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Department of Commerce and Labor  
COAST AND GEODETIC SURVEY

*O. Stettmann*

Superintendent. Rec. No.

U.S. AND S. SURVEY  
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DESCRIPTIVE REPORT.

*Hyle* Sheet No. *2529*

LOCALITY:

*Columbia River*  
~~*Jennett Bay*~~  
*Hoods Bar No*  
~~*between Green Island*~~  
*Head of Lady's Island*  
~~*and ...*~~

~~*Island*~~

1901

CHIEF OF PARTY:

*J. Morse*

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Descriptive Report to accompany  
Hydrographic Sheet, entitled  
Treasury Department  
U.S. Coast and Geodetic Survey  
Henry A. Pritchett and C. W. Pittman, Superintendents,  
Hydrography  
Columbia River  
Woods Bar to Head of Lady's Island  
&c. &c.

U.S. COAST AND GEODETIC SURVEY  
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This sheet covers an extent of about six and a half miles along the river from a point just above Woods Bar to the upper end of Lady's Island, and joins hydrographic sheet no. , Ryan's Point to Woods Bar.

Owing to the fact that the river banks, especially on the Government Island side of the main channel, have been cut away during the summer freshets since the original survey was made by Assistant Ricknell in 1891, it was deemed best to re-survey the shore line from Woods Bar up to the limit of Assistant Ricknell's work, at the head of Government Island. This

resurvey showed that the greatest change has taken place at the upper end of Government Island. Here the bank has been washed away to the extent of more than one hundred metres. The erosion is very marked for a distance of about three quarters of a mile down from the point of the island. The old triangulation point "Government Island" has been washed away and lost.

South of Government Island is what is known as Government Island Slough. This is a shallow passage of about the same width as the main river. But owing to the small depth of water it is never used by steamers going up and down the river. Some changes have also occurred in the shore line of this passage, but it was not considered of sufficient importance to warrant a resurvey. The banks were sketched in between the hydrographic positions determined at the ends of the lines of soundings.

As has already been stated the main channel is north of Government Island. After crossing Woods Bar the channel turns towards the N. bank of the river, and from Fishers Landing to the Quarry it hugs the North shore. At the Quarry the channel turns towards the middle of the river. Opposite Macalls Rocks the deepest water is about mid-stream. From here the channel turns towards the S. shore and passes near the bank at the E. point of Government Island. It then strikes across the river towards the Oregon shore, and from a point about three hundred metres above Clear  $\odot$  it hugs the bank closely up to the mouth of the Little Sandy River, where it heads for the E. point of Lady's Island. In this vicinity an equally good, or even better channel runs along the Lady's Island shore between it and "Love Reef". Both channels are used by the river steamers.

On the North side of Lady Island is La Camas Slough. It is used by the steamer "Dove" which plies between Portland and Washougal. It is deep up as far as the Paper Mill Landing at the town of La Camas, above which point in the vicinity of the mouth of the Washougal River it is so shallow that during the low stage of the river in the autumn the steamer does not attempt to pass, but goes around the lower end of the island to reach the landing.

Government Island Slough, south of Government Island is shallow. At a point opposite Wrie there is less than six feet of water, which still lower down, above Lemmon Is. (on Hyd. Sheet No. 1.) is a bar that has but 2 feet of water in it.

Obstructions in the Main River.

Rocks:

About 130 metres above the upper wharf of the Columbia Quay Co. and

70 metres off shore are two rocks that bare at the low stage of the river.

About three quarters of a mile above the Quary and the same distance below the little low islet off the N. point of Lady's Island are the "Hassals Rocks". These have heretofore had no name, and are now so called after the old steamer "Hassals" which once struck on one of them. These rocks are the highest points of an extensive rocky ledge that runs N.W. & S.E. for a distance of nearly a quarter of a mile, and at a distance of about one third the width of the river from the North bank. The highest peak of the ledge has  $2\frac{3}{4}$  feet of water over it, and three other pinnacles about 60 or 70 metres S.W. from this peak have each  $4\frac{3}{4}$  feet of water over them. Sometimes, during extreme low water in the river, caused by the freezing up of the river above in winter one peak is visible above the surface. During the low stage of the river this reef should

be avoided. A mid-river cruise by it is perfectly safe.

Lone Reef: This ledge of rocks has heretofore had no name, and is now so called because the steamer "Lone" once struck it, and nearly ripped her bottom out. The reef lies in mid-channel, between Lady's Island and the Oregon shore, just below the mouth of the Little Sandy River. It is ~~over~~ a quarter of a mile long, up and down the river, and has eight peaks that stand above water at the ordinary stage of the river. These range in height from 6 to 14 feet above the plane of reference. At the time of the completion of this sheet all these but one were submerged, the river was rising rapidly to its flood stage, and owing to the swiftness of the current over the reef and the eddies and whirls, it was impracticable to make soundings over the reef and between the rocks.

At the West end of "Lone Reef"

and nearly half way from it to the Oregon shore is a sunken rock having five feet of water over it. It is well known to the local pilots, who hug the Oregon shore to avoid it in using this channel.

Near the West point of Lady's Island and obstructing the channel into La Carnas Slough are five visible rocks. The first, and westmost, lies in mid-channel 225 metres from the end of the island.

The second is about 100 metres S. E. from the First, and is 140 metres from the point of the island.

The Third is N. E. from the First, distant 150 metres from it, and 30 metres from the shore line. All three of these are high rocks, visible at ordinary stages of the river, and only covered in flood times.

The Fourth rock is visible only when the river is low. It is 35 metres from the shore line and 360 metres N. E. from the W. point of Lady's Island.



The Fifth rock is in sight at ordinary stages of the river. It lies 80 metres off the shore of Lady's Island, at a distance of 150 metres from the N. point of the island.

Directly in line between these last two rocks is a third that is under water a foot and a half. It is 80 metres from rock No. 4. The steamer passage is between it and No. 4.

Extending in a S.W. direction from the N. bank of La Carnas slough, just above the Paper Mill Landing is a reef of rocks that goes about half way across the slough.

At the upper end of Lady's Island, almost due north from the extreme E. point of the island, and distant about 170 metres is a rock visible except at flood stages of the river. This has a sunken rock about 10 metres off its N.W. end.

There are also two sunken rocks N.E. from the E. point of Lady's Island, the outermost one being 35 metres from

the point.

There is also a cluster of visible and sunken rocks close to the Oregon shore about 600 metres E. from Taggarts Bluff  $\Delta$

Sand Spits and Bars;

On the Government Island side of the main river, opposite the Quarry is a sand spit nearly half a mile long and from 100 to 150 metres wide. The 6-ft. current outside the spit encloses an area over  $\frac{3}{4}$  of a mile long, by about 250 metres wide. So that this bank of the river should be avoided in passing.

Below Lady's Island is a small low islet, partly covered with young willows. An extensive shoal lies E. S. + W. from it. From the W. end of the islet the spit extends down the river a distance of 700 metres. From the E. end it extends up stream 350 metres, and a broad flat extends out from these limits towards the W. shore of Government Island to a dis-

tance of about half way across to the island.

Around the two little islands at the E. end of Government Island Slough, and particularly to the Eastward of them, is a very extensive sand spit. It nearly chokes up the entire width of the passage, leaving only a narrow channel on each side.

There is also another large flat making off from the N. shore of Government Island Slough between White C and Spruce C.

Near the Eastern limit of the flat, above the mouth of the Little Sandy, is a spit deposited by the Sandy River, of which the Little Sandy is merely one mouth.

At the head of Lady's Island there is a gravel bar which nearly closes the Eastern entrance to La Crosse Slough.

Plane of Reference: The plane of reference for this survey has

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been established all along the river from Vancouver to the Cascade Locks, a distance of about 42 miles, by simultaneous observations connecting the gauges at the two places, at both of which the U.S. Engineers had established the low water plane. For the soundings in this sheet made in the Autumn and Winter of 1900 two tide gauges were made use of, one at the Quay, and the other near the E. end of Lady's Island. For the work of the present season, (May 1901) a new staff was put up at the Lady's Island station, and as the river was rising rapidly to its flood stage the zero of this staff was set  $7.90^{\text{ft}}$  above the plane of reference.

Statistics:

Miles of Soundings  $102\frac{2}{10}$

Number " 5457

" of Angles 1970

Area  $4\frac{2}{10}$  square nautical miles

Respectfully submitted,

Fremont Morse, Assistant