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By His Honor's Command,

EDWARD JOLLIE,

Provincial Secretary.

VOL. XII.]

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Provincial Secretary's Office,
Christchurch, June 21, 1865.

HIS Honor the Superintendent directs the publication of the following Reports of the Port Officer, on the Rivers and Harbours of the West Coast of the Province of Canterbury.

EDW. JOLLIE,
Provincial Secretary.

Hokitika, April 5, 1865.

SIR,—

I have the honor to report upon the information I have gathered, both from personal observation and the local experiences of persons qualified to give an opinion upon the nature of this bar harbor, as well as upon the steps I have taken for facilitating its entrance as much as possible.

The River Hokitika is situated on the West Coast of the Province of Canterbury in lat., by obs., $42^{\circ} 41 \text{ min. } 30 \text{ sec.}$, south; longt., by chron., $170^{\circ} 59 \text{ min. } 15 \text{ sec.}$ east; and is navigable for vessels of a light draught of water for the distance of one and a-half miles from its entrance. There is good anchorage from two to three miles off its mouth in from eight to ten fathoms,

dark sand and good holding ground. Should vessels intending to take the bar, have to anchor to await daylight or high water, they should bring up a little to the southward of the Port, for whereas there is usually a southerly current in the offing, a very strong northerly set will often be found within the break on the bar.

A constant heavy westerly swell rolls in on this portion of the coast, and although the prevailing gales blow from the N.W., S.W. and S.E., enabling vessels to lay well off shore and obtain an offing, the masters of vessels should not neglect watching the weather carefully, and in the event of its threatening, put to sea in good time. The heaviest break of the sea is immediately outside the bar in two fathoms water. The bar itself is constantly shifting in direction and varying in depth; after a heavy fresh the river runs straight out to sea, and during the interval of moderate and fine weather, the sea piles up either the northern or southern spit and makes a series of middle banks, forming one, two, or three channels as the case may be, averaging only a depth of from twelve to eighteen inches at low water.

It is high water full and change at Hokitika bar nine hours thirty-nine minutes,

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and the mean rise and fall of tide averages from eight and a half to nine feet; but this is of course greatly affected by the amount of fresh in the river.

Having thus briefly described the main features of the Hokitika, I will proceed to report upon its capabilities as a port, and the steps I have taken to render its entrance as safe as possible. No vessel over a draft of eight feet should ever be sent to Hokitika, and it is still more suitable for small steamers and sailing craft, drawing from four to six and a half feet when loaded; the latter should not attempt the bar without a commanding breeze, for the sea runs very irregularly in the break, and often throws a vessel athwart the channel, when, if there be not wind sufficient for her to recover her steerage way quickly, she is liable to be swept by the northerly current on the north spit.

The sea does not roll in on the beach in the vicinity of Hokitika in regular lines of breakers, but in one confused mass of broken water and blind rollers, and it is madness for vessels outside to attempt to communicate with the shore by means of boats, either by crossing the bar or endeavouring to effect a landing on the beach. Several lives have already been sacrificed, and many more will be if this practice is persisted in. Being fully convinced that boat communication between the shore and the shipping was impracticable, I proceeded to erect a signal mast and semaphore on either spit at the entrance of the river, so that one or the other will always face the best channel for the time being, on which the following signals are shown:

1. Ball and Red flag at the mast head—high water, take the bar.
2. Ball and Blue flag, half mast—half flood, wait for tide. When the bar may safely be attempted at half tide, whether flood or ebb, the Red flag will be at the mast-head over the ball denoting the state of tide.
3. Ball on the lower mast cap and White flag—ebb tide—bar dangerous.
4. No signal—do not attempt the bar.
5. A red painted arm pointed to the right hand, entering from the seaward—more to the south.
6. The other arm pointed to the left hand, entering from seaward—more to the north.
7. The arms up and down with the mast—as you go.

When more than one vessel is crossing the bar, the foremost vessel will be piloted in, the others following in her wake.

On a moveable pole in front of the signal mast, the two in one showing the fairway, will be hoisted (if necessary) the set of the current on the bar, thus—a Red and White pendant—to the northward. A square yellow flag—to the southward. While on the flagstaff not in use for the Piloting signals at high water, the depth in feet on the bar will be denoted by Maryatt's code.

A Red Light is hoisted on the signal mast on the south spit each night, visible from three to four miles.

A house for the accommodation of the signal man, and his mate, together with a boat shed has been erected on the southern entrance of the river. I have the honor to enclose you a copy of their instructions, as also a diagram of the above signals, which I have forwarded to the several Collectors of Customs throughout New Zealand, as well as to the Editors of the newspapers in the Australian colonies.

A life buoy is supplied and hangs ready for use on each signal mast.

Opinions have been expressed as to the advisableness of forming a surf boat establishment as at Taranaki. I will report more fully on this matter when I have visited other parts of the coast, for in the immediate neighbourhood of the Hokitika, there are two features which quite preclude the possibility of such an undertaking being successful—the one I have already referred to, namely, the want of regularity with which the sea rolls in on the beach.

At Taranaki, Timaru, and Oamaru, the sea rolls in with a regular line of breakers from two to three deep, while at Hokitika, on a fair average fine day, I have counted six series of high curling rollers, followed by others the instant they had broken, almost at right angles running parallel to the line of beach.

Again, another objection that presents itself is that the shingle beach (to use a sailors phraseology) is all alive, not like that of Timaru working constantly to the north, but it is light sandy stuff of no consistancy, and in which no anchor will hold, and I am of the opinion, that whereas, as I have before stated, there is good holding ground two to three

miles to the westward with a sandy bottom, yet within a mile of the shore no surf buoy moorings would hold, but would come home with the first strain on the surf line, without which it would be impossible to work boats, even if the former and more serious obstacle did not exist. Another popular cry is for a life boat, to be stationed at Hokitika; so before closing my report I would explain why I do not see the utility of the Government providing one.

This portion of the Province, from its position in connection with the direction of the prevalent gales, would hardly ever be a lee shore; it being a straight coast line and bold-to, vessels cannot become embayed, small craft on failing to cross the bar may be stranded, but any such vessel must necessarily be of such a light draft of water, that the shipwrecked seamen have only to wait until low water to walk ashore dry shod, and the vessel herself being always hurled within the outside break, even before she takes the ground, she would be preserved from any chance of breaking up within the tide.

Those whom the life boat would be expected to save, are men who will venture to cross and recross the bar; it is well known that a suitable place must be selected even to launch a life boat successfully (no matter what extraordinary adventures she may go through when afloat), and there is no such place in the vicinity of Hokitika, unless she be kept within the river, in which case I maintain long before her trained crew (and a life boat is useless without) could be mustered and the boat conveyed to the scene of accident, the lives so recklessly risked would be sacrificed. The plan of the river showing the soundings, I will forward when completed, but I would add for your guidance, that I found an average depth along the northern bank of the river for three quarters of a mile further up than the present township, of four to four and a half feet at low water, with a soft muddy bottom on which vessels may ground without injury; there are however several snags which must be removed.

I have the honor to be

Sir,

Your obedient servant,

(Signed)

FRED. D. GIBSON,
Port Officer.

WM ROLLESTON, Esq.,

Provincial Secretary.

Hokitika, April 29, 1865

SIR,—

I have the honor to report that in accordance with my instructions conveyed by letter from the Provincial Secretary, I proceeded to the River Grey on the 7th inst. and on my arrival there, having communicated with Mr. J. Revell, in charge of the depôt, commenced to remove the Government Buildings from their original site, and after rafting them down the lagoon, completed their re-erection on the Police reserve at Blake Town, on the evening of Friday, April the 13th.

Having availed myself of all the information obtainable, and after a careful inspection of the entrance of the river, I felt convinced that the north spit, situated in the Nelson Province was the most suitable position for the erection of a flagstaff. I therefore selected that site, and the tidal signals were exhibited for the first time on the 21st instant.

The mast is so constructed as to face both channels, having two sets of crosstrees placed at right angles, each furnished with semaphoric arms, thus obviating the necessity of erecting a second mast on the south bank or Canterbury side of the river, which is very low, and over which the sea sometimes washes.

The River Grey is situated in latitude $42^{\circ} 23$ min. S., longitude $171^{\circ} 11$ min. E.

The bar, at its entrance, like those of all the other rivers on the West Coast, is constantly shifting; and after a heavy fresh, when the channel breaks straight out in a westerly direction, it is perfectly safe, and easy of access for small vessels drawing from eight to nine feet, whereas in the absence of any fresh in the river, the channel makes either to the north or to the south, but usually in the former direction, running for a short distance nearly parallel with the coast line, and at such times the entrance of the Grey is far more dangerous than that of the Hokitika; because vessels crossing the bar take the sea abeam when in the heaviest break, and unless under command of very small helm, stand in danger of becoming stranded on the beach, before they are in a position to keep away for the entrance of the river, which of itself, although of a great depth of water, is very narrow.

It is high water full and change at ten hours fifteen minutes, but the highest tides often occur the day following.

I have carefully sounded the river as far as navigable for vessels, or a distance of

rather more than a mile from its mouth, and the least water I obtained was $3\frac{1}{2}$ to 4 feet at dead low water, while at the same time of tide I found from 15 to 18 feet both at the entrance and abreast the Government coal wharf.

I have placed a buoy, painted red, on the only dangerous snag lying in the fairway, abreast the Maori pah, and I have appointed Mr. Jas. Stalker to be signal man, subject to the approval of His Honor the Superintendent.

I have the honor to enclose to you a copy of the instructions I gave to him.

Before leaving the Grey I assisted Mr. Revell in enclosing Messrs. Whitcombe and Townsend's graves with the railings forwarded by the Government for that purpose. Having completed my instructions, I proceeded by land to the Teremakau, both for the purpose of examining the entrance of that river, as well as enabling me to report more fully on the suitability of the coast line between the Grey and Hokitika for surf boat communication.

This river which is situated ten miles to the southward of the Grey, empties itself into the sea at the present time by two channels, the one running northwards, which is nearly dry at low water, and the other in a S.W. direction, in which I found five to six feet.

The entrance is not so confined as that of the Grey, nor yet is it equal to the Hokitika, but small vessels drawing from four to five feet water could cross its bar without incurring a greater risk than they would at either of the other rivers; the only obstacle to the navigation of this river is a dangerous snag on the northern side of the S.W., channel, in the break, on the bar which I think it is possible to remove without very much difficulty. It is high water, full and change at nine hours fifty-five minutes, mean rise and fall, nine feet.

I have carefully studied the coast line from the Grey to the Hokitika, and I have examined the proposed boat landing, situated about one and a half miles to the northward of the River Arahaura, and I am of opinion that though the place indicated is without a doubt the *best* adapted for the boat communication, yet I cannot recommend the establishment of a surf boat service; I believe it would entail great loss of life and property, and in the end prove a signal failure.

The objections against this means of communication are as follows:—

1. The irregularity of the line of surf,

and the great distance the broken water extends to seaward.

2. The non-consistency of the shingle outside of the break, which renders it incapable of holding any surf moorings.

3. The highest rollers break outside in from one and a half to two fathoms water, a long distance from the beach, and nearly always present such a volume of water as to preclude the possibility of hauling any boat through it to gain an offing.

It is my belief that a boulder bank exists extending the whole distance from the Grey to the Hokitika, running parallel with the beach, at a distance at from five to six hundred yards to sea-ward; that it is on this the heaviest of the break takes place; through this the freshes down the rivers burst; forming the channels over the bars, and I cannot help thinking that this portion of the coast is extending to the westward, being gradually formed by the sea through a series of lagoons. The whole coast immediately above the high water mark tends to confirm this opinion, not less so the low water line to the north of the Arahaura where the sea has nearly completed its work in forming a new lagoon.

I have the honor to be,

Sir,

Your obedient servant.

(Signed) FRED. D. GIBSON,
Port Officer.

G. S. SALE, Esq.,
Commissioner, Hokitika.

Hokitika, May 9, 1865.

SIR,—

I have the honor to submit to you my report on the coast between the Hokitika and Mahitahi rivers, which I have visited in company with Mr. John Rochfort for the purpose of examining from seaward the bars of the various rivers, with a view of finding another port.

On Saturday evening the "Bruce," under command of Captain Malcolm, shaped a course at dusk, and proceeded under easy steam for Okarita. The wind was south-west with drizzling rain and a long rolling swell, (Barometer 29°).

At daylight on Sunday 7th, finding ourselves off the Waiau, or five miles to the south of the Okarita we steamed back to it.

The weather on our arrival there was very

hazy, and the swell rapidly increasing broke frequently, in nine fathoms, with great irregularity of the entrance, indicating a foul rocky bottom. The bar appeared one mass of broken water showing no channel.

Mr. Rochfort, informing me of a sheltered bay situated midway between our position and Jackson's Bay, into which a small river named Mahitahi empties itself: consulting with him I determined to examine it, the more so as I wished to give time for the sea to go down, so that I might further examine the Okarita on my return.

Steaming close along the shore at half speed, at two p.m. we ran out of a heavy swell into fine smooth water. Cautiously sounding till close in under the south head, we dropped our anchor at three fathoms at dead low water; the bottom was hard speckled sand, and apparently good holding ground.

I consider this bay a much better harbour than either Timaru, Oamaru or Moeraki, because it is protected from everything except a northerly wind, which seldom blows here with any violence, and on necessity a sailing vessel could put to sea without any difficulty; besides which I feel sure, vessels could generally discharge their cargo in their own boats, so little surf is there on the beach; and were there a short inexpensive jetty constructed in the south corner on the sand, even in a northerly breeze, I hardly think cargo boat communication would be intercepted, and further, it will I am sure prove a great acquisition to the larger description of vessels seeking shelter from a southerly breeze, being the only protected anchorage between Wanganui Inlet and Jackson's Bay, which latter place it closely resembles. The southern headland is a bold rocky promontory stretching out a mile and a half in a N.W. direction and forming the shelter.

On this we landed stepping from the boat on a rock, and re-embarking at dark dry shod. I have named the bay "Bruce Bay," because that vessel was the first to anchor there.

The weather looking fine, and the water glass smooth, we weighed anchor at 3.30 a.m. the following day; but no sooner did we leave Bruce Bay than we fell into a

heavier swell than yesterday, our hopes of entering any of the smaller bar rivers fell very considerably; nevertheless we determined on examining them as closely as safety would permit.

We coasted along the shore which is all of a similar character between Bruce Bay and Hokitika, being in diggers' parlance "made terraces" thickly timbered, the coast line with a few exceptions at the headlands being sandy beach.

At Waikukupa, a small creek abreast of Mount Cook, I observed the cutter "Trader" safely riding inside. You may recollect she left here sometime ago with a party of prospectors having the intention of entering the Wanganui; five tents were pitched near her. We were prevented from holding communication by the heavy surf.

Mr. Rochfort tells me this creek is not deeper at low water than your ankles—so I pass on to the Okarita. It was now perfectly clear, and we stood in as far as it was safe, and obtained a good view of the entrance, which I found much more confined and intricate than had been represented, and very much inferior to the Hokitika.

Hohuhamaru which is on the southern side of the Okarita, is a high rocky headland, from which a rocky bottom evidently stretches out to the north-west, causing an irregular heavy cross swell frequently breaking, which would preclude vessels from anchoring outside.

The north side is a low sandy bank covered with coarse grass and flax, extending some five miles north, and enclosing a lagoon of considerable size. The resident Natives told Mr. Rochfort that in their remembrance the entrance has been completely closed up, so that they could walk across dry footed, being in this respect similar to lake Ellesmere.

The wind and sea increasing, and seeing no prospect of being able to enter in our limited time, I next visited in turn the Wataroa and Wanganui Rivers, standing in as before to the edge of the breakers. As both the entrances were narrow and more exposed to the south-west, or prevailing swell, I did not consider them worthy of further notice,

as they could only be entered by a very small class of craft, and that in chosen weather; so thinking it unadvisable to lose more time, we steamed on for the Hokitika.

Bruce Bay is situated in latitude $43^{\circ} 36'$ min., south; (roughly), and Mount Cook bears north 71° east magnetic. It is the bay shown on the Admiralty Charts lying between Makauriti and Porauangerangi points.

Mr. Rochfort informed me that a bridle road, taking advantage of all the sand beaches, can be made at a trifling expense.

In conclusion, I would mention having seen a camp about three miles north of Waiau, the encampment before mentioned,

with the "Trader" at Waikukupa, and some some six or seven men travelling south between Wanganui and Abut Head; we also saw smoke at Kaurangarua, eleven miles north of Bruce Bay, supposed to be Natives of the locality, and at the Mahitahi communicated with the Natives Tokoko, and wife, belonging to Wakatipu, who said they had not been visited by any European since Mr. Rochfort was here last year, so that the diggers have not yet got so far down.

(Signed), FRED. P. GIBSON,
Port Officer.

G. S. SALE, Esq.
Commissioner, Hokitika.

CHRISTCHURCH:

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