



U. S. COAST AND GEODETIC SURVEY.

*J. M. Thorn*, Superintendent.

State: *California.*

DESCRIPTIVE REPORT.

*Topographic* Sheet No. *1803.*

LOCALITY:

*Suisun Bay.*

*(Reurvey.)*

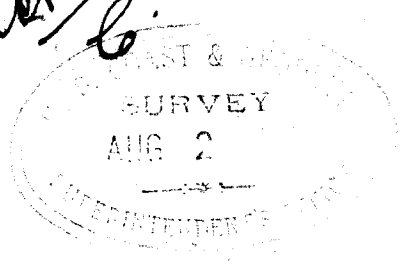
*1886.*

CHIEF OF PARTY:

*G. Davidson.*

noted  
6.

Give here full address to which reply should be sent: San Francisco, Cal.



U. S. Coast and Geodetic Survey,

Sub Office,

July 25, 1888.

F. M. Thorn Esq.,

Superintendent U. S. C. & G. Survey,

Washington.

Sir:

In the absence of Assistant Dickins, Sub Assistant  
Fremont Morse has drawn up a descriptive report of that  
part of Suisun Bay covered by Topographical Sheet No. 1,  
executed under my direction in 1886; *I send a copy.*

Very respectfully,

*Henry Davidson*  
*af.*

*Assist. in Chg.*

254.

Give here full address to which only a card should be sent.

*Descriptive Report*

U. S. Coast and Geodetic Survey.

*Copy to the Superintendent  
with my letter of even date  
Prof Davidson for  
S. A. H.*

San Francisco,

July 24th., 1888.

Prof. George Davidson

Assistant C. & G. Survey

San Francisco, Cal.

Dear Sir:

I have the honor to submit a descriptive report of Topographical Sheet No. 1. Re-survey of Suisun Bay, by the party under your charge in 1886.

The country included in the limits of the topography shown on this sheet is almost entirely marsh, and comprises a part of the Southern shore of Suisun Bay, beginning at the entrance to Karquines Strait, and extending Eastward to Middle Point; together with Seal, Ryer's, and Roe Islands, and part of the shore line of Ead's Island.

The only hard land shown on the sheet consists of three points jutting into the marsh at Island Station, at Bull Station, and at Seal Bluff. The last is the only place on the sheet where the solid land extends down to the shore of the Bay. Advantage has been taken of this fact to

establish a shipping point. Two wharves, at which schooners can dock, have been erected, and three warehouses are used for the storage of produce, principally hay, while awaiting transportation to market at San Francisco.

The whole marsh area shown is reclaimable - some has already been reclaimed. This is accomplished by small dykes or levees, sufficiently high to prevent overflow by tides and freshets, and heavy enough to prevent lateral displacement by the same forces. As there is no swift current to wash or erode a levee it is found in practice that on the islands a bank about three feet high, and about six feet on the base is sufficient. On the main shore the control of the flood waters of the large creeks would be the greatest obstacle. One of these, Pacheco Creek, is navigable for small schooners for a distance of some three miles to Blum's Warehouses, and is the outlet for the drainage of a considerable extent of country. Obviously it cannot be dammed, and both banks would have to be leveed to reclaim the marsh adjacent. Hastings Creek, also of considerable size, is shown on the sheet. It was formerly navigable for small craft for two miles, to Hasting's warehouse. Since the former survey, however, the creek has filled up by agricultural washings to such an extent that there is dry ground in front of the old warehouse

where schooners formerly loaded. This change is not shown on the sheet, being outside the limits of the topography. The creek is still further obstructed by the railroad. An embankment has been built nearly across it, and the remainder of the distance is bridged. Hence the mouth of the creek might be dammed, taking care to make sufficient provision for the escape of flood waters, thus saving the expense of dyking both banks. The other creeks are not large and no difficulty would be experienced in controlling their waters.

Two attempts at reclamation have been made on the main shore, one just to the Eastward of Bull's Head Point, and the other near Seal Bluff Landing. In the first case the control of the tide water did not seem to be complete, and the marsh is still salt. In the other case the levee has been allowed to go to ruin, and the marsh has gone back to its original condition.

Dr. Ryer, the owner of Ryer's Island, has been more successful. The greater portion of his island has been reclaimed, and is used for pasturage. So far as known he has yet attempted no cultivation.

#### Means of Communication.

There is a landing on the S. E. point of Ryer's Island

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for steamers and schooners. Also at Seal Bluff on the main shore.

The San Pablo and Tulare R. R. (Southern Overland Route) extends along the whole length of the sheet, and furnishes ample facilities for the transportation of passengers and freight. Hay and grain are the principal shipments. Two flag stations, Avon, and Bay Point come within the limits of the sheet.

#### Changes.

No critical comparison of the re-survey with the former work is attempted. The two surveys are on different scales and cannot be directly compared. A few striking changes apparent to the eye either in the field or by glancing at the sheet are noticed.

First, the growth of tule and grass on the flats between Bull's Head Pt. and Pacheco Creek. No grass is shown in the sheet of the former survey. Now it extends nearly half a mile off shore. The flats are bare at low tide, and it seems plain that the depth of water has decreased. This change is, for the most part, due to the washings brought down by Pacheco Creek during the winter freshets. This is not so evident from an inspection of the sheet as it is from a visit to the country farther up the creek.

The town of Pacheco, which is located on the creek some four or five miles from the Bay, was formerly a shipping point. Now the creek opposite the town is filled up, and in time of freshets the flood waters extend through the town. Many of the houses are set up on posts, the lower stories of brick buildings have been abandoned, and in some places two fences, one above the other, have been buried in sand and mud. In fact the liability of the town to floods from the filling up of the creek led a few years ago to its partial abandonment, and the starting of the new town of Concord, two or three miles farther East and on higher ground.

Second, the filling up of one mouth of Pacheco Creek by a growth of tule. Obviously from its peculiar shape there has not been much current, as a consequence the tule has gradually encroached upon the channel way till the creek is almost completely filled up for the greater part of its length. It is only a question of a short time when it will be entirely obliterated.

Third, the filling up of Hastings Creek Beyond the limit of the topography has already been mentioned. (p. 2.)

Fourth, the formation of land by tule growth at some points all along the shore line, and the erosion of the shore line in others. An inspection of the sheet shows that in general the parts of the shore line exposed to the W. and

This is a history of one of the numerous examples of filling in from Agricultural deposits. W.D.

N. W. are undergoing the process of erosion. This is indicated by the jagged outline and the absence of tule, and is caused principally by the action of the prevailing winds, which draw up the Bay. An exception to this rule is seen on the South and East sides of Roe and Ryer's Islands.

There the erosion is caused by the swift tide of the main channel, which, deflected by the large middle ground between Middle Pt. and Freeman Island, rushes past these shores with considerable velocity.

In conclusion I may be permitted to add that as at the time the survey was made there was no order in regard to descriptive reports no notes were taken with the view of making one, and I have been obliged to depend on my memory and an inspection of the tracing of the work for material.

All of which is respectfully submitted.

(Signed.) Fremont Morse

Sub Assistant.