around it. **Government House** and **Blockhouse Pt.** in one, N. by E. $\frac{1}{2}$ E., just clears its E. side.

Governor Island is E. by S., $4\frac{1}{2}$ m. from **St. Peter's Id.**, and S. by E. $\frac{1}{2}$ E., 4 m. from **Blockhouse Pt.** It is low, partly wooded, and surrounded by shoals to some distance off. This island is near the centre of the bay, and forms with its shoals the eastern side of the entrance of the channel to Charlotte Town Harbour, as well as the western side of the channel leading to **Orwell** and **Pownell Bays**. The **Governor Shoals** extend to the S.W. from the island, and have some shallow patches a considerable distance from the island; to the westward these shoals run off nearly 2 m., to 5 fms. The **Fitzroy buoy** is in 4 fms., a cable's length within the end of the shoal; it lies with **Battery Pt.** and the square tower of the Presbyterian Church in one, N. by E. $\frac{1}{2}$ E. You may pass on either side of this buoy; but very large ships should pass to the westward of it. The **Squaw Shoal** of 10 ft. is 2 m. N. by W. from the N.W. part of **Governor Id.**, and must also be passed to the westward. **Huntly Rk.**, of 12 ft., is S. by W. $\frac{1}{2}$ W., $1\frac{1}{2}$ m. from the W. end of the island, and must be passed to the westward when going to Charlotte Town.

HILLSBOROUGH BAY is the finest bay in the island; within it is the principal harbour and capital town of Charlotte Town, which is advantageously situated on the northern bank of the Hillsborough, where the deep water approaches nearest to the shore. All kinds of supplies may be obtained here, and there is sufficient water in the harbour for the largest ships; and the Hillsborough R. is navigable for large ships 7 or 8 m. above Charlotte Town; smaller vessels may go farther up; the shores are all well settled. It is H.W., F. and C., at 10 h. 45 m.; spring-tides rise $9\frac{1}{2}$ ft., neaps 7 ft. Ships generally lie off the wharves of the town, where the channel is nearly 10 fms. deep, and 280 fms. wide.

Strangers, or those unacquainted, when bound to Charlotte Town, should take a pilot; but in the event of not meeting one outside, the bay may be safely entered, and good anchorage will be found N.W. of **Governor Id.**, until a pilot can be obtained. When entering the bay from the westward the leading mark is **Pownell's Pt.**, just touching the N. point of **Governor Id.**, bearing E. by N.; run in with this mark, until you see the Presbyterian Church, and as soon as it is in one with **Blockhouse Pt.**, N. by E. $\frac{1}{2}$ E., steer N.E. by E., or N.E. $\frac{1}{2}$ E., according to the tide, until the W. side of **Government-house** and **Battery Pt.** come in one; these latter marks lead up the deep-water channel to **Trout Pt.**, at the entrance of the harbour. If you cannot see the leading marks keep along the southern and eastern edge of the **St. Peter's Shoals**, in 5 fms., up to near the **Spit Head buoy**, then anchor.

When coming from the eastward at night, Prim Pt. Lt. must not be brought to the westward of N.N.W., to avoid the Rifleman Shoal; and Prim Reef should be rounded in 10 fms., in a large ship; smaller vessels may cross it in 4 or 5 fms. As soon as the Lt. bears to the southward of E. by S. $\frac{1}{4}$ S., and in not less than 10 fms. at L.W., you will be to the northward of the reef. The course across the bay must be N., or N. $\frac{1}{4}$ E., in thick weather, or at night; the object being to strike soundings on the southern edge of the bank off St. Peter's Id., and following it to the N.-eastward in 5 fms., till about 1 $\frac{1}{2}$ m. within the Fitzroy Rk., where you may anchor off Governor Id., in good holding ground, and wait for daylight or a pilot. In clear weather, your course from the outer end of Prim Reef, in 10 fms., will be N.E. about 5 m.

From St. Peter's Id. to Cape Traverse the bearing is N.W., 20 m. All along this part of the coast the shoal water extends off the land a considerable distance; but there is sufficient warning by the lead, and in 5 fms. you will be full $\frac{1}{2}$ a mile off the outer edge. Tyron R. is about 5 $\frac{1}{2}$ m. to the eastward of Cape Traverse, and small schooners enter the river at H.W. The Tyron Shoals dry 1 $\frac{1}{2}$ mile off shore; and the S.W. extreme in 3 fms. bears S. by W. $\frac{1}{2}$ W., distant full 2 m. from Tyron Hd., the nearest land. An excellent leading mark to clear the S.W. point of the shoals in 5 fms., at the distance of $\frac{1}{2}$ a mile, is Carlton Hd. and Cape Traverse in one, bearing N.N.W. $\frac{1}{4}$ W. It is in this part of the strait that the tides meet, and the ebb from Bay Verte sets towards the shoals; therefore the lead should be kept going when in their vicinity, especially with a southerly wind.

From Cape Traverse to Carlton Hd. is N.N.W. $\frac{1}{4}$ W., 3 m., and from thence to Sea Cow Hd. is N.N.W. $\frac{1}{4}$ W., distant 6 m.; between the two latter points is Seven Miles Bay. At night come no nearer the shore than 7 fms. off this part of the coast. Spring-tides run 3 knots.

BEDEQUE HARBOUR is situated in the bay to the northward of Sea Cow Hd.; it runs in to the eastward between Indian Hd. and Phelan Pt. Indian Hd. on the southern side is faced by cliffs 25 ft. high. Although there is sufficient water in this harbour for the largest ships, the entrance to it being narrow and intricate, a pilot becomes indispensable; and a vessel should anchor in the roadstead outside until a pilot can be obtained; there are about 22 ft. in the roads, good ground, and seldom any sea, although open to S.W. winds. Sea Cow Hd. may be safely approached within 2 or 3 cables' length, and Graham Hd. at twice that distance. It is H.W. in Bedeque Harbour, F. and C., at 10 h.; spring-tides rise 7 ft., and neaps 5 ft.

Lights.—(1.) On SALUTATION or SEA COW HEAD is a Lt.-ho., showing a fixed Lt., elevated 80 ft. above the sea, vis. 14 m.

(2.) A small fixed white Lt. is shown from a lantern on a pole on Green's Wharf, on the northern shore, elevated 15 ft., and vis. 7 miles.

CAPE EGMONT bears from Sea Cow Hd. N.W. $\frac{1}{4}$ W., 14 $\frac{1}{2}$ miles, and between them is a bank of soundings, with 3 $\frac{1}{2}$ to 4 $\frac{1}{2}$ fms., which extends full 3 miles from the shore; when about midway between the points, you may keep along its southern edge in 5 or 6 fms. Cape Egmont is remarkable by its cliffs 50 ft. high; it is bold-to on the southern side, but to the westward it is shallow $\frac{1}{2}$ a mile off; come no nearer to it than 6 fms.

Fifteen Points church and village stands 4 $\frac{1}{2}$ miles to the eastward of Cape Egmont, and may be seen at a great distance; about a mile farther eastward is the Dutchman's Rk., above water, with shoal water some distance off. About 3 miles farther eastward is Sandbury Cove, an extensive bight, nearly dry at L.W.

Egmont Bank, with 4 fms. on its shoalest part, is narrow; but it is 2 $\frac{1}{2}$ miles long in a N.N.W. and S.S.E. direction. Its southern end bears W. $\frac{1}{4}$ S., 4 miles from Cape Egmont, and its northern end W.N.W., 5 miles from the same point; between this bank and the cape are 7 and 8 fms., and a clear channel.

EGMONT BAY WEST POINT, consisting of sand-hills 12 ft. high, bears from Cape Egmont N. by W. $\frac{1}{4}$ W., 17 miles; and there is good anchorage under it, with winds between N. and E., in 4 fms., bottom of sand; between these points is Egmont Bay, 8 miles deep. This bay affords excellent anchorage with off-shore

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winds, in from 4 to 7 fms., sand and clay; but you should not anchor in less than 5 fms., excepting on the northern side of the bay, to avoid the rocky ground off the rivers at its head.

Percival and Enmore Rivers are only fit for boats and small craft; and the approach to them is very difficult. On the eastern side of this bay, from the entrance of these rivers to within 3 miles north of Cape Egmont, the shallows run off a full mile to 3 fms. $\frac{1}{2}$ fms. is near enough for a ship to approach this side of Egmont Bay. St. James Church, 5 miles north of Cape Egmont, is conspicuously situated.

West Spit runs off in a N.N.W. direction, 3 miles from West Pt.; on some parts of it there are only a few feet water, on a bottom of sand; the northern part trends N. by E., 2 miles, parallel with the shore, with $2\frac{1}{2}$ to $3\frac{1}{2}$ fms. on it. Between the spit and the land there are from 6 to 4 fms., open to the northward, but no outlet to the southward. To avoid this opening, when coming from the northward, and to keep without the West Reef, come no nearer the shore than 12 fms.

West Reef is a narrow rocky reef, 4 miles long, in a N. and S. direction; its soundings are irregular, being from 5 to $2\frac{1}{2}$ fms.; the least water near the middle is 16 ft., with 18 ft. near the southern end; this part bears N.W. $\frac{1}{2}$ W., $3\frac{1}{2}$ miles from West Pt., and is $2\frac{1}{2}$ miles from the nearest land; its northern end, in $4\frac{1}{2}$ fms., is $3\frac{1}{2}$ miles from the land. This reef is very dangerous to ships rounding West Pt. at night, or in foggy weather, as the deepest water is near its outer edge, having 13 fms. close to it in one part. At night, to avoid it with certainty, the soundings should be taken from the mainland; and by keeping off the edge of the bank in 9 or 10 fms., you will pass 3 miles to the westward of it; near the outer edge of the bank, the tides run sometimes $2\frac{1}{2}$ knots, causing a heavy sea on a weather tide.

NORTH POINT is low, with red cliffs. Vessels should always give this point a wide berth at night or in foggy weather, on account of the reef which runs off it to the north-eastward full 2 miles to 5 fms., and $1\frac{1}{2}$ mile to 3 fms.; without the 5 fms. line, rocky uneven soundings run out to 10 fms., sometimes causing a dangerous breaking sea.

Light.—On North Point, in lat. $47^{\circ} 3' 46''$, and long. $63^{\circ} 59' 19''$, a Lt.-ho. is erected, showing a fixed light, 80 ft. above the level of the sea, and vis. 14 miles.

From West Pt. to North Pt. the land trends about N. by E., 6 miles, to Cape Wolf, then N.E. by E. $\frac{1}{2}$ E., 27 miles. This coast is unbroken, and chiefly composed of red clay and sandstone cliffs. The shallow water runs off some of the points a considerable distance, so that large ships at night should keep off in 11 or 12 fms., when running along this part of the coast.

THE TIDES.—Captain Bayfield, in his valuable book of directions for the Northumberland Straits, says, "The principal tide-wave, after entering the gulf between Cape Breton Id. and Newfoundland, sends off, laterally, waves to the S.W., on either side of the Magdalen Ids. The first of these, the eastern wave, coming from between those islands and the western shore of Cape Breton Id., arrives at the eastern entrance of the strait soon after 8 o'clock, and proceeds to the westward, making H.W. later, in succession from E. to W., as far as Pictou, which it reaches at 10 hours. At the same nominal hour, but 12 hours later, the other or western wave, arrives at Cape Tormentine, having been retarded by the long detour which it has taken to the northward and westward of the Magdalens, and by the great extent of comparatively shallow water which it has passed over in its subsequent progress to the S.W. This wave makes H.W. later, in succession, at places along the eastern coast of New Brunswick, as we proceed to the southward; and, after entering the strait from the N.W. to S.E., contrary to the course of the other or eastern wave.

"Thus, it is H.W., on the F. and C., at Miscou, at about $2\frac{1}{2}$ hours; at Pt. Escumenac, and the northern point of Prince Edward's Id., forming the western entrance of the strait, soon after 4 hours; at the western point of Prince Edward Id., at 6 hours; at Shediac, at 8 hours; and at Cape Tormentine, at 10 hours. When, therefore, the eastern wave arrives between Pictou and the Wood Ids., the

[G. & R. ST. LAWRENCE.]

western part of the preceding tide-wave arrives between Cape Tormentine and Cape Traverse. They then meet, and combine to make H.W. at the same hour, namely, 10 hours, or a little later in the harbours, all over the central portion of the strait, from Picou to Cape Tormentine; causing also an amount of rise of the tides everywhere more than double, and in some of the harbours nearly three times as great as that which occurs at either entrance of the strait.

"The eastern flood-stream enters the strait from the N.E., running at the rate of $2\frac{1}{2}$ knots round the eastern point of Prince Edward Id., but is much weaker in the offing, and over towards the southern shore. It runs round Cape Bear, and with an increasing rate along the land to the westward; is strongest in the deep water near the land, and runs at its extreme rate of 3 knots close past the Indian Rks. and Rifleman Reef. Losing strength as it proceeds farther to the N.W., it is quite a weak stream when it meets the other flood-stream off the Tyron Shoals. This eastern flood-stream is not so strong along the southern or Nova Scotia shore, unless it be in Caribou Channel, for a short space, near Caribou Reef; and it is weak, not generally exceeding $\frac{1}{2}$ a knot, in the middle of the strait.

"The other or western flood-stream comes from the northward, along the western coast of Prince Edward Id., sweeping round West Pt., and running strongest in the deep water near West Reef, where its rate is $2\frac{1}{2}$ knots. Over towards the New Brunswick shore its rate seldom exceeds $1\frac{1}{2}$ knot, and this is its average speed as it pursues its course to the S.E., until near Cape Tormentine, where the strongest part of the stream runs near the Jourmain Shoals, and thence to the southward, round and over the dangerous Tormentine Reefs, with a great ripple, and at the rate of 3 knots.

"From this account of the tidal-streams it appears that a fast-sailing vessel, under favourable circumstances, might enter the strait with the flood, and arriving at Cape Tormentine soon after H.W., might there take the ebb, and thus have the stream with her, with but slight interruption, from one end of the strait to the other. Or a vessel with a beating wind might so time her arrival at the same point as to be able to continue her voyage in the same direction with the ebb."

THE NORTH COAST OF PRINCE EDWARD ISLAND.

FROM EAST POINT TO NORTH POINT.

The N. coast of Prince Edward Id. is of moderate height, and clear of detached shoals, with regular soundings near the shore, and 15 fms. generally about 4 m. off. The whole coast is bordered by a sandy shallow, running off about $\frac{1}{2}$ a mile; and there are a few spits which run off nearly a mile.

From East Point (see page 37) to St. Peters Bay, the coast runs W.N.W., 34 m.; the coast is unbroken, formed of red sandstone cliffs. You will find 10 fms. within a mile of this part, but the anchorage is not good.

ST. PETER'S HARBOUR is of considerable extent, running nearly 7 m. to the eastward, but the entrance is shallow, and has a shifting bar. There are sometimes 5 ft. on the bar, at L.W., the outer edge of which, in 3 fms., is $\frac{3}{4}$ of a mile from the shore; within the harbour are 3 fms. H.W., F. and C., at 8 h. 30 min.; springs rise 4 ft., neaps 2 ft.

SAVAGE HARBOUR is 3 m. farther westward; it has only 2 ft. on the bar, but it runs inland to within a mile of the head of Hillsborough R., and is only fit for boats. The tides are the same as at St. Peter's Bay. There is a road across from the head of this river to Hillsborough R.

TRACADIE HARBOUR is 9 m. to the westward of Savage Harbour, and is only fit for small craft. Its entrance is remarkable, by having sand-hills 50 to 60 ft. high at the E. side of the entrance. The bar shifts, and is $\frac{1}{2}$ of a mile from shore

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LITTLE RUSTICO HARBOUR is 4 m. westward of Tracadie Harbour, and ¼ a mile westward of Cape Stanhope, on which there is a sand-hill 30 ft. high. The cape has a dangerous reef running from it ¾ of a mile, to 3 fms.; and at ¼ a mile from the shore, only a foot in some places. Little Rustico is only fit for boats.

GREAT RUSTICO is farther westward, and has two narrow sandy entrances, distant 3 and 5 m. from Cape Turner. This place is only fit for schooners, as it has a shifting bar, of 4 to 6 ft. which is exceedingly dangerous, extending ¼ of a mile from shore. There are two buoys pointing out the deepest water over each of the bars. It is H.W., F. and C., at 6 h. 40 m.; springs rise 3½ ft., neaps 2 ft. There are extensive settlements here, and an English and Roman Catholic Church.

CAPE TURNER is the highest cliff on the island, being of red sandstone, 120 ft. high; it is 3 m. N.W. of the western entrance to Great Rustico.

GRENVILLE HARBOUR, or NEW LONDON, is 8 m. N.W. by W. of Cape Turner. The entrance to this harbour is ½ of a mile wide, and 3 fms. deep; but it is only fit for small vessels, on account of its shifting bar of sand, where there are only 5 ft. between the two buoys, and the channel in is narrow. The bar runs out to the distance of ¾ of a mile, and the shallow water a mile to 5 fms. It is H.W., F. and C., at 6 h. 10 m.; springs rise 3½ ft., neaps 2 ft. There are increasing settlements, and a fertile country around this harbour, New London being the principal place, where there is an English and Scotch Church.

CAPE AYLESBURY is 9 m. N.W. from Grenville Harbour entrance, and 8½ m. N.W. ¼ W. of Cape Tyron; the latter being a remarkable red cliff, 110 ft. high; this part of the coast should not be approached nearer than 6 or 7 fms. in a large ship, as the shallow water runs off some distance.

RICHMOND BAY is of great extent, running in 10 m. to the S.W.; it contains seven islands, and a number of creeks and rivers, some of which are navigable for vessels of considerable burthen. Grand R. can be ascended 7 or 8 m., where there are very fine settlements; and also at Port Hill on the N.W. side of the bay.

MALPEQUE HARBOUR is on the eastern side of this bay, and is very superior to any other on the N. coast of the island; it has 16 ft. on the bar at L.W., and 18 or 19 at H.W., ordinary springs, with space and depth enough for any description and number of vessels. The principal entrance is between Fishery, or Billhook Id. to the northward, and the Royalty Sand, which dries out full ¼ a mile from Royalty Pt. Just within this entrance the anchorage is good and well sheltered.

Light.—Billhook Island Lt. is fixed, shown from a lantern on a pole, 20 ft. above H.W., and vis. 8 m.

The West Gully is the other entrance, on the N.W. side of Fishery, or Billhook Id., and is so narrow and intricate as to be only fit for boats, or very small craft, although it has 9 ft. on its dangerous bar, 1¼ m. from the shore.

The Bar of Malpeque runs off from Fishery, or Billhook Id., E. by S., 2¼ m.; it then runs to the southward, so as to join the shore to the eastward of Cape Aylesbury. This bar is exceedingly dangerous in bad weather, the bottom being sandstone; then all signs of a channel are obliterated by heavy breakers. The northern part of this bar, to the distance of 1¼ m. to the eastward of Billhook Id., is very shallow, in some places only 4 ft. at L.W.

There are two white beacons on the S.E. end of Billhook Id., which, kept in one, bearing W.N.W. ¾ W., will lead through the narrows of the Ship Channel, and over the inner bar; but not over the outer bar in more than 13 ft. at L.W. To enable ships to cross the outer bar in the deepest water, namely, 16 ft. at L.W., ordinary spring-tides, the outer buoy is moored in 3½ fms. at the distance of a cable's length to the northward of the line of beacons; the intention being, that a vessel, by running from the outer to the inner buoy (which is placed on the inner bar of 19 ft.) should carry the deepest water. The narrow part of the Ship Channel is a cable's length wide, and 4 fms. deep.

Vessels may anchor outside the bar, in 7 to 5 fms., to wait for a pilot, and all strangers should endeavour to obtain one, and not attempt to take the bar in

blowing weather. When the marks can be seen, and a smooth bar, a vessel might proceed as follows:—

When off the bar, in 5 fms., bring the beacons in one, bearing W.N.W. $\frac{1}{2}$ W.; then sheer to the northward of their line, to the distance of 1 or 2 cables, and the western beacon will appear a little to the northward of the other. Steer now so as to make a direct course towards the beacons, keeping the westernmost beacon open a little to the northward, and the vessel will pass the bar in 15 or 16 ft., at L.W., spring-tides.

The water will deepen immediately within the bar to 18 ft., or more; and as soon as it does so, sheer at once to the southward, and bring the beacons exactly in one, taking care that this be done before the Scotch Church, Malpeque, opens to the westward of Darnley Pt.; for if not, the vessel will be on shore on the shallow part of the bar, on the N. side of the channel. Keep now the beacons in one, running towards them, and they will lead through the Narrows, and over the inner bar in 19 ft. at L.W.; after which they may be either still kept in one, or the westernmost one a little open to the southward of the other, until the vessel is $\frac{1}{2}$ a mile within the inner bar, or within $\frac{1}{2}$ of a mile of the beacons; then change the course to W., and the sandy S. point of Billhook Id. must be passed at the distance of a cable's length, steering that course into the harbour. You should anchor with the beacons bearing between E. by N. and E.N.E., distant from $\frac{1}{2}$ to $\frac{3}{4}$ of a mile, but not farther off, in order to avoid the Horse-Shoe Sands.

The tides run the strongest in the entrance, where springs run $2\frac{1}{2}$ knots; within the bay they are much weaker. It is H.W., F. and C., at 6 h.; springs rise about 3 ft., neaps 2 ft. N.E. winds rise the tides, and westerly winds the contrary. The morning tides are the highest in summer months.

CASCUMPEQUE HARBOUR.—The entrance to this harbour is N.N.W. $\frac{1}{2}$ W., 20 miles from the principal entrance to Malpeque, and S.W. $\frac{1}{2}$ W., 5 miles from Cape Kildare. It may be also known by some very remarkable high sand-hill, $3\frac{1}{2}$ miles to the southward of its entrance, as there are no high sand-hills to the northward of the harbour. It has two sand-bars, with 10 ft. on them at L.W. The entrance is 180 fms. wide. The outer bar of sand is $1\frac{1}{2}$ mile out from the entrance; the channel across it is narrow, and is indicated by a white beacon (on the southern extreme of the northern sand-bar) in one with a white mark on a log hut bearing W. by N.

Light.—Cascumpeque Light is a fixed white light, on the northern side of the entrance, shown from a wooden tower coloured white, 32 ft. above H.W., vis. 8 m.

This harbour was formerly the most convenient port in the island for loading timber, and there was a very large quantity shipped; there being at that time 18 ft. water. At present not more than 12 ft. can be calculated on at H.W., spring-tides; but strong N.E. winds will sometimes raise the water a foot higher. The tides are very irregular at certain seasons. The morning tides in summer are much higher than the evening tides, which sometimes disappear, leaving only one day tide during the 24 hours. H.W., F. and C., at 5 h. 40 m.; springs rise about 3 ft., neaps 2 ft.

A stranger bound to this port must always take a pilot; in fine weather you may anchor outside, in 5 or 6 fms., bottom sand. In easterly gales the bar is covered by a line of breakers. In crossing the bar, observe that the white mark on the log house must not be opened in the least to the northward of the beacon, as these objects in one, lead in close along the southern edge of the northern sand. The channel, from one bar to the other, and between sands only covered by a few feet, is 100 fms. wide, with anchorage in $2\frac{1}{2}$ and $3\frac{1}{2}$ fms.; the best berth is just outside the entrance, where the sands dry on each side. When inside the harbour the vessels generally load at a wharf.

From Cape Kildare to North Pt. the distance is 11 miles N.N.E. About midway between is the little R. Tignish, with only 2 feet at its entrance at L.W.; but it affords shelter for fishing-boats. Along this part of the coast, from Kildare to North Pt., there are rocky irregular soundings, of 3 to 5 fms., extending off 2 miles in some places.

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Ships, when crossing from the Magdalens to North Pt., should be particularly on their guard against getting embayed in the great bight formed by the N.W. part of Prince Edward Id. In N.E. gales great difficulty would be found in beating a ship out, as both the tide and the current appear to set from the northward into this bight. The northern point of Prince Edward Id. should at all times have a wide berth given it.

Ships bound to Miramichi and the ports in Northumberland Strait to the westward of Cape Tormentine, after passing St. Paul's Id., generally go to the southward of the Magdalens, round the northern point of Prince Edward Id. This point is very dangerous at night, and in thick weather; and the lead should be kept going in rounding it, more especially if you have had a northerly wind in crossing from the Magdalens. After passing the North Pt., shape a course well to the westward, so as to avoid the West Reef; passing which, you should keep the lead going, and taking your soundings from the edge of the bank running off the main, or New Brunswick shore. After you are past the West Reef, in proceeding south-eastward, you may take your soundings from either shore till you arrive near the narrow part of the strait off Cape Tormentine. If bound farther eastward, keep on the island side; the soundings will guide you past Cape Traverso. On this side the tides are not so strong, but the anchorage is good, in case of it falling little wind; while on the opposite shore there is deep water and very strong tides, close to Jourmain and Tormentine Reefs. At night, when the land cannot be seen, and the wind contrary, a ship had better anchor to the westward of Cape Tormentine until daylight.

Vessels bound to Pictou, and ports eastward of Cape Tormentine, generally pass through the Gut of Canso. But if entering by St. Paul's Id., care should be taken to come no nearer to East Pt. (Prince Edward Id.) than 20 fms. in thick weather, or at night; nor to Cape Bear than 15 fms.; then keep more to the southward, to give the Indian and Rifleman Rks. a berth. The light on Pt. Prin will be of great service to this part of the passage; and the lead will be a sufficient guide along the northern side from St. Peter's Id. to Cape Traverso.

THE WESTERN COAST OF THE GULF.

FROM POINT ESCUMENAC TO CAPE GASPE; THE BAYS OF MIRAMICHI, CHALEUR, AND GASPE.

Light.—POINT ESCUMENAC is low, and covered with spruce trees, and may be known by its wooden Lt.-ho., which is painted white, 58 ft. in height, and 70 ft. above the sea, which exhibits a fixed light, and is vis. 14 miles, as noticed in page 36.

Escumenac Reef is very dangerous, as it runs off more than $2\frac{1}{2}$ miles to the N.E., where there has lately been found as little as $2\frac{1}{2}$ fms. at $2\frac{1}{2}$ mile from the Lt.-ho. At night come no nearer than 10 fms.

MIRAMICHI BAY is 14 miles wide from Pt. Escumenac to the sands off Blackland Pt., and about 6 miles deep to the entrance between Fox and Portage Ids. The western part of the bay is formed by a range of low narrow islands; the southernmost is named Huckleberry Id., next Fox Id., then Portage Id.; and the northernmost is called Negowac Sand Bar. With the exception of the main passage, between Fox and Portage Ids., the other channels between these islands are only fit for boats. The water is shallow to the eastward of them to a mile from the northern end of Negowac Sand Bar, to the middle of Portage Id., a distance of 6 miles, and from thence the shallows extend 6 miles, to the entrance of the Ship Channel; in the latter distance the shoals run off full 3 miles from Fox Id. and the southern part of Portage Id. The southern side of the bay, from

Hucklebury Id. to the pitch of Escumenac Reef, is likewise bordered by an extensive flat, the eastern part of which reaches more than $2\frac{1}{2}$ miles from the shore; but when you draw near the pilots' house and the Preston lights, you may approach within a mile of the shore; but you cannot approach the land so near in any other part of the bay as off the Lt.-houses.

Lights.—(1). On PRESTON'S BEACH, at 5 miles to the westward of Escumenac Pt., two Lt.-houses are erected, 28 and 30 ft. in height, and 55 and 66 ft. above the sea respectively, and exhibit fixed lights, vis. 10 miles.

(2). PORTAGE ISLAND, south end, a white Lt.-ho., showing a fixed light, elevated 46 ft. above the sea, vis. 12 miles.

(3). OAK POINT.—Two white Lt.-houses, bearing east and west of each other, 36 ft. in height, the easternmost 40, and the western 60 ft. above the level of the sea, exhibiting fixed lights, vis. 10 miles.

The Bar of Miramichi should never be attempted, in a large vessel, without a pilot. The Miramichi pilots are generally found cruising about off Pt. Escumenac, in small schooners; but should you not meet with a pilot, and too late in the day to cross the bar before dark, you should stand off and on till daylight, and not shoal your water to less than 12 fms., particularly with the wind from the eastward. The bar commences from the S. end of Portage Id., and extends across the main entrance nearly 6 m., in a S.E. by S. direction; it is of sand, with only a foot or two of water upon it in some places; but near to Portage Id. there is a narrow channel for small vessels. The mark to clear the S.E. extreme of the bar is, the French village kept in the centre of the Fox Gully, bearing west. A black buoy is moored at the S.W. extreme of the bar, in 3 fms.,* to be left on your starboard hand going in; and a mile N.N.W. from this is a red buoy, in 3 fms., on the Lump, which must be left on your port hand going in; so that this part of the channel is crooked and difficult. At the entrance of the Ship Channel are 7 ft. at L.W., and 22 ft. at H.W. From the red buoy you have a clear straight channel, nearly $\frac{1}{2}$ a mile wide, running in a N.W. by N. direction for 3 m., and from 4 to 7 fms. deep, until you arrive at the Spit buoy, which is also a red buoy, and must likewise be left on your port hand going in.

There are two beacons on the north point of Fox Id., on the sand-hills, one red, the other white. These kept in one S.E. $\frac{1}{2}$ E., lead in 14 ft. at L.W., to the westward of the 10 ft. mound, on which a white buoy is now moored. There are four red buoys moored nearly in a line on the southern side of the Horse-Shoe shoal, occupying a space of $\frac{2}{3}$ of a mile in a W. $\frac{1}{2}$ S. direction, and the course from the westernmost red buoy to the black buoy on the S.W. extreme of the shoal is S.W. by W. $\frac{2}{3}$ W., $\frac{2}{3}$ of a mile.

After passing close to the northward of the Spit buoy, steer W. by N. $\frac{1}{2}$ N. from it, or so as to pass to the northward of the white buoy on the 10 feet mound, and then midway between it and the easternmost red buoy on the Horse-Shoe, steering W. $\frac{1}{2}$ S. Leave all the four red buoys to the northward, at not more than $\frac{1}{2}$ a cable's length, and from the westernmost red buoy steer S.W. by W. $\frac{2}{3}$ W. and leave the black buoy on the S.W. extreme of the Horse-Shoe also to the northward, or on the right hand. The least water on the Horse-Shoe is 3 ft.

If you wish to pass by the old route south-westward of the 10 ft. mound, leave the red buoy on the Spit close on your port hand, and steer W. by N. from it towards the eastern red buoy of the Horse-Shoe, a little more than $\frac{1}{2}$ a mile, or until the west ends of Egg and Fox Ids. come in one, S.W. $\frac{1}{2}$ S.; then steer W.S.W. towards the N.W. point of Vin Id., passing the north point of Fox Id., at 2 or 3 cables' length, until the two beacons on it come in one, bearing S.E. $\frac{1}{2}$ E.; then haul up immediately N.W., keeping the beacons exactly in one, until within $\frac{1}{2}$ a cable's length from the second red buoy of the Horse-Shoe; then bear up, keeping without the line of the buoys. The course past the four red buoys is W. $\frac{1}{2}$ S., and the depth 14 ft. at L.W., spring-tides.

* From this buoy the Preston Lt.-hos. bear S. by E. $\frac{1}{4}$ E., 2 m.

The ship may be safely anchored, in 3 or 4 fms., inside the black buoy, bottom mud. From whence the course across the inner bay is W.N.W., 5 m., to the entrance of the river off Oak Pt. Lt.-hos.; depth 3 to 2½ fms.

MIRAMICHI is a place of great trade, and a free warehousing port; and the different towns on its banks are rising in importance. Large quantities of timber are annually shipped here; and the salmon and Gaspereaux fisheries are also carried on in their season. The four principal towns are Chatham, Douglastown, Newcastle, and Nelsontown.

CHATHAM is the principal town on the River Miramichi, about 17 m. to the westward of the Horse-Shoe Bar; and extends along the south shore about 1¼ m. Here vessels lie in 6 to 8 fms., close to the wharves. It has some good houses, and an English, Presbyterian, and Roman Catholic Church, besides Wesleyan and other chapels. Here are likewise saw and grist mills, which form the most remarkable objects.

DOUGLASTOWN is on the north shore, about 1¼ m. from Chatham, and has water at its wharves for the largest ships. It is finely situate, on a rising ground. The principal building is the Marine Hospital, built of stone. On the opposite side, on the south shore, is the English Episcopalian Church of St. Paul.

NEWCASTLE is nearly 2 m. further up the river, on the same side. This is the county town, containing the jail and court-house; also some good houses, and a Presbyterian Church and Wesleyan Chapel. It stands in a very pleasant situation. Here are 6 or 7 fms. close to the wharves of the town.

NELSONTOWN is the last village and a straggling place. Here is a large wooden Roman Catholic Church; standing on the south shore, opposite the east end of Beaubera Id. The river is navigable as far as Beaubera Id. for any vessel that can cross the Horse-Shoe Bar.

TIDES.—It is H.W. at Miramichi Bar at about 4 h.; spring-tides rise 5 ft., neaps 3 ft. At Sheldrake Id., at 6 h., spring-tides rise 5 ft., and neaps 3 ft.; the ebb-tide runs at the rate of 3 m. an hour in the Sheldrake Channel. It is H.W. at Beaubera Id., on the F. and C., at 6 h. 30 m.; spring-tides rise 6 ft., neap-tides 4 ft.; the ebb runs at the rate of 2 knots, and the flood about a knot. At the rapids, in both the S.W. and N.W. arms, the tides flow until 8 h., and they rise about 2 ft.

VIN BAY is to the west of Vin Id., which is covered with wood. The west end of Vin Id. is nearly 4½ m. W.S.W. ¼ W. from the north point of Fox Id.; and round it and the sandy S.W. point is Vin Harbour, perfectly sheltered from all winds, and with water sufficient for the largest ships. A pilot will readily be procured to take the ship into the harbour. There is good anchorage in the eastern part of Vin Bay, about ¼ of a mile to the westward of the island, in 3 fms., muddy bottom, and 3½ m. W.S.W. from the inner black buoy of the Horse-Shoe.

From Pt. Escumenac to Miscou Id. N.E. point, the course is N.E. ¾ N., distant 58 m. The coast between is low, and wooded, with sand-bars and beaches, enclosing several lagoons, the entrances to which are called gullies, nearly all of which have shifting bars before them, but they all admit shelter for boats. In the whole distance there is not any harbour for shipping, until you arrive at Miscou Harbour, which is on the S.W. side of the island of Miscou. Pine timber and deals are cut, and brought down the Rivers Tracadie and Pocomouche; the former 15 and the latter 5½ m. S.W. of the Shippigan Gully, which separates that island from the main. The timber, &c., from the two rivers above mentioned is rafted along shore, to be shipped at Miramichi or at Shippigan.

THE SHIPPIGAN GULLY is 21 m. from the north point of Miscou; it has a sand-bar and a rapid tide, and a dangerous heavy surf, occasioned by easterly winds. The passage over the bar and into this gully is difficult and dangerous to strangers, but is often used by the fishermen in their small schooners. The whole of this coast may be safely approached to 5 or 6 fms., or to 10 fms. at night, as will be seen by the chart.

CHALEUR BAY.—Miscou Id. on the south, and Pt. Macquereau on the north, form the entrance to Chaleur Bay, and bear from each other N.N.W. and S.S.E.,

distant 14½ m. From the entrance of Chaleur to that of Ristigouche Harbour, which is at its head, the distance on a W. and N.W. by W. course is 75 m. The bay is of moderate depth, as will be seen by the chart; its navigation is by no means difficult. There are some dangerous shoals, but everywhere good warning by the lead. The climate within the bay is warmer, and the weather finer than it is outside; there are seldom fogs with southerly winds, but easterly winds bring rain and mist. The southern coast of New Brunswick is much lower generally than the opposite coast of Canada, except between Bathurst and Carraquette, where are the cliffs of red sandstone 200 ft. in height. The tides are easy and regular within the bay, seldom amounting to a knot an hour.

Lights.—MISCOU ISLAND.—(1). On Birch Pt., in lat. 48° 1' 0" and long. 64° 29' 25", is a white octagon Lt.-ho., built of wood, 74 ft. in height, and 79 ft. above the sea, exhibiting a fixed red Lt., visible 12 m.

(2). CARAQUETTE ISLAND, south side of Chaleur Bay. On the west end of the island a white Lt.-ho., 48 ft. in height, and 52 ft. above the sea, showing a fixed Lt., visible 14 m.

(3). PASPEBIAC POINT, north side of bay. Near the extremity of the point, a white Lt.-ho., 40 ft. in height, and 55 ft. above the sea, showing a fixed Lt., visible 13 m.

These two latter Lts. are lighted only during the season of navigation.

Vessels bound into Chaleur Bay should endeavour to make the Id. of Miscou, as the bank extending about 22 m. to the eastward will give sufficient warning to a vessel approaching this part of the coast. The northern edge of the bank, in 30 fms., is 7 or 8 m. to the northward of Birch Pt., and passes the north point of Miscou at the distance of 4 m., and forms a sure guide up the bay at night or in hazy weather. The shoalest part of the bank will be found on an east line from Pt. Birch, where, for the first 6 m. off-shore, there are 5½ to 7 fms., rocky bottom; it then deepens to 12 and 17 fms., red sand, rock, and shells, for the next 9 miles; it then soon deepens to 20 fms., 7 m. further, with 20 to 30 fms., red sand, gravel and shells.

Vessels should not attempt to make Pt. Macquereau in foggy weather, which to the eastward is so bold, that there is very little warning by the lead; but when within the bay, from Port Daniel westward, the 30 fms. line extends some distance from the north shore, which line should be kept while you are to the eastward of Carlisle. The soundings are generally sand and shells on the banks; but in the centre parts of the bay it is black and brown mud. A good look-out should always be kept for the numerous fishing schooners generally riding on these banks during the summer months, as easterly winds almost always bring on fogs.

The N. point of Miscou will be distinguished by a green mound, or grassy sand-hill, and the shallow water does not extend more than ¼ of a mile off shore; but to the eastward, opposite a small lagoon, where there are several huts and fishing-stores, shallow water, to 3 fms., stretches off a mile N.-eastward, and there are 5 fms. 2½ m. off. From the S.W. part of Miscou Id. an extensive flat runs off in a N.W. direction full 4½ m. to 5 fms., and 2½ m. off 3 fms. This is called Miscou Flat.

Shippigan Flat is to the westward of Miscou Flat, leaving a narrow intricate channel of 5 to 7 fms., which leads into Miscou Harbour, between them. This is the northernmost of the Shippigan Shoals, and has only 6 ft. on some parts of it; its N. side is 2½ m. from Shippigan Id., and may be approached within 6 fms. by a large vessel, and to 3 or 4 fms. by smaller vessels. The western part of this flat forms the eastern boundary of Shippigan Sound.

MISCOU HARBOUR is between Miscou and Shippigan Id., and just within the sandy spit at the S.W. point of Miscou, where there are 4 to 6 fms. for upwards of a mile in length, and 2 cables' length wide; this part forms the harbour for large vessels; but the harbour is extensive for small vessels, in 10 to 15 ft., bottom soft mud. There is a gully on the eastern side of the harbour, where boats can enter from the sea at H.W. This place is much frequented by the American fishermen, who are good pilots for it. The channel leading into the harbour

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between Miscou and Shippigan Flats is only 170 fms. wide in one part, and both the flats are steep-to, giving no warning by the lead. Only small vessels ought to attempt this harbour without the assistance of a good pilot, or having first buoyed the channel. It is H.W. at 3h. 30m.; spring-tides rise 5 ft., neaps 3 ft.

FISHERMAN'S LEDGE.—This is a dangerous bed of rocks, with only 10 ft. on some parts to the northward of Caraquette Bk., and is separated from it by Fisherman's Channel, which is 7 to 4 fms. deep, and a mile wide. This dangerous ledge is $1\frac{1}{2}$ m. long in an E. $\frac{1}{2}$ S. direction, and $\frac{1}{2}$ of a mile wide from 3 fms. on each side, and lies more in the way than any other in the Bay of Chaleur. There are no marks for it. Its northern edge is 3 m. northward of Caraquette Id., and its E. and W. ends bear N.N.E. from the corresponding points of that island. Great Anse Cliff and Donax Pt. in one, bearing W. by N., leads through the Fisherman's Channel.

POKESUEDIE SHOAL.—This extensive flat runs off 2 m. to the north-eastward from Pokesuedie Id., and has only 6 or 7 fms. on a great part of it. The eastern part of this shoal forms the western part of the Shippigan Channel. Caraquette steeple bearing W. $\frac{1}{2}$ S., in one with the sandy S.E. point of Caraquette Id., leads over the N. point in 2 fms.; and to clear the shoal in $4\frac{1}{2}$ fms., the steeple must be kept half-way between the extreme of the sandy point and the extreme of the trees on the same island.

SHIPPIGAN SOUND is formed by Shippigan Id. and flats to the eastward, and Pokesuedie Id. and the mainland on the W.: it is an extensive place. Simon's Inlet, on the western side of the sound, at the southern point of Pokesuedie Id., is the best harbour in the sound. Here you can lie land-locked, with water enough for large ships. On the opposite side is Alemek Harbour, where you lie perfectly secure from all winds, in 3 and 4 fms. at L.W. There is a church and village at the head of the bay. There is a bar of mud and sand across the entrance of Alemek Bay, reducing the depth to $2\frac{1}{2}$ fms. at L.W., and into Shippigan Harbour to $2\frac{1}{2}$ fms. The church and village of Shippigan stand on the S. point of the bay; and $2\frac{1}{2}$ m. to the southward of the church is the entrance to the gully, where the tide is very rapid, but it is used by shallops and fishing boats, although there is often a very heavy surf. Shippigan Harbour is very secure for vessels coming hither for timber.

The channel leading from Shippigan Flats to the church is 9 m. in length, without buoys; the water is deep, but the channel is narrow and crooked, without leading marks, and some of the banks very steep, so that an experienced pilot is absolutely necessary to navigate a large vessel into this harbour with safety. In Shippigan Harbour it is H.W. at 3h. 40m.; spring-tides rise $5\frac{1}{2}$ to 6 ft., and neaps 3 ft. In the channel the rate seldom exceeds a knot. In fine weather the stream is regular, running in through the gully and through the sound to the northward into Chaleur Bay, from about half-ebb to half-flood by the shore; and in the contrary direction from half-flood to half-ebb.

Caraquette Island is low and wooded, and $1\frac{1}{2}$ m. long, in a direction nearly parallel to the coast; sandy points extend from both ends of the island towards the mainland, so as to form a bay, in which there is a land-locked anchorage for vessels drawing under 15 ft. To the westward of the island is all shoal to Pt. Mizzenette.

Caraquette Shoal extends $4\frac{1}{2}$ m. to the eastward of the island, from which it dries out nearly 2 m., and it is very shallow on all parts of it. From its E. end, Caraquette steeple bears W. $\frac{1}{2}$ S., and in one with the extreme of the trees on Caraquette Id.; and Shippigan steeple, S., in one with Pokesuedie Pt. This latter bearing clears the shoal to the eastward, in 3 fms. at L.W.; but a large ship must keep Pokesuedie bearing S. by W. $\frac{3}{4}$ W., and in one with Pt. Marcellé.

Mizzenette ledge of rocks, with 5 ft. least water, is N.N.W., $1\frac{1}{2}$ m. from the W. end of Caraquette Id. Donax Pt. just open of Mizzenette Pt. W.N.W. $\frac{3}{4}$ W., clears the ledge to the northward, in $3\frac{1}{2}$ fms., and also leads along the N. side of the Caraquette Shoals, but will lead over the Scallop Patch, of 16 ft., at L.W., rocky. When on this patch Caraquette Church steeple and the N.W. end of

[G. & R. ST. LAWRENCE.]

Caraquette Id. are in one; the S.E. end of the island will then bear S.S.W. $\frac{1}{2}$ W., distant 2 miles; keep along the northern edge of Caraquette Shoal in 4 fms.

THE HARBOUR OF CARAQUETTE.—The channel forming the entrance to the harbour is between the Caraquette and Pokesudie Shoals for about $2\frac{1}{2}$ miles, and it has water enough for the largest ships, but it is crooked, about $2\frac{1}{2}$ cables' length wide, and very steep to the edge of the shoals, and being without good leading marks, it becomes a very difficult channel. The harbour commences immediately to the westward of Pokesudie Id., and extends westward between the mainland and Caraquette Id. and Shoal. Caraquette church stands conspicuously on a ridge opposite Mizzenette Pt., and the fish stores and houses of Lower Caraquette will be seen farther eastward, opposite the island.

Between the island and the main the channel is only 120 fms. wide, and $2\frac{1}{2}$ deep, but farther westward it becomes wider, and has a depth of $4\frac{1}{2}$ fms.; within the harbour the bottom is mud, but the entrance is of sand. Although an excellent harbour for merchant-vessels of large burthen, it is an exceedingly dangerous place for a vessel to attempt without a pilot. Winds from N.W. round north-easterly to S. by E. are fair for going in. Vessels from the westward should pass outside of Fisherman's Ledge, not going to the southward into a less depth than 6 fms., until Pokesudie and Marcelle Pts. come in one, S.S.W.; you must then haul up upon those leading marks, and enter the channel as from the eastward. A small vessel may pass through the Fisherman's Channel. The tides rise from 3 to 6 ft., and they seldom run stronger than a knot an hour.

From Pt. Mizzenette to the Bar of Bathurst, a distance of 27 miles, the coast is clear of all dangers, except Norton Shoal, of 3 fms., which is a mile to the westward of Norton Pt., and 9 miles eastward of Nipisight, and $\frac{1}{2}$ of a mile from the land. The coast is generally high sandstone cliffs, and the shoal water seldom extends $\frac{1}{2}$ a mile from shore, which may safely be approached everywhere by the lead, to 12 or 10 fms. At Great Anse, 8 miles from Mizzenette, there is a church and a fishing establishment; and there are settlements all along the shore. There is a small river at Pokeshaw, 3 miles westward of Great Anse, and shelter for boats at both places.

BATHURST HARBOUR, at the head of Nipisight Bay, is about 2 cables' length in width, between Carron and Alston Pts.; these points are of sand, with stores and other buildings upon them. There are two beacons on Carron Pt., on the S.E. side, which, when kept in one, bearing S.W. $\frac{1}{4}$ S., lead in through the narrow channel over the bar in 7 ft. at L.W., and 14 at H.W., spring-tides. From 3 fms. outside the bar to the entrance of the river is $1\frac{1}{2}$ mile, very narrow the whole distance, and between sandy shoals, nearly dry at L.W. Between the sandy points, or just outside, in 3 or 4 fms., vessels generally moor to take in timber. It is H.W. at Bathurst Harbour at 3 h. 15 m.; spring-tides rise 7 ft., neaps 4 ft.

THE TOWN OF BATHURST is well situated, $2\frac{1}{2}$ miles within the entrance, and at the head of the basin; a depth of 14 ft. at H.W. can be carried up to the wharves of the town, and vessels may lie in 14 ft. at L.W., in some parts of the channel; here the tide runs from $1\frac{1}{2}$ to 2 knots, and sets fairly in and out of the bar, which should never be crossed without a pilot, who are always on the look-out for vessels. Bathurst Bar bears from Paspebiac Pt. on the Canadian shore, S.W. by W., distant 24 miles.

From the Bar of Bathurst to Belledune Pt., the distance is about 16 miles, between which the coast is rocky nearly $\frac{1}{2}$ a mile off, but may safely be approached by the lead to 10 fms.; about midway between will be seen the church and village of Rochette. From Belledune Pt. to the eastern end of Heron Id., the course is N.W., 13 miles; and you may safely approach within a mile of the shore the whole distance. At night come no nearer than 10 fms.

HERON ISLAND is 4 miles long, in a N.W. by N. and S.E. by S. direction, with good anchorage between it and the main; but the shoals running off each side render the channel narrow and difficult. This channel is from 3 to 5 fms. deep at L.W. Heron Rk., near the eastern part of the channel, is nearly in the middle,

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and directly in the way of vessels; there are only 6 ft. on it, with 4 to 5 fms. all round it. The S.E. end of Heron Id. bears E.N.E. from it, distant a mile; and a rock, 300 fms. northward of Beaver Pt., and always above water, W. $\frac{1}{2}$ S., 350 fms. The latter rock is quite bold, and a vessel, by passing within 1 or 2 cables' length of it, may clear the Heron Rk. on the southern side: Large vessels should always take a pilot, as this is an intricate and dangerous channel.

NASH RIVER.—Vessels sometimes load timber in the bay off this river; they moor in 4 fms. mud, with the eastern point of Heron Id. N. by W., 2 $\frac{1}{2}$ miles, and Black Pt. N.W., about a mile. There is good anchorage at the western end of Heron Id., between it and the R. Carlo; this latter river only admits boats.

DALHOUSIE HARBOUR.—Dalhousie Island is 2 cables in length, rocky, high, wooded, and joined to the main by a shoal that dries to the low point of Dalhousie, where there are large storehouses belonging to the town of Dalhousie; the town and church will be seen pleasantly situated by the southern side of a hill, S.W. of the island. About 3 cables' length to the westward of the island, is a small islet at the end of a sandy spit; this islet forms the western side of the shallow bay of Dalhousie, and a shallow bank runs from the island to the islet; along the northern edge of this bank the timber-ships lie to load their cargoes, in 6 or 7 fms.

Light.—On **BONAMI PT.**, south side of entrance to Dalhousie Harbour, a square wooden Lt.-ho. is erected, painted white. The building is 33 ft. in height, and 49 ft. above H.W., and exhibits a fixed white Lt., visible 13 m. during the season of navigation.

Dalhousie Harbour may be entered either from the eastward between Dalhousie Id. and the Middle Ground; or from the north-westward by passing round to the northward of the Middle Ground. In this western passage is most room, but you must cross a flat of 3 fms. at L.W.; the eastern passage is only 1 $\frac{1}{2}$ cable's length wide, 6 fms. deep, and quite safe. The Middle Ground, which is on the northern side of the harbour, opposite the island, is 5 $\frac{1}{2}$ cables in length, N.N.E. and S.S.W., and 4 cables in breadth, with 6 ft. on its eastern and shoalest part; a black buoy is placed on its N.E. point. The channel between this part of the Middle Ground and mainland to the eastward, is about $\frac{3}{4}$ of a mile wide, with 12 to 15 fms. in it; here the tide runs about 2 knots.

Ships bound to Dalhousie Harbour may, when off Carlisle Pt., with the point bearing N., distant 5 miles, steer N.W. by W., 34 miles, which will bring them between the eastern point of Heron Id. and Tracadigash Pt.; in this run you will shoal your water regularly from 35 to 12 or 10 fms. The leading mark to clear Heron Id. bank, which runs off from its N.E. side, is Mount Scaumenac, open N. of Dalhousie Id.; this mark will carry near Maguacha Pt., off which is a spit of only 6 ft. to the S.W. almost a mile; approaching this latter point, you must bring Mount Scaumenac open to the S.W. of Dalhousie Id.; keep these marks on until you are in 8 or 9 fms. on the New Brunswick shore, and have the Bonami Rks. S.W. of you $\frac{1}{4}$ a mile, then haul to the northward, keeping in 8 or 9 fms. till Laline Pt. (the extreme point to the W. on the New Brunswick shore), comes just open N. of Dalhousie Id., and the rocks and islet to the westward of it, bearing W. by N.; now steer in on these leading marks W. by N., until you approach Dalhousie Id., leaving it 50 or 100 yards to the southward of you, and you will enter the harbour with safety, where you can anchor in 6 fms. abreast of the town.

If bound into the harbour by the western channel you must steer to the northward, past the buoy on the Middle Ground, rounding it at 2 or 3 cables' length; then keep on W. by N. or W., until the Church of Dalhousie bears S. by W. and in midway between the Id. of Dalhousie and the islet to the westward of it. Steer with the church-S. by W., and it will take you across the 3-fm. flat into the harbour.

RESTIGOUCHE RIVER.—The entrance of this river is between Maguacha Pt. and the Bonami Rks., and is about 2 miles wide. The rocks bear W. $\frac{1}{2}$ N. from the point, and may be safely approached within 2 cables' length; but the spit off Maguacha Pt. must be carefully avoided. From hence to Campbell Town, at the head of the navigable river, the distance is 15 miles; the river is navigable for large vessels to within 4 miles of Campbell Town, where the channel becomes

narrow and intricate. A stranger should not attempt to go further than Dalhousie, or the anchorage at Fleurant Pt., which is 2 miles to the northward of Dalhousie, without an experienced pilot. The Fleurant Pt. anchorage is very convenient for vessels wanting supplies of wood and water; you can anchor in 7 or 8 fms., and leave it at any time of the tide, and with any wind.

CAMPBELL TOWN is situated on the southern side of the river, at the foot of the Sugar-Loaf Mountain, which is 950 ft. high. At H.W., vessels of 19 and 20 ft. can get up to the town, and lie afloat at L.W. It is H.W. at Campbell Town at 4 h.; spring-tides rise 9 to 10 ft., neaps 7 ft.

NORTH COAST OF CHALEUR BAY.—CARLTON ROAD.—This is an excellent roadstead, affording an extensive anchorage, in 6 to 7 fms., and is situated in the bay on the western side of Tracadigash Pt. Within this point is the entrance to a small lagoon, which boats can enter. On the northern side of this lagoon stands the village of Carlton, with its church; the village extends along the northern shore of the bay a considerable distance to the westward. The western side of this bay is shallow some distance off. Carlton Mountain is immediately to the northward of the village, and is 1830 ft. high. The best berth to anchor is with Carlton steeple E. by S., and Tracadigash Pt. S. by E. $\frac{1}{2}$ E. The tides in this bay are very weak. Tracadigash Spit runs off $\frac{1}{2}$ a mile from the sandy point, and must be carefully avoided when taking or leaving the anchorage. The mark to clear the spit in 5 fms. is Mount Dalhousie, just open S. of Pt. Maguacha, bearing about W.N.W. $\frac{1}{2}$ W.; at night come no nearer than 10 fms. When Carlton church steeple bears N.E. by E., you may haul to the northward for the anchorage, coming no nearer than 7 fms., until the point bears southward of E.

CASCAPEDIAC BAY.—From Tracadigash Pt. to Black Pt. the bearing is E. by S., distant 13 miles; between is the capacious Bay of Cascapediac. At the head of the bay is the river of that name, but it can only be entered by boats. There are extensive shallows at the head of the bay, as will be seen by the chart. Black Pt. is 400 ft. in height, bold and rocky. The western side of the bay is all settled by French and Arcadians.

RICHMOND.—This village, with its church, stands well within the bay, on the eastern side, nearly 4 miles N.N.W. of Black Pt., and a mile to the northward of Indian Pt. The anchorage for the timber ships is before the town, in 3 fms., with the church bearing N.E. by E., and Black Pt. S.E. by S.; you may anchor farther out in 5 or 6 fms., but not so well sheltered. When coming towards Richmond from the east, in order to avoid the shoal that stretches off to the westward $1\frac{1}{2}$ mile from Indian Pt., keep Red Pt. well open of Black Pt. S.E. $\frac{1}{2}$ E., and come no nearer than 4 or 5 fms., until the church bears N.E. by E.; then steer for it, and anchor as before.

Bonaventure Point is S.E. $\frac{1}{2}$ S., 16 miles from Black Pt., and 7 miles from Red Pt.; Bonaventure R. is 2 miles northward of the point, and has only 2 ft. over the bar. A rocky shoal runs off the point to the westward, nearly a mile, and continues at some distance from the shore to near Red Pt.

CARLISLE POINT is 5 m. E.S.E. from Bonaventure Pt., and forms the western point of Paspébiac Bay, which is an excellent roadstead, and here is the principal fishing establishment in the Bay of Chaleur. New Carlisle is the county town, and the court house and jail can be seen from the anchorage; the point is wooded, and consists of sand.

Paspébiac Pt., which is $3\frac{1}{2}$ m. to the eastward of Carlisle Pt., and forms the eastern point of the bay, is a triangular point of sand and a shingly beach, inclosing a small lagoon. The town is considerable, although straggling along the coast; and there is an English and Roman Catholic Church. On the west side of the point are a number of fishing-huts, and the extensive white buildings belonging to the fishing establishment of Messrs. Robins & Co., of Jersey. Vessels lie in this excellent roadstead, sheltered from S.E., round N. to W., although open to southerly winds. Jersey vessels lie moored here all the season; the holding ground is excellent. A sandy spit runs out south-westward, nearly $\frac{1}{2}$ a mile from the point. The best berth to anchor is in 6 fms., clay, with the sandy point S.E., and Robins' flagstaff east.

At Paspébiac there is an excellent watering place at a stream which will be seen falling from the cliffs just to the westward of the outlet of the lagoon. Supplies of all kinds may be had here, but to a limited extent.

In rounding Paspébiac Pt. from the eastward, keep Daniel Hill open to the southward of Nouvelle Pt. E.N.E. $\frac{1}{2}$ E., until the Roman Catholic Church opens to the westward of the south end of the sandy spit N. by E. $\frac{1}{2}$ E.; keep the lead going, and steer towards Carlisle Pt., until Robins' store and the Roman Catholic Church come in one N.E. $\frac{1}{2}$ E.; now haul in to the northward for the anchorage by your lead, taking care to give the west side of the spit a berth in going in.

Nouvelle River is $5\frac{1}{2}$ m. to the eastward of Paspébiac; it has 2 ft. on the bar at L.W., and will be known by its stages and fish stores; its west side is a high cliff of red sandstone. From Nouvelle River to the west point of Port Daniel, the course is E.N.E. $\frac{1}{2}$ E., distant 9 m.; this part of the coast is bold-to, and nearly straight. Daniel Hill, which is about 400 ft. high, and stands about a mile to the westward of the river, will serve to point out the port.

PORT DANIEL.—This is a fine deep bay, with a river at the northern part of it; it is of a moderate depth, having 7 fms. in a line between the points, decreasing to 5 and 4 fms. towards the river, which will only admit boats at H.W. There are several houses and stores near the river; and wood and water may be obtained. The bay is open to easterly winds; and the west side of the bay is shallow nearly $\frac{1}{2}$ a mile off from the West Pt. round to the river. Pillar Pt. is the eastern point of the bay; about $\frac{1}{2}$ of a mile within it is White Pt., known by its colour; about midway between White Pt. and West Pt., in 6 fms., is the best anchorage; but easterly winds send in a heavy swell, and on their appearance you ought to leave this anchorage.

Macquereau Pt. is 6 m. to the eastward of Pillar Pt.; about midway between is Red Pt., known by its colour. Pt. Macquereau is about 200 ft. high, and covered with wood. From Macquereau Pt. to Cape Despair the course is E.N.E., 23 m. In the bay between are the fishing establishments of Newport, Great and Little Pabou, and Grand River; the latter is a considerable stream; here is a village and extensive fishing establishment.

Vessels bound for Chaleur Bay in a dark night or in foggy weather, should not attempt to make Macquereau Pt., which is so low that there is little or no warning by the lead; but should strike soundings on the Miscou Bank, which extend nearly 22 m. to the eastward of Miscou Id. A cautious look-out should be kept for the numerous fishing schooners, which are generally riding on the banks; the northern edge of the latter, being followed in 30 fms., will safely conduct vessels past the north point of Miscou, at the distance of 4 m., and forms a sure guide up the bay. In addition to the soundings there is the assistance of the Lt.-ho. on Miscou Id.

CAPE DESPAIR, the N.E. point of the bay of Chaleur, is of a moderate height, consisting of red sandstone cliffs. Nearly S.S.E., $1\frac{1}{4}$ m. from Cape Despair, is the Leander Rk., on the shoalest part of which are 16 to 18 ft.; it is about $\frac{1}{2}$ of a mile in diameter. As this rock is in the fairway of vessels coming from the northward for Chaleur Bay, it should be avoided by giving the cape a berth of 3 m. In clear weather, when the marks can be seen, Percé Rk. kept well open of White Hd. will lead clear outside of the shoal. There is a good channel between the cape and the rock; and White Hd. kept in the middle of Percé Rk., will lead through this inner channel, in 15 or 16 fms.

BONAVENTURE ISLAND is E. by N., 7 m. from Cape Despair; bold perpendicular cliffs on all sides except the west, rising in places to 250 ft. above the sea. From the west side shoal water runs off nearly $\frac{1}{2}$ of a mile. Between the island and Percé Rk. the channel is $1\frac{1}{4}$ m. wide, and free from danger.

PERCÉ ROCK is 288 feet high, precipitous all round, and bold to seaward, and is joined to the main by a reef about $\frac{1}{2}$ of a mile long, in a S.E. direction; between this rock and White Hd. is Percé Bay, and along the shores is the town of Percé, chiefly inhabited by persons engaged in the fisheries. From Percé Rk., nearly half way to White Hd., the shoal water extends out nearly $\frac{1}{2}$ of a mile; and Percé Reef, which is rocky, runs off $\frac{1}{4}$ a mile from the centre of the town; although

small vessels anchor on each side of this reef, it is not a safe roadstead for shipping. Percé Mountain is very remarkable, and can be seen at sea 40 m. off. A regular tide of flood and ebb (but weak) sets through Percé Bay; but a few miles without Bonaventure Id., the current from the River St. Lawrence runs to the southward at all times.

MAL BAY is 4 m. deep, and 5 or 6 m. wide, and is entirely open to the south-eastward. The cliffs on its S.W. side are perpendicular, and 666 ft. in height; a fine broad, sandy beach extends across the head of the bay. There is a river at the N.W. corner of the bay, which admits boats at H.W. The N.E. part of the bay has low cliffs. There is anchorage round the shores of this bay; but it cannot be recommended as a roadstead.

POINT PETER, the south point of Gaspé and N.E. point of Mal Bay, is low, and covered with white houses. Flat Id. is 4 cables' length eastward of the point; small and low. There is a clear channel of 5 to 9 fms. between it and the island, but no anchorage. Cape Gaspé bears from Flat Id. N.N.E. $\frac{1}{2}$ E., 7 m.

GASPE BAY.—This fine bay has a good outer roadstead, off Douglas Town, on the south side, and a fine safe harbour at its head, capable of holding a large fleet in safety; also a basin, where ships might be refitted or hove down. From Flat Id. to sandy Beach Pt. the course is N. by W. $\frac{1}{4}$ W., 16 m.; and from Cape Gaspé N.W. by N., 11 $\frac{1}{2}$ m. The southern shore presents a succession of steep cliffs, which are 200 ft. high; but inland, a few miles, the mountains rise to 1500 ft.; all along this shore shoal water runs off the cliffs nearly $\frac{1}{2}$ a mile.

Lights.—(1) On the northern shore of the bay, 12 m. N.W. by N. from the cape, a fixed Lt., elevated 40 ft. above the sea, visible 11 m.

(2) On O'Hara Pt., wharf basin, a red Lt. is shown only when mail steamers are expected, elevated 20 ft., and visible 7 m.

CAPE GASPE is a remarkable headland, its N.E. side being all high cliffs, nearly 700 ft. in height. Flower Pot Rk. is close to the cape, and was a remarkable object; but was thrown down by the ice in 1844, and the base is now only left, and is awash at H.W. The N.E. side of the bay, for 5 or 6 m. within is covered with houses, chiefly fishing establishments belonging to Jersey merchants. This part of the bay is free from danger, except the Seal Rks., about 6 $\frac{1}{2}$ m. within Cape Gaspé, and a mile S.E. of Cape Brule; this reef has only 4 ft. on its shoalest part, is about $\frac{1}{2}$ a mile long, and $\frac{1}{4}$ wide. The mark for the outer edge is Cape Brule in one with the next cliffy point up the bay; therefore, when beating, keep Cape James well open of Cape Brule.

DOUGLAS TOWN stands on the south side of the river St. John, on a rising ground. The water, which is deep at the outer part of the bay, shoals regularly as you approach the anchorage off Douglas, where there is plenty of room, in any depth between 5 and 10 fms., sand and clay bottom; anchor, with the entrance of the River St. John N.W. by W., in 6 to 8 fms., and you will be a full mile from the entrance. Water may be obtained at the River St. John, about 2 m. within the entrance.

Cape Haldimand is a bluff cliff, about 2 m. northward of Douglas; from the N.E. side of which Sandy Beach Pt. runs out, in a northerly direction, and forms Gaspé Harbour. Sandy Beach Pt. is a narrow low point of sand: the side next the sea is shallow near $\frac{1}{2}$ a mile off, as will be seen by the chart; but the inner, or western side, is bold and steep-to; on the eastern side it is also very steep immediately outside the shallow water, which extends from the beach; this renders it very dangerous at night, as the lead gives so little warning.

The Peninsula is on the opposite side, about a mile to the northward of the Sandy Beach Pt.; it is low, and covered with trees, having several sheds and a beacon near its W. point; between the shoals that run off from the N. end of Sandy Beach Pt., and those that extend eastward from the Peninsula, is the entrance into Gaspé Harbour, which is only about 4 cables' length wide, and 10 to 11 fms. deep, mid-channel.

GASPE HARBOUR.—When you get within Sandy Beach Pt., and the Peninsula, you are in the harbour of Gaspé, and completely sheltered from all winds; bottom mud, and the deepest water 11 fms. Within the harbour the

river divides into two branches, called the N.W. and S.W. arms; within the latter is the basin, where a great number of vessels may lie as securely as in dock. The town of Gaspé is on the S. side of the entrance to the basin, and along the shores of the basin the principal inhabitants reside; and here is the custom-house. Several schooners are employed in the whale-fishery from this place; and an extensive cod-fishery is carried on in the bay, chiefly by the Jersey merchants.

It is H.W., F. and C., at 1 h. 50m.; spring-tides rise 5 ft., neaps 3 ft. Vessels having occasion to go to Gaspé to report or clear, can anchor off Douglas, when the master may proceed to the town in a boat. A stranger, without a pilot, had better anchor off Douglas than attempt to take the harbour on a dark night.

In the summer there is generally a land and sea-breeze, the sea-breeze setting in between 9 and 10 a.m., and continuing till sunset; it then falls calm, and the land-breeze comes on about 9 or 10 at night.

When entering Gaspé Harbour, the mark for the N. end of Sandy Beach Pt. (now marked by a white buoy) is Pt. Penard (a woody point on the N. shore, nearly 3 m. within the Peninsula) in one with the inner or N. side of the whale sheds on the Peninsula point. The spruce trees on the Peninsula are to the northward of the whale sheds. The marks to lead in clear of Sandy Beach Pt. are—the extremity of the spruce trees on the Peninsula in one with Pt. Penard, bearing N.W., a little westerly; keep this mark on until the windmill (which stands on the inside of Sandy Beach Pt., near the mainland) comes in one with the inner or W. side of the end of Sandy Beach Pt., bearing S. $\frac{1}{2}$ W when you must haul to the westward for the anchorage, or proceed for the basin.

When working into the harbour you must, when standing to the southward, towards Sandy Beach Pt., tack as soon as the leading mark comes on; but when standing to the northward, you may go by the lead.

CURRENTS.—Off Cape Gaspé the currents set strongly to the southward towards Flat Id., sometimes 2 knots, which ought to be carefully guarded against when making for this bay with a northerly wind. When this current meets the swell from the southward, it causes a high, short-breaking sea from Cape Rozier across the entrance of Gaspé Bay. In light winds a vessel becomes quite unmanageable in this sea. Vessels approaching the coast in this vicinity, should, at night, or in dark weather, keep the deep-sea lead going, as soundings extend a great distance from the land.

NORTH COAST OF THE RIVER.

FROM THE RIVER ST. JOHN TO POINT DE MONTS, AND FROM THENCE TO POINT MILLE VACHE.

From the River St. John to the Great Boule Id., which is the easternmost of the Seven Ids., the course is W. by N. $\frac{1}{2}$ N., distance 78 m. The coast is only partially wooded; the hills next the sea seldom exceed 200 to 300 ft. in height; but a short distance back they form a range of greater elevation, from 500 to 700 ft. in height, and nowhere exceeding 1000 ft. The appearance of this part of the coast from a vessel in the offing, is so much alike that it is difficult to make out one part of it from another. Mount St. John, 11 m. N.E. by N. from the mouth of the River St. John, is 1416 ft. in height, and readily distinguished. Although this coast appears bold, it should be approached with caution, for there are several rocks along it, both above and under water; several of them are very dangerous, and nearly a mile from the shore.

THE RIVER ST. JOHN.—The E. point of entrance to this river is in lat. $50^{\circ} 17' 3''$ and long. $64^{\circ} 20' 13''$; it is a large stream, frequented by fishing schooners early in the season. The entrance is 130 fms. wide, between a sandy point on the E., and clay cliffs on the W.; immediately within the entrance the breadth increases

to nearly $\frac{1}{2}$ a mile, and then gradually decreases again. There are two log houses on the W. bank, about $\frac{1}{2}$ a mile within the entrance, where the salmon fishermen reside, and vessels lie in 12 ft. at L.W., close to them. This river has a shifting bar, $\frac{1}{2}$ a mile outside the entrance, rendering it impassable with S.-westerly winds; there are only 3 or 4 ft. on the bar at L.W., and 7 to 10 ft. at H.W. There is good anchorage outside the bar, shoaling gradually to 3 fms., $\frac{1}{2}$ of a mile off.

MAGPIE BAY.—Magpie Point is W.N.W., 8 m. from the R. St. John; between them is Magpie Bay, in which there is good anchorage with off-shore winds, in a moderate depth of water. Magpie R. discharges itself by a rapid stream near the centre of the bay; the entrance is only 10 fms. wide, and just within it there is a waterfall of 30 ft., so that even boats cannot enter. Nearly a mile westward of the river, and $\frac{1}{2}$ of a mile off-shore, is a rocky shoal, on which the sea breaks; a heavy sea sets in with southerly winds.

Ridge Point is W.N.W. $\frac{1}{2}$ W., $3\frac{1}{2}$ m. from Magpie Pt. From the former a long narrow ridge extends $4\frac{1}{2}$ m. to the westward, with 4 to 5 fms. on it, all rocky ground; within this reef there is one large and several small islets. There are 20 fms. just outside the ridge, and a heavy sea on it sometimes.

Sawbill River is about 24 m. to the westward of the River St. John. It may be distinguished by the peculiar hills on each side of it, which are barren, and also by the clay cliffs just within the entrance. It can only be entered in very fine weather: it then affords shelter for boats and small coasters.

COD BANK.—At 9 m. S. by E. from the entrance of the Sawbill, there is a bank of sand, gravel, and broken shells, on which cod fish abound, and the depth is upwards of 60 fms. between it and the shore.

Shallop River is N.W. by W., $7\frac{1}{2}$ m. from Sawbill R. It only affords shelter for boats, and these can only enter when there is no surf. Off this as well as off Sandy R., $2\frac{1}{2}$ m. farther westward, there are several rocks, both above and under water; some of them are full $\frac{1}{2}$ a mile from the shore.

MANITOU RIVER is N.W. by W., $4\frac{1}{2}$ m. from Shallop R., and 35 m. westward of St. John R. It is the largest on the coast between the R. St. John and Moistic. It may be readily known by a vessel when several leagues in the offing, by two remarkable patches of clay cliff; one of these is close to the eastward, the other a mile to the north-westward of it. At a short distance within the entrance of this river is one of the most magnificent waterfalls in Lower Canada; it falls 113 ft. perpendicularly, in one unbroken sheet of water. There is good anchorage off the river in fine weather, with off-shore winds, in 15 fms., the entrance bearing N.E. $\frac{1}{2}$ E., $1\frac{1}{2}$ mile; small vessels may anchor farther in-shore. There is a small rocky shoal W. by N., $2\frac{1}{2}$ miles from the entrance of the river, about $\frac{1}{2}$ of a mile from the land.

Basin River is W.N.W., $10\frac{1}{2}$ miles from Manitou R.; it is only fit for boats. There are rapids $\frac{1}{2}$ of a mile within the entrance. Cape Cormorant is $1\frac{1}{2}$ mile to the westward of Basin R. Beaskowitz Pt. is $5\frac{1}{2}$ miles W.N.W. $\frac{1}{2}$ W. from Cape Cormorant; between them are the Cormorant Islets joined to the shore at L.W., and the Cormorant Reef, which is dangerous, having only 12 ft. on it, about a mile from the shore, and $2\frac{1}{2}$ miles W. $\frac{1}{2}$ N. from Cormorant Pt.

Point St. Charles is the eastern point of Moistic Bay. A reef runs off this point, which is extremely dangerous; it being so bold that there is no warning by the lead, and very little by the deep-sea lead. It is composed of numerous rocks, having deep water between them; some of them are always above water, but the outermost are always covered; these latter lie S.S.W., $\frac{2}{3}$ of a mile from Pt. St. Charles. Vessels berthing here should guard against getting becalmed to the westward of this reef, lest the heavy S.W. swell should set them towards the reef, for the water is too deep to anchor in, till close to the breakers.

MOISIC BAY is between Pt. St. Charles and Moistic R. It is 11 miles across, having a depth of 50 or 60 fms. between the points. Trout R. is nearly in the centre of the bay. The eastern shores of this bay are rocky; but the western shore, from Trout R. to Moistic R., is a bold sandy beach. Seal House Cove, on the eastern side of the bay, affords shelter only for boats.

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Moisic River enters the sea at the western point of the bay, Moisic Pt. forming the western side of the entrance. This is a larger river than St. John, but it is much obstructed by sand-bars; it has about 9 ft. at L.W., at the entrance, but boats cannot go far up the river, on account of the rapids. The tides rise here from 5 to 8 ft. The bar of this river is very steep, having 40 fms. close to it. From Moisic Pt. a large triangular shoal of from 1 to 2 fms. runs off $3\frac{1}{2}$ miles, in a westerly direction. Near the S.W. extremity lies the Moisic Rk., of only 9 ft.; this is $1\frac{1}{2}$ mile from the shore, and extremely dangerous, being as bold as a wall on the S. and S.W. sides, and can generally be seen in fine weather, from the change in the colour of the water. When a vessel is standing in towards this rock, she should tack when the northern side of Manowin Id. comes on with the southern side of Great Boule Id., bearing W.N.W. $\frac{1}{2}$ W.; you will then be a mile from the edge of the shoal. It is H.W. at Moisic R., E. and C., at 1 h. 30 m. Springs rise 8 ft., neaps 5 ft.

Sandy Pt. is N.W. $\frac{1}{2}$ W., 9 m. from the Moisic Rk., between which is Boule Bay, a place where vessels ought not to venture, on account of the southerly swell rolling in, as they would find it difficult to beat out. The East Rks. are near the centre of Boule Bay; they are low, bare of trees, and always above water.

The SEVEN ISLANDS lie directly before the beautiful bay of that name; they are very remarkable, being high, steep, and thinly wooded, and may be seen 21 to 24 m. The two easternmost islands are named the Great and Little Boule; the former is 695 ft. high; the passage between them is unsafe, on account of the baffling winds and strong tides. Westward of these are the two Basque Ids.; Great Basque Id. is 500 ft. high. S.W. of the Basque Ids. are the Manowin and Carousel Ids.; the former is 457 ft. high, the latter is much lower, and is the southernmost of all the six islands. There are only 6 of these; but the peninsula which forms the western part of the bay has every appearance of an island from a ship in the offing, and is the highest, being 737 ft. above the sea. This peninsula forms the western and Sandy Pt. the eastern point, of this fine bay.

SEVEN ISLANDS BAY is completely sheltered by the before-mentioned islands; the entrance between Sandy Pt. on the east, and the high peninsula on the west is $2\frac{1}{2}$ m. wide. A fine, broad, bold sandy beach extends for 3 m. northward from the east point of the bay to the entrance to the principal river, near which stands the Hudson's Bay Company's trading post. You cannot see these houses from the outer parts of the bay, but there is a wooden store on the beach off which vessels usually anchor. This bay is sufficiently extensive for the largest fleets to lie in perfect safety, and so nearly land-locked as to resemble a lake.

There are three channels leading into the bay, viz.:—The Eastern, Middle and Western Channels. The Eastern Channel, between Sandy Pt. and Basque Id., is seldom used, having a rock in the centre, which is only covered at high tide, and a reef runs off to the eastward of the rock $\frac{1}{4}$ of a mile, with 6 to 9 ft. on it. The principal and best channel is the middle one, between Carousel and Manowin on the W., and the Basque Ids. on the E.; leaving the West Rks. and Pt. Chasse on the peninsula, on your port hand, giving the latter point a berth of $1\frac{1}{2}$ cable's length to avoid a reef that runs off 120 fms. The course through the Middle Channel into the bay is N.

The W. Channel, though much narrower than the middle one, is also free from danger, being $\frac{1}{2}$ of a mile wide, between Pt. Croix and the West Rks., off which there are two or three rocks, a cable's length to the northward; therefore give the West Rks. a berth of 2 cables' length in passing. The ebb-tide is turned off towards these rocks by Pt. Croix, which must be attended to. No leading marks are necessary; for by simply giving the shores a berth of 2 cables in every part, you may enter the bay with safety, even with the largest ships. With a scant wind from the north-westward, this channel is preferable to the Middle Channel, as it will save a good deal of beating into the bay. The ground is not fit for anchorage until you are well within the bay. The best berth for a large ship is in 9 or 10 fms. on the eastern side of the bay, with Sandy Pt. and Little Boule Id.

[G. & R. ST. LAWRENCE.]

in one. You may also anchor in the S.W. part of the bay in 13 fms., perfectly smooth, and land-locked.

Captain Hardy, of the *Savage*, says—"This bay is so safe a shelter from westerly gales, that I strongly recommend every master of a vessel to run for it; the islands will sufficiently point it out, and the channels in are clear and bold; wood and water may be easily obtained, and the ground and shelter is perfectly good;" for he observes, "It will be almost totally impossible for even a fast-sailing vessel, during westerly gales, to gain ground or make any headway up the R. St. Lawrence; and a merchantman may beat about in vain, and possibly be too late in attempting to run for a roadstead, after having split her sails and harassed her crew, for the squalls in the river are violent, and in thick weather give very little warning; but having run for the Seven Ids. Bay, and anchored there, may wait safely for the first favourable slant, and be up at Quebec far more readily than by continuing in the river beating about."

The TIDE in the bay flows till 1 h. 40 m., F. and C.; spring-tides rise 9 ft., neaps 5 ft.

Between the west point of Anticosti and Seven Ids. Bay, the River St. Lawrence is 66 m. wide, forming a clear open sea, without any danger whatever; but to the westward of Seven Ids. Bay the mainland bends to the southward, until it reaches Pt. de Monts, between which, and the opposite shore of Cape Chatte, the river becomes contracted to about 24 m.; the shore is bold all the way; but Pt. de Monts, and the land to the eastward of it, is somewhat lower than that to the westward, and there are but few places where vessels may occasionally anchor.

St. Margaret's Pt. is west, distant 12 m. from Pt. St. Croix; between which is St. Margaret's Bay. Nearly in the centre of the bay is the river of that name, having a bar extending $\frac{1}{2}$ of a mile from the entrance; although a large stream it only affords shelter for boats. St. Margaret's Pt. is rocky $\frac{1}{2}$ of a mile off; and there is no warning by the lead, there being no bottom at 68 fms. within less than 2 m. of it.

Great Cawec Id. is S.W. by W. $\frac{1}{4}$ W., 16 m. from St. Margaret's Pt. The coast between is low, and bordered with small islets and rocks close in-shore; but this part may be approached by the lead to 20 fms.; the deep-sea soundings off this part of the coast are very irregular. Great and Little Cawec Ids. are high, and bare of trees. On the N.W. side of Great Cawec Id. there is a bay, in the mouth of which anchorage may be found at a cable's length from the island; here you will be sheltered from W. by S. round to N.E. and easterly; but S.W. winds blow right in, and send in a heavy sea. The entrance to this place is dangerous and intricate, and too small for large ships, yet it might be of use to a vessel in distress.

To enter this anchorage from the eastward steer N.W. past the N.E. side of Great Cawec Id., going not nearer than $\frac{1}{2}$ a mile, to avoid the shoal off the mouth of the cove, until the point of the mainland to the westward opens clear of the north side of the island. Then steer for the point of the mainland, keeping it midway between the north side of the island and the large rocks to the northward of it. When you arrive between the rocks and the island, haul into the mouth of the small bay which you will see on the N.W. side of the latter, and anchor in 7 fms. at L.W.

To enter this anchorage from the westward, the best and safest way is to pass between Little and Great Cawec Ids., hauling close round the west point of the latter into the anchorage. The tides run fair through between the main and the islands, seldom exceeding $1\frac{1}{2}$ knot, but often less.

LOBSTER BAY.—English Pt. is S.W. by W. $\frac{1}{4}$ W., 11 m. from Great Cawec Id.; between which is Lobster Bay, a good open roadstead. The anchorage is between Sproule Pt., $\frac{1}{2}$ of a mile westward of Little Cawec Id. and the Crooked Ids. The N.E. part of this bay is an extensive flat, dry at L.W., on which plenty of lobsters are found. Here is room sufficient for the largest ships. Pentecost River enters this bay about $1\frac{1}{2}$ m. westward of the Crooked Ids; it affords shelter for boats,

and even small vessels; but the entrance is only 30 yards wide, and the ebb-tide runs out rapidly. From hence to English Pt. is a fine, bold, sandy beach.

Egg Id. is about S.S.W., 2 m. from English Pt. It is low, narrow and without trees; and about $\frac{1}{2}$ of a mile long, in a N.N.E. $\frac{1}{2}$ E. direction. The North Rks., which are always above water, are 4 cables' length distant N.N.E. from the island, thence forming a black, low, narrow reef, 3 cables' length, in the same direction, both towards the main. A reef, under water, runs out from these rocks in a S.S.W. direction 250 fms., leaving a very narrow channel between them and the island, with only 3 fms. in it. The N.E. reef runs off 6 cables from the N.E. part of Egg Id., and is the greatest danger on the coast between Pt. de Monts and the Seven Ids.; some of the rocks are awash at low tides.

Egg Id. and the reefs form a natural breakwater, $1\frac{1}{2}$ m. long, in a N.N.E. direction; the north end is $\frac{1}{2}$ of a mile from the mainland, and the southern nearly a mile. Within, and westward of this breakwater, is good anchorage; but it is very much narrowed by the flats running off the main, which, opposite to the N. end of Egg Id., is only about 370 fms. The best anchorage is to the S.W. of this narrow part, in 9 fms., sand. As the water is deep towards the island and reefs, a ship should have a good scope of cable with a westerly wind, lest the anchor should start, and you drive on the rocks before a second anchor can be let go; with easterly winds you drag up hill, and there is not much danger of the anchor starting. You will lie sheltered from N.E. winds, with the S.W. end of Egg Id. S.E. by S., and the inner side of North Rks. N.E. The tides are very weak, from $\frac{1}{2}$ a knot to a knot.

There is nothing in the way entering this anchorage from the southward, the S. end of Egg Id. being bold. If you intend running through between the island and the main, stand to the northward to 8 or 9 fms., or until English Pt. is open $\frac{1}{2}$ a point to the northward of the North Rks.; then steer for English Pt., giving the inner side of the North Rks. a berth of a cable's length, until you have passed them $\frac{1}{2}$ of a mile; you may then haul out to sea, not going to the southward of S.E. by E. till clear of the N.E. reef. You may run through this channel from the eastward, by reversing the directions.

Calumet River is $2\frac{1}{2}$ m. W. by S. of Egg Id. There are reefs to the S.W. of the entrance a full mile, extending 600 fms. from the shore. Caribou Pt. is $6\frac{1}{2}$ m. southward of this river; on each side of this point are sandy coves, where pilot-boats find shelter, and often stop to look out for ships.

TRINITY BAY is N.E. by E. $\frac{1}{2}$ E., 6 m. from Pt. de Monts, and 5 m. S.-westward of Caribou Pt.; it is a safe and convenient anchorage for vessels unable to beat round Pt. de Monts with westerly winds, and pilots are often found waiting here for vessels bound upwards; but with easterly winds they take shelter in St. Augustine's Cove, about $1\frac{1}{2}$ m. to the westward of the cape.

On the N.E. point of the bay are also two large rocks; the northern one dries to the main with spring-ebbs, but the southern one dries nearly $\frac{1}{2}$ of a mile to the southward of the point. This bay is 3 m. round, and there is a river falls into it, where good water may be obtained; another stream may also be found about $\frac{1}{2}$ a mile to the westward of the W. point of the bay. Wood is abundant.

To sail into Trinity Bay, either from the S.W. or N.E., come not nearer either shore than 15 fms. until the bay opens; then haul in, and anchor in 7 fms., with the Lt.-ho. on Pt. de Monts bearing S.W. by W. $\frac{1}{2}$ W. Small vessels may anchor in 3 fms. just within the reef, the western point bearing S.W.; and large vessels may take a berth a little farther out.

POINT DE MONTS LIGHTHOUSE stands 5 m. S.-westward of Trinity Bay, and $1\frac{1}{2}$ m. E.N.E. from the extremity of the cape; it stands low down and close to the sea, is of the usual form, 75 ft. in height, and nearly white; the lantern is elevated 100 ft. above the level of the sea, showing a bright fixed light, vis. 15 m. A depôt of provisions for shipwrecked mariners. A gun will be fired every hour during fogs or snow storms.

A ledge of rocks lies off Pt. de Monts S.W. from the light, and S.E. from the extremity of the point, and $\frac{1}{2}$ a mile from the shore; there are only 9 or 10 ft. on

it. Another rock, of 2 fms., lies S.S.W., $\frac{1}{2}$ a mile from the Lt.-ho., and a third, nearly as far off as the Lt. to the E.S.E. These rocks are dangerous at night when rounding the Lt. in thick weather; come no nearer to them than 15 fms. at any time. Vessels being to the eastward, in a dark night, when the land cannot be seen, should tack when the Lt. bears W.S.W., or even W. by S., if they are as near as Trinity Bay. Vessels to the westward of the Lt. should tack as soon as it bears E. $\frac{1}{2}$ N.; when it bears E. it will be shut in by the land.

St. Augustine's Cove is $1\frac{1}{2}$ m. to the westward of Pt. de Monts; it only affords shelter for boats, and pilots are often found here waiting with easterly winds. The land begins to rise considerably immediately you are to the westward of Pt. de Monts.

Capt. Bayfield says:—"If the weather be clear, there will be no difficulty in making the Lt.-ho. on Pt. de Monts; but if the weather be thick, as it commonly is, with a fair wind for running up, great caution is necessary. In such circumstances, after having run within about 15 m. of Pt. de Monts by the reckoning, sail should be reduced so as to have the vessel under complete command, and she should be rounded to, and a good deep cast with Massey's patent lead obtained, so as to insure that she is not to the N.-eastward of the point, and this should be repeated every half-hour until the Lt. be seen, or it is certain that it is passed.

"If the vessel be to the N.-eastward of Trinity Bay, soundings will be obtained in less than 60 fms., from 4 to 6 m. off shore. Directly off Trinity Bay there is the same depth 3 m. off shore; while at the same distance off Pt. de Monts, there is no bottom at 100 fms. If the distance to Pt. de Monts has been run by the reckoning without finding bottom at 70 fms., it will be almost certain that the vessel is not to the northward; but still, as the effects of currents cannot be exactly calculated, and reckonings are liable to error, it will be prudent to shape a course well to the southward of the point, till there remains no doubt of its having been passed.

"The foregoing remarks apply where the object is to make the Lt.-ho. or Lt. on Pt. de Monts, which should always be attempted where there is any chance of success; because it is extremely desirable to obtain a fresh departure before running up the comparatively narrow estuary. But if the weather be so thick as to leave no reasonable hope of succeeding, or if the wind be from the southward, a course should be steered more to the southward, so as to pass well clear of the point."

ST. NICHOLAS HARBOUR.—Cape St. Nicholas, a high, bare point, bears W. by N. $\frac{1}{2}$ N., 17 miles from Pt. de Monts; and 3 miles north-eastward of the cape is St. Nicholas Harbour; this is a narrow inlet between granite hills, 500 to 700 ft. high, and runs in the direction of N.W. $\frac{1}{2}$ N., $1\frac{1}{2}$ mile. This harbour is very secure, and a vessel might be laid on shore and repaired as if she were in a dock. The entrance is 75 fms. wide, and within the harbour 190 fms. The shoals on the eastern side of the entrance dry out so far as only to leave a channel 30 fms. wide, with 5 ft. in it at L.W., spring-tides; but at H.W. there are 14 to 17 ft., bottom of sand. There are some large stones which can be seen and avoided, if not water enough to go over them. In the deepest part of the harbour are 9 $\frac{1}{2}$ fms. From Cross Pt., the western point of the entrance, the shoal water extends across a small bay to the westward of the point 400 fms., and off shore 100 fms. The anchorage between the shoals off the harbour's mouth is too much confined for large ships, being only about 3 cables' length in width, but the ground is good, and depth moderate; here you may anchor and prepare for warping in.

To enter this harbour from the bay, bring Cross Pt. (on which is placed a small wooden cross) to bear N.N.E.; steer for it, taking care to leave it from 30 to 50 yards on your port hand; if the wind is free enough, you must continue to run on at the same distance from the shore, on the western side, until you deepen the water. If, when rounding the point, you meet with baffling winds out, you must immediately run a line on shore on the western side, or drop the anchor under foot, and warp into deeper water. The bar, which commences at Cross Pt., continues 200 fms. within it, and the channel is rendered narrow by the shoals of

the eastern side. In order to have the most room, you should anchor farther in than the three large rocks which will be seen on the eastern side of the harbour. To leave this harbour you should have a N.W. wind, or take the advantage of the land breeze, or a calm morning to warp out. The best wind to enter is from W.S.W.; a S.E. wind, if blowing fresh, causes too much sea in the entrance, and a N.W. wind blows right out.

It is H.W., F. and C., 1 h. 55 m.; spring-tides rise 12 ft., neap-tides 7 ft. Water can be easily obtained on the eastern side of the harbour, or at the head of the harbour at H.W.

Point St. Giles is W. by N. $\frac{1}{2}$ N., $13\frac{1}{2}$ miles from Cape St. Nicholas; it is high and rocky, similar to the coast to the eastward; but Manicouagan Pt., W. $\frac{3}{4}$ S., $17\frac{1}{2}$ miles from the cape, is low, and thickly wooded, with a broad sandy beach extending to the westward all the way to Outward Bay. The above change in the coast line is an excellent guide to warn mariners of their approach towards the Manicouagan Shoal. The entrance to Manicouagan Bay is between the before-mentioned points, and is all dry at L.W., excepting a few narrow channels leading up the river. The ebb-tide runs out over Manicouagan Bar, to the eastward, at the rate of $1\frac{1}{2}$ knot, and the flood is nearly as strong.

MANICOUAGAN SHOAL is of sand, with many large boulders on its eastern and southern parts; the easternmost point of this extensive and dangerous shoal is E.S.E., $2\frac{1}{2}$ miles from St. Giles' Pt., and E. by N. $\frac{1}{2}$ N., $5\frac{1}{2}$ miles from the N.E. part of Manicouagan Pt. From the southern point of the shoal it continues to the westward, curving with the land past Outard Pt. full 16 miles, and extending from the shore from 2 to $2\frac{1}{2}$ miles. Near to Outard Pt. are all sand and clay cliffs. The tide of flood and ebb sets all along the edges of this shoal, but it is not perceptible more than 5 or 6 miles off the shore. Great rippings are frequently met with without the edges of this shoal, particularly off its southern point.

Bersimis Point is S.W. by W. $\frac{1}{2}$ W., 10 miles from Outard Pt., between which is Outard Bay and R.; this river is full of shallows, and only fit for boats. Anchorage may be had in Outard Bay, on the western side, in 14 fms., with Bersimis Pt. bearing S.W. by W., distant $3\frac{1}{2}$ miles; but the water in this bay is generally too deep for anchorage, and being open to easterly winds, cannot be recommended. Bersimis R. has sand-bars and shoals $1\frac{1}{2}$ mile without the entrance, which dry at L.W., and is, therefore, of no use to shipping. Immediately without these shoals the water becomes suddenly very deep (50 or 60 fms.) within a mile from them. This point is low, of sand, and wooded with spruce trees; it is difficult to be seen at night, and the lead affords no warning, rendering this point very dangerous when beating up at night or in foggy weather.

From the southern point of Bersimis, Pt. Mille Vache bears W.S.W., 29 miles. Jeremy Id. is $6\frac{1}{2}$ miles W. $\frac{3}{4}$ N. from Bersimis Pt.; a low sandy shore extends all the way between them. The island itself is low and rocky; and close to the shore, on the main, within the island, is a trading post of the Hudson's Bay Company, the houses of which may be seen 6 miles distant. Just to the eastward of Jeremy Id. is a remarkable white patch in the land, which, in fine weather, looks like a church, and is a sure mark for the island.

Cape Colombier is 5 miles to the westward of Jeremy Id.; between them is a rocky and broken shore. Off this cape is the Gulnare Shoal, a narrow ridge of granite rock, nearly 2 miles long, running parallel to the shore, having 2 to 3 fms. over it at L.W., and very dangerous; there are 23 fms. close to its S.W. end, and 4 to 5 fms. between it and the shore. Wildfowl Reef is 4 miles S.W. by W. $\frac{3}{4}$ W. from Cape Colombier; it is a large bed of rocks, extending $\frac{3}{4}$ of a mile from the shore. Vessels should be careful when standing in towards this part of the coast from Wildfowl Reef to the Gulnare Shoal; 30 fms. is near enough to approach this part.

Laval Bay is 4 miles to the westward of Wildfowl Reef; it will be easily known by a rocky island off its mouth, and the clay cliffs to the S.W. of it. The bay within is all dry at L.W. Vessels may safely stand towards it, 10 fms. being $2\frac{1}{2}$ miles from the shore. Off the clay cliffs there is good anchorage in 6 or 7 fms.

Port Neuf is to the south-westward of Laval Bay, and has another fur trading and fishing establishment belonging to the Hudson's Bay Company; this port stands 4 miles north-eastward of Pt. Mille Vache; the houses and a small church can be plainly seen from a vessel in the offing. About $\frac{3}{4}$ of a mile S.S.E. from the church, upon a low narrow peninsula, there is a clump of pine trees; this peninsula runs N.N.E. for about 2 miles, and joins the remarkable clay cliffs before-mentioned. There are 7 to 12 ft. between the main and the peninsula at H.W. Here small vessels may find good shelter by lying aground on the sand at L.W.

POINT MILLE VACHE is S.W. $\frac{1}{2}$ W., 4 miles from Pt. Neuf; low, sandy, and wooded with spruce trees. At this part the navigable channel becomes narrowed between the shoals off Pt. Mille Vache and Bicquette Id., on the opposite side, to $11\frac{1}{2}$ miles; both sides are bold-to, and the greatest attention to the soundings, and a good look-out, are absolutely necessary to a vessel running up in dark nights or foggy weather. A revolving light is established on Bicquette Island.

Bersimis Point bears from Father Pt. (the pilots' rendezvous), N. $\frac{1}{4}$ E., distant 24 miles; and from Barnaby Id., N. by E. $\frac{1}{4}$ E., distant 25 miles. Here vessels, with the wind at W., and a flood-tide, may cross over and engage a pilot for the river; should the wind be S.W. by W., they will do well to keep the northern land on board, until they can make certain of fetching Father Pt.

THE CURRENT is always strong between Mill Vache and Bicquette, running to the N.E.

When abreast of Pt. Mille Vache, or near it, the Id. of Bic will bear S.S.E. $\frac{1}{4}$ E. The TIDE flows at Mille Vache Pt., F. and C., at 2 h. 10 m. Spring-tides rise 12 ft., neaps 7 ft.

THE SOUTHERN SHORE OF THE RIVER. FROM CAPE GASPE TO THE ISLAND OF BIC.

The coast of the district of Gaspé is high, bold and rugged, steep-to, and totally destitute of harbours. About 6 m. to the northward of Cape Gaspé is Cape Rosier, a low rocky point, the shoal water running off about $\frac{1}{2}$ of a mile. In the bay to the southward, at the distance of $1\frac{1}{2}$ m. there is a reef runs off $\frac{1}{2}$ a mile. Vessels may find anchorage here in 14 to 7 fms., sheltered by the cape from N.W. winds, but the ground is not very good. There are fishery establishments near the cape.

Light.—On CAPE ROSIER is a white fixed light, elevated 136 ft., and vis. 16 m.; shown from the 1st of April to the 15th of December. The tower is circular, 112 ft. high, with white stone.

Griffin's Cove is N.N.W. from Cape Rosier, distant $6\frac{1}{2}$ m.; it is of no use to shipping; but fishing boats find shelter here, and the houses of the fishermen may be seen around the bay. Wood and water might be obtained here. Great Fox R. is 5 m. farther N.-westward; it is only a small brook which enters a little bay, having reefs off each point. Vessels might anchor off this place in the summer months. Here is a small settlement, where wood, water and provisions might be had; the houses will be seen on its banks.

Great Pond River is N.W. $\frac{3}{4}$ N., 16 m. from Great Fox R. It is only a small creek, affording shelter to boats; it may be known by the houses and stages of the fishermen.

Magdalen River is N.W. $\frac{1}{4}$ W., 24 m. from Great Pond R. The mouth of this river is on the N.W. side of a sandy bay, close under Cape Magdalen, its N.W. point, off which a reef runs S.-eastward 2 cables' length. This is a considerable stream, and sometimes visited by shallows and schooners of 80 tons; at spring-tides 13 ft. can be carried into this river. Vessels may anchor in 7 fms., off the mouth in fine weather, at $\frac{3}{4}$ of a mile from the sandy beach.

Mount St. Louis River is W.N.W., 16 m. from the Magdalen R., and is a much smaller stream, falling into a little bay, a mile wide, where vessels may anchor in fine weather in from 8 to 16 fms., mud, towards the W. side, good holding ground; but it cannot be recommended to large vessels. You may easily know when you are off this river by four large openings in the high land within the space of 10 m.; the westernmost opening is Pierre R., the next eastward is Claude, then Mount Louis, and to the eastward Great Matte R.

CAPE ST. ANNE is 26 m. farther to the westward. The mountains of St. Anne commence about 12 m. S.-westward of the cape, and continue in that direction 30 or 36 m.; in clear weather they may be seen 80 or 90 m.; the highest peak is 14 m. within Cape Chatte, and is 3973 ft. above the level of the sea. It is the highest land in British North America.

There is a settlement at St. Anne R. about 10½ m. E. by S. from Cape Chatte, where a few families reside, who are always ready to afford the mariner assistance, if required; but the little river of St. Anne, as well as that near Cape Chatte, are both barred at the entrance, and afford very little advantage to shipping; but the former may be entered by small schooners at H.W. The latter, called Cape Chatte R., becomes dry at L.W., except one spot, where 10 ft. may occasionally be found; these rivers are therefore little frequented.

CAPE CHATTE is a remarkable headland, in lat. 49° 5' 52" and long. 66° 45' 13", and known by a short sugar-loaf hill; it is the most northerly point of land (by compass) on the S. side of the R. St. Lawrence, but the land that surrounds it, as well as that behind, is much more elevated.

This shore, along the whole extent from Cape Gaspé to Cape Chatte, although free from danger, should be particularly guarded against in dark nights, or in foggy weather, for all along it the water is too deep to afford sufficient warning by the lead for the safety of vessels; and should a vessel get on shore on this rocky coast, even if the crew escaped, they would, in all probability, perish before they could reach a settlement.

From the W. end of Anticosti to Cape Chatte the bearing and distance are W. ¼ S., 100 m.; and from Cape Chatte to the opposite shore at Cape de Monts, the distance is only 27 m.: these capes bearing from each other S.E. ¾ S. and N.W. ¾ N. The land about Cape Chatte has a remarkable appearance, the mountains being broken, notched, and irregular at their summits; this is a certain and good mark for the R. St. Lawrence, for there is no land like it to the westward.

From Cape Chatte to Matan R. the coast trends W. ¼ N., distant nearly 33 m.; the coast between them is indented with three places like bays, but no shelter on any part of the coast for anchoring. The shore is all bold and rocky.

The soundings between the above points, beyond the depth of 15 fms., are all sand, but within that depth all hard and foul. In 15 fms. you will not be ¼ a mile from the rocks, and in some places close to them. The water deepens very fast from 15 fms., so much so that 1½ m. from shore you will have 50 and 60 fms., with fine clean sand, and somewhat farther off, no ground at 100 fms.

The TIDES flow, by the shore, till 2 o'clock, nearly, at Cape Chatte; but in the R. St. Lawrence are very much influenced by the winds. Strong easterly winds make them flow much stronger and rise much higher, while westerly winds have a contrary effect. Common springs will rise 12 ft., neap-tides 8 ft.

The shore is all very barren quite up to Matan, and nothing to be had from it but wood and water.

MATAN is a small river, of little use except to small vessels. When abreast of this river, and not more than 3 or 4 m. from it, you will see several houses, and a bluff cliff standing by itself close to the W. side of the entrance. If desirous of entering, you should never attempt it without a pilot, and at or near H.W., as the bar shifts, and there is seldom more than 4 ft. at L.W., and 15 at H.W., spring-tides. Outside the bar there is anchorage in 5 fms., ¼ a mile off shore; or a little farther out, in 10 fms., bottom sand and clay. The entrance of the river is narrow, and a very rapid tide sets out during the ebb.

Ships may procure pilots or provisions here, if in want, or in distress; when,

with a pilot and H.W., they may haul close round the E. side of the entrance, where the sandy beach extends $\frac{1}{2}$ of a mile to the eastward, inclosing a large space, dry at L.W.

The TIDE flows at Matan till 2 o'clock, F. and C.

When 3 to 6 m. to the eastward of Matan, and 3 m. from shore, you will see the Paps of Matan bearing S.W.; they stand inland, to the westward of the river, and this is the best bearing to distinguish them in; Mount Camille will then bear S.S.W., distant 42 or 45 m.; this mountain appears to the northward of all the land then in sight, in the form of a circular island.

The course along the coast from Matan to opposite Mount Camille, is about W. $\frac{1}{2}$ S.; between them and 24 m. to the westward of Matan is Little Metis Cove, a place where small vessels may find shelter from westerly winds. The coast is all barren from Matan to this place. There are several buildings and a fishing establishment on Metis Pt., the outer point of the bay. A reef runs out from this point nearly $\frac{1}{2}$ of a mile to the eastward; it is very bold on the N. side, which enables small vessels to remain at anchor in 3 fms., with the wind as far to the northward as N.W. Large vessels may anchor in 5 or 6 fms., farther out. Vessels of this class may anchor, in fine weather, all along the coast from Motis to Green Id.

About 5 miles W. by S. from Little Metis is Grand Metis, a small cove, with a river on the S.W. side, of no use to ships, as the cove nearly dries at L.W.; however, small vessels may anchor here with S.W. winds, in 3 fms. at L.W., but with westerly winds they will have no shelter. Notwithstanding, vessels lie here during the summer months to load timber; they generally moor with the river bearing S.S.W., distant $1\frac{1}{2}$ mile, in 6 fms. at L.W., bottom mud. A vessel may occasionally anchor anywhere off the bay, in 6 to 12 fms., bottom good, and sufficient room to get under way. Grand Metis has risen into notice from the saw-mills erected on a fall about 3 miles up, where quantities of fine spruce deals are cut.

Little Metis is known from Grand Metis by its having a round bluff rock E.S.E. from the north reef, distant $1\frac{1}{2}$ mile; a little eastward of the bluff rock stands a small hill on the mountain, in the form of a sugar-loaf. Grand Metis has a large rock standing in the middle of the cove; Little Metis has none. You must be within 6 miles of the shore to make the cove out, for the points of land and the reefs which form the coves are very low.

The soundings from Matan to Grand Metis extend farther to the northward off the Metis's than off Matan, the former having 35 fms., sand, 4 miles from shore, and from 4 to 6 miles off you drop into 60 or 70 fms. The northern edge of the bank is very steep quite up to Green Id. Within 10 fms. the ground is all hard and foul, and very bad landing with a boat, except in fine weather, at the coves at Little and Grand Metis. The coast between the Metis's is very full of rocks; in some places nearly $\frac{1}{2}$ a mile from the shore.

The tide flows at Metis till 2 h. 10 m., F. and C. Spring-tides rise 13 ft., neaps 8 ft.

FATHER POINT.—From Grand Metis to Cock Cove, the easternmost part of Father Pt., the land trends W. by S., and the distance is $10\frac{1}{2}$ miles. The ground is all foul $\frac{1}{2}$ a mile from shore; but in from 12 to 15 fms. vessels may stop in calm weather with clean ground. The current generally runs strong down on the southern shore. Mount Camille is between Grand Metis and Cock Cove, and bears from the latter S.E. by S. $\frac{1}{2}$ S., 7 miles, and serves to point out its position.

From Cock Cove to the western part of Father Pt. the land trends W. $\frac{3}{4}$ S., and the distance is 5 miles. Between the cove and point the land is low, and well studded with houses; and the pilots live on shore here (at least many of them), as this place is the general rendezvous for them all. On the western part of the point stands a house, with the body of it painted red; it is the westernmost pilot's house. From this house to the island of Barnaby, the bearing is due W. $\frac{3}{4}$ S., $3\frac{1}{2}$ miles.

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Light.—On FATHER POINT is a tower of an octagonal shape, and painted white; it stands on the extremity of the point, and shows a fixed light, elevated 43 ft. above H.W., and visible, when bearing between W. by S. $\frac{1}{2}$ S., and E. $\frac{1}{2}$ N., 10 miles. It is lighted from 10th April to the 10th of December, of each year.

RIMOUSKY ROAD.—Barnaby Island is W. $\frac{3}{4}$ S., 3 miles from Father Pt., and between them is the Road of Rimousky; vessels lie here during the summer, and take in their cargoes of lumber. The best berth is in 4 or 5 fms. at L.W., with Rimousky Church S.S.W. $\frac{1}{2}$ W.; the eastern point of Barnaby W. by N.; and Father Pt. E.N.E., good holding ground. A landing pier has recently been built at Rimousky, 2,160 ft. long, and having 8 $\frac{1}{2}$ ft. at its end, at L.W. spring-tides. There are no houses on Barnaby Id., and very little water; ships in want of water must go to the river. The Church of Rimousky is to the eastward of the river, and there are many houses directly opposite the island. Small vessels may find shelter from westerly winds under the eastern end of this island, in from 2 to 3 fms. at L.W.

BARNABY ISLAND is a low, wooded, uninhabited island, 3 $\frac{1}{2}$ miles long, and very narrow. The reef off the eastern end extends about $\frac{1}{4}$ of a mile, and may be crossed in 4 fms. A 3 fms. shoal extends outside of Barnaby Id. $\frac{2}{3}$ of a mile, and stretches into a reef at the western end, in the direction of the island, for about $\frac{2}{3}$ of a mile. Between the western end of the island and the mainland is a large high bare rock, about $\frac{2}{3}$ of a mile off the island.

BARNABY ROAD.—Small vessels may find good anchorage, in all but westerly winds, in Barnaby Road, midway between the Bare Rk. and the western end of Barnaby Id. in 2 fms. at L.W., on muddy bottom. The rock will then bear S. and the point of the island N. The mark to sail over the tail of the reef at the western end of Barnaby is Rimousky Church in one with the eastern end of the rock; this will lead into the anchorage.

The channel inside Barnaby is dry at L.W., but at H.W. spring-tides there are 12 ft., and at neaps 7 ft., having many large stones here and there. Vessels of 7 ft. may run through safely between the island and the main, should they be caught at anchor at either end, by the wind shifting suddenly; but it must be at spring-tides or nearly so. The tide flows at Barnaby Id., F. and C., till 2h. 15m.

From Barnaby Id., Bic Id. bears W., and Bicoquette W. $\frac{1}{2}$ N. The first is 9 $\frac{3}{4}$ miles distant, and the latter 12 miles; Cape Arignole bears W. by S., distant 10 miles. Cape Arignole and the eastern end of Bic Id. lie due N. and S. of each other; the western end of the Id. Bic bearing N.W., and the eastern end of the reef, which extends S.E. from the island, N.N.E.; and the distance from the cape to the body of the island is about 2 $\frac{1}{2}$ miles.

Between Barnaby and Bic Id. is the R. Ottey and Old Bic Harbour. The R. Ottey bears S.W. from Barnaby, distant about 5 miles, and is of little use to shipping, except to water at. Old Bic is to the westward of Ottey R. about 3 miles, and is a very good place for small vessels to lie sheltered from westerly winds. This harbour has two round islands, called the Bicoques, extending westward from the eastern point of the bay to within $\frac{2}{3}$ of a mile of the western point; anchor midway between the westernmost island and the western side of the harbour in 3 fms. at L.W., the western point bearing W., distant $\frac{1}{2}$ of a mile. When coming from the N.W. for this anchorage, keep the westernmost of the two round islands its own breadth open to the eastward of the W. point of the harbour; this will lead you clear of the eastern rock off Cape Arignole Reef, the only danger in the way.

Cape Arignole bears from the Harbour of Old Bic due W., and is distant about 2 $\frac{1}{2}$ miles. From the cape a reef runs out E. by N. a mile, and the eastern part of that reef, the western point of Old Bic Harbour, and the western end of the island of Bic, are in a direct line, bearing N.W. by W. $\frac{1}{2}$ W., and S.E. by E. $\frac{1}{2}$ E.; the distance from the eastern end of the reef to Old Bic Harbour is a mile. To the S.E. of the cape is Ha-Ha Bay, which affords excellent anchorage in easterly winds; but as the anchorage under Bic Id. is more roomy, the former is seldom resorted to.

The high land of Bic, to the southward of Cape Arignole, is 1234 ft. above the sea, and bears S.W. by S., about $2\frac{1}{2}$ miles from the N.W. point of the cape.

ISLAND OF BIC is moderately high, and well covered with trees; its length, E. and W., is about 3 miles, and it is surrounded on the E., W., and N. sides by dangerous reefs. Off its northern shore is a woody islet, $\frac{1}{2}$ a mile long, and 100 ft. high, called Bicquette; this is nearly a mile distant from Bic Id.; there is a narrow channel for vessels between them, but it has several rocks in it, rendering it intricate and dangerous for a stranger to attempt. The best time to pass through is at L.W., when the dangers show; by keeping mid-channel between them you will have 5 to 9 fms., irregular soundings. The northern side of Bicquette is steep-to, and there are 15 fms. at musket-shot distance from it.

Light.—On Bicquette Islet is a revolving light. The tower is 65 ft. high, and the light stands 112 ft. above the level of the sea. This light revolves at regular intervals of 2 minutes. A gun (a 9-pounder) is placed near the Lt.-ho., and will be fired every hour during foggy weather and snow-storms.

BICQUETTE AND BIC REEFS.—Two reefs run off from the western end of Bicquette Islet, called the West and N.W. Reefs. The West Reef lies in a S.W. by W. $\frac{1}{2}$ W. direction. There are two large rocks above water, and a third that covers at H.W.; these extend in a line nearly a mile from the island. The N.W. Reef is the greatest danger; it lies due W. from the western end of the island, $1\frac{1}{2}$ mile. The northern extreme of Cape Arignole, kept open of the western end of Bic, clears the N.W. Reef to the westward; this reef just covers at H.W., and is bold on the northern side. The S.E. Reef of Bic runs off from the eastern end of the Id. $1\frac{1}{2}$ mile, in an E. by S. direction, and has three rocks at its outer part, always above water; these rocks are bold on the N. and S. sides. The N.E. Reef of Bic is a small patch of black rocks, which shows at L.W., 400 fms. N.E. by E. from the N.E. point of the island. To clear this reef to the eastward, keep both the rocky islets on the eastern side of Old Bic Harbour open to the eastward of the S.E. Reef, bearing S.E. by S. The W. Ground of Bic extends from the western end of the island W. $\frac{1}{2}$ S., nearly $\frac{2}{3}$ of a mile, and may be approached by the lead to 5 fms.

Captain Bayfield, R.N., says "There is excellent anchorage under either end of Bic, and also between it and the mainland, according to the wind; and vessels which may meet with an easterly wind had better anchor than attempt to beat down the estuary in the long and foggy nights of the fall of the year. More shipwrecks have arisen in consequence of vessels obstinately endeavouring to beat down against an easterly gale, with its accompanying fog, than from any other cause, and yet all that they may gain by such a course might be run in a few hours of a fair wind."

The revolving Lt. on Bicquette will be of the greatest service in pointing out this anchorage at night. The tides in the Bic Channel flow, F. and C., at 2 h. 15 m.; springs rise 14 ft., neaps $8\frac{1}{2}$ ft.; its velocity at spring-tides is about $1\frac{1}{2}$ knot, but strongest near the main; but between Bicquette and Green Id., the eddy flood-tide runs to the eastward.

FROM BIC ISLAND ALONG THE SOUTHERN SHORE TO ST. ROQUE.

The **ALCIDES ROCK.**—This is a danger on which there are only 4 ft. at L.W.; it is situate on a shoal 100 fms. long, and about 50 fms. wide; this small but dangerous rock is much in the way of vessels passing through the Bic Channel. It is bold-to, and lies S.W., $3\frac{1}{2}$ m. from the west point of Bic, and W. $\frac{1}{2}$ S., $4\frac{1}{2}$ m. from the N.W. point of Cape Arignole, and is about $1\frac{1}{2}$ m. from the southern shore.

Between 6 and 9 m. to the westward of Ha-Ha Bay, there is a small rivulet, where in the spring of the year, there is a remarkable waterfall; and $4\frac{1}{2}$ m. farther west are the Razade Ids.

The RAZADE ISLANDS are, strictly speaking, two large barren rocks, appearing always above water, and bearing from each other N.E. $\frac{1}{2}$ E. and S.W. $\frac{1}{2}$ W., being about $1\frac{1}{2}$ m. apart; they are about $1\frac{1}{2}$ m. from the shore, and there is no passage between.

BASQUE ISLAND is W.S.W. $\frac{1}{2}$ W. from the western Razade, distant $3\frac{1}{2}$ m., and S.W. by W. $\frac{1}{2}$ W. from Bicquette, distant about $21\frac{1}{2}$ m.; it has a round appearance, and is covered with trees; at present there are no houses upon it, and its northern side is bold-to. Behind Basque Id., and situate on the mainland is Trois Pistoles, a small settlement. There is no passage between this island and the south shore; shoal water extends $\frac{1}{2}$ a mile to the northward. There is a reef runs off the west end to the N.W. and W., 600 fms., where there is a rock that shows at half-tide.

APPLE ISLANDS lie 3 m. W.S.W. $\frac{1}{2}$ W. from Basque Id.; they are three barren rocky islets, the middle one being considerably the largest. It is about 40 ft. high, and $2\frac{1}{2}$ m. from the main; but there is no passage between.

GREEN ISLAND is to the W.S.W. of Apple Id., from which its northern point is distant nearly 4' n.; it thence continues in the direction of the land nearly S.W. by W. $\frac{1}{2}$ W. and N.E. by E. $\frac{1}{2}$ E., about 9 m.; here, on a point that projects northward into the river, stands the Lt.-ho. There is no danger on the north side of Green Id., except the ledge off the Lt.-ho., which stretches out $1\frac{1}{2}$ m. N.N.E. $\frac{1}{2}$ E. from it; it is covered at H.W. spring-tides, but is steep-to and rocky. To clear Green Id. Reef by day, in clear weather, keep the high land of Bio open to the northward of Basque Id., bearing E.N.E. $\frac{3}{4}$ E.

There is a rocky reef at the western end of Green Id., which dries for a mile; the westernmost part of this reef is there detached from the dry part, and the flood-tide sets through strongly towards Cacona. This part is only covered at quarter tide; and when sailing south-westward do not bring the Lt.-ho. on Green Id. to the northward of N.E. by E. $\frac{1}{2}$ E.

Light.—The Lt.-ho. on Green Id. is 60 ft. above the level of the sea, and exhibits a fixed Lt. from the 15th of April to the 10th of December, from sunset to sunrise, being visible about 13 m., its bearings being as follow:—From Red Id. E.S.E. $\frac{3}{4}$ S.; White Id. E.N.E. $\frac{1}{2}$ E.; the Brandy Pots N.E. by E. $\frac{3}{4}$ E.; Apple Id. W. by S. $\frac{3}{4}$ S.; Basque Id. W.S.W. $\frac{1}{2}$ W.; from the shoal at the N.E. end of Green Id. S.W. by S.; and from the shoal at the W. end of the island N.E. by E. To vessels either going up or down the river, the Lt.-ho. will have the appearance of a ship, being very conspicuous.

Beacon.—S.S.E. from the Lt.-ho., distant about $\frac{1}{2}$ of a mile, there is erected a white beacon. This beacon is nearly of a square form, and when open westward of Green Id. Lt.-ho. forms a mark for the red buoy on the east end of Red Id. shoal; when in one with the Lt.-ho. will clear the east end of Red Id. shoal.

Note.—In order better to distinguish the channels of the River St. Lawrence, all the buoys on the north side are painted red, and those on the south side are painted black, with the following exceptions, viz:—

- W. end of Madame Id. shoal, a red buoy.
- W. end of Beaujeu Bk., a white buoy.
- E. end of the patch, east of Beaujeu Bk., a white buoy.
- Patch in the Traverse, chequered white-and-black buoy.
- W. end of Hare Id. Bk., a red buoy.
- E. end of the Middle Shoal off the south side of Hare Id., a white buoy.
- Barrett's Ledge, a chequered white-and-black buoy.
- E. end of Hare Id. north Reef, a black buoy.
- E. end of Red Id. Reef, a red buoy.

NORTH AND SOUTH CHANNELS.—It may be proper to remark here, that from the east part of Red Id. Reef to the west part of Hare Id. Reef, a distance of 30 m., the river is, by these islands and reefs, divided into two channels; that to the south-eastward is the one most commonly frequented, the other to the north-westward having strong tides, deep water, and no good anchorage. The North Channel is without buoys or Lts., excepting off the entrance to the River

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Saguenay; but in the South Channel a vessel can anchor almost anywhere above Green Id., at any time when it may be necessary.

RED ISLAND.—This is a low, flat, reddish-looking island, without trees, and not above 20 ft. above the level of H. W. It is surrounded with shoals, except its S. W. side, which is bold; but the rocky reef at its east end runs N. E., $2\frac{1}{2}$ m. You may anchor in 10 fms. S. E. of this latter reef, in good holding ground. This island is situate nearly in the middle of the river, bearing from Green Id. Lt.-ho. N. W. by W. $\frac{1}{2}$ W., distant $6\frac{1}{2}$ m.; while the outer or eastern extremity of the reefs about it bears from the same Lt.-ho. N. W. by W. $\frac{2}{3}$ W.

Light.—The Lt.-ho. on Red. Id. shows a red fixed Lt., 75 ft. above H. W., and visible 12 m. The Lt.-ho. is also coloured red.

Beacon.—On the south point of Red Islet is a beacon.

Buoys.—A red buoy on the east end of the reef in $8\frac{1}{2}$ fms., with the south side of Red Islet in one with the north side of Hare Id.; the beacon on Green Id. open a little to the westward of the Lt.-ho., S. S. E. $\frac{2}{3}$ E.

Also a red buoy on the west end of the islet in 2 fms., with the Lt.-ho. on Red Islet E. by N. $\frac{1}{2}$ N.; the beacon on Red Islet in one with the S. W. corner of the keeper's dwelling-house.

CAONA is the high bluff land S. S. W. from the S. W. end of Green Id.; the water between is deep. At 2 m. S. W. by W. from the peninsula of Cacona, and 1 m. from the land, are the Percée Rks.; these form two clusters, about $1\frac{1}{2}$ m. in extent, and are almost covered at H. W.; but there is a narrow passage to the southward of them, with 3 fms. You will always go clear of them to the northward, by keeping in not less than 8 fms.

Beacon.—Parish of Cacona, on the S. side of channel, and painted white, nearly of a square form; when open to the eastward of the church, forms a cross mark for the black buoy on the E. end of Hare Id. North Reef; when open to the westward of the church, forms a clearing mark for the same reef.

RIVER LOUP is $5\frac{1}{2}$ m. S. W. $\frac{1}{2}$ S. from Cacona, and 5 m. S. E. $\frac{1}{2}$ E. from the Brandy Pots, and is a considerable stream; boats can ascend it a mile, except at L. W. A pier has been constructed, 1667 ft. in length, with 16 ft. at its end in the lowest tides. It is 96 m. below Pt. Levi, and near it is the terminus of the Pt. Levi and Montreal Railway.

The anchorage off Loup River is better sheltered than that of the Brandy Pots with easterly winds, also with S. W. winds, but the riding is heavy with a northerly gale.

BARRETT'S LEDGE is two detached rocks. On the western rock is a chequered black-and-white buoy. These rocks are distant from each other $\frac{1}{2}$ of a mile, on a W. by S. line of bearing; the N. E. rock has 10 ft. over it, and the S. W. rock only 12 ft., while between them are 8 fms. The leading mark through this part of the channel, leaving the Barrett's Ledge and Middle Shoal to the northward, and Percée Rocks and Pilgrim Shoal to the southward, is Green Id. Lt.-ho., just shutting in with the S. W. point of the island, N. E. $\frac{1}{2}$ E.

Buoy.—Barrett's Ledge Buoy is chequered black-and-white, in 6 fms., and middle of channel, with the diamond beacon on Hare Id. in line with the eastern extremity of the Brandy Pots; the S. side of the southernmost mountain of Kamouraska in line with the S. point of Great Pilgrim Id.

WHITE ISLAND.—This is a small island S. W. $\frac{1}{2}$ W. from Red Id., distant $9\frac{1}{2}$ m., being round and covered with trees. A reef of rocks extends N. E., full 5 m. from the E. end of Hare Id., drying to about half that distance. Midway between the Red Id. and this reef are 20 and 15 fms.

Buoy.—On the E. end of Hare Id. North Reef a black buoy, between the N. and S. channels, with the beacon in the parish of Cacona open to the eastward of Cacona church; the S. side of White Islet in one with the N. side of Hare Id. This beacon open to the westward of the church leads to the eastward of the E. end of Hare Id. North Reef.

HARE ISLAND is S. W. $\frac{1}{2}$ S., distant only $1\frac{1}{2}$ m. from White Id.; thence it extends to the S. W. $\frac{1}{2}$ W., 7 m., in no part exceeding in breadth a mile, but in places not equalling $\frac{1}{2}$ a mile.

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Beacons.—Two beacons, both painted white, are erected on Hare Id., about 2 m. from the N.E. end, one of diamond form, the other square. The diamond beacon in one with the eastern extremity of the Brandy Pots, forms a cross mark for the chequered buoy on the W. rock of Barrett's Ledge; the square one, when open to the westward of the Brandy Pots, forms a cross mark for the white buoy on the Middle Shoal, E. end of Middle Bank.

BRANDY POTS.—S. by W., $1\frac{1}{2}$ m. from the E. end of Hare Id., is the southernmost of some small islets, called the Brandy Pots. These islets are close together, the northern one being high, and covered with trees; the southernmost is a whitish rock, nearly barren: they are each about $\frac{1}{2}$ a mile long, N.W. and S.E. of each other, the ground between them drying at L.W.; they lie nearly $\frac{1}{2}$ of a mile from the S. side of Hare Id., with only a passage for boats between. A little to the E. of the northern Brandy Pot is the Noggin, a small islet covered with trees; at L.W. these are connected by a chain of rocks, leaving a passage only fit for boats. Halfway between the Noggin and the E. end of Hare Id. is a reef of rocks, which dries at L.W.; it lies close to Hare Id., and therefore not in the way of shipping, and by keeping in 7 fms. you will also go clear.

Light.—BRANDY POTS LIGHTHOUSE is brick, sheeted with iron, stands 42 fms. from the S.E. end of the islet, and shows a fixed Lt., elevated 78 ft., vis. 10 m.

To the westward of the Brandy Pots, the S. side of Hare Id. has a flat of hard ground extending from it, being 4 m. long, and nearly $\frac{1}{2}$ a mile broad. The whole of this side of the island is bounded by rocks.

MIDDLE SHOAL.—S. westward of Barrett's Ledge, and between Hare Id. and the mainland, is a shoal called the Middle Shoal; its N.E. end begins where the Brandy Pots bear N.W., distant 2 m.; it runs S.W. by W. from thence about 5 m. The least water on its N.E. part is 10 ft., on which a white buoy has been placed. On its middle are 3 fms., and on its western end 4 fms. The anchorage upon it is good in fine weather.

Buoy.—The buoy on the Middle Shoal is white, in 10 ft. and middle of the channel, with the square beacon on Hare Id. open to the westward of the Brandy Pots; the S.W. end of Hare Id. in one with the summit of Ebeulemens mountains.

HARE ISLAND BANK.—This is a long shoal beginning $\frac{1}{2}$ about a mile above the W. end of Hare Id., and running up in a S.W. by W. direction, full 9 m.; a considerable part of it becomes dry at L.W.: this dry part is about $2\frac{1}{2}$ m. in extent, and lies on the northern part of the bank; it is covered with grass and spruce bushes, and is about $2\frac{1}{2}$ m. S.W. from Hare Id. There is good anchorage on the S. side of this bank in 7 fms. The E. end of the bank (on which a red buoy is placed) bears from the E. end of the Pilgrims N.N.W., 3 m., and from the Lt.-ho. on the Pilgrims N. by E. $\frac{1}{2}$ E.; the bank thence extends S.W. $\frac{3}{4}$ W., 9 m. to the western end (where there is another red buoy). About $\frac{2}{3}$ of a mile eastward of the eastern red buoy is another knoll, of 3 fms.; there is a narrow channel between the S.W. end of Hare Id. and the bank, with $3\frac{1}{2}$ to 4 fms. in it. From the E. end of Hare Id. Bank, a narrow bank, with only $3\frac{1}{2}$ to 4 fms. on it, at L.W., extends to the N.-eastward 5 m., to the Middle Shoal, on which a white buoy (before mentioned) is placed; between this bank and the island are from 10 to 18 fms. Heavy ships should not attempt to cross the Middle Bank at L.W. spring-tides.

Buoys.—HARE ISLAND BANK. On the knoll at the E. end of Hare Id. Bank, a red buoy, in 3 fms., on the N. side of channel; with the S. side of Hare Id. and the middle of White Id. in one; the W. end of Hare Id. N.W. $\frac{1}{2}$ W.

Also a red buoy off the W. end of Hare Id. Bank in 4 fms., between the channels; with the two beacons in one on the E. end of Grande Id. of Kamouraska; the N. sides of Hare Id. and Hare Id. South Reef touching.

The **PILGRIMS** are five islands connected together by reefs, that become dry at L.W.; they occupy a space of about $4\frac{1}{2}$ m., and are distant $1\frac{1}{2}$ m. from the main; but there is no passage between them and the S. land. The N.E. end of Great Pilgrim bears from the Brandy Pots S. by W. $\frac{3}{4}$ W., distant 7 m., and from the S.W. end of Hare Id. S.E. by S., distant $4\frac{1}{2}$ m.; this is the highest island, and covered with trees, the others appear white and barren. The S.-westernmost, or

Long Id., lies in the direction of S.W. and N.E.; its W. end bears from the W. end of Hare Id. S. by W., 6 m. They are all bold-to on the northern side.

Light.—LONG PILGRIM LIGHTHOUSE is circular brick, sheeted with iron, and stands 20 fms. W. of the centre of the island, and 54 fms. S. from the water's edge, and shows a fixed light, elevated 180 ft., vis. 12 m.

PILGRIM SHOAL is a narrow bank, about 4 m. in length without the edge of the Loup Bank; it has from 12 to 15 ft. upon it; its W. end is 'abreast of the middle of the Pilgrims. The N. extremity of this shoal is marked by a black buoy. The leading mark through between Pilgrim Shoal and Hare Id. is the N. side of Burnt Id. just open of Grande Id., bearing S.W. $\frac{1}{2}$ W.

Buoy.—On the northern extremity of the Pilgrim Shoal a black buoy in 4 $\frac{1}{2}$ fms. on the southern side of the channel, with the western end of Hare Id. and the western end of Great Pilgrim in line N.N.W. $\frac{1}{2}$ W., and S.S.E. $\frac{1}{2}$ E., the western end of Brandy Pots and White Id., touching.

KAMOURASKA ISLANDS.—These are a collection of small islands off the southern side of the river, between the Pilgrims and Cape Diable, and in front of the church and settlement of Kamouraska. The Great or N.E. Id. bears from the Western Pilgrim S.W. by W. $\frac{1}{2}$ W., distant 6 miles; there is a bank extending from one to the other, with 2 fms. upon it, called the Bank of St. André; its northern edge is steep-to; the second is called Burnt Id., and is to the westward of Great Id. Crow Id. is S.S.W. from the western end of Burnt Id., distant $\frac{2}{3}$ of a mile; there are also two lesser islands at the inner side of Burnt Id. These islands occupy a space of 3 miles, and are about 1 $\frac{1}{2}$ mile from shore, the bank drying at L.W. Great and Burnt Ids. are both bold and steep-to on the northern side; but Crow Id. has shoal water around it, and bears from Kamouraska Church N.W., distant $\frac{2}{3}$ of a mile; between is a safe landing-place. After passing Kamouraska, the edge of the southern bank may be easily followed, in 7 fms., or in 10 fms., with a large ship, up to St. Anne Bay.

Light.—Kamouraska Light on Grande Id. The tower stands 120 fms. from the N.E. end of the island, and 80 fms. from the water's edge, and shows a fixed light, elevated 166 ft.

Beacons.—On the Great Id. of Kamouraska, on the southern side of the channel, are two beacons, one red and one white. They bear N. $\frac{1}{4}$ W. and S. $\frac{1}{4}$ E. of each other, and, when in one, form a cross mark for the red buoy on the S.W. end of Hare Id. bank in 4 fms.

From Crow Id. Cape Diable bears S.W. $\frac{1}{2}$ W., distant nearly 3 miles; but from the cape, in the direction of Crow Id., runs a rocky reef, the easternmost part of which is covered at a quarter-flood. At 2 $\frac{1}{2}$ miles above Cape Diable is Pt. St. Denis, to the southward of which is a little cove. There is good riding opposite this cove at 1 $\frac{1}{2}$ mile from the shore, in from 6 to 8 fms.

At Point Origeneaux, 2 miles W. by S. from Cape Diable, a landing pier has been built 1200 ft. in length, with 15 ft. depth of water at the pier-head at L.W. spring-tides.

The land from St. Denis bears S.W. to Pt. Ouelle, and is all low, with rocks scattered before it. Pt. Ouelle has a rocky reef attached to it, which stretches out west and south-westerly. All the way to St. Roque large stones are scattered throughout this mud-bank. Rounding this point you will open the River Ouelle, on the eastern banks of which is a church and settlement; from Cape Diable to Pt. Ouelle the distance is 8 m. Nearly 8 m. to the south-westward of Pt. Ouelle is Pt. Roque. A sand-bank stretches out from this latter point full 4 m., and continues full that distance from the shore, to the eastward, as far as Pt. Ouelle; near the north extremity of this bank, and N.N.W., about 4 $\frac{1}{2}$ m. from Cape Roque the Lt.-vessel is moored, which must be always left on the port or south side, when bound upwards. Between Pts. Ouelle and St. Roque is an extensive bay, commonly known by the name of St. Anne Bay; it is shallow all over, for a sandy-flat, beginning at Pt. Ouelle, extends itself so far as the bay of St. Roque; this flat is studded with sunken rocks, and is very dangerous.

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FROM POINT MILLE VACHE ALONG THE NORTHERN SHORE TO COUDRES ISLAND.

The northern shore of the river, from Pt. Mille Vache to Coudres Id., is bold and mountainous. The granite hills, in most parts rise immediately from the river; those near the Saguenay are about 1000 ft. in height; but Mount Ebeulemens, near Goose Cape is 2517 ft. in height.

The course and distance across the Bay of Mille Vache to Esquimine Islets, is S.W. by W. about $11\frac{1}{2}$ miles; these islets consist of two large rocks, having three small ones nearly a mile S.W. of them. From them to the entrance of Saguenay R. the course is nearly S.W. by W., 22 miles. Little Bergeron is 16 miles from the Esquimines, between which the coast is clear, excepting a flat which occupies a bay on the western side of Cape Bondosir; but this lies so close in as to be little in the way, and there are 50 fms. very near the rocks on this part of the coast. Great and Little Bergeron are two coves only separated by a point; they are full of rocks, and dry at L.W. Pt. Vache, the eastern point of Saguenay R. entrance, is 6 miles S.W. of Little Bergeron. The high clay cliffs at this point, named Saguenay Cliffs, may be readily known; you may anchor with these cliffs bearing W. by S., distant 3 miles, in 7 fms., with the S.W. end of Green Id. and Red Islet in one, nearly a mile off shore; but immediately without this you fall into deep water.

Buoys.—(1). **VACHES PATCH.**—A reef of rocks dries out $\frac{1}{2}$ a mile from Vaches Pt., and the shoal stretches S.W. by W., $1\frac{1}{2}$ mile from the point to Vaches Patch, on which a black buoy is placed in 13 ft., to be left on the right hand when entering the Saguenay. The marks for this buoy are, the beacon on Ilot Pt. just open to the westward of the beacon on Rouge Pt., and Lark Pt. just open to the southward of the beacon on Lark Id.

(2.) Outer Patch is nearly a mile to the southward of the former, and near the eastern end of the Bar Reef. It is marked by a chequered black-and-white buoy in 3 fms., to be left on your port hand when entering the Saguenay. Its marks are White Id., half its breadth shut with the north side of the Brandy Pots, and N.W. Company's house in the Harbour of Tadousac, just shut behind Rouge Pt. This outer patch is sometimes called the Prince Shoal. Lark Pt. bears from it W. by N., and the black buoy on Vaches Patch N. by W.; the western side of Brandy Pots and White Islet in a line, which clears Lark Reef, lead on this shoal. Brandy Pots should, therefore, be kept open to the eastward of, or just touching, White Islet, S.W. by S., which will lead about $\frac{1}{2}$ a mile to the eastward of the shoal.

LARK POINT is the S.W. point of the entrance of Saguenay; it lies S.W., $2\frac{1}{2}$ m. from Pt. Vache, and is composed of low clay cliffs. E.N.E. a mile from the point is Lark Islet, low and small.

LARK REEF, dry at L.W., extends $3\frac{1}{2}$ m., in a S.S.E. direction from the point. Between this extensive reef, and those running off $1\frac{1}{2}$ m. S.E. from Pt. Vache, is the entrance to Saguenay River, which has a depth of 12 to 18 fms. midway between the two shoals; but just within the entrance, it suddenly deepens to 100, and a little farther up to 150 fms.

Buoys.—On the extreme S.W. point of Lark Reef, a white buoy is placed in $4\frac{1}{2}$ fms., on the north side of the channel, with Red Id. Lt.-ho. E. $\frac{2}{3}$ S.; and the beacon on the N.E. bank of the Harbour of Tadousac in one with the diamond beacon on Lark Id.

Beacons at the entrance of the River Saguenay.—The first is placed on the N.E. bank of Tadousac Harbour on the N.E. side of channel and coloured white. When in one with the beacon on Lark Id. forms a mark for the white buoy on the S.W. extremity of Lark Reef. On Ilot Pt., River Saguenay, a beacon with a diamond Hd., painted white on the N.E. side of channel, and one on Roque

Pt. with a triangle on top, and coloured white, also on the N.E. side of channel. The latter when open to the eastward of the beacon on Ilot Pt. forms a mark for the black buoy on Vaches Patch.

On Lark Islet, a three-sided beacon painted white, on the S.W. side of the channel. When open to the northward of Lark Pt. forms a mark for the black buoy on Vaches Patch; and in one with the diamond beacon on the N.E. bank of Tadousac Harbour, forms a mark for the white buoy on the S.W. extreme of Lark Reef.

TIDE.—In working up between the Esquimines and Red Islet Reef, observe the flood does not extend above 5 or 6 m. from the north shore; therefore keep within that distance. The tides here are regular, and off Bergeron spring-tides run 2 to 3 knots.

Should you be suddenly caught to the northward of Red Islet Reef by a shift of wind to the eastward, so that you cannot fetch round the E. end of the reef and gain the South Channel, you may safely bear up and run to the westward, by giving Red Id., White Id., and Hare Id., with its reefs, a berth of 2 m. on your port hand, in passing. When you are 10 m. to the westward of Hare Id., you may safely haul across for the South Channel. Observe, that by keeping Kamouraska Church just open to the westward of Grande Id., bearing S. by W. $\frac{1}{2}$ W., you will clear the S.W. end of Hare Id. Reef, on which a red buoy is placed, in 3 fms. As the river is all clear to the westward, there is no necessity for hauling across so near to the reef. There is anchorage along the N. side of Hare Id., in 6 to 8 fms., but this is pretty close in.

Cape Basque is $6\frac{1}{2}$ m. S.W. of Lark Pt.; about $1\frac{1}{2}$ m. to the northward of the cape is Echafaud Id., small and rocky, before a cove full of rocks. Basque Roads is directly off this cove, and between the cape and Lark Reef; here is very good anchorage, sheltered from easterly winds, with Echafaud Id. bearing W.N.W. rather less than a mile. Here is room for a number of ships to lie in 10 or 11 fms.: in this depth the tide is not strong, and the holding ground good. From hence to Murray Bay there is no good anchorage on the N. shore.

The Bay of Rocks is $2\frac{1}{2}$ m. S.W. of Cape Basque; it only affords shelter for boats. About 3 m. farther is Cape Dogs, bold and high, and of bare granite. Cape Salmon bears S.W., $9\frac{1}{2}$ m. from Cape Dogs, and is similar to it; Black R. and Port Parsley is between them. Port Salmon is $1\frac{1}{2}$ m. to the westward, and will admit large boats at H.W. The settlements on the N. shore are continuous from here along the coast to Quebec. Cape Eagle is $5\frac{1}{2}$ m. S.W. by W. $\frac{1}{2}$ W. from Cape Salmon, and is of the same character.

Murray Bay is W. by S. of Cape Eagle, distant $6\frac{1}{2}$ m.; it is about $1\frac{1}{2}$ m. wide, about the same depth, and nearly all dry at L.W.; a rapid and unnavigable river falls into it. There is a church and village round the head of the bay; and the settlement extends some miles back. On this river are grist and saw mills; at the latter, quantities of deals are cut, and shipped in small vessels for Quebec. Vessels occasionally anchor off here, and take in lumber; with Pt. Pique, its E. point, W. by N., 400 fms.; Pt. Gaze, its W. point, S.W. $\frac{1}{2}$ W.; and Pt. Heu, E.N.E. $\frac{1}{2}$ E., in 10 or 12 fms., good holding ground, and tides easy.

Mal Bay lies between Murray Bay and Cape Goose. Here, at 60 m. below Quebec, a pier has been built 475 ft. in length, with 18 ft. water at the pier-head, at low spring-tides.

Goose Cape is S.W. $\frac{1}{2}$ S., $8\frac{1}{2}$ m. from Pt. Gaze, the W. point of Murray Bay; it is bold and rocky. Midway between is Mal Bay, in which there is no good anchorage. Cape Martin is 3 m. W. by S. from Goose Cape; between them is good anchorage, well sheltered from easterly winds. Vessels anchor in 7 fms., with Grosse Rk. bearing N. by W. (Grosse Rk. is about midway between the capes). Here you will be sheltered from the tides, which run past Goose Cape with great rapidity, often occasioning great rippings.

At Eboulemens, 53 m. below Quebec, and 3 or 4 m. W. of Cape Goose, a landing-pier has been built, 920 ft. in length, with $9\frac{1}{2}$ ft. water at the pier-head at low spring-tides.

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COUDRES ISLAND is opposite the Traverse and Pt. St. Roque on the S. shore; here the navigation of the river becomes impeded by numerous shoals and islands, which form the North, Middle, and South Channels; this latter leading to the South Traverse.

The island is about 6 m. long, and $2\frac{1}{2}$ wide; its E. point bears from Goose Cape S.W. by W. $\frac{1}{2}$ W., distant 6 m. Balines Reef runs off this point nearly $1\frac{1}{2}$ m.; and the S. side of the island is all rocky, upwards of a mile from the island. This island has been cultivated from an early period, and has a number of settlers, which gives it a pleasant appearance. The N.E. shore of the island is bold to Prairie Bay, where there is good anchorage in 6 or 7 fms. Prairie Shoal runs off $\frac{1}{2}$ of a mile N.W. from the point of that name, and forms the W. side of the bay; this shoal is rocky, and covered at H.W.

Buoy.—The northern extremity of this shoal is marked by a black buoy. The mark to clear it is Notre Dame Church in one with the N.W. end of the clay cliffs on Pt. St. Joseph, E.N.E. From the N.W. point of Prairie shoal, Cape Corbeau, the E. bluff point of St. Paul's Bay bears N.N.W. $\frac{1}{2}$ W., and the waterfall on the N. shore N.N.E. $\frac{1}{2}$ E. This reef continues along the N. shore of the island for about 2 m. farther, stretching off full $\frac{1}{2}$ a mile, until it joins the Great Coudres Bk., which, at the W. end of the island, is $3\frac{1}{2}$ m. wide. This bank extends all the way to the Burnt Cape Ledges, a distance of 18 m.; its northern edge, which is nearly straight, forms the southern boundary of the North Channel in this part.

ST. PAUL'S BAY, to the N.W. of Coudres Id., is shoal and rocky, with a great ripple at some distance off. In the channel between Coudres Id. and the main, the tides run very strong; sometimes 6 and 7 knots at spring-tides, and the water too deep for anchoring, except in Prairie Bay, before mentioned. Here it is H.W., F. and O., at 4 h. 25 m. Cape Corbeau forms the eastern, and Cape Labaie the western point of the bay; they are $3\frac{1}{2}$ m. apart. A stony bank runs off the latter point nearly $\frac{1}{2}$ of a mile; and this bank extends about 11 m. to the westward along the N. shore.

SOUTH CHANNEL, leading to the SOUTH TRAVERSE.—The narrows of the S. Traverse are between the Middle Ground and the St. Anne and St. Roque Shoals; the E. end of the Middle Ground lies with the E. end of Coudres Id. N.W. by W., distant $3\frac{1}{2}$ m. The narrowest part of this channel is pointed out by a light-vessel, which rides $5\frac{1}{2}$ m. W.S.W. from the black buoy on St. Anne Shoal, and which must be left on your port hand going up.

Buoy on St. Anne Shoal.—The marks for this buoy are St. Anne Church S.E. $\frac{1}{2}$ S.; Cape Diable half open to the northward of St. Denis Pt. This is considered the most intricate part of the river; the currents here are various, irregular, and strong, so that it requires the utmost attention. From Hare Id. Reef to the Middle Ground, at the South Traverse, in the fairway track, are 7 to 14 fms.; the soundings are regular, and the bottom sand and mud, affording good anchorage.

Light-Vessel.—The light-vessel placed in the S. Traverse, at the N.E. part of St. Roque Shoals, in lat. $47^{\circ} 22' 10''$, long. $70^{\circ} 14' 56''$, shows two fixed Lts. on separate masts, the main Lt. 4 ft. higher than the other, and vis. about 9 m.

Buoys in the Narrows.—In proceeding up the Narrows there are three black buoys placed on the northern edge of the shoals of St. Roque, marking the southern side of the South Traverse. They are moored respectively 1, $2\frac{1}{2}$, and $4\frac{1}{2}$ m. above the Lt.-vessel. On the northern side of the Narrows are two red buoys on the Middle Ground, moored in about the same depths as the three black buoys, from $2\frac{1}{2}$ to 3 fms.

(1.) The marks for the above buoys are:—For the N.E. black buoy. The beacon to the southward of St. Roque Church in one with the W. end of François Marie Foulard's house.

(2.) The middle black buoy. The end of Coudres Id. in one with R. Eglise, on the N. shore, N. $\frac{1}{2}$ W.; the Wood Pillar shut in its own breadth with the S. side of Goose Id., S.W. $\frac{1}{2}$ W.

[G. & R. ST. LAWRENCE.]

(3.) The black buoy on the S.W. point of the shoals of St. Roque; St. Roque Church E. $\frac{1}{4}$ N.; the high rock at the S.W. extreme of Goose Id. reef open one or two degrees to the northward of the Stone Pillar.

(4.) The red buoy on the S.E. side of the Middle Ground. The beacon to the southward of St. Roque Church in one with centre of François Marie Foulard's house.

(5.) The red buoy on the W. end of the Middle Ground. Two beacons in one in the parish of St. Roque; the Wood Pillar and Goose Id. touching.

Beacons at St. Roque.—(1, 2). On the southern side of the channel, both coloured white. The diamond beacon stands to the south-eastward of the other, and when in one, forms a mark for the red buoy on the 3-fms. patch on the northern side of the Traverse.

(3.) A third beacon, similar in shape to the second of the former two, also white. When open its own breadth to the westward of the church forms a cross mark for the Lt.-vessel; when in one with the centre of François Marie Foulard's house forms a cross mark for the N.E. red buoy of the Traverse, and when in one with the western end Foulard's house forms a cross mark for the black buoy on the northern extremity of St. Roque Shoal.

Buoy on the Patch off St. Jean Church is black, in 3 fms., on the southern side of the channel. Marks—the beacon in sugar-loaf form in the parish of St. Jean, Port Jolie in one with the church; the high rock on Goose Id. reef just shut in behind the southern point of the South Pillar.

Buoy on the Channel Patch is chequered black-and-white, in 3 fms., and mid-channel. Marks—the diamond beacon in the parish of St. Jean open to the westward of the church; the northern side of Goose Id. reef and Stone Pillar in one.

Light.—On the **STONE PILLAR**, at 50 fms. from the southern point of the Islet, a Lt.-ho. is erected, showing a revolving light every $1\frac{1}{2}$ min., from the 15th April to 15th December. The building is of stone, conical, and coloured white; the lantern being 68 ft. above H.W., and visible 13 miles.

The **South Rock** dries at $\frac{2}{3}$ ebb, is 100 yards in length, quite round at the top, and lies 2 or 3 cables' length S.E. from the body of the South Pillar; there are 7 fms. close to it. Crane Id. kept well open to the southward of the large reef off Goose Id., leads clear to the southward of it.

The **MIDDLE ROCK**, which dries at half-ebb, is about $\frac{1}{2}$ a mile to the eastward of the Wood Pillar; these are joined to Goose Id. by a reef.

The **WOOD PILLAR** is $1\frac{1}{4}$ mile W. of the Stone Pillar; it is a high, round rock, with some trees on its western part.

The **SEAL ISLAND** and **REEF** are to the northward of the Pillars; they extend S.W. by W. and N.E. by E., about 4 miles; a great part of this reef dries at L.W. An extensive bank runs from this reef to the N.E., as far as Coudres Id. and the Middle Ground, and forms the southern side of the Middle Channel, from abreast of Coudres to Goose Id.

S.W. $\frac{1}{4}$ W., about $1\frac{1}{4}$ mile from the South Pillar, begins a ledge of high rocks, which runs up to the S.W. end of Goose Id., from which the upper end is but $\frac{1}{2}$ a mile distant; and, with the exception of their eastern part, are always above water; this is called Goose Id. Reef. There is an opening between the eastern end of Goose Id. Reef and the South Pillar, having 4 to 5 fms. in it.

GOOSE ISLAND is connected to Crane Id. by low meadow land, the whole of which occupies an extent of nearly 11 miles, in a S.W. $\frac{1}{4}$ W. and N.E. $\frac{1}{4}$ E. direction. A shallow flat runs off nearly a mile from the southern side of this low land, which narrows the channel very much as you approach the Beaujeu Bk., on each side of which a white buoy is placed. There is a farmhouse on the island, just to the eastward of which is the Hospital Rock; this rock is large, and close to the low-water mark. At $2\frac{1}{2}$ miles from the Hospital Rk. the shore becomes rocky, a long reef commencing, which, as it lies close to Goose Id., is out of the way, and consequently easily avoided.

CRANE ISLAND is about $3\frac{1}{2}$ miles long; the northern side is cultivated, and a farmhouse appears at the eastern end; to the S.E. of this house, about $\frac{1}{2}$ a mile,

is Beaujeu Bk., having on its shoalest part not more than 6 ft. over it; it is separated from the flat that runs off the main by a channel, having $\frac{1}{4}$ or $\frac{1}{5}$ fms. in it; but just within the western entrance of this channel is a knoll of only 12 ft. The channel between Beaujeu Bk. and the eastern end of Crane Id. has 4 to 5 fms. in it, but its breadth scarcely exceeds $\frac{1}{4}$ of a mile. On the N.W. side of this channel a red buoy is placed, opposite the white buoy on the western end of the Beaujeu Bk.

Beacons on Goose and Crane Islands.—(1). A three-sided beacon on the meadows of Goose Id., coloured white, and on the northern side of the channel, when in one with Onion Id., forms a cross mark for the white buoy on the patch E. of Beaujeu Bank.

(2). A diamond-shaped beacon on Crane Id., about $1\frac{1}{4}$ cable's length to the S.W. of Macpherson's house, when in one, form a cross mark for the white buoy on the western end of Beaujeu Bank.

(3). A diamond beacon on Crane Id., 1 cable's length to the eastward of the red beacon (next noticed). These two beacons are both white, and the latter when in one with the red beacon, forms a mark for the black buoy on the northern extremity of the Bank of St. Thomas.

(4). A red beacon on the southern point of Crane Id., and a white beacon about 1 cable's length to the westward of the red beacon. These two beacons in one, form a mark for the red buoy on the western extremity of Crane Id. Spit, and like the former, are on the northern side of the Channel. They are nearly of a square form.

Buoys on the Beaujeu Bank.—(1). On the eastern end of the patch, E. of Beaujeu Bk., a white buoy, in 3 fms. in mid-channel. Marks—the beacon on the meadows of Goose Id. in one with the centre of Onion Id.; the southern side of Crane Id. S.W. by W. $\frac{1}{4}$ W.

(2). On the western end of Beaujeu Bk., a white buoy, in 3 fms., in mid-channel. Marks—the two white beacons on Crane Id. in one; Stone Pillar Lt.-ho. open two or three sails' breadth to the southward of Goose Id. reef.

Buoys on Crane Island side of Channel.—(1). The first of these is a red buoy, in 4 fms., on the edge of Goose Id. shoal, to be left to the northward. Marks—Onion Id. N.W.; south side of Crane Id. S.W. $\frac{1}{4}$ W.

(2). A second red buoy, in $3\frac{1}{2}$ fms., on the southern side of Crane Id., to be left to the northward. Marks—Macpherson's house N. $\frac{1}{2}$ E.; St. Ignace Church touching the eastern end of the Peninsula.

Light.—CRANE ISLAND.—The tower is wood, 39 ft. high, and stands 80 fms. from the western end of the island; it shows a fixed light, elevated 44 ft.

From the western end of Crane Id. a reef of rocks extends $\frac{1}{2}$ a mile, drying at L.W.; and a shallow spit runs out $1\frac{1}{4}$ mile farther westward, on which is a red buoy.

THE SOUTHERN SHORE.—In following the southern shore from St. Roque Pt., you will see the Church of St. Jean, standing on a projecting point. About $6\frac{1}{2}$ miles distant from the church is L'Islet, and between these is Port Jolie and Three Saumons R., fit only for small craft. At L'Islet a landing pier has been built 1,200 ft. in length, with $8\frac{1}{2}$ ft. at the pier-head at L.W. Farther on is the church and telegraph of St. Ignace; this latter is to the southward of Beaujeu Bank, from which it is distant nearly a league. The shore all the way from St. Roque Pt. to St. Thomas's R. is lined with a sandy flat of 3, 2, and 1 fm. The country about here has a very pretty appearance, being thickly covered with white-washed houses and village churches.

Beacons.—(1, 2). PARISH OF ST. JEAN.—Two beacons to the S.E. of the church, both white, and on the southern side of the channel. The diamond beacon, when in one with the church, forms a cross mark for the chequered buoy on the Channel Patch. The other, when in line with the church, forms a cross mark for the black buoy on St. Jean Patch.

At $4\frac{1}{2}$ miles to the south-westward of Beaujeu Bk., and about the same distance from St. Ignace, is the entrance to St. Thomas's or South R. From this land a

flat or mud-bank extends more than half-way to Crane Id.; it is named St. Thomas's Bk.; its northern extremity bears S.W. by W., distant $1\frac{1}{2}$ mile from the southern point of the island; it is a dangerous bank, and chiefly dries at L.W., and marked by a black buoy.

THE WYE ROCKS are immediately above the Bank of St. Thomas. This bank lies in the direction of S.W. by W., and is about $\frac{1}{2}$ of a mile long; over its western end are only 4 ft., and over its eastern end 6 ft. The marks for the rocks are the Seminaire, on the northern shore, in line with the eastern point of Reaux Id., and Crow Id. just open to the westward of Middle Id.

The Belle Chasse Rks. are two remarkable rocks, $6\frac{1}{2}$ m. to the westward of the Wye Rks., $\frac{2}{3}$ of a mile from the shore, and about a mile W.N.W. from Berthier Church; behind them is a small sandy cove, with some rocks running off the west point. At Berthier, 20 m. below Quebec, a pier has been built, 587 ft. in length, with 15 ft. depth of water at the pier-head at low springs. St. Valiere Church stands 4 m. to the westward of Berthier, and bears from the Church of St. John, on the Id. of Orleans, S.E., distant 4 m. The ground from St. Valiere's Pt. is foul, and affords no safe anchorage all the way to Quebec.

Light.—**BELLE CHASSE LT.** is shown from a wooden tower at the east end of the island. The Lt. is fixed, elevated 70 ft. above H.W.

Beacon.—Parish of St. Valiere; one beacon on south side of channel, painted white, and when in one with the church forms a cross mark for the S.W. end of Madame Reef, in 6 fms.

The Church of St. Michael stands 5 m. to the westward of Pt. St. Valiere; and 5 m. farther westward stands the Church of Beaumont, which is opposite to St. Lawrence Pt., on Orleans. Beaumont Reef is an extensive rocky reef, extending half-way across the river from the south shore toward St. Lawrence Pt.; it dries at L.W., is uneven, dangerous, and steep-to, having 8 to 10 fms. close-to. A black buoy is placed on the northern edge of this shoal. From Beaumont the coast runs W. by N., 7 m. to Pt. Levy.

Buoys between the west end of Crane Id. and Quebec.—(1.) On the west end of Crane Id. shoal, a red buoy, in 3 fms. on the north side of channel. Marks—the two beacons in sugar-loaf forms, on the south side of Crane Id. in one; Middle and Cross Ids. in one.

(2.) On the west end of Margaret's Tail a red buoy, in $2\frac{1}{2}$ fms., with the south side of Margaret Id. N.E. by E., on north side of channel.

(3.) On the east end of Grosse Patch a white buoy, in $2\frac{1}{2}$ fms. in mid-channel, with the north side of Margaret Id. N.E. by E. $\frac{1}{2}$ E.

(4.) On a rock in the Quarantine Ground, a chequered black-and-white buoy, in 7 fms., on north side of channel. The buoy is placed on the north side of the rock, with the S.W. point of Grosse Id. W.S.W.

(5.) On the west end of Madame Id. reef, a red buoy, in $5\frac{1}{2}$ fms. in mid-channel, i.e. between the junction of the South Channel and the North Traverse with St. Valiere Church S. $\frac{1}{2}$ E.; a house on the west end of Reaux Id., just open to the northward of Madame Id.

(6.) On the south side of the channel there is a black buoy on the north extreme of the Bk. of St. Thomas, in 2 fms. with the red sugar-loaf and white diamond beacons, on the south point of Crane Id. in one; and Haystack Id. in one with the west end of Crane Id.

(7.) On the north extremity of Beaumont shoal (within 9 m. of ~~Quebec~~) a black buoy, in 4 fms.; with St. Lawrence Church north; Pt. Levi Church just open northward of Martiniere Pt.

MIDDLE CHANNEL.—The north side of this channel is formed by Cordes Id. and the banks which extend from its west end to Burnt Cape Lodge, and Isle Reaux, and on the south side by the Middle Ground, Seal Ids. and reefs, and the chain of islands and reefs extending from Goose Id. to Margaret Id.; here are several entrances between the islands. To the northward of the Seal Ids. there are only 3 fms. at L.W. This channel, having neither buoys nor beacons, is not used by the pilots; but most of the channels between the islands are used by the small coasting vessels.

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THE NORTH TRAVERSE.

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The NORTH CHANNEL, now very little frequented, was formerly the most commonly used; this channel runs to the northward of Coudres Ids., along the north shore to Cape Tourmente, through the North Traverse, between the spit and reef which runs off the east end of the Id. of Orleans, to the northward, and the Brulé Bk. and shoals northward of Reaux Id., to the southward. In this channel the water is generally deep, the adjacent lands high, the tides strong, and the North Traverse intricate and narrow, besides which there are few places fit to anchor in; it is the want of convenient anchorages which renders the eastern part of this channel unfit for general use.

Having arrived off the N.W. reef of Coudres, and having the west end of it clear of Cape Branche on Coudres, you have a fine straight channel for 21 m. to Cape Brulé, and from 2 to 1½ m. in breadth, with from 20 to 5 fms. in mid-channel; the latter depth is off Cape Rouge. The Coudres Bk., which forms the south side of this channel is nearly straight, with regular soundings, of 4 to 6 fms., along its edge up to the Neptune Rk., when the north shore should be kept close on board, to prevent you getting into the swash between the Burnt Cape Ledges and the Brulé Bk. There is anchorage near the sides of this channel, where the tides are not so strong. Off Cape Maillard spring-ebbs run 4 knots, and the floods 3½ knots; but off St. Paul's Bay, within Coudres, the ebb runs 7 knots on spring-tides, and the floods 6, which cause great rippings.

Along the high northern shore a rocky shoal runs off nearly ¾ of a mile from Cape Labaie (the western point of St. Paul's Bay), and extends along shore to the S.W. for 12 m., where it terminates about 2 m. north-eastward of Cape Rouge; from hence to Cape Tourmente the shore is all bold. There is a landing-place about a mile N.E. of Cape Gribanne, and nearly opposite the east end of Burnt Cape Ledge, the S.W. part of which is always above water; this is about 4½ m. from the Neptune Rk. From opposite the latter rock to Cape Tourmente, the coast is very high, and washed by the river; but at this latter cape another shoal commences, named the Sominaire Bk. The N.E. part of the Brulé Bk. is about a mile to the westward of the S.W. part of Burnt Cape Ledge; the mark for it is, the east side of Heron Id. and the west part of Burnt Cape Ledge in one, bearing S.E.

THE NORTH TRAVERSE.—The eastern entrance to this is between Brulé Bk. and the Traverse Spit, which extends to the reefs that run off from the east end of Orleans, and is called the Eastern Narrows, being about 250 fms. wide, with 4 fms. at L.W.; the channel is buoyed; the Brulé Bk., Traverse Spit, and also the banks N.W. of it, generally dry about half-ebb, which serves to lessen the difficulty of these channels. The leading mark through the Eastern Narrows is Pt. St. Valiere, on the south shore, on with the S.W. end of Reaux Id., bearing S.S.W. ¾ W.; after running on the latter mark about a mile, you must keep along the south edge of the Traverse Spit, by steering S.W. by W., about 1½ m. farther, leaving all the shoals to the southward; having run the latter distance, you arrive at the eastern entrance of the Western Narrows, and within 1½ m. of the east end of Orleans. This part is also 250 fms. wide, and from 4 to 6 fms. deep, between the Traverse Spit and the West Sand. The mark for the east end of the West Sand is, Berthier Church just shut in with the S.W. point of Reaux Id., bearing S. ½ W. From this spot the leading mark through the Western Narrows is Pt. St. John and Pt. Dauphin, on Orleans Id., in one, bearing S.W. ¼ W. As soon as you have passed the Western Narrows you enter a clear channel full ¾ of a mile wide in its narrowest part, between Orleans and Madame Id. and Reef; the west extremity of the latter is the red buoy.

The North Channel generally remains open and free from ice, in the fall of the year, some time after the navigation is closed in the South Channel; although it is seldom used, yet it might be advantageous to do so at times, as with a scant N.W. wind, when it would be desirable to keep the north shore aboard.

Buoys in the North Traverse:—

(1.) A black buoy on the east end of the Brulé Bk. in 4 fms., with the west end of Two-heads Id., and the west end of Burnt Cape Ledge in one S. ¾ E., and Cape Tourmente W.S.W.

(2.) A black buoy on the N.W. side of the Brulé Bk. in 3 fms., with the east end of Margaret Id., and west end of Two-heads Id. touching, bearing S.E. by E. $\frac{1}{2}$ E.; the two buoys to be left on the port hand going up.

(3.) A red buoy on the E. end of the Traverse Spit, in 3 fms., with the S.W. point of Two-heads Id., on with a distant blue hill, bearing S.E. by E. $\frac{3}{4}$ E.; the N. end of Margaret Id. being at the same time just open to the westward of Two-heads Id. Grosse Id. S.S.E., to be left on the starboard hand going up.

(4.) A chequered white and black buoy, on the E. end of the W. sand, in 3 fms., with Berthier Church just shut in behind the S.W. point of Reaux Id., bearing S. $\frac{1}{2}$ W., and Patience Id. and Two-heads Id. are touching E. $\frac{1}{2}$ S., to be left on the port hand going up.

BAYFIELD ISLANDS lie to the westward of Crane Id., exclusive of a number of small islets and rocks. The principal isle are Canoe Isle, which lies northward of Crane Id.; then Margaret Id., $1\frac{1}{2}$ m. W. of Crane Id. Lt.; the next westward is Grosse Id., and the Isle aux Reaux, and the westernmost is Madame. The whole of these islands, from Crane Id. to the W. end of Madame Id., occupy a space of 14 m. There are several passages between these islands, with a good depth, leading into the Middle Channel. The quarantine station is at Grosse Id.; the entrance is between it and Margaret Id., which is marked by a red buoy on the S. and a chequered buoy on the N. side: course in is about N. by E.

Grosse Id. is 2 m. in length, N.E. by E. and S.W. by W., and inhabited.

Reaux Id. is about the length of Grosse Id., but narrow, and is about 150 ft. high. Madame Id. is somewhat smaller than Reaux Id.; both are covered with trees. From Madame Id. a rocky reef extends S.W. by W., $2\frac{1}{2}$ m., drying at L.W.; and ships ought not to go nearer to it than 7 or 8 fms. The mark to clear it is some part of Reaux Id. kept open to the southward of Madame Id. The western extremity of the reef lies with St. Valiere's Church bearing S. $\frac{1}{2}$ E. A red buoy is placed to mark the western point of this reef, which here divides the western entrance of the North from the South Channel.

The R. St. Lawrence is not navigable from the early part of December to the middle of April, on account of the severity of the frosts; during this period its upper part from Quebec to Kingston, in Upper Canada, and between the lakes, with the exception of Niagara and the Rapids, is frozen over; but below Quebec, although the river is never wholly frozen, yet the strength of the tides continually detach the masses of ice from the shores, and such immense bodies are kept in incessant agitation, by the flux and reflux, that the navigation becomes impracticable. At the beginning of May, the ice is either dissolved or carried off by the current.

The ISLAND OF ORLEANS bounds the starboard shore from Madame Id. to nearly abreast of Pt. Levy; its shores generally slope down to the beach, except in some places where small rocky cliffs arise, of neither great extent or elevation. It is well cultivated and very fertile; its northern shores are flat and muddy, and lined with a reef of rocks, but its southern side is fine sand, with here and there a pointed rock. The churches of St. John and St. Lawrence stand near the shore, the distance between them being $5\frac{1}{2}$ m.; this part is highly diversified with gardens and houses. Patrick's Hole is a little to the westward of Pt. St. Lawrence, and is a safe and well-sheltered cove, where vessels outward-bound commonly anchor in 10, 12, or 14 fms., previous to taking their final departure; the ground cannot be accounted good, but it is well sheltered from easterly gales, and the river here is bold on each side, being about $1\frac{1}{2}$ m. wide. Just to the westward of the cove stands the telegraph No. 2; and on the western part of the point is a cluster of neat houses, where accommodation of all kinds may be obtained.

About a mile to the eastward of the W. end of Orleans are the Marand Rks., running out $2\frac{1}{2}$ cables' length from the shore; they will have 6 to 9 ft. over them, and 10 fms. in sailing past them. At the S.W. part of the island are other rocks, which dry at L.W.; these are close to the land, and may be safely passed in 10 fms. This is the highest part of the island; and here stands the Church of St. Peter, about 4 m. from the western point, and nearly opposite the falls of Montmorency.

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ANTICOSTI TO QUEBEC.

The Pt. of Levy is surrounded with a reef, which continues along shore to the westward; but by giving the land a berth, you will go safely in 10 fms. QUEBEC.—The basin of Quebec is about 3/4 of a mile across, from Pt. Levy to Quebec, or to the opposite shore of Beauport; the water between is very deep. The HARBOUR of QUEBEC may be said to commence at St. Patrick's Pt., and extends to Cape Rouge R., 3 m. above Quebec.

The PORT of QUEBEC comprehends all that space between Barnaby Id. and the first rapid above Montreal. The BALLAST GROUND is a part appointed by law to heave ballast into, being to the westward of the two beacons that stand on the S. shore, between Patterson's and Charles's Coves; these beacons are situated on the brow of a hill, and when in a line, bear S.E.

The regulations with respect to shipping and quarantine, in the port and harbour of Quebec, must be strictly attended to: all pilots are bound to give the masters of vessels due information relative to quarantine, as soon as they come on board; and a copy of the harbour laws is delivered to each vessel, on her arrival, by the harbour-master: and those respecting shipping are always to be seen at the harbour-master's office.

For repairing vessels there are four floating docks, and five gridirons. The docks are capable of receiving vessels of 1000 to 1200 tons; one of them will admit a vessel of 225 ft. keel, whatever may be her tonnage. One of the gridirons will receive ships of 1800 tons. There is also a patent slip at Pt. Levy.

The CITY of QUEBEC is built on Cape Diamond, which is exceedingly high; from hence, and from Pt. Levy, the views are magnificent, and beautifully varied; the capital, on the summit of the cape, the R. St. Charles flowing to the northward, the falls of Montmorency to the N.-eastward, and the well-cultivated island of Orleans, form altogether a most beautiful spectacle.

The Id. of Orleans divides the river into two parts, or channels; but the southern channel, which has been described, is the only one the pilots make use of for large ships.

DIRECTIONS FOR SAILING UP THE RIVER ST. LAWRENCE, FROM ANTICOSTI TO QUEBEC.

REMARKS.—It has been observed that the current between the S.W. point of Anticosti and the coast of Gaspé, sets strongly from the river to the S.-eastward; that in the spring of the year, probably in consequence of the melting of the snow, its velocity is always the greatest. In summer it may be averaged at about the general rate of 2 m. an hour; but in spring it becomes variable, and much beyond that rapidity: at times it will run 3 1/2 m. an hour, and often more than that, depending greatly on the quantity of ice and snow that has accumulated. And it has been said that, during the months of May and June, the water will be elevated 2 or 3 ft. above its ordinary level.

Mariners entering the river between Anticosti and Gaspé when in the fairway, having the wind at N. or N.E., and being uninformed of this current, will be led to imagine they are making a reach up, when really they will be approaching the southern shore; this is an error that must be particularly guarded against, especially in long dark nights and foggy weather; be, therefore, always careful to tack in time.

Ships coming up with contrary winds should work up on the S. side of Anticosti, and being far enough to the westward to weather the W. point of Anticosti, should stand to the northward, and endeavour to work up within 9 or 12 m. of the northern shore: for the land is all bold-to; you will be out of the strength of the current, and the nearer you get to the land, the more you will be favoured by the tide; and when up to Trinity Bay, should your vessel sail well, you will, by keeping in with the N. shore, have the advantage of a flood-tide, and may probably be

enabled to get through the Narrows; but should your ship sail badly, you can take shelter in Trinity Bay, which is described in page 59.

When between the S.W. and W. points of Anticosti, both the currents and swell set in shore; and as the bottom is bad, anchors will not hold; therefore, the greatest caution is necessary on the first appearance of a decrease of wind, to endeavour to stand off the land; as in the event of a calm, you might be set on shore, by the current, near the St. Mary's cliffs, for a heavy swell sets in frequently some hours before there is any wind.

When off the west end of Anticosti, with a fair wind, steer well to the northward, so as to keep out of the strength of the current, steering about W.N.W., or towards English Pt.; when you have run better than half the distance, you must steer more southerly towards Pt. de Monts, and endeavour to make the Lt. Observe, this Lt.-ho. is not on the extreme point, but $1\frac{1}{2}$ m. N.E. of it; and there are rocks $\frac{1}{2}$ a mile from this point; in clear weather the Lt. can be seen 15 or 18 m. (See remarks p. 59.)

In thick weather this is a most dangerous part of the navigation; for when the wind is fair it is generally thick; and the greatest caution is necessary when approaching this point; the ship should be put under snug canvas, and the deep-sea lead kept going; for if you are to the northward of the point, soundings will be obtained 5 or 6 m. from the land, in 40 to 50 fms.

Captain Bayfield, in his general remarks on the navigation of the St. Lawrence, says, "There is another source of error, independent of charts altogether, which it is astonishing to find obtaining so little attention, particularly in the merchant-service, considering how much has been written concerning it of late years. I allude to the deviation, or local attraction of the needle.

"An opinion is prevalent that the compasses of vessels are disturbed in the Gulf and R. St. Lawrence, and such disturbance has been attributed to the magnetic ores of iron in the hills, particularly those of the N. coast. The magnetic oxide of iron does exist abundantly, and attracts the needle very powerfully at some points; particularly along the coast from the Bay of Seven Ids. eastward. Among the Mingan Ids. we found the variation to vary, from this cause, from 19° to 31° W. At Port Neuf, and on Manicougan Pt. the needle was also disturbed; but these effects were only noticed when the instruments were placed on the shore. In two instances only, when sailing within 2 m. of the shore, have we observed any effect of the kind upon the compasses on board the *Gulnare*, and then only to the amount of a few degrees.

"When running from place to place, at greater distances from the coast, nothing of the kind has been noticed; so that in nine cases out of ten, where this erroneous reckoning has been alleged as the cause of accidents to vessels, they originated either in errors of the chart, or in the local attraction on board the vessels themselves."

Capt. Bayfield farther adds:—

"To render the effect of deviation apparent, I will suppose it to amount to a point of the compass, no uncommon occurrence in a six or a eight point course, and the ship to be steering W. by S. $\frac{1}{2}$ S., by the compass in the binnacle; she will then, in reality, be making a S.W. by W. $\frac{1}{2}$ W. course, which would soon put her on shore on the S. coast; an event that would be accelerated by the current, which, instead of stemming, she would have on her starboard bow, checking her in-shore.

"A case exactly similar to the one I have supposed, occurred on the night of the 8th of September, 1831, when the ship *Jane*, of Belfast, having several large chain cables, and other extra iron on board, by which the deviation must have been greatly increased, ran stem on to Bicquette, with a fair wind, but thick fog. She was steering the regular course up the middle of the estuary, but her master was quite unaware of the effect of the great mass of iron in her hold upon her compasses; and equally so, that previous to the accident which caused the total loss of his vessel, he had been running for many miles, in less than 20 fms., the bank of soundings not being laid down on his chart.

"These remarks, and others which I have made respecting the deviation, will, I trust, show how important a knowledge of it is to the safety of a vessel; and will, moreover, point it out as the duty of every commander, to endeavour to ascertain its amount during the voyage, and before he arrives in a difficult navigation like the St. Lawrence, where fogs may frequently oblige him to run as high as Green Id. without having been able to obtain a pilot."

In clear weather you may run along the south shore; from off Cape Chatte, a W. $\frac{1}{4}$ S. course, 33 or 36 m., will bring you abreast of Matan. The paps of Matan appear as two hills standing somewhat inland, when on a S.W. bearing: Mount Camille will also be visible, bearing W.S.W., distant 42 or 45 m.; it forms in the shape of a circular island, and appears to the northward of all the southern land. From off Matan to abreast of Mount Camille, steer W. by S., according to the wind. Continuing that course you will pass Little and Great Matis; and continuing on W. by S., 15 m. from Great Matis, you will arrive at Father Pt., the principal residence of the pilots, and from which Mount Camille bears S.E. $\frac{1}{4}$ E.

GREAT MATIS is 6 m. west from Little Matis, and is also only fit for small vessels; these may find shelter and anchorage with S.W. winds, but it nearly dries, and therefore is of little use to shipping. Little Matis may be distinguished from Great Matis by a round bluff rock, S.E. from the north reef, distant $\frac{1}{4}$ m., and a small sugar-loaf hill to the eastward of the rock. Great Matis has a large rock in the middle of the cove; Little Matis has none; but you must be within 6 or 9 m. of the shore to make these coves out, for the points of land they are formed by are very low. The bank of soundings extends 4 or 5 m. off these coves; but to the eastward of Matan you will have 60 fms. only 3 m. off the shore.

When beating up, it requires a tolerably good sailing vessel, and a flood-tide, to beat past Pt. de Monts against a wind right out; but short boards round the point, and along the north shore, up to Cape St. Nicholas, will most readily succeed. It is not, however, advisable to keep this shore close aboard farther to the westward, lest the wind should fall to a calm; for there is a strong indraught towards the mouth of the Manicouagan River during the flood-tide. If an easterly wind should chance to spring up, after the vessel has been drifted near the mouth of English Bay, it might be difficult to beat out, or weather the eastern side of the Manicouagan Shoals.

A vessel standing over to the southward from Pt. de Monts, with a west wind, on the starboard tack, will be carried over to the south coast at a rapid rate, having the current on the weather quarter; during her board back she will be retarded, the current then being directly opposite to her course. When sailing at the rate of 4 knots, it will usually require only about half the time to go from Pt. de Monts over to the south shore, that it will take to return from the latter to the former. This is a most important circumstance, which it is necessary to guard against when beating up during dark nights, and especially in foggy weather.

When running up, during foggy weather, and the land cannot be seen, the object should always be to strike soundings on the bank along the south coast, about Matis, or Father Pt. at farthest; and then following it as a guide to the westward. Father Pt. is low, covered with houses, and the regular rendezvous of the pilots. With the point bearing south, distant 5 m., the depth is 30 fms., soft clay; but you may haul in-shore to 10 fms., in foggy weather; and by bringing-to with your head off, and firing a gun or two, you will get a pilot.

The distance from Cape Chatte to the west part of Father Pt. is about 72 m., and from thence to the anchoring place at Bic Id. is 17 m.; make an allowance for the current, and any ship may run it with safety.

Ships being off Little Matis will see the high land which is to the southward of Cape Ariguole; but the cape itself and the Id. of Bic, being much lower, will not be visible; off Mount Camille, Bic Id. may be perceived very plainly in clear weather.

Some years ago a master of a vessel mistook the Id. of Barnaby for the Id. of Bic, and hauled to the southward; when he found his mistake, after wearing the ship, he just weathered Barnaby Id. Now, should a ship be running up in thick

[G. & R. ST. LAWRENCE.]

weather, and not be certain of her distance, if she should be near Father Pt., she cannot approach the land without gradually shoaling her water; consequently, keeping the lead going, and being in 9 or 10 fms., should she make an island suddenly to the southward, it must be Barnaby Id. And if falling in with an island suddenly, without having hoisted the lead, in any bearing to the westward of W.S.W., one cast of the lead will reduce it to a certainty; for with Barnaby bearing more to the westward than W.S.W., there will be, on approaching it, under 10 fms.; while with the Id. of Bic on the same bearings you will have from 15 to 12 fms.

Again, if the lead be kept going, and no soundings be found, then, falling in with land suddenly ahead, it must be Bicoquette; for there is deep water in the stream of Bicoquette, and when it bears S., 2 m., there are 30 fms.; and within $1\frac{1}{2}$ m. of the N.W. reef there is the same depth; a little off there are 60 fms.: there are 12 fms. close to both the island and reef. In the stream of Bicoquette, when it bears W.S.W., if you should have 15 fms., and see no land, if you are strangers, the safest way will be to haul off towards the northward, into 19 or 20 fms., and steer W.S.W. and W. by S., according to the depth; that course will lead to the N. of Bic.

The current between Mille Vache and Bic Id. will always be found strong to the N.E.; this must be particularly attended to, as it might drift you towards the Manicouagan Shoals.

If desirous of anchoring on the S. side of Bic, and the wind should be easterly, run boldly to the southward, looking out for the reef at the E. end of the island; give this reef a berth of $\frac{1}{2}$ of a mile, and run along in mid-channel until you find Cape Arignole bears S.S.E.; the body of the island then bearing N.N.W. Large ships may anchor in 11 fms., the ground clear and good; but small vessels may run on until the island comes N.E., and the depth 8 fms.; you will then be $\frac{1}{4}$ a mile off the island, but the bottom will not be so clear as when you are in the deeper water. Fresh water may be obtained in the cove to the westward of the E. end of the island. In foggy weather it is not recommended to run inside of Bic without a pilot, unless by persons very well acquainted. The revolving Lt. on Bicoquette Id. cannot fail to be of the greatest service to those navigating this part of the river. (See p. 66).

But, if the wind should be westerly, and you are to windward of the island, intending to anchor there, stand to the southward, into 11 fms., then run down and anchor, as before directed; for, with little wind, 11 fms. is the proper depth of the fairway, and the last half-flood and all the ebb sets strongly between Bicoquette and Bic.

Should you, with an easterly wind, be too far to the westward to fetch round the E. end of Bic, then, in order to gain the anchorage, you should give Bicoquette a berth of about $\frac{1}{2}$ a mile; run up until the W. end of Bic bears S.E., then Cape Arignole will be open of it. This latter mark leads to the westward of a reef, which is covered at quarter-tide, and extends S.W. by W., a mile from Bicoquette; while another reef, always visible, lies between the former and Bicoquette. It also clears the N.W. reef. By hauling round to the southward, with Cape Arignole open, you will pass athwart the opening between Bic and Bicoquette, in from 13 to 6 fms. You cannot cross the West Grounds of Bic with these latter marks on; you must keep more to the westward. Come no nearer the west end of Bic than 5 or 6 fms.; as the reef runs off W. by S., $\frac{1}{4}$ of a mile.

The N.W. reef of Bic will be cleared by keeping the W. end of that island and Cape Arignole in a line, bearing S.E. When you are beating into Bic Harbour from the westward, while standing to the southward, take care not to shut in Mount Camille with Cape Arignole; and in standing to the northward, do not shut in Mount Camille with Bic Id.

TIDES.—The tides flow at Bic Id., F. and C., at 2 h. 15 m.; and rise, in spring-tides, 12 or 14 ft., neap-tides 7 or 8 ft.

The flood-tides never bend to the westward till an hour's flood by the shore, and in neap-tides the floods are very weak; but in spring-tides ships will always find a flood-tide from Father Pt. to Bic Id.

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BIO ISLAND TO GREEN ISLAND.

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Between Barnaby and Bio Ids. there is a bank of soundings, being a continuation of that which runs from Cape Chatte; at the westerly part, about Barnaby and Bio, it extends $7\frac{1}{2}$ m. from the shore, and has regular soundings upon it; its edge is very steep, for from 35 fms. it sinks suddenly into more than twice that depth; but from 35 fms., towards the land, it decreases gradually; vessels may, therefore, stand to the southward by the lead, and tack and anchor in any depth they think proper.

Westward from Bio Id., the bank of soundings runs all the way to Basque Id., parallel to, and at 6 m. distance from the shore; beyond Basque Id. it bends nearer to the land, and continues on to the Apple Ids., and to near Green Id. Reef, 13 or 14 fms. being the fairway; ships may stand to the southward to 12 fms.

From BIC ISLAND to GREEN ISLAND.—From the N.W. reef off Bicoquette, Green Id. Lt.-ho. bears S.W. by W. $\frac{1}{4}$ W., $29\frac{1}{2}$ m. Vessels having arrived at Bio Id. without being able to obtain a pilot at Father Pt., and finding none to be had at Bio, may proceed towards Green Id., the latter bearing from the former S.W. by W. $\frac{1}{4}$ W., distant nearly 30 m.; in this course you will pass the Alcide Rk., Razades, Basque and Apple Ids., which have been already described (page 66). The edge of the bank of soundings continues all the way steep-to; but from 35 fms. the depth decreases gradually towards the land, and between Bio and Green Ids. vessels will find anchorage all the way in 14 fms., and ships of lesser burthen in 9 fms. Between Bio and Basque Id. the ground is all clean; but between Basque and Green Id. it is foul. There is shelter for small vessels at the E. end of the Razades, and also under the E. end of Basque Id., in 3 fms., giving the E. end of the reefs which run off those islands a berth of $\frac{1}{4}$ of a mile; the anchorages are with the body of the islands bearing W. by S., or right abreast of Basque Id. Here, at Trois Pistoles, fresh water and provisions may be obtained if necessary: and from hence are regular stages to Quebec. Pilots also reside here and at Green Id.

Green Id. Reef is extremely dangerous, and is rendered doubly so by the strong tides that set upon it, which produce ripples, that cause alarm to strangers during a dark or foggy night; therefore in a strong easterly gale, and thick weather, when the Lt. on Green Id. cannot be seen, the attempt to run through between Red and Green Ids. is attended with great risk, as, during the ebb, the tide sets towards the reef at the rate of 5 knots. It requires an experienced pilot at such a time to take a ship safely through. In such weather it would be better to heave-to off Bio; even in doing this there is danger of a vessel running. If Bio, or Bicoquette Lt. has been seen, it is much safer to anchor under the lee, or to the westward of the islands, in 10 or 12 fms., even if 5 or 6 m. westward of them; the ground is good for holding. Here you could wait till daylight.

Vessels passing from Bio towards Green Id. will keep about 3 m. from shore, and have 14 or 15 fms. all the way; and when up so far as Green Id., should the tide be done, may anchor N.-eastward of the reef, in 10 fms., and in the stream of the ledge, which runs N.E. by N. from the Lt.-ho. point, at a mile distance from the ledge.

The high land of Arignole kept open to the northward of Basque Id. will lead clear of the Lt.-ho. ledge; and with the Lt.-ho. bearing S.W. by S., the ledge will be exactly between the Lt.-ho. and the ship. During N.-easterly winds small vessels frequently run between the S.W. reef and Cacona, anchoring in 4 fms.; but it will always be more prudent to bear up for the Brandy Pots, lest you should be caught by adverse stormy weather.

Should you, therefore, have passed Green Id. Lt.-ho. and no pilot be obtained, the weather clear, and the wind fair, steer boldly on S.W. $\frac{1}{4}$ W., or S.W. by W., 9 m.; you will then have White Id. W. $\frac{1}{4}$ N., and Hare Id. with the Brandy Pots W.S.W., or nearly ahead. Give the Brandy Pots a berth of $\frac{1}{2}$ of a mile, and run a mile or more above them, then anchor in from 7 to 14 fms.; or should the wind shift to the westward, and your vessel be up to White Id., the tide being spent, stand to the southward into 9 fms., or towards White Id. into 6 or 7 fms., then anchor; the ground is good.

RED ISLAND.—Vessels coming up the river, and giving the southern shore a wide berth, will necessarily go near Red Id.; this island bears from the Lt.-ho. on Green Id. W.N.W. $\frac{1}{2}$ N., distant $5\frac{1}{2}$ m.; and the eastern point of the dangerous reefs, which are attached to it, bears from the same Lt.-ho. N.N.W. $\frac{3}{4}$ W.; therefore the greatest care must be taken, especially at night, not to bring Green Id. Lt. to bear to the eastward of S.S.E. $\frac{1}{2}$ E., until you are sure you are within 4 m. of it; if with the Lt. S.S.E. $\frac{1}{2}$ E. you cannot venture to enter the narrows, wait the return of day, and should the wind be scant from the N.W., you may borrow on the S. side of the Red Id., by observing these marks: open White Id. to the northward of Hare Id., and, as you draw to the westward you may approach the shoal of White Id. by the lead, remembering that the ebb-tide sets strongly down between White Id. and Red Id., and the flood the contrary. The mark to run through the S. channel, midway between Green Id. and Red Id., is the Brandy Pots touching Hare Id. S.W. $\frac{3}{4}$ W. A vessel, in fine weather, may anchor on the S. side of Red Id. Reef, in 12 fms. at $\frac{2}{3}$ of a mile's distance; but the tides here are strong, and set all round the compass.

A red buoy is placed on the eastern end of Red Id. Reef. Should the buoy be gone, Green Id. Lt.-ho. and the beacon in one, bearing S.S.E. $\frac{1}{2}$ E., clears the reef to the eastward. (See p. 68).

The soundings between Red and Green Ids. are irregular; for, at the distance of a mile from the latter, there are 40 fms., and from the former, 20 fms.; yet during the ebb-tide, and the wind easterly, the water breaks and ripples, but you need apprehend no danger.

In beating up the northern shore from Bic to Green Id., you cannot stand to the northern land by the lead, on account of the great depth of water; but Mille Vache Shoal begins at the little river of Port Neuf, and completely surrounds the whole of the low point that is to the westward of the houses for nearly 4 m.; its southern extremity is distant $1\frac{1}{2}$ m. from the shore, part drying at L.W., and sleep-to.

At Port Neuf is a trading post, and provisions may occasionally be obtained there. When you have passed Mille Vache Pt. and Shoal, the land forms a deep bay; but it is shoal and full of rocks, extending to the westward full 10 m. At $10\frac{1}{2}$ m. to the westward of the point are the 2 islets, called Esquimine Isles; to the eastward of these, nearly 8 m., is Saut au Mouton, a small river with a handsome cascade near its entrance, which falls 80 ft. This will always attract notice when passing. Between the Esquimine Isles and Saguenay are three small inlets, —Bondesir, and Great and Little Bergeron; they are frequented by fishing boats, but unfit for shipping.

Ships working along the northern shore, between the Esquimine and Red Id. should keep within 6 m. of the land; the shore is clear and bold, and the floods regular; but should a vessel be caught to the northward of Red Id. by a sudden shift of easterly wind, and be unable to fetch round the E. end of the island reefs, she may safely bear up, and run to the westward, giving Red, White, and Hare Ids. a berth of full 2 m.; and when you have run 9 m. above Hare Id., haul to the southward, and enter the South channel towards Kamouraska. A red buoy is placed on the W. end of Hare Id. Reef. (See p. 69).

GREEN ISLAND TO THE BRANDY POTS.—From abreast of Green Id. to the Brandy Pots, your course will be S.W. by W., and the distance 13 m.; between these are the Percée Rks., near the main, and Barrett's Ledge, in the fairway or middle of the stream; the latter has been already described in page 68. There is no channel for shipping between the Percée Rks. and the main, but vessels keeping in about 8 fms. will go clear to the northward of them; abreast of these rocks, and between them and the western end of Green Id. Reef, are 15 fms. mid-channel. Barrett's Ledge has a chequered buoy upon it, in 6 fms.; the channel formerly used to the northward of the ledge, keeping the southernmost mountain of Kamouraska in one with the saddle of the Great Pilgrim; these marks will lead you into the fair channel, and clear the ledge to the northward. There is a white buoy on the N.E. point of the Middle Ground, a mile S.W. of Barrett's Ledge.

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BRANDY POTS TO THE TRAVERSE AND GOOSE ISLAND. 85

The best passage is to the southward of Barrett's Ledge, leading to the southward of the Middle Ground, and up to the Pilgrims. The leading mark through this channel is Green Id. Lt.-ho. just shutting in with the S.W. point of the island, bearing N.E. $\frac{1}{2}$ E.; but the northern channel is more commonly made use of by large ships bound to the anchorage at the Brandy Pots, as it would not be safe to cross some parts of the Middle Ground at L.W., spring-tides.

In advancing toward White Id. Reef, you may safely trust to the lead; 7 fms. will be sufficiently near for anchoring, and it will be advisable to go into no less water before you tack, for this is the fairway to the Brandy Pots, which are steep-to, there being 8 fms. close to their southern sides; but shallows run off their S.W. side. The above anchorage, having St. Andrew's Church open, or between the Great and Second Pilgrim, is very good; and so is the anchorage to the westward of the Brandy Pots, in from 9 to 14 fms.: this latter being considered the best sheltered roadstead for easterly winds, except that at Crane Id., of any in the river.

On the knoll at the E. end of Hare Id. Reef, a black buoy is placed; (see p. 69). A ship, with a good working breeze, will beat up from below Green Id. Reef to the Brandy Pots in one tide, except on the very worst of the neap-tides.

TIDES.—From the W. end of Grande Id., ships will begin to have the advantage of a regular flood and ebb, the tide running 5 hours up, and 7 down the river; and being so far as the Brandy Pots, it sets regularly up and down,—that is, N.E. by E. and S.W. by W.

FROM THE BRANDY POTS TO THE TRAVERSE AND GOOSE ISLAND.—

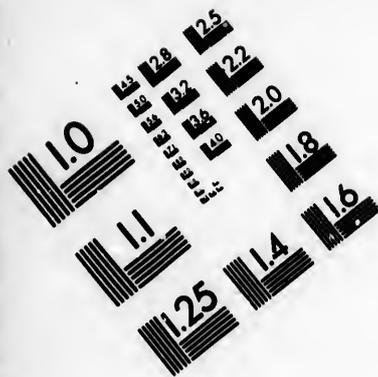
The passage from the Brandy Pots into the South Channel is across the Middle Ground, where you will only have $3\frac{1}{2}$ to 4 fms. at L.W., spring-tide. Large ships, near L.W., should pass round to the eastward of Barrett's Ledge when leaving the anchorage at the Brandy Pots for the South Channel, and bound upwards. On the N.E. end of the Middle Ground is placed a white buoy, (see page 69); it lies abreast of the Brandy Pot Ids., and nearly a mile S.W. of the chequered black and white buoy on Barrett's Ledge; and near the S.W. end of the Middle Ground is a red buoy, on the knoll at the E. end of Hare Id. Bk. You may cross the Middle Ground anywhere between these buoys; they are nearly 5 m. apart.

The channel southward of Barrett's Ledge is the deepest and best. Keep the S.W. point of Green Id. just on with the Lt.-ho., and it will lead you in a fairway between Barrett's Ledge to the northward, and the Pilgrim Shoal to the southward, on the N. edge of which a black buoy is placed (see page 70). If clear, you will now pick up another mark to lead you between the Pilgrims and Hare Id. Reef: this is the N. side of Burnt Id., just open to the northward of Grande Id., S.W. $\frac{1}{2}$ W.: it leads through. When past the red buoy on the W. end of Hare Id. Bk. the river is all clear to the northward, so that you may stand from the S. bank over to the N. shore, until you are up to Cape Goose.

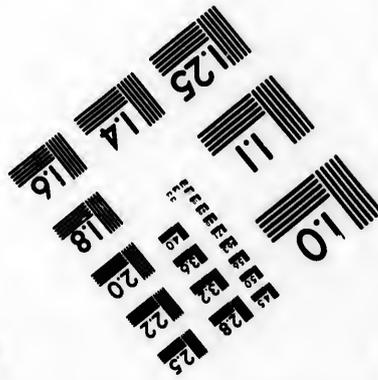
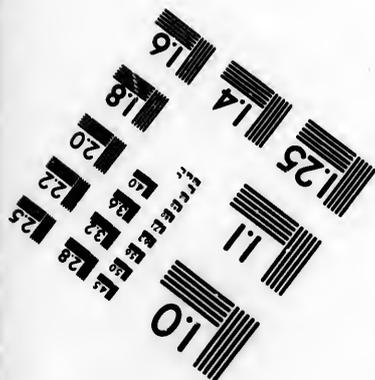
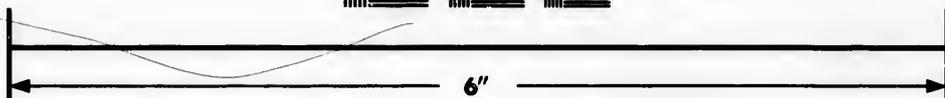
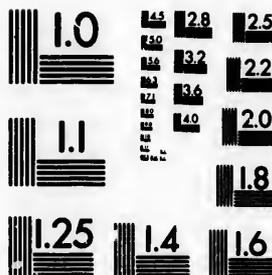
At night, or in hazy weather, after crossing the Middle Bk. from the Brandy Pots, you should take either the N. or S. side of the channel as a guide for running up by the lead, in about 7 fms.; you may take either side, until you are up as high as the middle of the Long Pilgrim; you should then follow the S. side of the Hare Id. Bk., in the above depth, as the western part of the Pilgrims, St. André Bk., and Kamouraska Ids. are all so steep-to as to give no warning by the lead. When past Kamouraska, keep along the edge of the S. bank in 7 or 9 fms., up to the black buoy of St. Anne (see p. 73); if in a large ship, you may keep off in 10 fms.

There is no passage for shipping to the southward of the Pilgrims; the bank between the Pilgrims and Kamouraska is steep; the mark for tacking is not to shut in the S.W. land with the great Id. of Kamouraska; in standing to the northward you will find 20 fms. mid-channel, and tack the first shoal east you have from Hare Id. Reef. The direct course from the Pilgrims to the black buoy off St. Anne is S.W. by W. $\frac{1}{2}$ W., distant $22\frac{1}{2}$ m.; and there is anchorage all along the south shore, from Kamouraska to the buoy; and a vessel, with a good breeze, will beat the latter distance in one tide.





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KAMOURASKA ISLANDS are Great Id., Burnt Id., and Crow Id.; the two former are steep-to, but near Crow Id. the bank becomes shallow. To the southward of Crow Id. is a place where vessels may run on shore with safety; the mark for going in is, to open the church 3 sails' breadth to the west of Crow Id., bearing E.S.E., and steer in. With spring-tides you have 14 ft., and with neaps 10; the ground being all soft mud.

Cape Diable bears from Crow Id. S.W. by W., distant 3 m.; and the easternmost part of the reef runs from it to within a mile of Crow Id.; therefore vessels from the westward should stretch along this reef, in 6 fms., and then haul in for the church, agreeably to the mark just given. There are two openings in the reefs, but strangers must not attempt either.

With easterly winds, ships that have lost their anchors may run for the cove to the southward of Cape Diable; to enter which you should bring the church and Crow Id. in the direction before stated; and having got within the reefs, run up westerly, leaving a small islet above the church on your port side, then put the ship on shore in the S.W. part of the cove, and she will be safe; but if the wind be westerly, run her aground a little to the eastward of the church.

THE TRAVERSE.—From abreast of Cape Diable, distant 2 m., your course to the Traverse will be S.W. by W. $\frac{1}{2}$ W., 15 m. This will lead you direct to the Lt.-vessel, and past the black buoy off St. Anne. The channel of the Traverse is buoyed by four black buoys on the south bank, to be left on your port hand going up; and two red buoys on the Middle Ground, on your starboard hand; also by the chequered buoy of the Channel Patch. Your course through the narrows, from abreast the Lt.-vessel, will be S.W., $4\frac{1}{2}$ m., along the edge of St. Roque's Shoal, up to the third black buoy, and from thence S.W. $\frac{1}{2}$ S., 3 m., to the chequered buoy on the Patch; continue on to the southward of the Stone Pillar Lt. and South Rk. (see p. 74); and from thence a S.W. by W. $\frac{1}{4}$ W. course will take you past Goose Id. Reef towards Crane Id.

TIDES.—As the tides here run strongly, allowance must be made for them, whether ebb or flood.

In entering the Traverse with little wind, you ought to be careful to make proper allowance for the first part of the flood-tide, for that sets strongly towards the point of St. Roque's Bk. In going through, if more than half-flood, be guarded against the S.W. by W. set, and always keep the south bank on board; but when above the Pillars, the tide sets fair up the river.

In beating into and through this passage, be careful to tack from side to side on the first shoal east of the lead, but more particularly so on the edge of the Middle Ground; and observe, that the ship will go faster over towards the Middle Ground than toward the shoals of St. Roque; and, if there be but little wind, be sure to borrow on the south side of the channel.

Should the flood be done and your ship in the narrows, or between the buoys, and any circumstance makes it necessary for you to anchor, do not bring-to in the channel, but on either side as most convenient, and come-to in 7 fms. After half-ebb the tides will be found to be more moderate. In the deep water they run very strongly; therefore if you are obliged to anchor here, take care to give a good scope of cable before the stream comes strong; for should your anchor start, you may have to cut from it, as it seldom will take a fresh hold, the ground in every part of the Traverse being hard, foul, and unfit for holding well.

Farther on, at or about the Pillars, the tides have less velocity, being seldom more than $3\frac{1}{2}$ knots an hour; ships therefore will find good riding, with easterly winds, about 2 m. to the north-eastward of the South Pillar, in 7 fms., or to the southward of it, in a similar depth, on good ground.

From abreast of the Stone Pillar to Crane Id. your course will be nearly S.W. by W. $\frac{1}{4}$ W., and the distance 10 m. In your progress you will pass Goose Id. Reef and Beaujeu's Bk.; both of which have been described in pp. 74, 75. Crane Id. is a little above Goose Id., to which it is connected by low meadow land. The southern side of this part of the channel is formed by a muddy flat, with regular soundings as you approach, and 3 fms. over it, having good anchorage

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all the way; but the northern side has the South Rk. and Goose Id. Reef, both of which are dangerous and must be avoided. The mark to clear the South Rk. is the whole of Crane Id. open to the S.W. of the large reef off Goose Id.

In standing towards Goose Id. Reef, do not get into less than 10 fms.; but when you have got above that reef, you may stand towards Goose Id. to 7 fms., for it is bold-to, and the soundings are regular. When you have passed the Hospital Rk., to the eastward of a farm-house, and close to the L.W. mark, vessels may, if necessary, be safely run on shore, for the beach is for 2 m. all soft mud.

The Beaujeu's Bk. has a white buoy on a patch lying eastward of its east end, having 4 fms. between it and the bank, and another white buoy on a knoll of 18 ft. near its west end; opposite the former buoy is the red buoy on Goose Id. Shoal.

To clear Beaujeu's Bk., if with a large ship, proceed at half-flood, and when to the southward of Goose Id. Reef, bring the Stone Pillar Lt.-ho. its own breadth open to the south of Goose Id. Reef, bearing N.E. $\frac{1}{2}$ E. Steer S.W. $\frac{1}{2}$ W., with those marks astern, and they will lead up to the white buoy on the patch eastward of the Beaujeu Bk. Pass the buoy to the southward, steering S.W. $\frac{1}{2}$ W. until Crane Id. Lt. bears W.N.W., then steer west, 4 m. past the black buoy off St. Thomas's Bk. and you will get the Belle Chasse Lt. W.S.W. right ahead, and the South Channel clear.

ANCHORAGES.—Ships may anchor all the way from Pillar to the east end of Crane Id., in 7 fms., the ground clean and good; there is also good riding off the body of Crane Id. in 8 fms.; but the best roadstead in the river, with easterly winds, is a mile to the westward of Crane Id. Vessels bound down the river, when advanced as far as the Pillars, if caught by strong easterly winds and bad weather, had always better run back to this place than ride below it, at the risk of losing their anchors.

From Crane Id. to Pt. St. Valiere the course will be about W. by S. $\frac{1}{2}$ S., and the distance 12 m. In pursuing this track you will have to pass the flat mud-bk. off St. Thomas's Church, the Wye Rks., the small bank of Grosse Id., and the Belle Chasse Islets. (For a description of these dangers, see p. 76.) In proceeding from Crane Id., you may keep the island on board, for it is steep-to; run on in from 7 to 10 fms., and S.W. by W., distant 2 m. from the southern part of Crane Id., you will meet with the northern extremity of St. Thomas's Flat, which runs out nearly 2 m. from the mainland, and dries at L.W. In rounding Crane Id., steer W. by S. or stand towards it into 7 and 6 fms., soft muddy ground; and when St. Thomas's Church comes S.E. $\frac{1}{2}$ E., you will be abreast of the point, and may steer up W.S.W. $\frac{1}{2}$ W. Having got above this flat, you will be abreast of the Wye Rks.

The Wye Rks. lie about $\frac{1}{2}$ of a mile from the shore. Keep in not less than 6 fms., and you will at all times go clear of them; the long mark from westward is, to keep Belle Chasse Ids. always open to the southward of Pt. St. Valiere.

When you have arrived above Margaret's Id., you should stand to the northward, but not into less than 6 fms., on account of the bank which runs from Grosse Id.; nor go nearer to Reaux and Madame Ids. than 7 fms., for both these latter shallow as you approach them. The south side of the channel is bold all the way to Belle Chasse Id., having 8 fms. near the shore, and 7, 8, 9, and 5 fms. quite across; the ground clean, the stream moderate, and the anchorages all along good.

Should ships have the misfortune to part their anchors, either above or near Madame Island, it being H.W., and the vessel's draught not too great, they will find a good cove at the W. end of Goose Id., where they may safely run on shore, the ground being all soft mud. In this cove are 14 ft. spring-tides, and 9 neap.

Should they part near Crane Id. they may safely run on shore on Goose Id., above the Hospital Rk.

Should they part in the Travers, they may run into Kamouraska, observing the marks given in page 86.

Should they be obliged to run for a harbour below Bio Id., Old Bio furnishes a proper place to run ashore: and to the southward of Barnaby Id. a ship will be equally safe. Little Motis Cove is a good place for a vessel on emergency to take refuge in. (See page 64.)

As the ice sometimes sets in suddenly, should vessels be caught at that season, all the places above-mentioned will be proper and safe to winter in; and also in the space between Camouraska and the Pilgrims: but at all times they should be hove up to H. W. mark, spring-tides.

QUARANTINE.—All merchant vessels, as the law now stands (in 1860), are obliged to anchor off Grosse Id., from whence, after examination, they are allowed to proceed to Quebec, if not detained at the quarantine anchorage. These vessels, in the first instance, generally anchor outside Grosse Patch, and to the westward of Margaret's Tail, in 5 fms. This is one of the best roadsteads for riding out an easterly gale in the river.

Ships being up so far as Belle Chasse Ids., should stand no nearer to them than 8 fms.; nor to Madame Ids. than 6 fms.: the channel here is about $1\frac{1}{2}$ m. over S.W. by W., 3 m. from the W. end of Madame Id., a rocky shoal runs out, which dries at L.W.: come not nearer to it than 8 fms.; but always keep some part of Reaux Id. open to the southward of Madame Id., and you will be sure to pass to the southward of the shoal in safety; and when St. Valiere Church bears S.S.E., you will perceive it to be in one with an old windmill; you will then be to the westward of the danger, for the western end of the shoal bears from St. Valiere Church directly N. From Belle Chasse to Pt. St. Valiere you will have 8 fms. all along the fairway of the channel; but having passed St. Valiere Pt. it deepens to 11 or 12 fms.

From St. Valiere to Quebec the course is W. by S. $\frac{1}{2}$ S., for about 9 m., or up to St. Lawrence Pt., in Orleans, both shores being bold-to; you may, therefore, borrow on the northern side to 7 or 8 fms., and the southern to 8; while in the middle of the channel there are 16, 17, and 18 fms., all the way to abreast of the Church of St. Lawrence, where vessels may anchor towards the Id. of Orleans, in from 16 to 10 fms.; but the ground from St. Valiere Pt. up to Quebec is not good for holding.

As you advance towards St. Lawrence Pt. the channel narrows, being not above a mile across; on the opposite point stands the Church of Beaumont; between this and the Church of St. Lawrence, bearing from each other S.S.W. and N.N.E., is a large rocky shoal, extending almost half over the channel, and drying at L.W.: this is dangerous and steep-to, having 10 fms. close to its edge; you must therefore be careful to avoid it, by making short boards until you are fairly above St. Lawrence Pt.; then you may safely stand to the southward into 10 fms. (p. 76).

From Pt. St. Lawrence steer W. by N. towards Pt. Levy, the distance being 7 m. About $1\frac{1}{2}$ m. to the westward of St. Lawrence is St. Patrick's Hole, a roadstead for vessels bound outward, with easterly winds, but the ground does not hold well; the river here is a mile wide, and ships may tack into 10 fms.; in the middle of the river are 19 fms. In proceeding along the N. shore, you must give the Marand's Rks. a berth; they lie about a mile from the W. end of the Id. of Orleans, and have only 6 to 9 ft. over them; pass them in 12 fms. There is also a reef stretching from the W. end of Orleans, but come not into less than 10 fms., and there will be no danger. Another small reef runs to the northward from Pt. Levy; but it lies close in shore, and requires only a moderate berth.

Having arrived at Pt. Levy, steer W.S.W. for Quebec, the distance being only 2 m.; on the northern side of the passage lie the Beauport Shoals, which are readily cleared, by coming into not less than 10 fms. In the day-time the mark for the eastern part of these shoals, which have some rocky patches among them, is the small steeple of the Roman Cathedral and the steeple of the English Cathedral in one, bearing S. 36° W.; therefore keep the small steeple open to the northward of the English Cathedral, and running up keep the above small steeple midway between the two large ones: observe that the Roman Cathedral has two steeples on it, the small one standing at the E. end, and the large one at its W.

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end; both churches are covered with tin; the English steeple is a spire, and the Roman has two cupolas.

THE BASIN OF QUEBEC.—Ships arriving at Quebec, with a flood-tide and easterly wind, should take in their sails and have their cables ready, for the ground does not hold well; the tides are commonly strong, and the water deep. If obliged to come-to in the middle of the stream, they will have from 16 to 20 fms. abreast of the town; but within 2 cables' length of the wharves there will be 11 fms., and here the vessel may easily be brought up; while in the offing it will require 60 fms. On the Pt. Levy side is a depth of 30 fms., and strong tides; near the wharves they will not be so strongly felt; but should the wind be violent, and from the eastward, the best riding will be above the wharves, abreast of Diamond Harbour, in 10 fms. The great annoyance to vessels at anchor off Quebec, are the large rafts of timber dropping down with a strong ebb-tide; they often get athwart hawse, and do them injury, by starting their anchors, &c.

The North Bastion at Quebec is in lat. $46^{\circ} 49' 0''$ and long. $71^{\circ} 12' 46''$, variation 16° W. It is H. W., F. and O., at 6h. 37m.; in an easterly gale spring-tides will flow 20 ft. The velocity of the tides off the town wharves are, the floods 3 knots, and the ebbs 4 knots. The floods run about $4\frac{1}{2}$ hours, and the ebbs $7\frac{1}{2}$ hours. Common springs rise about 18 ft., and neaps 13 ft.

THE BALLAST GROUND is the place appointed for vessels to discharge their ballast in; this is to the westward of two beacons on the S. shore, above Quebec, and are placed on the brow of a hill near Charles Cove, which, when in a line, bear N.W. and S.E. of each other.

The R. St. Lawrence extends from Quebec to the city of Montreal, from which it is distant 155 m., and from the island of Bic 270 m.; it is navigable to the Rapids of Richelieu for vessels of 600 tons; the impediments are few, and those very easily surmounted. The banks of the river are in a high state of cultivation, and adorned with numerous towns and villages, most of which are built around and adjacent to a church, which commonly makes a handsome appearance, and is generally a stone edifice; while single houses and farms keep up a regular kind of communication.

From Quebec, the shores of which are exceedingly lofty, the hills gradually decline, and become less elevated, until you reach the river St. Maurice, where the tide entirely ceases; here, on the N. side of the river stands the town of the Trois Rivieres. Beyond Trois Rivieres, 33 m., is the Richelieu Rapid: at the entrance of which, and above the Lake St. Pierre, is the town of William Henry, formerly called Sorel. Lake St. Pierre, which is between the towns, is 22 m. in length, and in some places nearly 8 in breadth; but its western part is encumbered with numerous islands, which divide it into several channels, two of which are navigable; but that on the S. is the cleanest, deepest and best, and is pointed out by a light-vessel and buoy. The banks here are low, and shelve off to a considerable distance, leaving only a narrow channel of from 12 to 18 ft.: the river here is obstructed by masses of rock, and at the ebb-tide the descent of the rapid becomes so great, that the utmost caution must be taken to pass it; vessels, therefore, should wait for the proper time of tide, and, if necessary, they may anchor at the bottom of the rapid till a proper opportunity offers. From hence to Montreal, the banks are of moderate height, and uniformly level.

MONTREAL is considered the most fertile part of Lower Canada; its port is convenient, and situated on the S.E. side of the city. The harbour is not large, but vessels drawing 15 ft., can lie close to the shore, near the Market Gate, and both deliver and receive their cargoes with expedition: the depth is generally from 3 to $4\frac{1}{2}$ fms.: its great inconvenience arises from the rapid of St. Mary, which is about a mile below, and the current is sometimes so powerful, that without the benefit of a N.E. wind, or a steam-tug, vessels may be detained for weeks, within 2 m. of the spot where their freight should be delivered.

Steamers run regularly between Quebec and Montreal, with goods and passengers; and ships bound to Montreal with cargoes, may engage steamers for towing at Quebec. There is a regular rate of charges for towing ships, according

to their draught and breadth of beam, for the whole or any intermediate distance that may be required.

From Quebec to Montreal the steamers generally perform their passages in 18 hours, and return from Montreal to Quebec in about 14 hours; this includes stoppages at William Henry and Trois Rivières of about an hour each.

The laws of the Trinity House are very strict with respect to shipping in the Harbour and Port of Quebec; and require the masters of vessels to pay a proper observance of them. The regulations relative to quarantine, the pilot is compelled to make them acquainted with so soon as he comes on board; and the harbour-master will deliver a copy of the laws of the harbour on their arrival; besides which the different laws are always kept open to view at the harbour-master's office.

TIDES.—On the days of the F. and C. of the moon, the tides will be found to flow nearly as follow:—

At Seven Ids. Bay it is H. W. at 1h. 40m.; at Pt. de Monts at 2h.; at Manicouagan Bay at 2h.; Bersimes Pt. at 2h.; at Tadousac, R. Saguenay entrance, at 2h. 45m.; and at St. Paul's Bay at 4h. 25m. Near Cape Chatte at 2h.; at Metis at 2h. 10m.; at Bio Id. at 2h. 15m.; at Green Id. at 2h. 45m.; at the Brandy Pots at 3h. 30m.; at the S. Traverse at 4h. 30m.; at Crane Id. at 5h. 15m.; and at Quebec at 6h. 37m.

At Seven Ids. Bay	spring-tides rise 9 ft., neaps 5 ft.
Pt. de Monts	11 " 6.
Manicouagan Bay	12 " 7.
Bersimes Pt.	12 " 7.
Tadousac, Saguenay R.,	17 " 10.
St. Paul's Bay.....	16 " 10.
Cape Chatte.....	12 " 8.
Matan	12 or 13, " 8.
Metis	13 " 8.
Bio Id.	14 " 9.
Green Id.	16 " 9½.
Brandy Pots.....	16 " 9.
S. Traverse	18 " 11.
Crane Id.	17 " 11.
Quebec	18 " 13.

At the Isle of Bio the stream never bends to the westward until an hour's flood by the shore. Here the neap-floods are very weak, and with westerly winds, no tide will be perceptible. A spring-flood is, however, always found within 4 m. of the shore, between Father Pt. and Bio Id. Hence, all the way to Quebec, the tide, when regular, flows tide and quarter-tide; but it is always influenced greatly by the wind, and by no means to be depended on, as to its running anywhere below Hare Id., where there is a regular stream of both flood and ebb.

Between Barnaby and Bio the stream of flood sets in from the N.E. at the rate of about 1½ knot an hour; then fair through the channel until the last quarter-flood, when it sets to the N.W., by the W. end of Bio, and then gradually to the N.E. as the flood slackens. The whole of the ebb, both to the eastward and westward of the island, sets strongly to the N.E. The current between Bicoquette and the N. coast is generally very strong to the N.E., without any regular change. In the summer and autumn, as well as in spring-tides, this current slackens, and near Bicoquette, runs to the westward, during flood; but, until the upland waters have all run down, and the great rivers have discharged the freshes, caused by the thawing of the snows in the spring of the year, this current will always run downward.

From Bio to Green Id., on the southern side, the stream of flood is nowhere perceptible at 1½ m. from the islands. The ebb, or rather current, comes strongly from the N.W. out of the R. Saguenay, and through the channel to the northward of Red Id. Here it always runs in a S.E. direction, 2½ m. an hour, with a westerly

wind, but only so to the southward and eastward of Red Id. Between Red Id. and Green Id., the ebb runs from 4 to 6 knots. In crossing over to the N. shore, this easterly current will be found to diminish; for, on the N. side, the flood is pretty regular, and the ebb much weaker. Eastward of the Razade Rks., and near Bio, the current assumes a N.E. direction, and sets strongly between Bio and Bicquette. To the southward of Bio, spring-floods run at the rate of $1\frac{1}{2}$ knot; neaps are not perceptible. Ships that come to the southward of Bio, with a scant wind from the northward, should steer W. by N., to check the S.E. current, until they come into 18 fms., or up to Basque, whence they may proceed for Green Id.

The first of the flood, with spring-tides, sets from the N.E. along the N. side of Green Id., and strongly towards the W. end of it; then S.S.W. over the reef towards Caona. In the middle of the channel no flood is perceptible. At 2 m. to the southward of Red Id. it sets strongly to the N.W., and the ebb contrary. During spring-ebbs the meeting of the N.E. and S.E. tides, near the middle of Green Id., causes very strong rippings; and to the eastward of Green Id. the S.E. ebb comes strongly about the E. end of Red Id.; here meeting the N.E. tide causes a high rippling, much like broken water in strong easterly winds: but in neap-tides, the floods are very weak, and in the spring of the year there are none; thus rendering this part of the river more tedious in its navigation than any other, unless with a free wind.

From the W. end of Green Id. a regular stream of flood and ebb commences; which runs 5 hours upward, and 7 downward. At the Brandy Pots it flows tide and quarter-tide: and above the Percée Rks., on the S. shore, it sets regularly up and down, N.E. by E., and S.W. by W. From the Brandy Pots, the stream of flood sets towards Hare Id.; and near the W. end, N.W., with great strength, through the passage between the island and shoal.

Above Hare Id., the flood sets regularly up the river; the ebbs contrary.

From the Pilgrims up to Cape Diable the flood is very weak, but it thence increases up to the buoys of the Traverse, where it runs at the rate of 5 knots. The first of the ebb sets towards the Hare Id. Shoal, when abreast of the greater island of Kamouraska, and the flood contrary. At the Traverse, on the F. and C., the tide on shore flows at 4h. 30m., but it continues to run to the westward until 6 o'clock, when regular in the channel. With westerly winds there is a deviation, but it is certain that the tide on shore rises 3 ft. before the stream bends to the westward; and this allowance must always be made in every part of the river. In the Traverse the first of the flood sets from the N.N.E.; at the buoys, at quarter-flood, it takes a S.W. direction; and when the shoals are covered at half-flood, at the Seal Reefs, it sets until high water, S.W. by W. The ebbs, in a contrary direction, run with great strength; frequently, in the spring of the year, at the rate of 6 or 7 knots.

From Crane Id. the flood sets fairly up the river, but the first of the ebb of L'Islet sets to the northward for $\frac{1}{2}$ an hour, then fair down the river, at the rate of not more than $3\frac{1}{2}$ knots an hour, with spring-tides.

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DIRECTIONS FOR VESSELS BOUND DOWN THE GULF.

REMARKS ON THE PASSAGE DOWN THE RIVER.—Vessels generally stop at the Brandy Pots for a fair wind; but supposing, after they have passed Green Id., that the fair wind fails, and they are met by an easterly wind before arriving near the Island of Bic, it is recommended in that case to run up again to the Brandy Pots, especially if late, or very early in the navigable season; for all they will gain by beating about in thick weather, probably for several days and nights in succession, will not be worth the risk; but if they have arrived far enough down at the commencement of the easterly wind, the Island of Bic affords good shelter and anchorage, which should be sought in time, before the fog commences (see p. 66). There is no other anchorage lower down nearer than the Seven Ids., and after that, Gaspé. Vessels without a pilot should be cautious in attempting to run inside of the Island of Bic in foggy weather, unless very well acquainted.

When leaving the Brandy Pots with a northerly wind and ebb-tide, keep well under White Id. Reef, to prevent your being set over to Green Id. Reef by the strength of the tide.

When beating down at night, or in thick weather, the South Bk. should be your guide. You should tack from it, after striking soundings on its edge, and should not stand to the northward more than half-channel over in any part; thus keeping in the strength of the current down, and avoiding the possibility of accidents from the shoals on the north coast, which, being very steep, and affording little or no warning by the lead, have proved fatal to many vessels. Under these circumstances, there is no safety unless the lead be kept constantly going when approaching the south coast. In the board to the southward, sail should be sufficiently reduced for soundings to be easily obtained, and every thing in readiness to tack, or wear, at the shortest notice. These precautions become more necessary as the vessel descends the river, and the bank of soundings becomes narrower. Off Matan there are 30 fms., sandy bottom, $1\frac{1}{2}$ m. from the shore, and 60 fms., 3 m. off; at 5 m. off, no bottom will be found at 100 fms. The south Bk. becomes still narrower to the eastward of Matan, and ceases in consequence, to be of use to vessels. Off Cape Chatte there are 30 fms., little more than $\frac{1}{2}$ a mile from the shore.

Below Cape Chatte there is plenty of room; and the chart will show that there are soundings in various depths, between 50 and 100 fms. from off the western end of Anticosti, to nearly opposite the Seven Ids., and also between the W. and S.W. points of Anticosti; but eastward of the S.W. point, the bank is very narrow, as far as Pavilion Pt.; from thence to Heath Pt. there is sufficient warning by the deep-sea lead, as will be seen by the chart.

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THE GULF.

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CHARTS.

CHARLES WILSON,

LATE J. W. NORIE & WILSON,

157, LEADENHALL STREET, LONDON.

A NEW CHART,

ON A LARGE SCALE,

OF

The **SKAGER RAK**, or **SLEEVE**, including the COASTS of
NORWAY and SWEDEN, from **EKERSUND** and the **NAZE** to
CHRISTIANIA, **GOTTENBURG**, and part of the COAST of **JUT-**
LAND, with ENLARGED PLANS of **MANNE FIORD**, **CHRISTIAN-**
SUND, **ARENDAL**, **CHRISTIANIA**, and **GOTTENBURG**, and ILLUS-
TRATED with VIEWS of LIGHTHOUSES and BEACONS 7 6

This Chart and the following, "The Cattegat, Sound and Belts," or "Scaw through the Belts," will show the whole Navigation from the North Sea to the Baltic on a large and uniform scale.

The **CATTEGAT, SOUND**, and the **GREAT** and **LITTLE**
BELTS, &c., including the Navigation from **CHRISTIANIA** and
the **SCAW**, through the **SOUND** and **GROUND**s, the **GREAT** and
LITTLE BELTS, and the COAST of **HOLSTEIN** and **MECKLEN-**
BERG to **DASER ORT**, &c., with ENLARGED PLANS of **FREDE-**
RIKSHAVEN, **GOTTENBURG**, **HALLANDS VÆDERO**, the **SOUND**
from the **KOLL** to **FALSTERBO**, &c. Plan of **ELSINORE HAR-**
BOUR, also the **SPROGOE CHANNEL** in the **GREAT BELT**, and
KIEL HARBOUR, with a BOOK of DIRECTIONS 10 6

The **SCAW THROUGH THE BELTS**, and the COAST to **DASER**
ORT, &c., with DIRECTIONS 8 0

The **SOUND** and **GROUND**s, on a LARGE SCALE 4 0

The **BALTIC SEA**, and DIRECTIONS 8 0

The **GULF** of **FINLAND**, and DIRECTIONS 7 0

The **GULF** of **BOTHNIA**, and DIRECTIONS 6 0

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