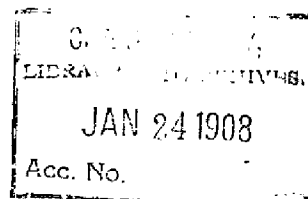
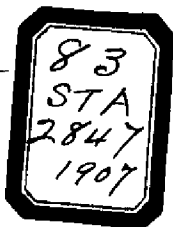


2847



Department of Commerce and Labor
COAST AND GEODETIC SURVEY

O. H. Tubbmann
Superintendent.

State: *Alaska*

DESCRIPTIVE REPORT.

Topo Sheet No. *2847*

LOCALITY:

Berg Bay

1907

CHIEF OF PARTY:

Fremont Morse

2847

The sounding volume for this survey
in the Library L+Q acc. No 61356
is filed with the ~~Boundary Commission~~

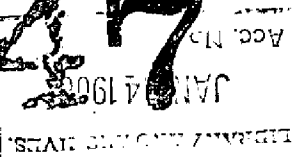
F. B. Kelly
Sept 1938

RECEIVED

COAST AND

Descriptive Report to Accompany Sheet, "Reconnaissance Survey
Berg Bay, Alaska."

2847



This reconnaissance was made by Parties Nos. 1 and 2

FILE

of the Alaska Boundary Survey in spare time after having fin-

ISHED THE SEASON'S WORK ON THE BOUNDARY, AND WHILE WAITING

for a steamer to come to take the parties to Juneau, on their way South. We had no sextants with which to locate the positions, and we borrowed an old lead from the launch "Spray". The soundings were located by having two theodolites set up at stations on shore, the observers, Messrs Netland and Martin, sighting simultaneously on the mast of the launch at a given signal. These readings were taken and positions located about every fourth sounding, the soundings being taken every 30 seconds. Owing to the swift current in the entrance it was not practicable to run very straight lines. The endeavor while sounding in the entrance was to get one line near the shore on the South side, one in mid-channel, and one near the North shore. Inside the bay the current was less, and the lines could be better controlled.

As a result of the soundings it was found that the least depth obtained in the entrance was 25 feet. Inside the depths are quite regular and range from six to eight fathoms.

The name Berg Bay seemed to us a misnomer, if it indicates the presence of many ice bergs. For during the summer it was comparatively free from ice, and so far as we could judge, a vessel at anchor there would be bothered less with ice than in Bartlett

Bay. It is probable that at times, when Easterly winds prevail for long intervals, the ice bergs do crowd the bay. Large bergs ground in the entrance. One was so situated while we were at work there, and it might occur that the entrance could be choked with them, rendering it impracticable to take a vessel either in or out.

Directions for Entering Berg Bay.

In entering Berg Bay keep nearly a mid-channel course, favoring the North shore a little. After passing the entrance avoid getting too close to the South shore, as a shoal point makes out from that side to a distance of about one quarter of a mile from the tree line. Anchor in the turn of the bay where the steep mountain side comes down to the beach. Here the water is deep close in shore, and the tidal current not strong.

The main entrance to the bay is between two islands. There is no passage at low water South of the Southern island. The passage North of the Northern island can be used by launches and small craft at all stages of the tide. We did not sound it out, but Mr. Netland reports that at low water he could not get bottom with an oar in the channel.

Approaching from the South it is not apparent that there are two islands forming the entrance. Only the South island is readily identified as such, and there is therefore no difficulty in recognizing the main passage into the bay.

Notes on Tides and Ice in Glacier Bay during the season 1907.

The tidal currents in the Southern part of Glacier Bay, from Pt. Gustavus up to Willoughby Island, are strong. It is estimated that their velocity reaches at times a speed of six or seven knots an hour. Opposite (West of) the Beardsley Islands there are tide rips and whirls, particularly off the mouth of the channel which lies South of the Northernmost Beardsley Island. Here the ebb current from this channel sets directly across the bay towards the West shore, and conflicting with the direct current which comes down past Willoughby Island produces rips that in spring tides, taken in conjunction with floating and whirling ice bergs, render it to a certain degree dangerous for a ship. The danger arises principally from the fact that the neighboring bergs are not all going in the same direction with uniform speed, but are swirling and heading towards all points of the compass at different rates of speed, so that it is well nigh impossible to work a ship through if the ice is at all thick without hitting some of them. Added to this danger is another caused by the fact that the water is shallow enough to permit the stranding of the largest bergs in mid-channel. The floating ice in a spring tide rushes past these grounded bergs with great velocity. If a vessel were set against one of them by the current she would probably suffer as much damage as if she had hit a rock.

North of Willoughby Island the currents are not strong, and navigation not dangerous on account of rips, so far as our observation went.

There is naturally the greatest amount of floating ice in Glacier Bay in the Spring, and it lessens as the season advances. Indians informed me that that the bay is frozen over as far down as Willoughby Island during the winter. In the early part of September we noted that the floating ice was freezing together in the upper part of the bay and in the Muir Inlet. Hence there seems to be no reason to doubt that the bay does freeze over as stated. In June the ice in front of the glaciers, as seen from the mountains farther down the bay appeared to be solid at the head of the bay.

Movement of the ice.

More ice comes out of the bay on spring tides than on neap tides, other conditions being the same. But the wind exerts also a very marked influence on the ice movement. Thus a Southwest wind drives the ice into Bartlett Bay; and a North wind which blew steadily for about a week during the first part of September, completely blocked the channel to the Westward of Drake Island, which up to that time had been open all the season.

Normally the great mass of the floating ice coming from the Muir Glacier was congested in the Muir Inlet and extended out into the bay as far as to the South of South Marble Island, leaving the West shore of the bay comparatively free from ice. While going up and down the bay to and from Hugh Miller Inlet we habitually used the channel to the West of Willoughby and Drake Islands and were not bothered by ice until the North wind men-

tioned above drove the ice to that side. To be sure we always encountered some floating bergs, but could go ahead at full speed among them.

Above Hugh Miller Inlet the ice discharged from the Brady, Johns Hopkins, and Grand Pacific Glaciers was usually congested in the main part of the bay above the point of the peninsula which lies West of Rendu Inlet, whence it drifted out of the bay along the West shore until opposite the point of the island forming the East entrance headland to Hugh Miller Inlet. Here it was set across towards the East shore. It was generally so scattered opposite Hugh Miller Inlet that there was no great trouble in passing through the ice belt to the comparatively free East shore above. The excursion steamers all made this passage, and had no difficulty in getting up into Queen and Rendu Inlets, and up close to the faces of the glaciers at the heads of them.

During the early part of the tourist season the excursion steamers, which since the great Yakutat earthquake of 1899 had not been able to get up to the vicinity of the Muir Glacier, could not get into the Muir Inlet. Later the steamer "Spokane" did succeed on two trips in getting up to within about a mile of the present face of the glacier.

Fremont Morse,
Assistant.