

2079

Diag. Lht. Nos. 6300-1 & 6380-1

Department of Commerce and Labor
COAST AND GEODETIC SURVEY

J C Mendenhall
Superintendent.

State: *Washn*

DESCRIPTIVE REPORT.

Hyd C Sheet No. *2079*

LOCALITY:

*Sunnoni Island to
Birch Point*

1889-91
100

CHIEF OF PARTY:

Lt J N Jordan, U.S.N.

2079

2

right included between Pt. Whitehorn and Birch Pt. This right is more of an anchorage than a harbor, as it is so well open to the ~~west~~ wharves built on either the N. or S. sides where deep water can be found are so exposed to either S.W. or N.W. blows a vessel could not remain along the western sides or the ends during such blows, and the eastern part of the Bay, where it is protected, is too shoal for use. A wharf built on the S. side of this Bay was in use when work was begun on this sheet in 1889, but during the winter of 1889-90 was torn down by the sea. Another was built in the summer of 1890 on the N. side as far in as it could be and have any water, this wharf is still standing, but is little used, and certainly could not be during the S.W. blows that come in the winter months.

There is a good anchorage in from three (3) to eight (8) fathoms, with good holding grounds, inside of Pt. Whitehorn, and with plenty of chain a vessel can hold on in any weather. Semi-ah-moo Bay and Drayton Harbor just to the N.E. of Birch Pt. are much better both as

harbors and anchorages a vessel would seldom use Birch Bay only in case of calms or an emergency.

There are small boat harbors on the S.E. and N.W. ends of the larger Matia Id., but each is exposed to winds from its own side and are little used.

Sandy Pt. on the southern end of this sheet is a barren gravel spit, very little above ordinary high water and awash at very high tides; going to the N.E. the land gradually rises to eighty (80) or ninety (90) feet near Δ Hardpan, coming out to high water mark in a bluff of clay or loam the sea face showing green or brown from the bushes growing thereon, with numerous white patches where land-slides have taken place. The land above this bluff is covered with evergreens, except on the southern slope where ranches have cleared a few acres. On the N.E. side of the bight just N. of Δ Hardpan is a valley, but the land rises again at Cherry Pt. and increases in height to the N.E. as far as Pt. Whitson where it is a hundred (100) feet or more above high water mark. The face

and top of the bluff have the same characteristics as those to the S.E. The land falls off to the E.E. in Birch Bay and the bluffs disappear. From a warehouse round to a Barton the land rises gradually from the shores. The timber has been cleared, small ranches and a few houses are seen around this Bay with the forests just back of them. From a Barton to a Birch Pt. the land rises again, is covered with ferns and small land-slides are seen near the Pt.

The Matia Ids are sandstone rocks covered with a light soil on which grow fir, spruce, and hemlock of a rather stunted variety.

The only vessels engaged in a carrying trade to be found in these waters are those running between Blaine on Drayton Harbor and the more southern Sound ports, (one of these carrying mails to whatcom tugs in Birch Bay) and vessels bound to or from British Columbian and Alaskan ports and ports on the Sound.

Vessels coming in from or bound out the Straits of Juan de Fuca or to and from Victoria usually pass to the W.E. of this sheet. Many of the Sound

stairways running to outside ports go to Nanaimo B.C. for coal as the coal found there is of a better quality than at Seattle or Tacoma.

During the two years I have been near these waters I have only seen two small sailing vessels that were not in tow of a tug-boat.

In clear weather there is nothing to be feared in navigating the waters on this sheet. The three rounded bluffs on the mainland show from a long distance, and the buoy on Alder Bank marks the shoal of that name. Coming from the S^t and passing to the E^t of Alder Bank the three points Cherry, Whitehorn, and Birch show out distinctly and Kwo-mais Pt. in British Columbia when half way up the sheet. Sandy Pt. may not be seen till well up to it, and coming from the N^t Cherry Pt. is projected on the general coast and may not be noticed. The numerous land-slides on the bluffs show out distinctly, the top M^t-covered, the numerous peaks of the Cascade range to the E^t and

Mt. Baker always snow capped is very prominent. Pt. Roberts shows as an island, and the Selkirk range in British Columbia is seen to the N^d. The Maria Ids stand out clear, covered with trees except on the S.E. end of the smaller Id. that is bare and rocky. Mt. Constitution on Orcas Id. and the high land on Lummi Id. are good marks to the northern entrance of Rosario Straits. Vessels coming from the S^d use either Hales Passage, Rosario Straits, or the Canal de Haro, and are either bound to Semi-ah-moo Bay or some part up the Gulf. If bound to the former place in coming through Hales Passage or Rosario Straits, after passing Sandy Pt. they should pass to the E^d of Alder Bank, laying a course to clear Pt. Whitehorn and Birch Pt. about a mile distant. Sailing vessels during the summer months when liable to calms should pass to the E^d of Alder Bank to keep out of the strong currents, and be where they can anchor when the current is against them. If bound up the Canal de Haro, after passing Palas Id. a course laid half way

between Birch Pt. and Two-mais Pt. will clear Alder Bank well to the Nth. If bound up the Gulf streams usually pass to the Wth of Alder Bank, between it and the Lucia Ids, and if from Hales Passage should stand well to the Wth after clearing the buoyed rock off the N. end of Lummi Id. before laying a course to the N.W. up the Gulf; especially on a flood tide when the currents from the Canal de Haro set to the Eth across the Bank. If clear, a range of the E. end of the smaller Matia Id. on the N. end of Clark Id. will give a clear passage to the Wth of the Bank, care being taken not to pass too close to the smaller Matia as a light runs off and is covered at high water. The Stake Light in Hales Passage can be seen if passing to the Eth of Alder Bank, and East Pt. Light on Satuma Id. to the Nth and Sth of the Bank, but the latter is shut out by Potos Id. when on or near the shoalest part of Alder Bank. By passing to the Eth and along the shore the lead can be used to keep just outside the ten (10) fathom curve, and by using

the whistle the echo from the bluffs will give the navigator a very fair idea of his position. Alder Bank rises quite sharply from the S.E. and S.W. sides so that quick work must be done to sheer off if coming from the S.E. and a sounding obtained on this part of the Bank with a hand lead. Coming from the N.E. the Bank shoals up gradually and the lead will give warning in time to sheer off. Care should be taken coming from the N.E. with an ebb current, not to go much to the W. of the range, Matia and Clark Ids, as there is a long ledge, bare at low water, parallel to the N. side of the Lucia Ids distant about half a mile. Vessels may pass between the two Ids of the Matia group by keeping between the reef-marked reef extending to the E. from the larger island and the S. shore of the smaller island, and two thirds the distance between the two islands on the side of the larger when passing between them. This passage should not be attempted on the ebb as the currents set directly across the reef to the S.E.

If wishing to run into the anchorage at the Lucia Ids, East Pt. Light on Saturna Id. gives an excellent range; after passing the Matia Ids to the N^d it is visible through the low gap in the larger Lucia Id., and is shut out on each side by the high land and thus so that the range can be carried until the anchorage is reached, clearing the rocks on each side. The arc of visibility will just clear the ledge on the N. side of the larger Matia Id., but a good clearance will be had by keeping to the N^d until the Light is shut out and, after passing the Matia Ids. to the S^d till the light is again visible through the gap.

There is plenty of water anywhere on this sheet, except along the shores and on Alder Bank; deep water is found on all sides of this Bank, thirty (30) fathoms to the E^d and sixty⁽⁶⁰⁾ to the W^d. The least depth found on the Bank was within a quarter of a mile from the buoy, where there are several small patches sixteen and two tenths (16.2) feet the shallowest sounding

but the bottom is covered with large boulders and a less depth may exist.

Ledges extend out to the E from both of the Matia Ids., that from the smaller is bare at low water, and several detached rocks form a chain close along the N. shore of the larger Matia with very deep water close alongside.

90th p. 12
About half a mile N. of O that there are scattered boulders between high and low water marks, and between Chung and Whitehorn Pts. and around Birch Pt. are many scattered boulders, many of them below low water marks. The track should not be approached too closely along these parts of the shore line.

There are no pilots in or near these waters, fishermen living among the islands may be able to point out the dangers, but should not be trusted too far. Nanaimo, Vancouver and Victoria on the British side, and the larger ports on the Sound in the U.S. are the nearest places where pilots may be obtained. Saw boats from the same ports

may be had and at the entrance of the Straits of Tuna; the masters of these tugs usually have licenses and act as pilots.

Pilotage is compulsory by law, but the pilots do not keep any boat cruising near the entrance of the Straits of Tuna as provided in the statutes, so that the law is not enforced. Tug-boats are only liable to the value of the tug.

There are no harbor regulations.

The contour of the bottom does not appear to have changed very much since the previous survey, unless it may be that the silt from the Hookack River has been swept up to the strait by the action of the flood currents, and extended the bank off a Hardpan so that the deep water right that comes in by Cherry Pt. has been somewhat narrowed.

The bottom outside of ten (10) fathoms is generally soft mud. On Alder Banks and along the shores the bottom is sand, gravel.

and broken shells with cobbles stones or scattered boulders, except around the Malia Ids. where it is rocky, and in Birch Bay where it is sand and mud.

The best anchorage is in Birch Bay inside of the line from Pt. Whitton to Birch Pt. Vessels may anchor on the bank between Cherry and Sandy Pts. and on the northern end of Alder Bank. In the latter place the currents are strong and a light wind against the current soon raises a nasty chop sea.

There are no harbor improvements in progress and the only one spoken of was a breakwater extending out from the S. shore of Birch Bay in a westerly direction, but to my knowledge no active steps have been taken to this end.

The tidal currents in this part of the Gulf of Georgia are usually quite strong especially along the western edge of the sheet. Only a continued series of observations will

determine with exactness the set and strengths of these currents. The flood currents come into the Gulf from Stale's Passage, Rosario Straits and the Canal de Stars causing numerous tide rips, especially on the S.W. corner of the sheet. To the Eth of Alder Banks the flood currents set up the sheet as would naturally be expected, in Birch Bay it is hardly noticeable. On the ebb the current sets down from the N.W. on a line from Pt. Roberts to Birch Pt. directly into Birch Bay causing quite a strong current around Pt. Whittier when it flows out from the Bay. On Alder Banks the flood current from the Canal de Stars is felt forcing the water across the Banks in a N.E.ly direction, whilst the large body of water of the Gulf of Georgia makes the ebb current set to the Eth, so that the direction of the ebb and flood currents on this Banks may not vary more than eight points between two high or low waters. Around this Banks are numerous tide rips especially near the southern end on the ebb, and it runs so strong a few

14
1
oared cutter working during its greatest strength could make little or no progress whenever there was any sea, and it takes but little wind to make a short, choppy, sea when against the current. To the west of Alder Bank the flood currents set in from the west on both sides of the Lucia Ids. causing numerous tide rips when they meet that from Rosario Straits, and force the currents to the N.E. On the ebb the current sets down from the Gulf of Esorgia towards Rosario Straits. Observations made near the Lucia Ids. show the greatest velocity to be nearly three (3) knots per hour, and it is about the same on the western limits of this sheet. Along the eastern shore it is certainly not more than two (2) knots per hour.

p. 15

7
The only change noticed is that mentioned above of the bank off a Hardpan. There is a proposition before the Army Engineers to prevent the filling up of Bellingham Bay, near the cities of Whatcom and Fairhaven, with the detritus of the Hooksett

River, by closing the branch leading into that Bay and opening the one into Sumner Bay now closed by a log jam. If this is done I think changes might be looked for between Hals Passage and Cherry Pt., and in time it would fill up the N. end of Hals Passage when there is more too much water at present for purposes of navigation.

Ice never forms in these waters so as to impede navigation. Fog is not uncommon in the months of August, September and October. It usually comes in from seaward through the Straits of Jusa either towards evening or at night, and clears away between nine and eleven a.m. Smoke from forest fires is often so thick during the months of July, August, and September, objects can not be seen a quarter of a mile distant. Smelts in the Fraser River are shown in these waters. The discolored water forming streaks of a dark brown or light yellow mud during the ebb.

The prevailing winds in winter are from the S.E. shifting to S.W. and often blow very fresh, causing a short chop, sea when against the ebb, dangerous for small boats. An occasional North wind blows down the Gulf during the winter, and blows even stronger than the S.E. ty gales. In summer light southerly and moderate N.W. ty winds prevail, and it is often perfectly calm. The N.W. breezes blow somewhat fresh at times both summer and winter, and these winds and those from the S.W. blow into Birch Bay making it uncomfortable for a small craft or one at a wharf. A large vessel at anchor would be perfectly safe. The small boat anchorages on Matia Ids are open to winds from their own side of the islands.

go to h. 22

10

No wrecks have occurred within the limits of this sheet that has come to my knowledge. If a vessel should run upon Alder Bank or along the shores where there are scattered boulders during a S. ty blow they would

be likely to go to pieces as there is enough sea during these blows to pound them heavily. There are no life saving stations on or near the sheet. The nearest Hospital for Seamen is at Port Townsend.

There are no Boarding or Quarantine Stations within the limits of the sheet. Blaine on Drayton Harbor and Whatcom on Bellingham Bay are sub-ports of entry, and a Customs Inspector is stationed at these places.

The only fresh water that can be obtained on this sheet is from a small spring between Δ Barton and Δ Birch and from wells at the ranches, both very limited in quantity. A water chute was built out from a small stream about three quarters ($\frac{3}{4}$) of a mile south of Δ Raccoon Bluff on Orcas Id. that was used to water the steam launch; there is a good fall, plenty of water and a steep beach at this point. There are water-works supplying the cities of

Blaine and Whatcom, that are the most convenient points for a large supply.

There are no towns within the limits of this sheet.

The nearest places where ship-chandling can be obtained are Victoria, B.C. and Port Townsend, U.S.

The nearest coaling stations are at Nanaimo B.C. and Seattle in the U.S. Coal bunkers are being erected at Anacortes on tidalgo Id., and will probably be in running operation within a year. A shaft is being sunk for coal on Lumbo Id. B.C. and a few tons have been taken out. If found in paying quantities coal bunkers will be erected on this Id. All the coal I have seen in this part of the country is bituminous. If anthracite exists none is offered for sale, excepting small quantities shipped from the East. The best quality is that at Nanaimo, B.C. Any quantity up to five thousand (5000) tons can usually be obtained at Nanaimo, B.C. and Seattle & Tacoma in the U.S.

Victoria, B.C., and Seattle, U.S., are the nearest places where steam and sailing vessels may be repaired.

There is one small wharf on the N. side of Birch Bay, with not more than eight (8) feet of water at its outer end. When work was begun on this sheet there was a wharf on the S. side of the Bay; but it has been torn up by the winter storms. The one on the N. side is little used, and I think was built more for a saw-sill boom than for use.

There are no places on the sheet where there is any weather service.

The nearest place where cautionary signals are displayed is Port Townsend.

No time ball is dropped N. of Portland, Oregon. There is need of one at Port Townsend.

There is no Branch Hydrographic Office north of Portland, Oregon.

Vessels are reported from Salish Ids. Light when coming in the Straits of Fuca past Cape Flattery.

There are no special signals displayed

20
on or near this sheet.

16
The nearest dry-dock is at Esquimaux near Victoria, B.C. This is a government dock, and merchant vessels, unless in cases of necessity, seldom use it. The naval authorities have purchased land, on Pt. Turner in Port Orchard just across the Sound from Seattle, and will build a dry dock at this point. It will probably be several years before the dock will be finished for use. There is a Marine Railway at Seattle that has taken out vessels of two hundred (200) tons, and it is claimed that they can haul out five hundred (500) tons.

17
A small steamer carrying passengers, freight and U. S. mail makes daily trips between Blaine and Whatcom touching in Birch Bay. A side-wheel steamer makes weekly trips between Blaine and the lower Sound Ports. Steamers carrying passengers, freight, and mails to and from Alaskan ports and those on the Sound, make bi-monthly trips, and pass through the

western edge of this sheet.

A railroad through from British Columbia to the South, passes through Blaine and Whatcom and lies well to the eastward.

There are no telegraph offices nearer than Blaine or Whatcom.

There are fourth class Post Offices at Brisk, Lummi Id., near the Stake Light in Halls Passage, and at Birch Bay.

The nearest Custom House is at Port Townsend. Whatcom and Blaine are sub-Ports of entry.

There are no towns or cities included within the limits of this sheet. Scattered ranches have taken up and are clearing claims along the shores of the mainland, mostly in the vicinity of Birch Bay and near the mouth of the Hooksett River. The small steamer that touches at Birch Bay will, in smooth weather, send a boat in almost anywhere if requested.

Aldem Banks, in the more shallow parts, and the reefs and racks around the Malta Ids. are covered with a thick growth of kelp. Patches of kelp will be found along the shore when there are scattered boulders. This kelp grows up in summer and much of it is torn away by the winter storms. The kelp on Aldem Banks is often swept under water by the tidal currents, and should not be depended upon to denote the approach of shallow water. Whenever kelp is seen growing in these waters, care should be taken in approaching, as it almost always indicates submerged rocks or shoals.

Very respectfully

J. W. Jordan, Lieut. U. S. N.

Comdg. Earnest.



Forwarded

A. M. Ackley Lt Com'd'r, U. S. N.
Hydrographic Inspector C. & G. Survey

2079

IN REPLY ADDRESS THE DIRECTOR
U. S. COAST AND GEODETIC SURVEY
AND NOT THE SIGNER OF THIS LETTER

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
WASHINGTON

AND REFER TO NO.

January 21, 1927.

To: The Chief,
Division of Tides and Currents.

From: L. P. Shidy, Associate Mathematician.

Subject: Reducers for certain hydrographic sheets.

In reply to the accompanying request of the 18th instant from the Cartographic Section, I enclose separate statements for the corrections to hydrographic sheets 2079, 2080 and 2113, to reduce them to mean lower low water. The sheets accompany this.

L. P. Shidy

L. P. Shidy,
Associate Mathematician.

January 21, 1927.
Forwarded to the Chart Division

G. H. Lude

Chief, Division of Tides and Currents

Hydrographic Sheet 2079.

This sheet embraces the Gulf of Georgia between Matia Island and Birch Point, Washington, by J. N. Jordan, U. S. N., in 1889-1891.

Three tide stations were used in reducing soundings on this sheet, and at each station the soundings were reduced to the mean of a few selected lowest low waters. The following table shows the correction to the soundings referred to each station in order to reduce them to the plane of mean lower low water.

Correction to reduce soundings
to mean lower low water.

	Feet
Drayton Harbor, 1889.....	+2.4
" " , 1890.....	+2.5
Hales Passage, (Lummi Pt.) 1889.....	+1.8
Sucia Island, 1891.....	+2.0
	<u>4 8.7</u>
Average correction =	+2.2

L. P. Shidy,
Jan. 21, 1927.