



# 2350

Treasury Department,  
U. S. COAST AND GEODETIC SURVEY.

*H. J. Puschett*  
Superintendent.

State: *Alaska*

## DESCRIPTIVE REPORT.

*Topographic* Sheet No. *2350*

LOCALITY:

*Copper River Delta*

*1898*  
*1900*

CHIEF OF PARTY:

*H. P. Ritter*

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DEC 14 1903

*Washington, D. C.*

*Dec. 14, 1903.*

*Descriptive Report  
to accompany  
Topographic Sheet  
No. 2350*

*Homor P. Ritter*  
*Assistant*

Title:

Treasury Department  
U.S. Coast and Geodetic Survey  
Henry J. Pritchett, Supt.

Copper River Delta  
Alaska

Reconnaissance by H.P. Ritter, Assistant, Chief of Party  
1898.

Scale  $\frac{1}{80000}$ .

Inking and general lettering by Field Party  
Title lettered by C.M. Hahn

Register No. 2350.

General Description of the  
Copper River Delta and adjacent  
country by H.C. Wenson; member of the  
Party. (1898).

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The country in the vicinity of the mouth of Copper River as seen when approaching it from the sea has the appearance of one vast rugged snow peaked mountain range whose tops are covered with perpetual snow and ice fields giving birth to innumerable glaciers creeping down its barren sides and filling its deep cut gorges.

The range is distant about 25 miles from the ocean sand reefs and varies in height from 1000 to 8000 feet; The seaward face and its spurs, in a general way break off quite abruptly and have in front of it extensive tidal flats and marshes which gradually merge into mud flats and sand reefs and further out into

submerged sand bars which extend out to sea for great distances.

Copper River breaks through the range about 30 miles from the coast and is here flanked on the east side by Miles Glacier and on the west by Childs Glacier.

In this vicinity are the rapids forming an insurmountable barrier to any kind of navigation except canoes.

The river from here to where it enters the delta is very swift and consists of many channels which frequently change their depth and course.

From the head of the delta to where the river leaves the marsh flats and spreads out over the mud flats it flows nearly south and is about 5 miles wide, and consists of numerous changeable channels varying in depth (high stage of river) from 5 to 20 feet.

Directly after Copper River

enters the delta 4 branches viz.  
 (Stony Slough, Castle Island Slough,  
~~Gete Lake~~ and Alaganik Slough,) leave  
 it flowing in a southwest and  
 westerly direction through the delta.

The east and westernmost branch is  
 generally known as Alaganik Slough  
 (the village of Alaganik being situated  
 near its upper end).

As this stream is the one most  
 traveled it is by some erroneously  
 called Copper River (main branch).

This branch from where it breaks  
 into the tide flats to where it leaves  
 them is about 15 miles long and  
 varies in width from  $\frac{1}{2}$  to one mile  
 with a depth varying from 5 to 15  
 feet, depending on the stage of the  
 tide and river.

This branch is a tidal stream -  
 the average tide at the lower end  
 being about 10 feet while at Alaganik  
 it is about 2 to 3 feet. (In the main  
 river the effect of the tide on the current  
 is only felt near its mouth.)

The navigation of Alaganik Slough is further facilitated by the fact ~~that~~ during flood tide the direction of the current is up stream while ebb tide changes it to a down stream direction - This effect is felt as far as Alaganik.

The shore on each side of this slough is low and marshy until in the vicinity of the head or near Alaganik village; here the shore is formed by sand dunes covered with alder and berry bushes.

The sloughs to the eastward and between Alaganik and Kokinhenic Island sloughs are similar in character, the shores being low and marshy except at their heads where there are numerous sand dunes ranging from 50 to 150 feet in height.

The main stream of the Copper River the lower end flowing between Kokinhenic Id. and Cottonwood Pt. is 5 miles across, but it is cut

cut up by innumerable sand bars which are continuously shifting and in consequence is not navigable.

To the westward of Alaganik Slough are Glacier River, Eyak River and Mountain Slough.

These streams are shallow and their currents very swift; they are not branches of the Copper River but have their origin in the glaciers to the north of the western end of the delta.

Eyak River in the western end of the delta is connected with and serves as an outlet to Eyak Lake and at favorable stages of the tide this stream is navigable, by the fishing steamers, from its mouth to the village of Oodiak at the western end of Eyak Lake.

Almost the entire delta consists of low marshy flats with the exception of sand dunes on the islands and shores of the main channels; these dunes range from 50 to 150 feet in

elevation; the highest part generally being on the up stream end. and are formed by the agency of the violent winds coming out of the Copper River valley in winter picking up the sand of the sand bars.

The flats are cut up into countless islands by the many tidal sloughs and small streams flowing from the glaciers.

In the banks of these sloughs at low water may be seen the stumps (apparently in situ) of trees 1 to 3 feet in diameter, leading one to believe that at one time there must have been quite an extensive growth of timber on the delta.

One of the most interesting features of the Copper River Delta is the violence of the wind that blows out of the river gorge during the fall and winter.

These winds begin during the month of September and last until early spring and during that interval it is at

times difficult and even impossible to cross the delta;

They are of such violence that at a distance of 30 miles out at sea may be seen the fine dust blown from the delta.

1 The body of water intervening between the flats and the ocean sand reefs is navigable for boats drawing 3 to 4 feet of water and is in places navigable to these only, at high tide. ✓

The vegetation of this region is very marked. On the flats are found marsh grass and flowers, on the sand dunes are alders, berry bushes and some cottonwood trees, while on the mountain sides hemlock and firs grow in abundance.

Extensive salmon fishing interests are represented on the Copper River Delta and on the banks of many of the sloughs are located the small fishing houses occupied by the fishermen during

the fishing season.

Two large canneries, one at Ota and another at Odiah obtain a large part of their annual pack from the delta; the fish being carried from the fishing grounds to the canneries by sternwheel steamers drawing about 3 feet.

The fishing season begins in May and lasts until July.

The combined yearly pack of the two canneries is from 60000 to 75000 cases.

At the head of Alaganik Slough is the Indian village of Alaganik inhabited by a few Indians and occasional prospectors.

The following distances measured from the topographic sheet will give some idea as to extent and location of the delta.

Distance across Delta from Cape Whitshed to Mtn. range on East side 50 miles; Distance from Mtn. range on N. side to Ocean Sand Reefs. 15 miles.

(11)

average distance from mainland  
to ocean sand reefs 5 miles.

|                                      |          |
|--------------------------------------|----------|
| Distance from Oca to Kokinhenic Riv. | 45 miles |
| " " " " Eyak River                   | 20 "     |
| " " " " Alaganik Slough              | 26 "     |
| " " " " " Village                    | 36 "     |
| " " " " Cottonwood Pt.               | 50 "     |