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**ANNUAL REPORT**  
OF THE  
**SURVEYOR-GENERAL OF CALIFORNIA**  
FOR  
**THE YEAR 1862.**

[BENJ. P. AVERY, STATE PRINTER.]

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# ANNUAL REPORT.

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SURVEYOR GENERAL'S OFFICE,  
Sacramento, December 15, 1862.

To His Excellency,  
LELAND STANFORD,  
Governor of California:

SIR: - In compliance with the requirements of the Act defining the duties of the Surveyor-General, I have the honor to submit, for your consideration, the following report of the Surveyor-General and Register of the State Land Office, for the year ending December fifteenth, eighteen hundred and sixty-two.

J. F. HOUGHTON,  
Surveyor-General, and ex-officio Register of Land Office.

# REPORT.

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## STATE LANDS.

I know of no subject more appropriate for the commencement of the Annual Report of the Surveyor-General and Register of the State Land Office, to whom, among others, is intrusted the important duty of administering all the various laws for the survey and sale of the State lands, issuing and keeping records of all titles issued by virtue of such laws, than a concise history of the several grants of land made by Congress to the State, showing the amount of land of which the State is proprietor, the nature of the title of which she has derived, and consequently, the value of the title which the State is giving and offering to all such as have purchased or may desire to purchase under its laws.

The largest and most important grant made to the State is that of March third, eighteen hundred and fifty-three, which grants to the State for school purposes the sixteenth and thirty-sixth sections of every township in the State, or one eighteenth portion of the whole area of the State, which area being estimated at one hundred and ninety thousand square miles, gives six million seven hundred and fifty-five thousand two hundred acres as the amount of this grant, which is, by the Act of donation, irrevocably pledged to the support of the Common Schools.

Next in importance to the sixteenth and thirty-sixth section grant, is the grant of all the Swamp and Overflowed Lands within the borders of our State, by Act of Congress of September twenty-eighth, eighteen hundred and fifty, by the terms of which the proceeds of sales are to be applied exclusively, as far as may be necessary, to the purpose of reclaiming said lands by means of levees and drains. The amount of this grant I estimate to be about one million five hundred thousand acres.

This grant is absolute, without any restrictions regarding the manner of sale by the State authorities.

The next grant in order of importance is the grant of five hundred thousand acres, which amount of land was, by Act of Congress of September fourth, eighteen hundred and forty-one, granted to each new State that shall "hereafter be admitted into the Union, upon admission." This grant was originally made by Congress for purposes of internal improvement, but was by our Legislature devoted to school purposes, and is generally known as School Lands.

Selections made under this grant were, by the wording of the grant, to be made as the Legislatures of the several States should direct.

The law of Congress of March third, eighteen hundred and fifty-three, in addition to the sixteenth and thirty-sixth section grant, also donates to the State seventy-two sections, or forty-six thousand and eighty acres, for the use of a seminary of learning, to be selected by the Governor, or any person he may designate for the purpose, and to be disposed of as the Legislature may direct.

And still, in addition to the above, the same law donates ten sections, or six thousand four hundred acres, for the purpose of erecting the public buildings of this State, to be selected by the Governor, or any persons he may designate.

In all except the sixteenth and thirty-sixth section and the Swamp Land grants, we are restricted by the provisions in the grants, from selecting or locating on mineral lands.

The amount of land which has become the property of the State by these grants, may be summed up as follows:

State Lands.	Acres.
Sixteenth and thirty-sixth section grant.....	6,755,200
Swamp Land grant.....	1,500,000
Grant for internal improvement.....	500,000
Grant for seminary of learning.....	46,080
Grant for public buildings.....	6,400
Total.....	8,807,680

To which may be added the Tide Lands belonging to the State by virtue of her sovereignty, of the amount of which no proper estimate can be made.

#### SCHOOL LANDS.

In the Act granting the sixteenth and thirty-sixth sections, no reservation is made of those sections, when they occur in the mineral districts, (see section six of said Act,) as will be seen by a careful reading of the law, the whole grant being embodied in these few words: "With the exception of section sixteen and thirty-six, which shall be, and hereby are, granted to the State for purposes of public schools in each township."

Whether it was the intention of Congress to include mineral lands in the provisions of this grant, I do not know, but the effect of the above wording seems clearly to do so. Some doubt existing as to the intention, no selections or sales of mineral lands have been made by the State.

This grant including these sections in the mineral districts, as was before shown, amounts to about six millions seven hundred and fifty thousand acres, and will furnish the basis of a public school system second to none in any State of the Union.

Section seven of said Act provides that when the sixteenth and thirty-sixth section is covered by a private grant, or has been taken for public uses, the proper authorities of the State shall select other lands in lieu thereof. The sections making this grant, occur in a law treating generally of unsurveyed lands, without any restrictions that the selections should be made upon unsurveyed lands. The Legislature of this State, properly understanding the Act of donation, regarding it as an absolute present grant, requiring only the selection by the proper authorities of the State and notice to the United States Registers of such selection, passed various Acts authorizing the sale and location of such lands upon any part of the public domain, surveyed or unsurveyed,

requiring affidavits from the purchaser, and two witnesses that the lands sought to be purchased were unoccupied and unimproved except by the applicant.

These affidavits have been required of all purchasers of these lands in order to guard against frauds or conflicts with settlers, the object being to take none but such as are absolutely vacant.

The authorities at Washington have long been made acquainted with this method adopted by the State, of selecting these lands, and no positive objection has been made to it, until within the past few months the Commissioner of the General Land Office at Washington has notified the Register of the United States Land Office for the Stockton District, that the State authorities would not be allowed to make selections of unsurveyed lands, which instructions the Register communicated to this office.

Either the Legislature and authorities of this State or the Commissioner of the General Land Office is wrong, and in view of the fact that the State has selected and sold to bona fide purchasers, in good faith, upwards of three hundred and forty thousand acres of unsurveyed lands, taken their money, and promised them good titles, I deem it of the utmost importance that a test of the law be made by a case in point being submitted to our highest tribunal, or that our delegation in Congress be instructed to obtain the passage of a bill defining the rights of the State in its selection of public lands donated to her, or explanatory of the laws already in existence, keeping in view the facts of the sales already made, and confirming them, except where they interfere with the rights of settlers acquired before the State notified the United States Register of such selection.

An anomalous condition of the public lands exists in this State, such as never before occurred in any State of the Union.

Owing to the existence of a large number of unlocated floating Mexican grants, embracing within their exterior limits nearly all the desirable agricultural lands within the easily accessible portions of the State, the precise locality of which, in many instances, remains to this day undecided, it has been impossible to determine what was the public domain, and the United States survey of the public lands has consequently been delayed until our rapidly increasing population has always been in advance of the surveys, and settlers have been compelled to locate upon the lands as they found them, whereas, in any other State in the Union, surveys have always been in advance of population. Our delegation in Congress should, in view of these facts, urge liberal appropriations for public surveys, that our settlers may immediately obtain their titles, as nothing tends so much to the prosperity of any country, as the certainty and security of its land titles.

If any measure can be adopted in Congress to compel the speedy location of the numerous confirmed Mexican grants in our State, our delegation should give it their attention and earnest support. The difference in construction of the law of Congress by the State and United States authorities, above referred to, was first brought to my notice in May last, through a letter written by Mr. Hubbard, Clerk in the Marysville Land Office.

I immediately addressed our delegation in Congress on the subject, which letter I herewith submit. It was so late in the session when it reached Washington that the suggestions contained therein could not be fully attended to, and Mr. Phelps informed me the letter was filed with the Commissioner of the General Land Office:

STATE OF CALIFORNIA, OFFICE OF SURVEYOR-GENERAL,  
Sacramento, May 8<sup>th</sup>, 1862.

Hon. T. G. PHELPS, M. C.,  
Washington, District Columbia:

DEAR SIR: - Allow me to call your attention, and through you, the attention of our entire delegation in Congress, to the following important extract of a letter written by Mr. C. V. D. Hubbard, Clerk of the United States Land Office at Marysville, in reply to a letter of inquiry from the State Locating Agent of the Marysville District, to wit:

“Your question as to what rights are allowed to be made against the State’s application, after it is filed in this office, it seems to me to be quite general. However, I will try to answer it. If the State files an application upon unsurveyed land, either for school warrant location, or in lieu of sixteenth and thirty-sixth sections, when the maps are returned to this office of such land, the State must renew her application immediately, and after the expiration of three months from the date of filing of maps the selection will be approved, upon its appearing that it interfered with no pre-emption rights vested before the return of the map.

“It will be the unvarying rule in this office, I believe, to protect pre-emptors in good faith in their interests as against the State in all classes of lands, surveyed or unsurveyed, and a satisfactory showing of pre-emption right to the officers here will always, I believe, be sufficient to defeat the State selection.”

You will readily see that if the above opinion is sustained at the General Land Office at Washington, the large number of purchasers of these lands from the State, *unless they have taken actual possession* of and occupied the lands so purchased, have acquired no rights whatever as against any person who may, at any time before the filing of the maps of township surveys in the local Land Office, desire to file his declaration of intention to hold the same land by pre-emption.

I beg leave to refer the delegation to the Act of March third, eighteen hundred and fifty-three, and the Acts amendatory thereto, by which it will be seen that by the original Act no pre-emption rights could be acquired upon any unsurveyed lands, except within one year after the passage of the Act, or before March third, eighteen hundred and fifty-four, which I think was by subsequent amendments extended to eighteen hundred and fifty-six, at which time all pre-emption rights upon unsurveyed lands would be held valid, and *no more could be acquired*. By section seven of said Act, you will see that where the sixteenth or thirty-sixth sections have been covered by private grants, or otherwise disposed of, “*other land shall be selected by the proper authorities of the State in lieu thereof.*”

Under this showing, pre-emption rights could not be acquired upon unsurveyed lands since eighteen hundred and fifty-six, but the State authorities are by the same Act authorized to select any unoccupied surveyed or unsurveyed lands in lieu of the sixteenth and thirty-sixth sections granted or otherwise disposed of, and this opinion from the local Land Office, which I believe is held by all the Registers throughout the State, is contrary to the law, wholly wrong, and is now working incalculable injury to the land titles of our State.

In view of these facts, it is very desirable that the General Land Office should be requested to instruct the several Registers of the local Land Offices of this State, to the following effect, to wit:

That whenever the proper authorities of the State shall file with the Register of the local Land Office of the United States, their application for any surveyed or unsurveyed and unoccupied public land, in part satisfaction of any of the several donations made by Congress to this State, which application shall be accompanied by proper affidavits showing that the lands sought to be purchased are unoccupied and unimproved except by the applicant, it shall be the duty of said Register to accept such application in part satisfaction of said donation, and thereafter he shall allow no pre-emption to the same lands, or in any other way interfere with the rights of the State to dispose of the same.

Considerable tracts of land were located by school warrants upon unsurveyed lands as early as eighteen hundred and fifty-two, in part satisfaction of the five hundred thousand acre grant, which lands are still unsurveyed, and selections are daily being made in lieu of sixteenth and thirty-sixth sections, and purchasers believe they are getting good titles, purchasing in good faith, yet the Registers of the different Land Offices will recognize no such selections, and allow pre-emptors to locate them after notice of the State selection.

Difficulties will multiply, and cause much trouble and insecurity in titles, unless some such instruction as I have indicated are sent to the several Registers.

The State has sold of the five hundred thousand acre grant, and the sixteenth and thirty-sixth sections, or lands in lieu thereof, about eight hundred thousand acres, and it is absolutely necessary, in order to protect purchasers in good faith, that such instructions should be given.

Will the delegation please give this subject the immediate attention which its importance demands?

Respectfully, your ob't. serv't.,

J. F. HOUGHTON,  
Surveyor-General and Register of State Land Office.

To the Congressional Delegation of the  
State of California, Washington D. C.

P. S. – I enclose a blank of the form of application and affidavits filed with the united States Registers in all sales by the State under the present law.

J. F. H.

#### SEMINARY AND PUBLIC BUILDING LANDS.

These lands have invariably been selected from surveyed lands, and consequently no such difficulty has been experienced as with School Land locations upon unsurveyed lands. All selection under these grants have been unconditionally

accepted by the United States Registers, except in a very few cases where township plats were not on file in their offices.

### SWAMP LANDS.

There is no question between the State and the United States in regard to the title to the larger portion of this grant; yet, as will be seen by reference to the Swamp Land tables accompanying this report, the State has already sold forty-three thousand acres as Swamp Land, which is claimed by the United States.

This is partly accounted for from the fact that the Act of eighteen hundred and fifty-five, providing for the sale of Swamp and Overflowed Lands, required no affidavit as to the character of the lands, and as persons purchasing under it could hold three hundred and twenty acres, much was located which was left out in the segregation returns; and partly from the fact that there has been no concert of action between the United States and the State authorities in regard to establishing the line of segregation.

The United States surveys are usually made in the dry season, and no testimony is taken by the Surveyors to establish the character of the land in eighteen hundred and fifty, the date of the grant, between which time and the time of the survey, in many instances, tracts of land have been reclaimed and rendered fit for cultivation, by means of levees, drains, stopping the mouths of sloughs, etc., which they have returned as high land. This is particularly the case along the banks of the Sacramento.

Our State Surveyors, on the contrary, are required by law to procure affidavits of reputable witnesses as to the character of the land at the date of the grant, based upon actual knowledge, or reliable indications, taking observations for a series of years for information.

In only two or three counties have State Surveyors accompanied the United States Surveyors when surveying townships bordering on or including Swamp and Overflowed Lands; consequently two lines of segregation have been established, differing very materially – that of the State invariably including the largest amount of Swamp Lands, from the various and obvious reason above given.

The importance of immediately establishing the segregation line cannot be over estimated. It matters but little whether the State gets a few thousand acres more or less of this land, but it matters much if titles must be delayed for years, and conflicts in titles must continue near the line until it is established.

Segregation surveys were returned last year from Sacramento, San Joaquin, Placer, Colusa, Yolo, Monterey, Humboldt, Sonoma, Solano, Napa, Lake, Santa Clara, and Alameda Counties. With the view of having these lands certified to the State, I have furnished the United States Surveyor-General with the segregation maps and certified copies of all Swamp Land affidavits on file in this office. He reports that in consequence of a material reduction in the clerical force of his office he cannot give the matter the attention its importance demands; and on communication with the General Land Office, he informed me that the Commissioner required the original affidavits, which will be furnished him whenever he can attend to them, and copies retained here.

In order to settle all these difficulties, the United States Surveyor General should be authorized by Congress to appoint a competent Surveyor, who should, in connection



with a similar appointment by the authorities of this State, define and mark the segregation line in all cases where conflict arises.

During the present year a supplemental segregation survey has been returned from Yolo County, including that portion of the Swamp Land included in the Knight Grant, recently rejected by the United States Supreme Court. A segregation survey has also been returned from San Bernardino County this year, embracing twenty-eight thousand four hundred acres. In consequence of errors and informalities in the papers, the last mentioned survey has not been approved.

Considerable quantities of Swamp Land occur in Contra Costa, Merced, Fresno, and Tulare Counties, which have not been segregated by the State. In Tulare and Fresno the Government lands bordering on the swamp have been surveyed and segregation line established. The County Surveyors have reported that it was properly done, and no change necessary.

In Contra Costa and Merced surveys should be made.

However perfect the title of the State may be to these lands, persons holding the State title would feel more secure in making permanent reclamations provided they were fully assured by the State that such reclaimed lands would not afterward be surveyed as United States lands, as has been done in instances referred to.

It will be seen by the accompanying tables that the total amount of Swamp Land segregated and approved is one million eighteen thousand one hundred and sixty-six and eighty one-hundredths acres, leaving about five hundred thousand acres yet to be segregated, of which about one hundred and fifty thousand acres is estimated to be in Contra Costa, and quite valuable.

Sales of these lands have been made during the past year to the amount of fifty-six thousand and forty-two and three-tenths acres, a quantity sufficient to show that much confidence still exists in the value of this class of State lands.

The work of reclamation was, by the Act of May thirteenth, eighteen hundred and sixty-one, creating the Board of Swamp Land Commissioners, intrusted to them, and the amount of land reclaimed will probably be found in their report. Many parcels have been reclaimed by private enterprise, and I think it would be well for the Legislature to encourage this method of reclamation, when well done, by refunding to the party so reclaiming a large proportion of the purchase money, as contemplated by the Act of Congress making the donation. I have personally inspected a levee constructed this year, by Mr. V. Hathaway, to reclaim two hundred and fifteen acres of Swamp Land, on the east bank of Napa River, above Suscol Ferry. A substantial levee and ditch has been constructed from one point of high land to another, crossing sloughs, requiring, in one instance, an embankment sixteen feet in height, in which has been placed a sluice with a flood or tide gate. A most remarkable crop of plums was gathered this year from trees growing upon this piece of Swamp Land, nothing more being required than a small load of earth to each tree, dumped upon the marsh, and the tree set in it.

Arrangements have been completed, by private enterprise, for constructing the necessary levees and drains to reclaim, in a permanent manner, a body of some sixteen hundred acres at Collins' Landing, near the mouth of the Sacramento.

Large tracts of Swamp Land have been sufficiently reclaimed for pasturage, by the purchasers, in the vicinity of Suisun City, Solano County. Considerable tracts upon the large islands near the mouths of the Sacramento and San Joaquin, and upon the

banks of these rivers, near the mouths, have been partially reclaimed for cultivation and pasturage. Along the banks of the Sacramento private enterprise is constructing considerable embankments. The effect, in every instance which has come under my notice, of keeping the water away from those tracts of Swamp Land which border on the tide waters of San Pablo or Suisun Bays, or near the mouths of the rivers discharging into them, has been, after pasturing for a single season, a rapid drying out of the samphire and tule, which are the natural growth of these Swamp Lands, and a spontaneous growth of clover, which is first observed growing from the sod thrown up from the ditch, and rapidly extending over the surface, as the water is kept off, and the other growth killed by the tramping of stock. Where the seed comes from is a mystery, but the fact proves the peculiar adaptability of these lands to the growth of grasses, which crop, in point of value, exceeds every other in the United States.

In cases in this States, when Swamp Lands have been sufficiently reclaimed to produce any of the cereals, the yield has generally been about double the amount per acre which the uplands produce, and throughout the world, when thoroughly reclaimed, this class of lands is regarded as much more valuable than uplands, in consequence of the greater fertility of soil, and greater abundance of crops, which can generally be grown several times in a single year.

A similar condition of lands exists to a small extent in southern Europe, in the Italian States of Lombardy, Sardinia, and Tuscany, through which run innumerable small rivers, fed by the melting snows of the Alps. These rivers in summer become mountain torrents, rapidly rising and falling with the melting snows, and their waters, like the waters of our own rivers, become densely charged with earthy and vegetable matter. By a well regulated system of warping, these waters are allowed to frequently overflow and recede from the Swamp Lands near their mouths, leaving the deposits upon the surface, until the whole is sufficiently raised to be easily reclaimed by levees, after which, by a most perfect system of canals, the river water is used for irrigation, making the land the most fertile in the world; in some instances cutting five crops of hay, amounting in the aggregata to twenty tons per acre per annum.

This yield seems almost incredible, but the fact is too well authenticated to be disbelieved, and in view of it indications are that eventually our reclaimed Swamp Land will be by far the most valuable in the State, and the Legislature should offer every possible inducement for its early reclamation. The method of reclaiming Swamp Lands mentioned above, by warping, or a deposit from the overflowed waters, was mentioned in the last annual report of the County Surveyor of San Joaquin, Mr. George E. Drew, which is deserving attention.

Experiments are yet in their infancy; the plum and quince, and all kinds of grain and grasses, are known to thrive in the greatest perfection upon it, and it is believed that rice, sugar, and tobacco, will do equally well.

For information concerning the amount of sales, returns, conflicts, etc., of these lands, you are referred to the accompanying tables.

Patents have been issued during the year for twelve thousand and fifty-five acres of Swamp Land. In view of the fact that but very little, if any, of the Swamp and Overflowed Land has been reclaimed under the existing laws, which would indicate a deficiency in the laws themselves, it might be well for the Legislature to authorize the selection of some easily reclaimed district, and authorize its reclamation by use of the

funds now to the credit of the Swamp Lands in the State Treasury, and after reclamation, authorize the assessment and collection of the whole cost, (less the amount paid in by that district as purchase money,) upon the land so reclaimed. If this was found to work well, as I think it would, it could be repeated until the whole is reclaimed.

It would certainly be very beneficial for the State and for individuals owing such lands to authorize such reclamation, assessment, and collection, in all cases where a majority, or say, the owners of two thirds of the lands embraced in any one district, should petition for such method of reclamation.

Without such a law, the owners of a few acres, by refusing to join in a general plan for reclamation, may, and now do, prevent the reclamation of large districts. I know of one large district which the owners assure me would at once be reclaimed could such a law be passed. In this district a few owners refuse to pay anything towards the cost of reclamation, hoping, perhaps, that their neighbors will do it without their aid, and they will reap the benefit without cost, and consequently, the whole tract, which might be rendered fertile and productive, setting an example worth more than its cost to other owners and the State, still remains a barren waste.

Contracts for this reclamation, or constriction of levees, drains, etc., should be open to public competition.

This work, once inaugurated, would increase with every year, furnishing employment for a large number of our laboring classes at any season of the year when other employment might not be obtainable.

Reference is made in the above article on Swamp Lands to the difference between the lines of segregation as run by the State and by the United States.

The following list will show the whole amount embraced within the State line of segregation as Swamp Land, which has been returned by the United States Surveyors as high land:

Counties.	Acres.
Sacramento County.....	9,797.62
Sutter County.....	22,241.74
Colusa County.....	15,069.72
San Joaquin.....	1,600.00
Yolo County.....	35,830.00
Total.....	84,539.08

In Sacramento County, the State has sold, under the Act of eighteen hundred and fifty-five, five thousand one hundred and twenty-five and ninety-five one-hundredths acres as Swamp Land, which lies outside of the segregation line as run by the State Surveyors.

In Yolo County, seven thousand four hundred and eighty acres, and in Colusa, one thousand nine hundred and fifty and forty-four one-hundredths acres, were sold before the line was run, which proved to be outside the line, and nearly all such

locations have been abandoned and the payments in some instances applied to other purchases as provided by law.

TIDE LANDS.

The question of the State title to these lands has never been raised, and the amount sold during the year is:

In What Year.	Acres.
Mendocino County.....	244.01
Alameda County.....	29.44
Total sold during year.....	253.45
Total sold during 1858.....	302.64
Total sold during 1859.....	985.63
Total sold during 1860.....	746.60
Total sold during 1861.....	480.00
Total sold to date.....	2,514.87
	2,798.32

STATE LAND FUNDS.

I beg leave to call your careful and earnest attention to the confused condition in the State Treasury of the several Funds, arising from the sale of State lands. By the several Acts of Congress, donating to this State the Swamp Lands, (the sixteenth and thirty-sixth sections,) the Seminary Lands, and the Public Building Lands, the disposition to be made of the moneys arising from the sale of such lands is clearly indicated, and in order to carry out the spirit of the Acts of donation, it is absolutely necessary that a separate Fund for each class of lands should be kept, which would at any time show the exact amount received from sales of each class.

The following statement will show the actual amount of money which has been reported to this office from all sources, as paid to the several County Treasurers on sales of School, Seminary, and Public Building Lands, compared with the amount in the several Funds, as shown by the books of the Controller:

<i>School Lands – (Balance of Five Hundred Thousand Acres.)</i>	
Amount received as principal, from July 1 <sup>st</sup> , 1858, to December 6 <sup>th</sup> , 1862.....	\$74,620 96
Amount received as interest.....	102,913 53
<i>School Lands – (Sixteenth and Thirty-sixth Sections.)</i>	
Amount received as principal, from July 1 <sup>st</sup> , 1858, to	

December 6 <sup>th</sup> , 1862.....	\$53,218 99	
Amount received as interest.....	24,833 52	
Total amount of principal on both classes.....		\$127,839 95
Total amount of interest on both classes.....		127,747 05
For which, the Controller's books show:		
Total amount of principal.....		\$127,487 92
Total amount of interest.....		124,712 81
<i>Seminary Lands.</i>		
Total amount of principal reported to State Register.....	\$13,155 68	
Total amount of interest.....	12,359 41	
		25,515 09
While the Controller's books show a total amount of principal and interest received from such sales, of.....		6,534 97
<i>Public Building Lands.</i>		
Amount reported to State Register as principal.....	\$2,124 71	
Amount reported to State Register as interest.....	898 87	
		3,023 58
Controller's books show a total amount of principal and interest received of.....		679 56

I have much reason to believe that a large number of payments of interest have not been reported to this office, from the fact that purchasers will not go to the expense of recording interest receipts, and consequently the Auditors cannot report them, and that the amounts shown above are not large enough; there is no possibility of their being too large.

The discrepancy in the Public Building and Seminary Lands is easily accounted for – County Treasurers will not learn to distinguish between these Lands and School Lands, and have frequently, I may say generally, given receipts to purchasers of these lands upon blanks prepared for School Lands, and doubtless have paid the funds into the State Treasury in the same manner.

For all this I propose a simple and efficient remedy, as follows: It should be provided that the Register of the State Land Office shall keep a set of books, which shall show the actual amount paid, both principal and interest, into each and every Fund arising from the sales of the State Lands by the several County Treasurers; that County Treasurers shall not be allowed to pay into the State Treasury, and the State Treasurer shall not be allowed to receive from the County Treasurers, any moneys arising from sales of State lands, except upon the certificate of the State Register, that the payments are correctly reported.

To accomplish this, County Treasurers should be required to forward to the State Register monthly certified lists of the names of the original purchasers of any lands upon which payments have been made, the dates, and amount of payment, whether for principal or interest, and the class of lands upon which such payments have been made, which shall thereupon be corrected by the Register, and credited to the account of the purchaser.

At the time of every settlement with the State Treasurer, the several County Treasurers should prepare a similar list, embracing all the payments so made up to the last of the month preceding the date of said settlement, present the same to the Register for correction, who shall correct the same, and apportion the moneys to the several classes of lands, and certify to the correctness of the same. The County Treasurer shall then, upon the Controller's order, pay into the State Treasury such money, and take the State Treasurer's receipt upon the list aforesaid, and return it to the Register, to be charged to the respective Funds.

The books above referred to should be opened with the amount actually belonging to each Fund at the date of opening; to determine this would require the careful examination and correction of every return made by the County Treasurers since the date of the first law for the sale of lands; authority for the Register to call upon County Treasurers for a large number of State Treasurer's receipts, which they have neglected to file in the Register's office, or in case of the loss of such receipts, for abstracts of their books showing the amounts so paid, from all of which the actual amount can be determined and entered. To collect and correct these returns, in most of which it is probable that payments have been credited to the wrong Funds, ample clerical provision should be made.

In San Joaquin, Humboldt, Calaveras, Tulare, and possibly one or two other counties, there has been in each county one defaulting Treasurer, by which the State has lost small amounts, but these amounts could not nearly equal the amounts which have been paid in and never reported to this office. Supposing, therefore, that the amounts paid into the State Treasury on School lands should be only equal to the amount reported to this office, as paid County Treasurers, and supposing the interest to have been all expended for the support of Public Schools, there should be at this time in the State Treasury, to the credit of the School Fund, the following sums of principal alone, viz:

From sales of 237,760 acres of School Land Warrants, under Act of May 3 <sup>rd</sup> , 1852, at two dollars per acre.....	\$475,520 00
Sales of balance of 500,000 acre grant.....	74,620 96
Sales of sixteenth and thirty-sixth section grant.....	53,218 99
Total.....	\$603,359 95

Which amount, or more, should be in the State Treasury to the credit of the School Fund, as principal, either in bonds purchased under the Act of April twenty-third, eighteen hundred and fifty-eight, by the Board of Examiners, or in cash, and I suggest,

as a member of the State Board of Education, that an examination be had to see if the funds are there. The actual amount paid to County Treasurers, or by them to the State Treasurer, cannot be correctly shown by the books of this office, until the method of reporting payments is changed, as above suggested, and then a complete check upon the correctness of the accounts of the State and County Treasurers, so far as State lands and the funds arising from their sales are concerned, may be found at this office.

SWAMP LAND FUND.

This class of lands is by County Treasurers confused with Tide Lands, and receipts are often given upon the latter as Swamp Lands, yet the total sales of Tide Lands to date is so small, being only two thousand seven hundred and sixty-eight acres, and Swamp Lands being so different from School, Seminary, and Public Building Lands, it is reasonable to presume that no serious mistakes would be likely to occur in the report of the fund arising from their sale.

The books of the Controller show that the amount paid into this Fund to December 6 <sup>th</sup> , 1862, is.....	\$312,536 57
Yet before the passage of the Act creating this Fund, there has been paid into the State Treasury from sales of Swamp Lands, the sum of.....	48,136 95
Not included in the above, and which should be restored to the Swamp Land Fund at once, even if borrowed the next day, for so far as the State Lands are supporting the State Government, so far should they have the credit of it, and as this fund is especially devoted to reclamation of Swamp Lands, the amount should fully appear upon the Controller's books. This would show a total derived from sales of Swamp Lands, of.....	\$360,673 52

For the purpose of adjusting and finally setting all questions relating to the title of all lands claimed by the State under the several Acts of donation by Congress, the Legislature at its last session, by concurrent resolution, appointed the Hon. William H. Parks a committee to proceed to Washington with such evidence of the State claims as was deemed necessary.

In consequence of this appointment, the usual correspondence of the Register of the State Land Office with the Commissioner of the General Land Office at Washington, in relation to the matters above named, has been suspended, awaiting the result of the efforts of this Commission, but will be renewed upon the return and report of the committee.

In order to still further assist in adjusting the titles of the State, a law was passed, at the last session of the Legislature, requiring the Register of the State Land Office to furnish to the committee appointed by the Legislature, such evidence as the committee may deem necessary, and also file with the proper United States officers a list of all the records in his office, showing the lands should or claimed by the State, under the

provisions of an Act of Congress making donations, together with certified copies of affidavits, etc.

In compliance with this Act, I prepared certified copies of all the Swamp Land affidavits on file in this office, and forwarded them to the United States Surveyor-General at San Francisco, together with the original segregation maps, which are constantly in use in this office, and have been returned. Certified copies would have been furnished him, had the clerical force of the office been sufficient to prepare them.

I also prepared certified lists of every other class of land claimed under the different grants, each under its appropriate head, and forwarded them, together with the necessary instructions, to the committee at Washington, giving particular attention to the points in controversy between the United States and State authorities. To guard against accident by loss, duplicate copies were sent by the succeeding steamer.

The progress made in the settlement of these titles, will be found in the report required of the committee by the concurrent resolution.

### STATE LAND LAWS.

The various laws providing for the disposition of the State lands are found in their application, in some instances, to work inharmoniously, and I would recommend many amendments, or the repeal of all existing laws, and the passage of one general land law, embracing all that is valuable, and leaving out all that is objectionable, in the present laws, and adding much that is desirable.

Section four of the Act to provide for the sale of the Swamp and Overflowed Lands of the State, approved April twenty-first, eighteen hundred and fifty-eight, and also section six of the Act of April twenty-third, eighteen hundred and fifty-eight, providing for the sale of the School Lands, provide that if any purchaser of either Swamp or School Lands shall fail to pay interest or principal when due, he shall forfeit all payments he may have made, and all right, title, claim, or interests, to said lands, and the same shall be resold, as though no sale has been made.

Entertaining a doubt as to the legality of this summary method of divesting parties of rights who had approved certificates of location, or approved surveys, and had made partial payments, I addressed a communication to the Attorney-General, asking his opinion, which, when rendered, was confirmatory of my own, that such purchasers had acquired such a title to the land that they could not be divested of it, or ejected, except by some court of competent jurisdiction, in a proceeding of foreclosure.

For the better protection of subsequent purchasers of these lands, I recommend that some steps be taken to divest of title all who were declared to have forfeited by the law previous to the Act of April ninth, eighteen hundred and sixty-one, providing for the annulling of certificates of purchase. It would be well to provide that whenever any purchasers, under a credit, desires to abandon a location of entry of public lands made by him under any land law of the State, he shall do the same by acknowledgement and reconveyance of title to the State, upon a form to be furnished by the Register. He shall also return the certificate of purchase, and if the same has been lost, certify the fact in the same manner as though he desired to obtain a duplicate therefore. As in this case the relinquishment is for the benefit of the State, it would probably be necessary that the State should pay the Notaries' fees, and for this purpose, for advertisements, etc., and



for expenses connected with the various suggestions of these pages, it would be well either that the fees of the office should be permitted to be expended, or, what would, perhaps, be better, that provision for the purpose should be made in the contingent item for the offices.

Section fourteen of the Act of April twenty-first, eighteen hundred and fifty-eight, providing for the same and reclamation of the Swamp and Overflowed Lands of this State, reading as follows: "Section fourteen – County Surveyors are hereby authorized to administer oaths." Some County Surveyors regard this as giving them power to administer oaths in all cases, and if such was not the intention of the Legislature, it should be amended.

Section two of the present law, providing for the sale of Swamp Lands, requires that the applicant to purchase should make affidavit as to the character of the lands. It is recommended that the law be so amended that after the land has been segregated by the County Surveyor, the applicant need only testify that it is within the segregation, or so that the County Surveyor may certify that the land surveyed by him is within the line of segregation as established.

The original term of five years credit upon Swamp Lands has been extended, and no period is indicated by the laws at the expiration of which School, Seminary, Public Building, or Sixteenth and Thirty-Sixth Section Lands shall be paid for in full. The back of the certificates of purchase contain receipts for the second, third, fourth, and fifth years' interests, and for the full payment. In the cases of School Lands and Swamp Lands sold under the Act of eighteen hundred and fifty-five, the blanks for the payment of interest have been exhausted, and it is suggested that another blank should be printed, and attached to the certificates of purchase by the County Treasurer, to whom it should be furnished by the Register.

The various laws prescribing the manner in which payments of principal or interest upon School Lands shall be made known to the Register of the Land Office, all agree in requiring that the purchaser shall take a duplicate receipt from the County Treasurer, which duplicate the Auditor shall record and send a certified copy thereof to the State Register. This method is not happy in its working, for various reasons. There are three classes which are commonly known as School Lands, viz: the grant of five hundred thousand acres, the Sixteenth and Thirty-Sixth Section grant upon surveyed lands, and the same upon unsurveyed lands. These are constantly confounded by many of the county officers, and in some instances error, and in all loss of time and extra labor, grow out of the county officers using wrong blanks, and reporting payments upon one class which have been made upon another. The necessity for having a simple payment of a small amount of annual interest recorded by the County Auditor, with an accompanying expense of from one dollar to three dollars, is regarded as a hardship by many purchasers, and not without some reason. Many decline altogether to do so, relying upon their receipt from the County Treasurer as sufficient protection in the event of the State bringing action to eject them from apparent non-payment. Many others are entirely ignorant of the existence of the law; and as the fourth section of the Act of April eighth, eighteen hundred and fifty-nine, enables the Register to issue certificate of purchase when he is satisfied, from the certificate of the Treasurer, that the money has been paid into the County Treasury, thus practically doing away with the requirements before specified, in the various laws, as to the manner of reporting

payments and issuing certificates of purchase, it is recommended that a simpler, less oppressive and more effectual method be substituted; that the Legislature be recommended to pass an Act requiring the County Treasurer to give a receipt to the purchaser for the first payment, whether the same be for the full amount, or twenty per cent thereof, and interest on the balance; that when payments of annual interest are made, the County Treasurer shall indorse the same upon the back of the certificate of purchase, and enter the same, with the name of the party paying, upon his books, which shall be the only record required; that on the first day of every month, the County Treasurer shall make a return to the Register of the State Land Office, upon forms furnished him by the Register, showing the payments made during the preceding month, upon what class of land, whether first payment or interest, etc., the name of the purchaser, and the number of the survey or location; that upon the receipt of this return, it shall be the duty of the Register to credit payments in the proper books, and in case of first payments, to forward to the County Treasurers the certificates of purchase to which purchasers have become entitled. It may be suggested that the quarterly returns by the County Treasurers to the Controller need only state the amounts received for each description of land, and the reports be thus greatly reduced in volume, and freed from the mass detail of names of purchasers, etc., only useful to the Register, to whom the returns are not now made.

In the event of non-payment of interest due upon lands purchased of the State under credit, or the said payments not appearing upon the list returned by the County Treasurer, the month after the same shall have become due, it shall be the duty of the Register to publish notice in the county newspaper, if there is one, or in the nearest published newspaper, if there is not, or to furnish to the County Treasurer printed notices for posting in public places, to the effect of the notice required by the law of eighteen hundred and sixty-one, relating to the annulling of certificates.

I beg leave also to call your attention to the fact that there is no law specifying the time which shall be allowed to County Surveyors to return to this office plats and field notes of surveys of lands for purchasers, after the application for such survey is made to them; the consequence is, that the simple act of filing an application to purchase either Swamp or School Lands has, in many instances which have come to my notice, secured those lands to the applicant for years without any payment whatever to the State, and, as in the case of both Swamp and School Lands, payments are not due and interest does not commence until, in the case of Swamp Lands, the survey is approved by the Surveyor-General, and in School Lands until the location is accepted by the Locating Agent, and the lands are not taxable to the individual until he has his certificate of purchase. The State is annually the loser of thousands of dollars, in interest and taxes, which would be saved provided the evils complained of were remedied. The importance of this suggestion can only be fully appreciated by those whose connection with this office has made them familiar with the magnitude of the evil. I would suggest that a law be passed compelling the County Surveyors to return all surveys within thirty days after affidavits or applications are filed with them, and in any county in which such evils exist, the Surveyor-General may appoint a competent Surveyor to make any or all surveys under the different State laws providing for the sale of State lands. Some exceptions might be made to this law in the case of Swamp Lands in an overflowed state, which should be left to the discretion of the Surveyor-General.

By the Act of April seventeenth, eighteen hundred and fifty, defining the duties of the Surveyor-General, he is made Chief Engineer and Commissioner of Internal Improvements, and is required to furnish to the Governor, annually, plans and suggestions for the drainage of marshes and prevention of overflows, etc. The most important work which may be embraced in the above duties, and which should be under the general supervision of this department of the State Government, is the segregation and reclamation of its Swamp Lands, requiring no inconsiderable skill and experience in engineering and land surveying.

By the Act of May thirteenth, eighteen hundred and sixty-one, creating a Board of Swamp Land Commissioners, this duty was taken away from the Surveyor-General and placed in the hands of five Commissioners, at a salary of one hundred dollars each per month, with authority to employ Engineers, etc. If a necessity existed at all for the creation of this Board, I submit, with all due respect for the gentlemen who comprise it, that a proper regard for the interests of the State should have suggested the appointment on such Board of at least one Engineer of experience in such work, competent to judge of the qualifications of the Engineers they employed to superintend their works of reclamation, and of the quality of the work when done.

This Board has been in existence one year and eight months, and has expended for surveys and salaries upwards of sixty thousand dollars from the Swamp Land Fund, and it is for the Legislature to say if the State has received a corresponding benefit in the amount of land reclaimed.

However good the laws for the reclamation of the Swamp Lands may be, the present method of administering them through the Board of Swamp Land Commissioners is too expensive, and the Fund is in danger of being exhausted in salaries and expenses before much land is reclaimed.

I would suggest, instead, that a Bureau of Swamp Lands be established, in connection with the Surveyor-General's office, the head of which should be appointed by, and under the general supervision of the Surveyor-General, and be styled Chief of the Bureau of Swamp Lands, who should be a practical Engineer, and Surveyor of experience in hydraulic works, who should perform, under the direction of the Surveyor-General, all the duties, with some modifications, required of the Board of Swamp Land Commissioners, and also, in person, all the duties required of the Engineers which the Commissioners are authorized to employ.

An Engineer, with a salary of two hundred dollars per month, with some allowances for contingent, travelling, and other expenses, would perform all the duties enumerated above, equally as well as the present Board possibly could do.

Some action of the Legislature is necessary to provide for the purchase of blank books for the State Locating Agents. The form books required by them are quite expensive, in some instances costing seventy-five dollars. In one instance brought to my notice, the former Locating Agent refuses to deliver up such books to his successor, on the ground that they are his private property, purchased with his own funds. In some instances, County Surveyors, in consequence of the failure of the last Legislature to provide them with copies of township plats in their counties, have purchased them with their private funds, and regard them as their private property.

By the recent amendments to the Constitution, the sessions of the Legislature will, after the coming session, commence in December, rendering necessary a change

in the time allowed for the Surveyor-General to hand in his report to the Governor. I suggest that the report should be made up to the close of the fiscal year, June thirtieth, and that he be required to hand it in to the Governor at any time thereafter before the first of November, and if deemed necessary, a brief supplemental report could be required, extending to a later date.

#### STATE BOUNDARY.

I beg leave to call your attention to the importance of determining the location of the eastern boundary of the State, particularly that portion lying north of Lake Bigler, and running near Honey Lake Valley, at present containing a very considerable population; and that part south of Lake Bigler, and running directly through the rich mining district of Esmeralda, very near the town of Aurora.

Much difficulty has already been experienced by Assessors and Tax Collectors, as will be seen by reference to the report of the County Assessor of Plumas County, to which your attention is called, and much revenue lost to the State in consequence of the uncertainty of the location of this line, which will be multiplied as the question of judicial jurisdiction arises, which will assume still greater importance with the rapidly increasing population and wealth of those districts.

It may be well, in connection with this subject, to refer to the Act of Congress defining the western boundary of the Territory of Nevada, which makes the northern boundary of the Territory of New Mexico the southern boundary of Nevada, extending it due west until it reaches the "dividing ridge separating the waters of Carson Valley from those that flow into the Pacific ocean, thence on said ridge northwardly to the forty-first degree of north latitude, thence due north to the southern boundary of the State of Oregon;" provided, the State of California shall assent to the same by an Act irrevocable, etc. As the question of adoption of this line was before our Legislature at its last session, and may be again, I give herewith, in brief, the effect of such adoption. Goose Lake, Honey Lake and Valley, Lake Bigler, and Lake Valley, the Esmeralda District, Mono District, and the northern part of Owens River, all now in California, would be thrown into Nevada Territory. The line thus established could be located by triangulation of the principal peaks, at less expense than the line as it now exists. The cost of running such a line by contract with competent Engineers, and determining the longitude of the principal points by connection with the point established by Lieutenant Ives near Lake River, would be about twenty thousand dollars. The cost of locating the present line would require the location of the initial point on the Colorado, (that work never having been fully completed,) and one or two intermediate points, by astronomical observation, to determine their longitude, at much greater cost.

Governor Nye, in his last Annual Message to the Territorial Legislature of Nevada, refers, in forcible language, to the difficulties, present and prospective, which are certain to grow out of the uncertainty of this boundary, and recommends a joint Commission of the Territory of Nevada and the State of California, to establish and make it.

It remains with the Legislature of this State to determine whether the boundary suggested in the Act of Congress creating the Territory of Nevada shall be adopted, or whether it shall remain as was originally provided for this State.

In either case, I concur with Governor Nye in his suggestions for the appointment of the joint Commission for the purposes above named.

We have as yet experienced no difficulty with our northern and southern boundaries.

#### COUNTY BOUNDARIES.

The attention of the Legislature should be directed to the importance of definitely establishing and locating the boundary lines of every county in the State.

By reference to the reports of several of the County Assessors, it will be seen that considerable amounts of revenue are annually lost to the State in consequence of the uncertainty of location of boundary lines, and still greater difficulty arises out of the question of jurisdiction of courts and Sheriffs over the disputed tracts, causing endless litigation.

The most serious of these difficulties occurs in the line between the Counties of Napa and Solano, occasioned by the uncertainty of location of the starting point in the Guichica Creek, which should be more definitely described. A large number of suits for taxes have been brought by one county against persons who have paid in the other, and as the disputed tract embraces a considerable amount of the best agricultural land in the State, many suits have arisen out of the question of jurisdiction of courts.

This line was located in eighteen hundred and sixty-one by Mr. B. W. Norris, acting as deputy to my predecessor, but the Supervisors of Solano County, dissatisfied with the survey, have applied for a resurvey, which is not yet completed.

The eastern boundary of Lake County, between Lake and the Counties of Yolo and Colusa, is exceedingly uncertain, from the difficulty of determining the exact ridges mentioned in the law defining the boundaries, no well defined dividing ridge occurring among the many to be found in that vicinity. If this line was once located by authority, and then adopted by the Legislature as thus located, the question would be set at rest. I refer you to the report of the Assessor of Lake County on this subject.

The Assessor of Fresno County complains of difficulty of making a proper assessment, in consequence of want of knowledge of location of the county boundaries.

The Assessor of San Luis Obispo urges the importance of establishing the boundary between that county and Monterey, and remarks that very many persons in the vicinity of the line escape assessment altogether, and recommends that the line be run before the next assessment is made.

In the month of August a request was made by the Board of Supervisors of San Luis Obispo County to have this line run and marked. Answer was made to their communication, informing them of the manner of payment required by law, and a Deputy was selected to make the survey. No reply was made to my communication, and as their assessment was already completed for this year, I presume the survey was deferred until next year.

By an Act approved April thirtieth, eighteen hundred and sixty, the Surveyor-General was authorized and required to survey the boundary lines between Plumas and Shasta and between Plumas and Sierra Counties. Upon correspondence by my predecessor with the Boards of Supervisors of the said counties, they neglected or refused to make any provision for the expenses of such surveys, as provided by law,

and the surveys have not yet been made. The County Surveyors of Sierra and Plumas have run a compromise line, entirely differing from that established by law, the adoption of which I would recommend, if satisfactory to both counties, requiring the map and field notes to be returned to this office. The report of the County Assessor of Plumas makes complaint of the uncertainty of their boundary lines, and is deserving of notice. The line between Shasta and Plumas has not yet been run and marked.

As the State is largely interested in having these boundaries properly defined and located, that assessment and collection of the State revenue may be properly made, and as the item of cost seems, in many instances, to prevent their being made, I would suggest that one half of the expense of such surveys be borne by the State, the other half to be paid by the county making the application; one half of the latter to be collected from the county or counties adjoining said line, by the county making the application.

#### DELINQUENT PURCHASERS OF STATE LANDS.

By the Act of April ninth, eighteen hundred and sixty-one, providing for the annulling of certificates of purchase, it is made the duty of the Register of the State Land Office to notify all purchasers of State lands who have neglected or refused to pay principal or interest when due, that if not paid within thirty days, an action will be commenced to obtain a decree of foreclosure of his interest in the land, and to annul the certificate of purchase; and it is also made the duty of the Register, if not paid, to notify the District Attorney of the county in which the land is situate, of such failure, who shall commence action, etc.

Upon examination of the books of this office at the time I assumed its duties, there appeared fifteen hundred and sixty delinquents, and notices, involving much labor, have been prepared and sent during the year to them all.

In a very large number of cases, evidence was immediately furnished the office that the payments had been made, but that the receipts had not been taken to the Auditor for record, consequently they had not been reported to this office, showing at once the impropriety, before mentioned, of the present method of reporting payments to the Register. Other apparent delinquencies, which were not real, were occasioned by the defaulting Treasurers of San Joaquin and Humboldt.

Still, a very large number came forward and made their payments, reducing the number of actual delinquents, as now appears by the books, to about one half the original number.

The time consumed in regulating the books so as to know who were actual delinquents and the inadequate clerical force allowed the office has prevented sending the required notices to the District Attorneys, which will be attended to as soon as possible.

The effect of the delinquent notices is observable in the increased amount of interest received into the State Treasury the present year on sales of State lands, being on School Lands alone, from January first to December sixth, eighteen hundred and sixty-two, fifty-one thousand three hundred and seventy-eight dollars and eighty cents of interest, against twenty-five thousand seven hundred and twenty-five dollars and twenty-eight thousand four hundred and one dollars and fourteen cents for the whole of eighteen hundred and sixty.

Interest on Swamp Lands for the year eighteen hundred and sixty-two was remitted by the last Legislature, yet interest to the amount of eight thousand eight hundred and ninety-six dollars and seventeen cent has been reported to this office as paid this year, chiefly from delinquents who had received these notices.

CANALS.

By the Act of April first, eighteen hundred and fifty-seven, there was granted to the individuals comprising the "Tulare Canal Company," one half of all the Swamp Lands lying between the San Joaquin river, at King's River slough, and Tulare Lake, also, one half of all the Swamp Lands bordering on Tulare, Buena Vista, and Kern Lakes, and thence up to the lines dividing the said Swamp and Overflowed Lands from the land of the United States, the said company taking all the odd sections, leaving for the State all the even sections of such lands; provided, said company should reclaim the lands by a system of canals, etc.

The Act of making the grant was repealed in eighteen hundred and fifty-eight, since which time the State has sold the odd sections about twenty thousand six hundred acres.

The Act of April tenth, eighteen hundred and sixty-two, grants to all the same parties named in the first Act, upon nearly the same conditions, the same amount of land, with additional proviso, that where the State has sold any of the odd sections, the grantees should be allowed to select therefore four times the quantity thus sold, out of any Swamp Lands in that district.

Grant.	Acres.
The approximate estimate of the amount in the district to be reclaimed is about three hundred thousand acres, one half of which is granted for reclamation, would be (less odd sections sold by the State).....	129,400
Add for amount sold by State.....	82,400
Total amount of grant.....	211,800

The agent of the Company has filed in this office a list of selections, in lieu of the twenty thousand six hundred acres sold by the State, amounting to seventy-seven thousand nine hundred and twenty acres, which selections, together with the remaining odd sections, I have reserved from sale.

The construction of these canals in the manner contemplated by the law, would be of incalculable value to the State, by rendering highly productive a large tract, now valueless, and furnishing abundant facilities for transportation, and doubtless prove equally beneficial to the enterprising projectors, when completed.

The services of skillful engineers should be obtained in the construction of these canals, to prevent the too rapid discharge into the San Joaquin of the surface water of this great extent of country during the winter months.

## DRAINAGE OF THE VALLEY OF THE SACRAMENTO.

I desire to call your attention to the expediency of a preliminary reconnaissance or survey of the country between a point on the Sacramento, above Knight's Ferry, and the tide waters of Suisun Bay, about Denverton, west of the Montezuma Hills, with reference to the eventual construction of a canal between those points, for the drainage of the western portion of the valley of the Sacramento, and reclamation of the large body of Swamp Lands between those points.

Your present Surveyor-General has for many years been an advocate of the practicability of such canal, and it is believed by those more conversant with this section of the country, that such canal, located as it would be throughout nearly its entire length, upon land many feet below the banks of the Sacramento river, would require for most of the distance nothing more than two simple ditches and embankments, at a distance say of half a mile apart, to give direction to the current and collect the waters of the various streams which rise in the Coast Range and discharged into the great Swamp Land basin on the west bank of the Sacramento. It is a matter of much doubt if the present requirements of the State would justify the expenditure necessary to construct such canal, but when our population has sufficiently increased, I have no doubt that a demand will be made for such a canal which will insure its construction. An expenditure of a few thousand dollars in a preliminary survey might develop facilities for construction which would justify immediate commencement, in view of the immense advantages to be derived.

During the past year a private survey was made by an Engineer of large experience in hydraulic works, with the object of taking the waters of Cache creek, (the outlet of Clear Lake,) from a point in the hills where it is an ever-living stream, and carrying them through a canal down over the arid plains of that portion of Yolo County, for purposes of irrigation.

The survey proved the entire practicability of the plan. Many persons signed a bond agreeing to take water for a certain number of acres each, at the rate of one dollar per acre per annum, nothing to be paid until the water was furnished. A large number of others, fully acknowledging the value of the water to be ten times greater than the amount charged, refused to sign any obligation, for want of which the necessary financial arrangements, which only awaited such an obligation, could not be completed, and the plan was abandoned.

Reference is made in the report of the County Surveyor of Yolo County to the practicability of irrigating these great plains by means of canals from the Putah and Cache creeks, which I think is deserving of legislative encouragement.

The following highly interesting article upon the subject of irrigation has just been received from William H. Bryan, Esq., the Engineer before referred to who projected the plan of the canal from Cache creek, showing the advantages derived from irrigation wherever adopted, and its peculiar adaptability to the great plains of Yolo and Solano Counties. Nothing can aid so much in preventing overflows of that portion of the Sacramento Valley as this proposed diversion of the waters of Cache and Putah creeks:



LETTER FROM WILLIAM H. BRYAN, ESQ.

SAN FRANCISCO,  
December 11, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In reply to the suggestions made in your letter, I regret that I am not able to make any favorable report of progress in the project of works for irrigation, etc., as proposed by me to the farmers and land holders of part of Yolo County last spring. I found the better portion of them both willing and anxious to accept the conditions proposed the them and to co-operate in the construction and use of the work; but unfortunately, there are in that section of the country many who do not appreciate the accumulated evidence we have of the extent and benefits of irrigation in other countries, or the results to their own neighbors, among whom it has been practiced with some success, though upon a small scale and in a rude and imperfect manner. I, however, regard the question of adapting and applying to a large portion of the plains of Yolo and Solano Counties an extensive system of works for irrigation, with, perhaps, transportation and water power, as one of time only.

I have not at my command, as I write, some valuable statistics which I have collected, of the canals of Italy and India, where the system of irrigation has been practiced for many centuries. I may say, however, that in Italy canals of irrigation are counted by thousands of miles, and the lands watered by them by millions of acres. The productive capacity and the rentable and marketable value of the lands generally are nearly doubled, and in some cases, increased tenfold.

In India, irrigation has been practiced by the natives for ages, but by means of badly planned and ill constructed works. Seeing the importance of better works for the proper development of the resources of that country, the British Government have lately built the grandest work of the kind known to modern times. With its main branches, (all navigable,) it is over seven hundred miles in length. It was designed *chiefly for purposes of irrigation*, but is used also for water power and transportation. The volume of water which flows through it is immense, and the size of the canal is such that it is capable of floating vessels of greater tonnage than any which ply upon the Sacramento river. Though the cost was over seven millions of dollars, the work has been but a few years completed, the profits, direct and indirect, derived from it by the English Government, amounts already to full twenty-five percent per annum upon its cost. It is probable that each dollar invested in that great work will furnish water to irrigate forever one or more acres of land, and give employment and support to nearly as many India laborers.

The works of Italy generally grew up with the wants of the country. They were designed and built separately to answer a present need, and without reference to connection with and becoming part of a great system. They are generally small, and were so costly in construction that they have seldom been remunerative to the projectors, though of immense value to the consumers of the water. The great canal of India, on the other hand, has been planned and constructed upon a large scale, and

with a view to the future as well as present wants of the country which it traverses. The consequence is that it pays well. This shows that the building of such works generally upon the largest scale practicable, is the most profitable to the owners, and the most economical to the consumers of water. The prosperity of our farmers to make very small and, relatively, very costly *ditches* to irrigate mere patches of ground, instead of combining to construct canals capable of passing large quantities of water, affording them a constant and lavish use of it over the whole of their lands at very low rates, is one very great difficulty in the way of those who desire to introduce plans of works that will prove the most useful.

So great is the value of water for irrigation in Italy and India, that scarcely any revolution of trade, commerce, or government would be so oppressively felt as the destruction of their canals of irrigation, or as even their suspension for a few years. Yet neither of these countries have a climate which calls so loudly for irrigation as California, and from all that I can learn of them, they do not possess, naturally, the same advantages for extensive and economical works of irrigation.

Irrigation upon a small scale has been already practiced in this State. The abuse of water, however, by excessive, untimely, and injudicious irrigations, has prejudiced many against its just and proper use. The general desire to cultivate cheaply the cereals, and to raise the common stock of the country, have heretofore prevented land holders from turning their attention to that system of small and neat farming which is the characteristic of a thriving country, and which will be very much promoted by irrigation. In a well irrigated country, farms of a hundred acres or under will probably be more the rule than the exception. Grass, which is the most valuable production of any country, may be kept green and flourishing throughout the year in many parts of California, yielding several crops of increased quality on the same ground. The cereals may be increased at least twenty-five per cent per acre, while the products of the dairy, the means of fattening, and keeping fat, stock for the butcher, and the opportunities for rearing fine stock, may be multiplied many times.

While my observation of the capacity and fitness of the valleys and plains of the State for irrigation have been only general, my attention has been specially directed to a few points. One of these is a scope of country lying west of Sacramento City, between the tule and the foothills, and in the vicinity of Putah and Cache creeks. This plain has a gentle and easy slope from north to south, and one somewhat stronger, yet gentle, from west to east. The general direction of its drainage is about east-south-east. The soil is all strong and rich, and the climate salubrious, though warm and dry. Putah and Cache creeks, draining a large region of mountainous country, cut this plain at right angles. They have both raised their banks higher than the adjacent grounds, and the overflow of both streams runs nearly north-easting and south-easting. Between the two, there are over one hundred thousand acres of land capable of being watered, of being much improved, and whose value would be greatly enhanced by such watering. Instrumental examinations have been made sufficient to determine the practicability of the project upon a large scale, and at a cost which will supply the farmers with water, when the whole is irrigated, at very low rates. An inspection of the ground south of Putah and Cache creeks has satisfied me that at least one hundred thousand acres more may be embraced in the work, and be profitably irrigated. The size of the main stem of the proposed canal must be such, and the current of water in it so gentle, that boats of

heavy burthen could ply upon it. Several of its branches would furnish water power, while leading it on its way to the fields of irrigation, without any loss of volume.

Cache creek discharges through this country for more than half the year a large volume of water which is loaded with fertilizing matter. Heretofore it has passed on to waste, and to help to overflow the low lands bordering on the river, already too wet. Its sources of supply are abundant to meet any demand which may be made upon them. It is these waters which I proposed to divert and apply to useful purposes.

I am impressed with the belief that there cannot be found in the world any field of like extent so well situated for the proper application of water, where the benefits to be derived will be so great, and where the necessary works can be so cheaply built, and consequently, where the water can, in time, be sold to the consumers at such low rates, as in that which I have decided. It can be, and probably will be, made the garden of California. It is capable of supporting a larger population than any rural district in the Union. Its capacity for grass, as respects quality, quantity, and duration, especially fits it for dairy purposes – the products of which do now, and probably will continue to command high prices in this State. The ability of its farmers to keep their stock fat the whole year round, will give them a choice of markets for such as may be intended for slaughter. Stock of *fine* quality will take the place of the poor kind, because it will pay for being kept in inclosures, and being carefully tended. Farmers will be assured of a certain crop of cereals whether the season be very wet or very dry; for the more successful irrigation of the land renders profitable an extent of ditching and draining, the expense of which farmers will not incur with light or uncertain crops. Fruit trees and vines can be stimulated to full and early growth, while, with due care in the application of water, their fruits may be improved rather than injured, both in quality and quantity. The cultivation of live fences (hedges) will save a great and constant outlay of money, (exceeding the cost of the works proposed,) while the rapid growth of the more valuable timber trees will render their cultivation a source of profit. Considering the small proportion of the State likely to be improved in this way, in a short time, the certainty of paying crops in the irrigated district, and the probability of dense settlement, I am unable to see any reason why a very rapid rise in the value of property should not follow. That much of it would increase five-fold in as many years, I have no doubt.

The preceding is a hasty sketch of the outlines of my plan, its objects, and a few of its many advantages. The reference to the works of Italy and India was necessary to explain the superiority of large canals over small ditches, (though both are good in their way,) and to give some idea of the extent and magnitude of their works, *which are increased*, but never allowed to go down.

I will now explain “why the scheme has not been carried out.” The law allows water companies to collect from their works revenues sufficient to defray the expense of maintenance, and to pay a certain interest upon the actual cost of construction, etc. If all the land within the scope of the works proposed should be irrigated, the annual cost to each acre would be very small. But, during the time that water may be purchased to irrigate only a part, the rates per acre must be higher if the company look to prompt and full returns from the start. As the stockholders can receive *only their interest*, and no other profit, and as this is below the present rate in California, it is reasonable that they should desire to avoid any delay in its prompt payment. Under these circumstances, the conditions proposed to the farmers are, not to give money, nor to subscribe to that

stock, (though they have that privilege,) but simply, that in any irrigable district where a branch of the work may be carried, they shall engage to be ready to use the water when notified that it is ready for delivery to them, to take and pay for it certain monthly rents, and that the number of them so engaging shall be sufficient to provide the revenue required. If all do this, they at once get the water at the minimum price. If part neglect or decline, those who do take the water will pay higher rates at first, but will have the benefits of the first reduction, while those who omit taking it at the opening of the work will gain nothing by the delay, but will pay the highest rates whenever they do get water. This is only fair to those who give the first support to the work, and is no injustice to those who, from any cause, omit to do so at the earliest day.

There is a unanimity of sentiment among the farmers that water for irrigation should be supplied *in some* quantity, and at some rate, and that a supply, however small, would benefit them and enhance the value of their property. A number of them are now willing and anxious to secure it by paying two or three times the rates at which water would be sold when farmers use it freely, and the canal should be running full. The majority of them, however, seem to be unwilling to pay for water to irrigate all grounds, *grass land* as well as cultivated lands. This, which is the great value of irrigation, many of them regard as an experiment, and of doubtful utility. I have found it also difficult to convince them, that in countries where irrigation is practiced, the thirst for water is ever increasing; and that the demand for it soon exceeds the supply, except where the works have been planned with proper foresight; that every acre within the reach of water is in time irrigated; that the cost of providing works to supply the greatest demand of the country is much less, in proportion, than small ones to supply only a fraction; that the enlargement of such works, when built originally too small, is always attended with great inconvenience and expense; and that the more copious the supply of water at the outset, the more profitable will it be to them, and the soonest enhance the value of their lands.

If I build any work, it must be in accordance with these views.

The rate of interest allowed by law to stockholders in canals, is such as to attract capital to the work only as a safe and permanent investment, with assurance of regular dividends. These dividends, with the expense of maintenance, must be paid by *those who use the work*, but no more is required of them. If the revenue is too large, the company must reduce the rates. It is, therefore, the interest of the farmers using such works, that the capital should be invested at the lowest rates, the works be built and maintained at the lowest cost consistent with security and good management, and that the largest area of ground be brought under irrigation to furnish full revenue to the company at the lowest rate to consumers. In short, if a work can be built where there is assurance of even ultimate returns, it is more the interest of the users than of the stockholders to build and maintain it at the least cost. This simple principle is what I find it most difficult to impress upon the greater number of the farmers of the district referred to.

Very respectfully, yours,

WM. H. BRYAN, Civil Engineer.

The subject of irrigation is of such importance in consequence of its peculiar adaptability, from climactic causes, to our own State, that I am induced to give it much attention.

The subject is new here, and, as like all new subjects, it will require time for discussion before the people will be prepared for its adoption, the sooner such discussion is commenced, the sooner will the desired end be attained.

The reputation and experience as a Civil Engineer of the writer of the following communication upon the subject of "The utilization of water, and its sources, in California," is the only apology for embodying it in this report. I desire to acknowledge my obligations to him for his prompt response to my request:

NAVY YARD, MARE ISLAND,  
December 30<sup>th</sup>, 1862.

MY DEAR SIR: - Convinced of your deep interest in all that relates to the progress of California, and believing that the presentation of all views relating thereto cannot fail of eliciting your attention, and through you, on proper occasion, in your official connections, of being more widely disseminated so as to reach where their practical value is most likely to be determined, I have thought proper to send you the following paper touching the utilization of water, and its sources, in this State.

Very respectfully,  
Your obedient servant,

CALVIN BROWN.

J. F. HOUGHTON, Esq.,  
State Surveyor-General, California.

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ON THE UTILIZATION OF WATER, AND ITS SOURCES, IN CALIFORNIA.

BY CALVIN BROWN, C. E.

In our whole Union, there is no section as yet distinctly incorporated that is related in so remarkable and peculiar a manner to the element of water, as California.

It is this obvious peculiarity, aside from mere geographical position and abundance of precious metals, that constitutes the chief difference, in a meteorological view, between this State and every other. Its seasons are distinguished, not by the ordinary terms of winter, spring, summer, and autumn, but by the terms "wet" and "dry," thus significantly indicating their connection with their producing cause, viz: the presence or absence of moisture. The great importance of this element in what has hitherto constituted the chief business of the country, viz: the production of gold and silver, gives it the highest position, as a means by which it has grown and prospered. It

is the object of this paper to show wherein, and, to some extent, by what practical methods, its more extensive usefulness may be secured to other great interests of the State, as represented in agriculture, manufactures, inland navigation, the reclamation of lands, and their security from the disastrous consequences of floods.

The settlement and development of California have been undertaken by a people, strangers to the country, and originally accustomed to a climate and meteorology widely differing from those they found in their adopted home, and accordingly they have learned that these new conditions affecting so materially the interests it is their object to establish, seem to demand an entirely different economy in many important respects than that heretofore practiced by them. Especially have they found the long droughts of the "dry season" an inconvenience that, in their former localities, would have been almost insupportable, and would not have been endured if any means of remedy could have been discovered. The residents of all dry countries, including those visited only by periodical rains, like our own State, for centuries have practiced the utilization of water with the most careful economy, from such sources as fell within their reach, and without which practice, many of these countries would have remained uninhabitable. The dependence upon the simple natural application of periodical rains to agricultural production, with the limitation of such supplies to the season in which they occur, with a restriction of their influence upon growth to only a few weeks after their cessation, followed by an inexorable drought of many months, has already prompted in many quarters considerable solicitude and inquiry as to its ultimate effects upon the products of the country, for it is evident that with supplies thus limited in variety and quantity to what is natural to our climatic conditions and to what can be raised in the short period intervening between the planting season and that of absolute drought, when artificial watering is not resorted to, the soil must fail to meet the wants of the population which is rapidly being spread over it. So vastly does the artificial watering of lands, or irrigation, as it is usually termed, increase and improve vegetable productions, that even in the moist climates of England, and other countries of Europe, it is practiced whenever opportunities will admit. In Piedmont, and Lombardy, which are most favorably situated for this purpose, notwithstanding an annual rain-fall of thirty-six inches distributed through every season of the year, it is shown by their statistics that nearly one and a half millions of acres, constituting nearly one-fourth of the whole cultivated and culturable portions of these Italian provinces, are artificially watered. California certainly, as contrasted with these countries, which are thus far more favorably circumstanced in regard to intermittent rains and duration of vegetable growing seasons, is none the less in need of some such system for the increase of her agricultural products, if she means to provide at equitable rates and in suitable abundance for the future increase of her people.

It is not alone in the agricultural interests of her people that California is concerned in the utilization of water. As a State, she has interests which may be found to be involved in the matter. I alluded to her public lands, now almost valueless as a source of revenue, compared to what they might be made if reclaimed, as they probably can be by well known methods, where water is chiefly concerned. These lands, now overflowed so as to be for the most part inaccessible to agriculture, must ever remain in their present condition, and convertible to revenue only at the low rates at which they are now held, unless the State adopts some action upon an adequate scale for their

improvement. The reclamation of these lands, aside from advantages inuring to the State from their increased pecuniary value, is demanded by all the beneficial results which must ensue from their restoration to a habitable, improvable, and healthy condition. This result, of itself, constitutes the most forcible reason for an undertaking of the work at almost any price the public Treasury is able to afford, but it is believed that a proper investigation of all the conditions involved in the experiment will show that this cost will leave a wide margin of income from the demand and increased value which must arise from the reclaimed territory. The success of this undertaking thus places the State in possession of resources for revenues that, under the policy of neglect and inaction, must for years lie beyond its reach.

From such observations as I have been enabled to make in reference to the detail of the general subject just presented, I have every reason to believe that the most favorable conditions exist in California for making such an application of these methods of land reclamation, as must at very moderate cost realize most satisfactory results. Of the feasibility of the undertaking there can be no doubt, although the requisite calculations of the extent to which the system can be applied, and of the expense, with other questions involved, can only be determined by particular observations of the controlling circumstances of each locality presented for the required improvement. The system itself is, but a simple imitation, though of course on a limited scale, of nature's own questions as exhibited in the formation of her vast alluvial plains. It consists of enclosing the tract to be reclaimed within a dike or embankment, admitting the alluvium-charged waters of the neighboring stream upon it, allowing the earthy matters to settle and then discharging the clean liquid, thus leaving a deposit of soil of greater or lesser depth, according to the quantity of matter originally held in suspension in the water. Of course, the effect of this method is to raise the surface operated upon, and the rate of such elevation depends upon the alluvium richness of the surcharged waters, and the repetition of the operation. It would therefore seem, from what is constantly seen of the natural and spontaneous effects of our rivers and streams, changed as they are almost to viscosity with "miner's mud," that, could their valuable deposits be spread over the low lands subjected to their inundations, and retained there, instead of filling up their own beds and obstructing navigation, a vast benefit would replace their present injury.

One of the most eminent examples of land reclamation by the system here mentioned is found in Tuscany, Europe, in the valley of the Chian river, which, for a length of about sixty miles, and an average breadth of about three miles, formerly existed in a frightful condition of unhealthiness and depopulation from malarious influences. The Government undertook the work of its reclamation, and the entire valley has been restored to culture, and occupied by a healthy and industrious population. Other examples in this Province, under similar circumstances, are now being carried on, as that of filling up the lakes and marshes of the coast of Massenna. Among these, the most important is that of the Castiglione marsh which covers nearly thirty-four square miles of surface, constituting a district which for centuries had been associated only with pestilence and suffering. Although various attempts had been previously made for the amelioration of this condition of things, it was not until the year eighteen hundred and twenty-eight that the work was successfully undertaken. Since that time, in defiance of the most formidable obstacles presented by its peculiar position and marshy nature, to say nothing of its noxious exhalations, nearly the whole waste has been reclaimed. All

these results have been obtained under more difficult circumstances, and through the agencies of much less efficient means, than would probably be found available in California, where the rivers and streams contiguous to low lands exist on a larger scale, and are more abundantly charged with alluvium.

It would be impossible in a paper as brief as I intended to make this to present this subject in its whole connection with the public benefit. The general term under which I have introduced it, of course, includes every application that can be made of this universal element of water, and the numerous and various details of its economy and results, as embraced in its utilization, would involve a far greater labor than I can now bestow. I have attempted only to hint at its advantages, in the cases of mining, in one of which I have endeavored to show by statements of actual examples, both its practicability and benefit if undertaken among ourselves. It remains for me to say a few words in regard to the results that may be expected from its application to agriculture, in which, of course, individuals instead of the State, will have the first and most direct concern, although the latter may properly be called upon to lend its aid therein.

It may not be needless, in alluding to the advantages to be derived from irrigation, to remind those directly interested in the agriculture of California, that certain very important principles are concerned in the growth of vegetables, which, owing to the peculiar climate of this country, fall very far short of that complete operation that is necessary for the fullest results, unless aided by artificial means. I allude to the conjunction of heat and moisture. The best harvests are only obtained by the concurrence of these elements; the best lands, the best manures, and the best tillage, remain utterly sterile in the absence of either. The climate of California, to a considerable extent, is a singular illustration of the existence of this unfavorable condition; it gives its soil rain and moisture in the coldest season, and its greatest heat in the season of entire drought, thus offering to the farmer the only alternative of planting and raising only those crops that will naturally flourish under these anomalous conditions, and obliging him to limit his expectations to such returns as the short season of growth admits. What are termed winter crops seem to be the only results of the general system of tillage now practiced with us, those of summer, or green crops, being limited to the comparatively few localities where artificial watering is adopted, and these are raised only on the smallest scale for mere family use.

But it is in the interests of the stall and the dairy that the untoward influences of the climate are felt, and in the connection there seems to follow a train of unfavorable consequences, which cannot have failed to impress every observing eye cast in their direction. It may be shown that an absolute injury is being inflicted upon the soil itself by permitting its capacity to maintain cattle to remain limited by neglecting the means that might be used for its increase, and, following this, withholding its supply of manures; for, as every one knows, the exhaustion of the soil, the inevitable consequence of the growth and gathering of harvests, must be regularly supplied by the compensation of manures; no land; whatever may be its original richness, is able to resist the demands made upon it by constant croppings. The supply of manure, therefore, being chiefly through the agency of animals, it becomes indispensable that abundant and convenient means for their maintenance should be secured, and this in a very different manner from the shiftless Mexican system yet in vogue in the country, a system impossible with



civilized customs, and incompatible with dairy husbandry altogether, yet, in such a climate as California, the only possible one without irrigation.

In extending the remarks to be made on this point, I find it convenient to refer to the observations made by a very distinguished writer on irrigation in France, whose works have been quite recently published. He views irrigation as constituting altogether the most potent agent for securing the complete operation of that fundamental principle recognized by all sound thinking agriculturists, viz: the production of manures; and although, in the extract I am about to quote, he makes an especial application of his argument to France, it is none the less pertinent to California, from its general scope, but still more applicable on the grounds of our unfavorable climate:

“In proportion as population and general prosperity increase, we must require from the soil those means of production which it has been allowable hitherto to neglect. But of all the known means of attaining this end, the increase of live stock ought to be placed in the front rank.

“It is not merely because cattle furnish to man his most substantial nourishment, or because their price has, within a few years, greatly advanced, but it is principally because these cattle furnish in abundance *the fertilizing material*, which is the essential base of agricultural prosperity. Thus, then, whether because they produce food, (butcher’s meat,) the value of which tends constantly to advance, or that they furnish the manure indispensable to cultivation, we see in all the countries of Europe the greatest encouragement constantly afforded to all attempts to increase the number of live stock; for, were it not for it, the productive power of the arable land, heavily taxed by the cultivation of cereals, would soon be found growing less and less adequate to the pressing needs of consumption.

“This being admitted, we pass readily from the question of stock to that of the cultivation of the grasses, for they form, properly speaking, only one. The eminently useful introduction of artificial fields for the distribution of crops, and the recent adoption of some new plants suited for this treatment, are facts important to be stated, but they are not sufficient to realize the improvement desired. It is almost exclusively by extending the *permanent meadows*, that is, meadows properly so called, that there has been obtained, with certainty, the desired increase in the production of stock and manure.

“Those countries, even which, under a southern climate, have appeared most suitable for raising cattle, from a natural abundance of production of grasses, have not hesitated to increase these first resources. Thus, England, Germany, Holland, etc., have of late made any efforts to attain this end by the extension of the means of watering. Their governments have given the necessary encouragement, and the proprietors have hastened to enter upon this path, and have more and more found reason to congratulate themselves on having done so.”

I have thus endeavored, though, perhaps, in a crude and hasty manner, to represent the importance of this great public economy, which, I am convinced, sooner or later must find a general application in this country. The subject has seemed to me to be worth the attention of the State, in its legislative capacity, involving as it does, and as I have attempted to show, the promise of great remunerative returns as revenue, and

thus suggesting investigation, at least as to the propriety of its undertaking the necessary works. On the other hand, wherein is embraced more directly the interests of the agriculturist, it may be found necessary, in order to stimulate private enterprise to attempt, upon an adequate scale, those applications which are demanded in this direction, that the encouragement and aid of the State should be liberally given to insure their success. Thus, on all sides, there seem to be reasons why the subject here presented should claim attention from those who are charged with the improvement of the public welfare.

NAVY YARD, Mare Island, December 30<sup>th</sup>, 1862.

### INTERNAL NAVIGATION AND RAILWAYS.

It is only in compliance with the requirements of the law defining the duties of the Surveyor-General, that any allusion whatever is made to so important subjects as those of improving the internal navigation of the State, and the subject of railways.

It is a problem which has been too often demonstrated to require reiteration here, that when the two methods of communication – by water and railway – exist between two points, and the distances being about equal, the water is the cheapest, and does most of the freighting; while railway communication, being the quickest, enjoys almost a monopoly of the passenger travel, and a small portion of through-freight and way-freight, according to the productiveness of the country through which it passes.

The bar, commonly known as the Hog's Back, about six miles above Rio Vista, in Steamboat or Merritt's slough, is the greatest obstacle to inland navigation in the State, and it is believed that its removal, by an artificial narrowing of the channel, which at this point is very wide, may be easily effected; yet any report of a plan, without a thorough examination of its nature, would be useless. A small expenditure for such examination might be highly beneficial. No such obstacle to the free navigation of the San Joaquin exists.

It is only a question of time when the increased population of the State will require an extensive system of railways, to collect at convenient shipping points the large amounts of the cereals, for the production of which our State has become thus early so justly celebrated, and to distribute to the agricultural and mining districts, their implements of husbandry, mining machinery, and such articles of merchandise as are not produced in their immediate vicinity.

These distributing branches must have connection with the one Grand Trunk Road, by route of which, below the City of Sacramento, was established by Nature herself, when she placed the swamps of the Sacramento and San Joaquin, the Diablo range of mountains, and the Bay of San Francisco, in their present position, and the level plains of Yolo and Solano Counties in theirs. Want of knowledge of advantages, local interests, and other causes, may, for a time, ignore the decrees of nature, but in time will prove them inexorable.

Legislative encouragement in many of the older States has greatly facilitated the construction of these great evidences of prosperity and civilization, and rich rewards have such States reaped in the rapid advancement of all their material interests in consequence. In this State, where the question of transportation is assuming such

great importance, that liberal encouragement of all such enterprises cannot but result in liberal returns.

GRANT OF THE SIXTEENTH AND THIRTY-SIXTH SECTIONS FOR SCHOOL PURPOSES.

*Sold for Cash under Act twenty-second, eighteen hundred and sixty-one.*

The accompanying tables will show the disposition of these lands.

Locating Agents in the Stockton, Marysville, and Humboldt Districts, report that lands have been taken in lieu of all the sixteenth and thirty-sixth sections reserved by the General Government, or taken for private uses, leaving only sixteenth and thirty-sixth proper, to sell.

In the San Francisco District the Locating Agent shows that we are entitled to two hundred and thirty-one thousand acres in lieu of sections reserved, of which, as is shown by the books of this office, there has been applied for, one hundred and twenty-two thousand one hundred and eighty acres, leaving a balance of about one hundred and nine thousand acres yet due the State in the San Francisco District.

Nearly all the desirable land of this district being covered by grants, it will be difficult to find applicants for the remainder, unless we can be allowed by the Commissioner of the General Land Office, or a law of Congress, to go outside the district to locate it.

In consequence of the rejection of the Suscol Grant by the United States Supreme Court, a large tract of good land was thrown open to location, making our sales in that district during the past year amount to ninety-eight thousand six hundred and forty acres. In the Visalia District six hundred and forty acres have been sold this year, making a total to date of two thousand seven hundred and twenty acres, nearly all of which is upon sixteenth and thirty-sixth sections proper.

Lands taken in lieu of sections sixteenth and thirty-sixth, reserved or disposed of by the United States:

Description.	Acres.
Stockton District, approved, surveyed.....	17,500.00
Stockton District, approved, unsurveyed.....	30,652.92
Stockton District, unapproved, unsurveyed.....	640.00
Stockton District, unapproved, surveyed.....	520.00
Stockton District, unapproved, contested.....	3,390.57
	52,703.49
Humboldt District, approved, surveyed.....	10,533.64
Humboldt District, approved, unsurveyed.....	7,600.00
Humboldt District, unapproved, unsurveyed.....	320.00
Humboldt District, unapproved, surveyed.....	0.00
Humboldt District, contested, surveyed.....	1,115.20
	19,568.84
San Francisco District, approved, surveyed.....	9,940.00

San Francisco District, approved, unsurveyed.....	100,380.00	
San Francisco District, unapproved, unsurveyed.....	10,240.00	
San Francisco District, contested, unsurveyed.....	1,620.00	
		122,180.00
Marysville District, approved, surveyed.....	30,807.84	
Marysville District, approved, unsurveyed.....	3,128.50	
Marysville District, unapproved, unsurveyed.....	0.00	
Marysville District, unapproved, surveyed.....	640.00	
Visalia District, approved, surveyed.....	2,640.00	
Los Angeles District, approved, unsurveyed.....	4,468.40	
		41,684.74
		236,137.07
By the Sixteenth and Thirty-Sixth Sections proper.....		52,333.43
		288,470.50
Total amount of lands applied for under the grant.....		

The sales of these lands, since the passage of the law, to date, are exhibited in the following tables:

Description.	Acres.
Approved locations, surveyed lands.....	105,577.91
Approved locations, unsurveyed lands.....	161,566.82
	267,144.73
Received and on file in this office, awaiting the expiration of the time required by section fifth of the Act:	
Applications on surveyed lands for.....	5,305.77
Applications on unsurveyed lands for.....	16,020.00
	21,325.77
Total located.....	288,470.50

Amount sold in the different Land Districts upon the sixteenth and thirty-sixth sections proper:

Description.	Acres.
In Stockton District, surveyed.....	15,522.24
In Stockton District, unsurveyed.....	3,520.00
In Humboldt District, surveyed.....	3,630.46
In Humboldt District, unsurveyed.....	1,240.00
In San Francisco District, surveyed.....	1,440.00
In San Francisco District, unsurveyed.....	7,980.00

In Marysville District, surveyed.....	13,483.73	
In Marysville District, unsurveyed.....	2,397.00	
In Los Angeles District, unsurveyed.....	200.00	
In Visalia District, surveyed.....	80.00	49,493.43
In Marysville, Stockton, San Francisco, and Humboldt, unapproved.....	2,840.00	2,840.00
Total.....		52,333.43

Part of the sixteenth and thirty-sixth section grant was sold by the Boards of Supervisors of the several counties, under the Act of April twenty-sixth, eighteen hundred and fifty-eight. The amounts of such sales reported by the County Auditors to this office, are as follows:

Counties.	Acres.
Merced.....	680.00
Humboldt.....	880.00
Placer.....	4,400.00
Sacramento.....	1,031.00
San Joaquin.....	6,433.00
Shasta.....	720.00
Siskiyou.....	2,320.00
Solano.....	160.00
Stanislaus.....	336.00
Tehama.....	280.00
Tulare.....	1,480.00
Total, as far as reported.....	18,720.00

A law should be passed requiring the Boards of Supervisors of each county to report to the Controller or Register of the State Land Office, the amount of lands sold, and the price for which the same was sold, under the Act of April twenty-sixth, eighteen hundred and fifty-eight, in order that the provisions of section eight of the Act of April twenty-second, eighteen hundred and sixty-one, may be carried out.

#### SCHOOL LANDS – FIVE HUNDRED THOUSAND ACRE GRANT.

No additional sales of these lands have been made since the date of the report of eighteen hundred and sixty. I repeat from it the disposition that has been made of this grant:

Description.	Acres.
Sold under School Land warrants issued prior to the passage of the Act of April 23 <sup>rd</sup> , 1858.....	237,760.00
Sold for cash since the passage of the Act of April 23 <sup>rd</sup> , 1858.....	261,197.83
Total disposed of.....	498,957.83

Leaving a balance of one thousand and forty-two and seventeen one-hundredths acres, which is reserved as a margin to correct errors in the final adjustment of the grant.

There have been re-locations of these lands during the past year to the amount of one thousand five hundred and ninety-three and ninety-eight one-hundredths acres, and patents have been issued for nine hundred and sixty acres.

#### SCHOOL LAND WARRANTS,

*Located under Act of April 23, 1858.*

Where Located.	Acres.
In the Marysville District, four Locations have been made this year, amounting to.....	1,600.00
Total to date of this Report.....	17,612.00

#### STATE SCHOOL LAND WARRANTS,

*Located upon Unsurveyed Lands, under Act of April 18, 1859.*

Locations.	Acres.
Approved Locations within the present year.....	17,600.00
Unapproved Locations within the present year.....	3,680.00
Total approved and unapproved Locations to date of this Report.....	57,760.00

#### SEMINARY LANDS.

Description.	Acres.
Amount of Grant of 72 Sections.....	46,080.00
Total Located at date of Report of 1860.....	38,846.82
Located in Humboldt District since.....	480.00

Located in San Francisco District since.....	320.00
Total returned to this office at date.....	39,646.82
Balance unreturned.....	6,433.18

After the passage of the law providing for the sale of these Lands, they were apportioned to the different Land Districts. In some districts, applications have not been made for the full apportionment, leaving on hand the balance above, which will be again distributed where it is most wanted.

### SWAMP LANDS.

From the segregation surveys returned to this office by the County Surveyors, the information contained in the following table has been compiled, to which is added a list of the amounts of Swamp Land sold during the year ending December thirteenth, eighteen hundred and sixty-two.

COUNTIES.	Returned by U. S. Surveyor as Swamp Lands.....	Sold by the State as Swamp Lands.....	Sold by the State, and claimed by the United States.	Sold by the State, and claimed by the United States, but shown to be Swamp Lands by affidavits.....	Total amount of Swamp Land returned.....	Swamp Land Surveys returned, to be approved during the year ending Dec. 15, 1862.....
Sutter.....	39,610.15	58,804.00	12,030.44	10,080.60	111,194.19	499.71
Colusa.....	26,384.00	12,725.00	-	-	98,842.00	853.23
Humboldt.....	not shown	9,919.00	-	-	21,970.70	155.64
Placer.....	no surveys	11,350.00	-	-	13,120.00	1,680.00
Sonoma.....	-	9,944.00	-	-	21,211.17	-
Monterey.....	-	893.55	-	-	2,388.51	533.39
Sacramento....	27,840.00	146,911.30	14,922.57	9,797.62	162,014.66	1,465.89
Alameda.....	no surveys	10,032.33	-	-	37,133.19	781.20
Santa Clara....	-	4,314.89	-	-	14,566.74	6,551.71
Lake.....	not shown	2,968.93	-	-	5,759.65	-
Yolo.....	53,738.00	119,775.00	14,980.00	7,500.00	182,486.44	4,031.86
San Joaquin...	not shown	186,124.00	1,600.00	1,600.00	235,571.55	5,547.12
Solano.....	24,520.00	74,519.00	-	-	99,858.00	4,174.64
Napa.....	-	9,462.00	-	-	12,060.00	-
<i>No Segregation Surveys made -</i>						
Contra Costa...	-	-	-	-	-	258.07
San Mateo.....	-	-	-	-	-	8,129.57
Fresno.....	-	-	-	-	-	1,280.00

Tulare.....	-	-	-	-	-	80.00
Total Segregated.	-	-	-	-	1,018,166.80	
Total returned during the past year.....	-	-	-	-	-	36,042.03

Of the amount returned during the past year, thirteen thousand nine hundred and forty-five and thirty-three one-hundredths are embraced in resurveys of forfeited lands.

### FLOOD STATISTICS.

During the prevalence of the floods of last winter, while the incidents connected with them were fresh in the memory of all, copies of the following circular, the object of which is explained by itself, were addressed to each of the County Surveyors throughout the State. At the same time, letters were addressed to responsible persons in different parts of the State, requesting them to furnish this office with any reliable information regarding the destruction by the late flood of any old landmarks or evidences of antiquity, which would tend to show the extent of the floods of eighteen hundred and sixty-two, as compared with those of former years:

[CIRCULAR.]

SURVEYOR-GENERAL'S OFFICE,  
Sacramento, February 13<sup>th</sup>, 1862.

SIR: - It is deemed of utmost importance to preserve in concise form in the State archives, for future reference, as much statistical information as possible in regard to the recent floods throughout the State.

The most proper method of obtaining such information seems to be through the Surveyors of the several counties, acting under instructions from the Surveyor-General.

There is no appropriation out of which such services can be paid, but it is hoped that an interest in the general welfare will prompt each of the County Surveyors to as efficient a performance of this duty as possible.

You will therefore, whenever opportunity occurs, so far as it can be done without expense to the State, collect all possible information upon the points indicated below, and any other information you may deem of importance in this connection, and report to this office in July next:

First – The extreme height above low water at any well designated points upon streams in your county.

Second – Date of highest water.

Third – The general depth over the adjacent lands.

Fourth – The approximate quantity of land overflowed in your county.

Fifth – If the banks of the streams have been seriously affected, state in what manner and to what extent.



Sixth – If any bars were formed, or considerable change of channel occasioned, state the facts and circumstances.

Seventh – If there was much deposit upon submerged lands, state the general depth and character of it.

Eighth – Upon Swamp and overflowed Lands, state the depth of water and general direction of the current, depth of deposit, etc.

It is suggested also, that all persons having facilities for doing so, should be requested to mark distinctly, upon large trees, or other objects not liable to removal, the point of highest water.

The value of this information will readily suggest itself to the Surveyors of counties containing Swamp Lands belonging to the State, in reference to their future reclamation.

Very respectfully, your obedient servant,

J. F. HOUGHTON,  
Surveyor-General.

To -----, County Surveyor,  
----- County, California.

The result, so far as answers have been received, has been highly satisfactory, and the testimony furnished in the report of Amos Matthews, County Surveyor of Yolo, and of Dr. Louis M. Booth, of Stanislaus, furnish strong circumstantial evidence that the flood of eighteen hundred and sixty-two is without a parallel in centuries past.

In Yolo County, Indian mounds of great depth, formed of the lightest material, which would almost float in still water, bearing unmistakable evidence of great antiquity in the large oaks growing upon them, have been almost entirely carried away, trees and all, leaving strewn along the course of the current, numberless skulls, and other bones of the tribes who once inhabited the Valley of Sacramento, and who made these mounds, at the same time the home of the living and the resting-place of the dead.

Reliable information has reached me of the destruction, by the rising of the waters melting the sun-dried bricks of which it was constructed, of an old adobe house in Solano County, built twenty-five years since, in a position which had ever before seen above the rise of the waters. Evidence which is believed to be reliable, has been received of a similar disaster to an old adobe, built in the valley of Russian river fifty years since.

By the report of Dr. Booth it will be seen that the Stanislaus river, which, to all appearances, had for centuries discharged its waters through its proper channel, and allowed alluvial deposits to accumulate upon its banks to the depth of ten or twelve feet, and upon the top of this deposit oaks from five to ten feet in diameter to grow undisturbed for more than three hundred years, during the great flood of eighteen hundred and sixty-two tore away its old banks, carried away considerable tracts of land well grown over with timber, and uprooted and carried down its swollen stream the trees which its waters had so long nourished, and in some places left its old bed, and formed a new channel entirely away from it.

The report of Mr. Drew, County Surveyor of San Joaquin, in answer to the circular, contains full statistics of the flood in the vicinity of Stockton, and the county, which will be valuable in reference to the reclamation of the great body of Swamp Lands bordering the San Joaquin and other rivers in that county.

The County Surveyors of Lake and Fresno have also furnished valuable information respecting the flood in their counties.

An erroneous impression prevails to a considerable extent, created chiefly by a series of well written articles published last spring in several public journals of the State, that the Straits of Carquinez, connecting Suisun and San Pablo Bays, have, by incapacity to discharge a sufficient amount of water, contributed largely to the overflow of the Sacramento Valley.

It is a well admitted and self-evident principle in hydraulics, that when an obstruction to the free passage of any current of water occurs, it is accompanied by a corresponding rise in the water. Had the writer of these articles applied this simple test to the Straits of Carquinez, no complaints would have been made of their want of capacity.

The highest water ever known at Benicia was occasioned by an extraordinary high tide, being eight inches higher than any previous spring tide, and occurring about the fifth or sixth of January, eighteen hundred and sixty-two, or several days before the highest flood, and at no time afterwards was the water so high as on that day.

Upon the Swamp Lands bordering the Suisun Bay on the north, at a distance of about a mile below Collins' Landing, hogs lived all winter, with no floating islands to flee to, showing that there could not have been two feet of water at any time on the marsh.

Ascending the Sacramento, at a distance of a mile above Collins', the water was about four feet over the marsh, and at Rio Vista it had increased to about eight feet.

#### FLOATING ISLANDS.

These curious phenomena, existing, so far as observed, only in the delta at the mouths of the Sacramento and San Joaquin, and along the banks of the last named river, having attracted considerable attention during the floods, I caused an examination to be made by persons in whom I placed reliance to ascertain their origin. They were found to be an aggregation of strong fibrous grasses and roots, which had overgrown sloughs and small lakes, which frequently occur in the Swamp Lands, interweaving and increasing in thickness until sufficiently buoyant and strong to bear live stock, and even loaded wagons.

Some cases were found where it was thought this mass of grass and roots rested upon, without adhering to, quicksands beneath, and were floated by rising water. A knowledge of the locality of these islands would be valuable with reference to reclamation.

Reports have been received from Surveyors of the following counties only: Yolo, San Joaquin, Lake, and Fresno.

It is much to be regretted that notwithstanding the law requiring them to report to this office is plain, and indicates to them what they shall report upon, so few of them feel sufficient interest to comply with the law.

I am under many obligations to Dr. Thomas M. Logan, of Sacramento, for valuable information which he has allowed me to compile from his most complete and reliable records; also, for a chart showing the oscillations of the Sacramento river, with full tables of meteorological observations at Sacramento, extending over a period of thirteen years.

Also, to Mr. William A. Begole, of Red Dog, Nevada County, for measurements of rain falling at that place from December twenty-third, eighteen hundred and sixty-one, to June twelfth, eighteen hundred and sixty-two, showing by actual measurement that there fell during that time, seventy-nine and fifty-three one hundredths inches of rain, and he estimates that before the twenty-third of December there had fallen about thirty inches, which would give for the whole season upwards of nine (9) feet of rain, a quantity without parallel in the history of observations.

I am also indebted to Hon. W. H. Lyons, of Stockton, for valuable information collected and forwarded by him, at my request. All of which information, charts, tables, and reports, are herewith submitted.

From all the information I have been able to collect, which is not as full as I had reason to hope would be furnished in response to the circular to County Surveyors, yet is quite satisfactory, I have found the following remarkable combination of circumstances tending to produce the floods of December ninth, eighteen hundred and sixty-one, and January tenth, eighteen hundred and sixty-two, and continuing several weeks later:

During the latter part of the month of November, and the first few days of December, eighteen hundred and sixty-one, large quantities of snow fell in the mountains to the east and north of us.

The average temperature of the month of December for eight years, at Sacramento, is forty-six and thirty-one one-hundredths degrees, ( $46^{\circ}.31$ ) December, eighteen hundred and sixty-two, being forty-three degrees ( $43^{\circ}$ ); while the average of December, eighteen hundred and sixty-one, reaches the high figures of fifty and ninety-eight one-hundredths degrees, ( $50^{\circ}.98$ ), and the few days preceding the flood still higher, as follows: December seventh, fifty-six degrees ( $56^{\circ}$ ); December eighth, fifty-seven and sixty-six one hundredths degrees ( $57^{\circ}.66$ ); December ninth, fifty-one and sixty-six one-hundredths degrees, ( $51^{\circ}.66$ .)

On each of these days a warm rain was falling, which rapidly melted the large accumulations of snow in the mountains, and the rivers, already high, receiving these accessions of rain and melted snows of the seventh and eighth of December, reached here on the ninth of December, with the result already too well known.

Mr. Begole, as is shown by his report, also estimates that previous to the twenty-third of December, some thirty inches of rain had fallen, and although we have no positive measurements of each day's downfall, reports which were received daily from the interior show that the weather in many mountain localities was warm, and heavy rains were falling for several days preceding the flood of December ninth.

The flood of January, eighteen hundred and sixty-two, which reached its highest point at Sacramento about nine o'clock P. M. of the tenth of said month, combined all the unfavorable circumstances of that of the previous month, with the most remarkable downfall of rain ever recorded.

The temperature at Sacramento for a few days previous to and succeeding the highest stage of water, was: for December seventh, forty-seven degrees (47°); December eighth, fifty and sixty-six one-hundredths degrees (50°.66); December ninth, fifty-four and sixty-six one-hundredths degrees (54°.66); December tenth, fifty-seven degrees (57°); December eleventh, fifty-seven and sixty-six one-hundredths degrees (57°.66); while the average of the whole month was only forty-six and forty-one one-hundredths degrees, (46°.41) and the average of January for eight years, was forty-five and fifty-nine one-hundredths degrees, (45°.59).

Allowing a corresponding high temperature for the mountain counties, nearly every particle of snow must have been melted and hurried off to the first common receptacle, the great valley of the Sacramento.

This theory is well borne out by the facts, for in the early part of January nearly all the snow which had accumulated on the mountain tops since the December flood had disappeared, showing that a high temperature prevailed there as well as at Sacramento.

This high temperature, as will be shown by reference to the reports of Mr. Begole, and Dr. Logan, was accompanied by the most remarkable and almost incredible fall of rain, before referred to.

Mr. Begole reports from December twenty-third to December thirtieth, seven and fifty one-hundredths inches of rain; December thirtieth to January ninth, six and sixty-five one-hundredths inches; January tenth, five and eighty-two one-hundredths inches; January eleventh, five and fifty one-hundredths inches; being a total of twenty-five and forty-seven one-hundredths inches in forty-eight hours, ending with January eleventh. This includes ten inches of snow, which is reduced to rain, being about equal to one inch; and also shows a total of forty-five and three one-hundredths inches falling in that locality from December twenty-third to January twenty-third.

Dr. Logan's report shows that on the eighth of January there fell at Sacramento, six hundred and eighty one-thousandths inches rain; January ninth; one and four hundred one-thousandths inches; January tenth, seven hundred and sixty one-thousandths inches; January eleventh, nine hundred and ninety-six one-thousandths inches; and a total for the month, of fifteen and thirty-six one-thousandths inches. The nearest approach to which was in December, eighteen hundred and forty-nine, in which fell twelve and one half inches, and next, in March, eighteen hundred and fifty, in which month fell ten inches.

In view of all the above facts, the greatest wonder is that the water did not obtain a greater height than even that of January tenth, eighteen hundred and sixty-two.

I have presented these facts, together with the absence of evidence of any similar occurrence in the past, to show how remote is the probability of another such combination of unfavorable circumstances in the future, and to restore, so far as it may, confidence to the purchasers of State Swamp and Overflowed Lands bordering the great artery of the State, that another such overflow cannot reasonably be anticipated in their lifetime.

#### OFFICE APPROPRIATIONS.

I desire to call your attention to the fact that in the Act making appropriations for the support of the civil government for the fourteenth fiscal year, the following very

necessary appropriations for the Surveyor General's and Register's office were, by some oversight, omitted:

- Postage and expressage.
- Porter for the two offices.
- Copying township maps for County Surveyors.

Postage I have been compelled to pay out of my private funds as the bills were presented. Expressage, after much annoyance and correspondence with the County Surveyors and Locating Agents, requiring them to pay charges on packages which properly belonged to the State to pay, was finally adjusted by an arrangement with Wells, Fargo & Co.'s Agent at Sacramento to take packages from the office and charge to the State, trusting to the coming Legislature for their pay.

This neglect of the last Legislature was exceedingly annoying, and in the month of July upwards of a thousand documents were detained in the office for want of provision for postage and expressage, and had I followed strictly the letter of the law, they would have remained there to this day, and no documents or letters requiring postage or express charges, would have gone from this office.

Every patent issued for Swamp or School Lands requires to be taken from the Register's office to the Governor for signature, from there to the Secretary of State for signature and seal, and returned to the Register's office for record.

For this and other duties belonging to a Porter, such as carrying matter to and from the post and express, and sweeping offices, attending fires, etc., a Porter has been employed for the Surveyor-General's and State Land Office, for the payment of whom I recommend an appropriation of three hundred dollars for the fourteenth fiscal year.

Previous to my assuming the duties of this office, appropriations were made every year for copying the township maps purchased of the United States Surveyor General as the lands are surveyed, for the use of the Surveyors of the counties in which the lands were located.

This appropriation was omitted last session, and at the same time the clerical force of my office was reduced by compelling the payment into the State Treasury of fees which were heretofore allowed to be expended for additional clerks. The result has been, that with the reduced force and many additional duties imposed, it has been impossible to furnish County Surveyors with these copies.

The following statement will show the difference in appropriations for maintaining the Surveyor-General's office and the State Land Office, for the years eighteen hundred and sixty-one and eighteen hundred and sixty-two, aside from the salary of Surveyor-General and Register:

<i>For the Year 1861.</i>	
Salary of two Clerks for Land Office.....	\$4,800 00
Salary of one Clerk for Surveyor General's office.....	2,400 00
Fees allowed to be retained by Act of April 22 <sup>nd</sup> , 1861, for additional Clerk hire, about.....	1,500 00
Porter for State Land Office and Surveyor General's office.....	300 00
Allowed for preparing Swamp Land Map.....	1,000 00

Allowed for purchasing United States Township Maps.....	500 00
Allowed for copying United States Township Maps for County Surveyors and Locating Agents.....	250 00
Allowed for Rent.....	720 00
Allowed for Contingents, including Postage, Express, etc.....	800 00
Total for 1861.....	\$12,270 00

<i>For the Year 1862.</i>	
Salary of two Clerks for Land Office.....	\$4,200 00
Salary of one Clerk for Surveyor General's office.....	1,800 00
Additional Clerk for copying affidavits and preparing lists for United States Surveyor-General and Hon. W. H. Parks.....	600 00
Rent for offices.....	720 00
Removal of offices and repairs of furniture.....	200 00
Safe for Land Office.....	400 00
Total for 1862.....	\$7,920 00
Reduction in favor of 1862.....	\$4,350 00

Detailed Statement of the expenditure of all appropriations (other than salaries) for the offices of the Surveyor General and Register of the State Land Office, for the last half of the fiscal year of eighteen hundred and sixty-one and eighteen hundred and sixty-two, and the first half of the fiscal year of eighteen hundred and sixty-two and eighteen hundred and sixty-three:

Expressage.....	\$54 97
Lull, Ross & Co., for carpets, curtains, mats, etc.....	242 95
Postage.....	49 16
Newspapers.....	37 00
Removing offices and repairing furniture.....	200 00
Clerical services in preparing information for State Commissioner to Washington.....	600 00
Office rent.....	675 00
Total.....	\$1,858 98

J. F. HOUGHTON,  
Surveyor-General and Register.

Sworn to and subscribed before me, this 2<sup>nd</sup> day of January, 1863.

A. K. GRIM,  
Notary Public, Sacramento County, Cal.

Deficiency of appropriations for Surveyor-General's and State Land Offices for the first half of the fiscal year of eighteen hundred and sixty-two and eighteen hundred and sixty-three:

Postage.....	\$112 98
Expressage.....	144 25
Seal for Surveyor-General.....	30 00
Porter.....	150 00
Total.....	\$437 23

The above indebtedness has actually been incurred, the contingent item having been accidentally omitted in the last annual appropriation bill. It is recommended that an appropriation of one thousand dollars be now made to cover the above amount, the similar sum which will be needed for the same purposes during the remaining half of the fiscal year, and to provide for the binding of the copies of the United States township maps, and other maps and plats required for daily use, and now in inconvenient form and liable to injury.

INCHES OF RAIN FALLING AT SACRAMENTO.

*During the Months of December, 1861, and January, 1862, also the mean of the Thermometer during the same time.*

DECEMBER			JANUARY.		
Days.	Inches of Rain.	Mean Temp.	Days.	Inches of Rain.	Mean Temp.
1	-	59	1	-	51
2	0.015	57	2	-	49 1/3
3	0.105	57	3	0.020	41 2/3
4	0.010	50	4	-	38 2/3
5	-	44 1/3	5	2.080	41 2/3
6	0.020	48	6	0.610	41 2/3
7	0.030	56	7	-	47
8	0.080	57 2/3	8	0.680	50 2/3
9	0.910	51 2/3	9	1.400	54 2/3
10	-	47 2/3	10	0.760	57
11	-	48	11	0.996	57 2/3
12	0.008	47	12	-	53
13	0.012	46	13	-	48 1/3

14	0.010	46 1/3	14	0.680	45
15	-	48	15	-	41
16	0.025	48 1/3	16	0.950	42
17	-	49 2/3	17	3.460	46 2/3
18	-	50	18	-	52 1/3
19	0.120	50 1/3	19	-	51 2/3
20	-	50	20	1.650	54 2/3
21	0.030	47 2/3	21	0.800	55
22	0.480	50	22	0.700	56
23	1.040	51 1/3	23	-	51
24	0.470	53 2/3	24	-	45 1/3
25	-	49 1/3	25	-	44
26	2.230	50 1/3	26	-	42 1/3
27	0.210	52 2/3	27	-	35 2/3
28	0.130	51 2/3	28	-	35
29	0.430	58 2/3	29	0.250	37 1/3
30	0.660	54 2/3	30	-	37 1/3
31	0.170	53 2/3	31	-	36
	Total ... 8.637	Mean ... 50.98		Total ... 15.036	Mean ... 46.41

Mean Temperature for December, for eight years.....43.  
Mean Temperature for January, for eight years.....45.59.

RED DOG, December, 25<sup>th</sup>, 1862.

Hon, J. F. HOUGHTON,  
Surveyor-General:

DEAR SIR: - I have just received your communication of December twenty-second, and in reply would state that I kept an account of the amount of rain that fell at this place after the twenty-third day of December, A. D. eighteen hundred and sixty, to June twelfth, eighteen hundred and sixty-one, and if the account is of any benefit to you I give it with pleasure, because I consider it the duty of every citizen to afford such information when it is in their power to do so.

Date.	Remarks.	Inches.
1861. December 30.....	For week ending at date.....	7.50
1862. January 1 to 9.....	Including snow of ten inches.....	6.65
January 10.....	Twenty-four hours.....	5.82
January 11.....	Twenty-four hours.....	5.50
January 12.....	Twenty-four hours.....	.50
Jan. 12 to Jan. 18...	Six days, including snow.....	8.50



Jan. 19 and 20.....	Two days.....	3.63
January 21.....	Twenty-four hours.....	2.25
January 22.....	Twenty-four hours.....	3.00
January 23.....	Twenty-four hours.....	1.68
January 24.....	Slight snow squalls, with clear and cold night. Thermometer at 8, A. M. 20°.....	
January 25.....	Clear and cold. Thermometer at sunrise, 18°.....	
January 26.....	Clear and cold. Thermometer at sunrise, 18°.....	
January 27.....	Cloudy and cold. Thermometer at sunrise, 16°, with three fourths of an inch of snow.....	
January 28.....	Clear and cold. Thermometer at sunrise, 6°.....	
January 29.....	Snow. Thermometer at 7, A. M. 22°.....	
January 30.....	Snow sixteen inches deep. Thermometer at 7, A. M. 30°.....	
January 31.....	Clear and cold. Thermometer at 7 A. M. 20°.....	
February 1.....	Cold and cloudy. Thermometer at 7 A. M. 26°. Amount of water in snow.....	1.84
February 2.....	Clear and cold. Thermometer at 7 A. M. 22°.....	
February 3.....	Snow. Thermometer at 7 A. M. 32°.....	
February 4.....	Clear. Water in snow.....	.68
Feb. 4 to Feb. 18...	Clear, with cold and freezing nights.....	
February 19.....	Snow squalls.....	
February 20.....	Clear.....	
February 21.....	Snow.....	
February 22.....	Snow and rain.....	
February 23.....	Rain.....	
February 24.....	Amount of water falling in three days past.....	4.14
	Carried forward.....	51.69
1862.	Brought forward.....	51.69
Feb. 25 and 26.....	Rain.....	4.87
February 27.....	Rain.....	1.48
February 28.....	Rain.....	
March 1.....	Rain.....	.22
March 2.....	Clear.....	
March 3.....	Clear.....	
March 4.....	Clear.....	
March 5.....	Rain.....	.37
March 6.....	Fair.....	
March 7.....	Snow.....	
March 8.....	Fair.....	
March 9.....	Snow.....	
March 10 and 11....	Rain.....	2.25
March 12.....	Warm rain.....	1.25
March 13.....	Clear.....	

March 14.....	Rain.....	.75
March 15 and 16....	Rain.....	3.00
March 17 to 25.....	No rain.....	
March 26 and 27....	Rain.....	1.50
March 28 to Apl. 8..	Rain.....	4.50
April 8 to 10.....	Rain.....	.50
April 10 to 14.....	Slight rains.....	1.10
April 14 to 30.....	No rain.....	
May 1, 2, and 3.....	Rain.....	4.10
May 9, 10 and 11...	Snow and rain.....	1.25
June 2.....	Rain.....	.25
June 9.....	Rain.....	.20
June 12.....	Rain.....	.25
Making in all, after December 23.....		79.53

There was probably about thirty inches fell before I commenced measuring it. The mean temperature I have not kept.

The foregoing table is just as I have kept it. It affords me pleasure in transmitting it to you.

All of which is respectfully submitted.

Yours,

WM. A. BEGOLE.

#### ASSESSORS REPORTS.

Assessors' Reports are much more complete than have before been received for several years, and many of them give evidence of much care and attention, while others have been prepared in a rough manner, and seem to be careless estimates of the Assessor. The importance of obtaining correct statistical information of every branch of industry of our State, in this age of enlightenment, which statistics have been reduced to a science by older countries, cannot be too highly appreciated.

Reports have been received from the following countries, and are herewith submitted:

Alameda.....	Isham Chase, Assessor
Amador.....	Francis McGrath, Assessor
Butte.....	S. Y. Hale, Assessor
Calaveras.....	District Assessor
Colusa.....	H. W. Brown, Assessor
Contra Costa.....	N. J. Clarke, Assessor
Del Norte.....	George W. Russell, Assessor
El Dorado.....	George McDonald, Assessor

Fresno.....	Thomas Allen, Assessor
Humboldt.....	R. Wiley, Assessor
Klamath.....	B. F. Pike, Assessor
Lake.....	E. L. Musick, Assessor
Marin.....	John J. Grinter, Assessor
Mariposa.....	George W. Cornell, Assessor
Mendocino.....	John Benton, Assessor
Merced.....	Job Wheat, Assessor
Monterey.....	W. V. McGarvey, Assessor
Napa.....	A. B. Walker, Assessor
Nevada.....	George B. McKee, Assessor
Plumas.....	William W. Kellogg, Assessor
Sacramento.....	E. B. Ryan, Assessor
San Bernardino.....	W. T. Hughes, Assessor
San Francisco.....	C. C. Webb, Assessor
San Joaquin.....	J. M. Long, Assessor
San Luis Obispo.....	Valentine Gajiola, Assessor
San Mateo.....	S. H. Snyder, Assessor
Santa Clara.....	D. M. Harwood, Assessor
Santa Cruz.....	Nelson Taylor, Assessor
Shasta.....	C. Watkins, Assessor
Sierra.....	A. Marmon, Assessor
Siskiyou.....	Thomas O. Rourke, Assessor
Solano.....	Cyrus Ayer, Assessor
Sonoma.....	A. Walker, Assessor
Stanislaus.....	G. W. Curry, Assessor
Sutter.....	R. A. Clarke, Assessor
Tehama.....	Samuel English, Assessor
Trinity.....	G. F. Miers, Assessor
Tulare.....	R. B. Sagely, Assessor
Yolo.....	C. J. Overshiner, Assessor
Yuba.....	T. J. Sherwood, Assessor

For Placer, San Diego, Tuolumne, and Los Angeles, from which no reports have been received, the statistics of the preceding years have been used in preparing the accompanying tables.

**Table of Results of Meteorological Observations.**

1853-1862.	MONTHLY AVERAGES.												ANNUAL AVERAGES.	
	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	7 YRS	10 YRS
Barometer	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Maxima.....	30.380	30.379	30.302	30.289	30.186	30.121	30.071	30.033	30.008	30.238	30.331	30.373	-	30.226
Minima.....	29.586	29.704	29.768	29.756	29.722	29.727	29.719	29.707	29.715	29.752	29.766	29.737	-	29.722
Means.....	30.081	30.074	30.057	30.032	29.987	29.874	29.917	29.787	29.897	30.012	30.072	30.096	-	29.991
Thermometer	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
Maxima.....	59.40	63.90	69.40	76.20	79.50	91.30	93.25	91.80	87.50	82.60	68.80	58.80	-	76.87
Minima.....	31.40	37.90	41.60	46.40	50.30	57.50	59.97	59.00	55.20	47.70	39.80	33.00	-	46.65
Means.....	45.95	50.86	54.02	59.45	63.12	70.35	73.45	71.03	68.84	62.56	53.26	46.79	-	59.94
Thermometrograph	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
Maxima.....	59.00	64.57	69.57	78.00	81.43	92.57	94.57	93.00	89.71	81.28	70.00	60.94	77.89	-
Minima.....	30.00	33.71	38.00	41.10	45.14	51.71	54.00	54.00	51.57	42.47	35.86	36.47	42.84	-
Range.....	29.00	30.86	31.57	36.90	36.29	40.86	40.57	39.00	38.14	38.81	34.16	24.47	35.05	-
Force of Vapor	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Maxima.....	.395	.423	.435	.546	.549	.693	.652	.607	.585	.529	.445	.358	.518	-
Minima.....	.133	.146	.176	.186	.213	.280	.375	.329	.281	.184	.148	.123	.215	-
Means.....	.266	.304	.310	.349	.374	.451	.473	.458	.419	.356	.298	.255	.350	-
Relative Humidity.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.	Per ct.
Maxima.....	93.88	93.68	93.49	99.48	84.88	82.16	77.05	76.50	79.90	80.83	90.17	91.95	86.70	-
Minima.....	46.65	47.37	42.52	34.10	33.73	29.79	32.27	29.82	28.20	34.00	38.16	38.33	36.25	-
Means.....	81.40	77.48	73.39	69.10	66.50	62.81	61.01	61.80	61.45	66.09	71.85	78.18	69.26	-
No. of clear days...	9 ⅓	11 ⅓	12 ⅓	13 ⅓	17	21	25 ⅓	24 ⅓	22 ⅓	16 ⅓	12 ⅓	10 ⅓	-	196 ⅓
No. of cloudy days.	21 ⅓	17	18	16 ⅓	14 ⅓	9	5 ⅓	6 ⅓	7 ⅓	14 ⅓	17 ⅓	20 ⅓	-	169
No. of rainy days...	9	9 ⅓	8 ⅓	6 ⅓	5	1 ⅓	1	0 ⅓	1	3 ⅓	6 ⅓	15 ⅓	-	68 ⅓
Quantity of clouds..	5.7	4.7	4.4	2.4	2.9	1.4	0.9	1	1.4	2.8	4.0	5.3	3.08	-
Quantity of rain and fog.....	3.863	3.393	3.227	1.782	1.078	0.096	0.059	0.000	0.009	0.614	1.494	3.613	-	18.728

**Table of Results of Meteorological Observations (cont'd).**

1853-1862.	MONTHLY AVERAGES.												ANNUAL AVERAGES.		
	JAN.		FEB.		MARCH		APRIL		MAY		JUNE		7 YRS	10 YRS	
WINDS.	Days.	Force.	Days.	Force.	Days.	Force.	Days.	Force.	Days.	Force.	Days.	Force.	Force.	Days.	
First Days – and second Force of N. wind.....	8	1.8	5 <sup>2</sup> / <sub>3</sub>	1.8	5 <sup>1</sup> / <sub>3</sub>	1.9	4 <sup>2</sup> / <sub>3</sub>	1.8	2 <sup>1</sup> / <sub>3</sub>	1.8	1 <sup>2</sup> / <sub>3</sub>	1.0		1.5	55 <sup>1</sup> / <sub>3</sub>
First Days – and second Force of N. E. wind.....	2 <sup>1</sup> / <sub>3</sub>	1.4	1 <sup>1</sup> / <sub>3</sub>	1.0	1 <sup>1</sup> / <sub>3</sub>	0.8	1	1.1	0 <sup>2</sup> / <sub>3</sub>	1.1	0 <sup>1</sup> / <sub>3</sub>	0.5		1.3	13 <sup>2</sup> / <sub>3</sub>
First Days – and second Force of E. wind.....	1 <sup>2</sup> / <sub>3</sub>	1.2	1 <sup>1</sup> / <sub>3</sub>	1.2	1	1.0	0 <sup>2</sup> / <sub>3</sub>	1.2	0 <sup>2</sup> / <sub>3</sub>	0.7	0 <sup>1</sup> / <sub>3</sub>	0.3		1.1	9 <sup>2</sup> / <sub>3</sub>
First Days – and second Force of S. E. wind.....	6 <sup>2</sup> / <sub>3</sub>	2.2	6	1.9	5 <sup>2</sup> / <sub>3</sub>	2.1	4 <sup>2</sup> / <sub>3</sub>	2.3	5	1.7	4 <sup>1</sup> / <sub>3</sub>	1.8		2.1	69 <sup>1</sup> / <sub>3</sub>
First Days – and second Force of S. wind.....	3 <sup>1</sup> / <sub>3</sub>	2.2	3 <sup>1</sup> / <sub>3</sub>	2.0	4	1.8	5 <sup>1</sup> / <sub>3</sub>	2.4	8	2.7	10	2.3		1.6	68
First Days – and second Force of S. W. wind.....	1 <sup>2</sup> / <sub>3</sub>	0.4	2 <sup>1</sup> / <sub>3</sub>	1.7	5 <sup>1</sup> / <sub>3</sub>	1.9	5 <sup>2</sup> / <sub>3</sub>	2.3	7 <sup>1</sup> / <sub>3</sub>	2.1	7 <sup>2</sup> / <sub>3</sub>	1.4		1.4	58 <sup>2</sup> / <sub>3</sub>
First Days – and second Force of W. wind.....	0 <sup>1</sup> / <sub>3</sub>	0.5	1	1.2	1 <sup>2</sup> / <sub>3</sub>	1.7	2	1.4	2	1.3	0 <sup>1</sup> / <sub>3</sub>	1.2		0.8	17 <sup>2</sup> / <sub>3</sub>
First Days – and second Force of N. W. wind.....	6 <sup>2</sup> / <sub>3</sub>	1.8	6 <sup>1</sup> / <sub>3</sub>	1.9	7	2.2	6 <sup>1</sup> / <sub>3</sub>	2.1	8	2.0	4 <sup>2</sup> / <sub>3</sub>	0.9		1.7	73

**Table of Results of Meteorological Observations (cont'd).**

1853-1862.	MONTHLY AVERAGES.												ANNUAL AVERAGES.	
	JULY		AUG.		SEPT.		OCT.		NOV.		DEC.		7 YRS	10 YRS
WINDS.	Days.	Force.	Days.	Force.	Days.	Force.	Days.	Force.	Days.	Force.	Days.	Force.	Force.	Days.
First Days – and second Force of N. wind.....	1 ⅓	1.0	1	0.8	3 ⅓	1.2	6 ⅓	1.3	7 ⅓	1.6	7 ⅓	1.4	1.5	55 ⅓
First Days – and second Force of N. E. wind.....	0 ⅓	0.4	0 ⅓	0.6	0 ⅓	0.5	1	0.7	1 ⅓	1.1	2 ⅓	1.3	1.3	13 ⅓
First Days – and second Force of E. wind.....	0	0.6	0	0.4	0 ⅓	0.7	0 ⅓	0.8	1	1.0	1 ⅓	1.1	1.1	9 ⅓
First Days – and second Force of S. E. wind.....	6 ⅓	2.0	9	1.6	6 ⅓	1.5	4 ⅓	1.8	5 ⅓	1.3	5	2.1	2.1	69 ⅓
First Days – and second Force of S. wind.....	10 ⅓	2.0	9 ⅓	2.0	5 ⅓	2.1	3	2.0	2 ⅓	2.2	2 ⅓	1.6	1.6	68
First Days – and second Force of S. W. wind.....	6 ⅓	2.0	6 ⅓	2.0	6	1.8	4 ⅓	1.6	2 ¼	1.5	2 ⅓	1.4	1.4	58 ⅓
First Days – and second Force of W. wind.....	3	1.3	2	1.5	2	1.0	1 ⅓	1.1	1	1.2	1	0.8	0.8	17 ⅓
First Days – and second Force of N. W. wind.....	2 ⅓	1.1	2	1.0	5 ⅓	1.7	9	1.6	7 ⅓	2.0	7 ⅓	1.7	1.7	73

### HYETAL OR RAIN TABLE.

*Arranged according to the Seasons, showing the amount in Inches, of each Month during Thirteen Years; also, the mean quantity for every Month during that period, and the mean Annual amount of Rain.*

MONTHS	'49-'50	'50-'51	'51-'52	'52-'53	'53-'54	'54-'55	'55-'56	'56-'57	'57-'58	'58-'59	'59-'60	'60-'61	'61-'62	Mean
September.	0.250	0.000	1.000	0.000	0.003	Sp'kle	Sp'kle	Sp'kle	0.000	Sp'kle	0.025	0.063	0.000	0.103
October.....	1.500	0.000	0.180	0.000	0.005	1.010	0.000	0.195	0.655	3.010	0.000	0.914	0.000	0.574
November..	2.250	Sp'kle	2.140	6.000	1.500	0.650	0.750	0.651	2.406	0.147	6.485	0.181	2.170	1.941
December..	12.500	Sp'kle	7.070	13.410	1.540	1.150	2.000	2.396	2.632	4.339	1.834	4.282	8.637	4.753
January.....	4.500	0.650	0.580	3.000	3.250	2.670	4.919	1.375	2.444	0.964	2.310	2.668	15.036	3.413
February...	0.500	0.350	0.120	2.000	8.500	3.460	0.692	4.801	2.461	3.906	0.931	2.920	4.260	2.685
March.....	10.000	1.880	6.400	7.000	3.250	4.200	1.403	0.675	2.878	1.637	5.110	3.320	2.800	3.889
April.....	4.250	1.140	0.190	3.500	1.500	4.320	2.132	Sp'kle	1.214	0.981	2.874	0.475	0.821	1.800
May.....	0.250	0.690	0.300	1.450	0.210	1.150	1.841	Sp'kle	0.203	1.037	2.491	0.590	1.808	0.925
June.....	0.000	0.000	0.000	0.001	0.310	0.010	0.033	0.350	0.098	0.000	0.017	0.135	0.011	0.074
July.....	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.012	0.000	0.030	0.549	0.000	0.045
August.....	0.000	0.000	0.000	0.000	Sp'kle	0.000	0.000	Sp'kle	Sp'kle	0.000	0.000	0.000	0.006	0.002
Totals...	36.000	4.730	17.980	36.362	20.068	18.620	13.770	10.443	15.003	16.021	22.107	16.097	35.549	20.204

## REMARKS.

The Oscillations of the River at Sacramento are graduated by the number of feet from zero, or the extremest low water mark observed at spring tide in eighteen hundred and forty-nine, to the highest point the river has yet been known to rise, viz: twenty-four feet, on the tenth of January, eighteen hundred and sixty-two. The mean depth of the channel of the river is about thirteen feet below zero, and the width three hundred yards. There is a tidal flood and ebb from one to two feet, according to the course and force of the wind and the stage of the river. If the wind blows strongly from the north, this fall is still greater, especially during spring tides. The stage of the water is also affected by the temperature, as well as by the amount of rainfall. The warmer the rains, the less snow falls on the mountains, and the sooner that which has already fallen here is melted; and, consequently, the more sudden is there rise of the river.

The results of the Table of Meteorology are calculated from observations made in accordance with the uniform system adopted by the Smithsonian Institution, at 7h. A. M., 2h. P. M., and 9h. P. M. The reading of the barometer (Green's Cistern, No. 1065,) has been reduced by the formula of Herschel to the temperature of 32° Fahr. The force of the winds has been estimated and registered in figures, from "0," calm, to "10," a hurricane.

The Hyetal or Rain Table has been arranged according to the seasons, commencing with September, which is shown to be the first month of the rainy season, and embracing the thirteen years since the American settlement of the country. The monthly amounts of rain prior to January, eighteen hundred and fifty-three, have been in a great measure estimated and computed according to the most reliable information that can now be obtained, and are not wholly the result of our own positive measurements. It will be seen that the mean annual fall of rain for thirteen years, is above twenty inches, which would prove ample for agricultural purposes were it equably distributed through the rainy months; but the table shows a great fluctuation, not only in the monthly amounts, but also in the aggregate of the different seasons. The husbandman, therefore, must be prepared to supply the deficiency, whenever it occurs, by irrigation; and for such emergency, perhaps no other country is better adapted than California, both as regards soil and climate, as well as facilities for commanding water.

The past winter of 1861-'62 has afforded a remarkable illustration of the disastrous effects which may result from this fluctuation of the rains. Supposing, for instance, no more rain had fallen after the flood of the ninth of December, we then should have had but 4 890-1000 inches of rain, and yet have experienced the highest flood ever known up to that time. We must not be understood, however, as implying that the floods of Sacramento are produced by the mere rainfall in this immediate locality; for, as a general rule, the rains at the sources of our rivers measure more than double what they do here for the season. As corroborative of this assertion, and even to a remarkable degree, we have a statement from W. A. Begole, of Red Dog, Nevada County, that the rain there, for twenty-four hours, ending 9 A. M., January tenth, measured 5 82-100 inches, and the next succeeding twenty-four hours, 5 51-100 inches; while at Sacramento, during the corresponding period, it measured but 2 841-1000 inches, which is about one fourth the quantity. Again, from a published statement of Mr. Richey, four miles west of the summit of the Sierra Nevada, on a Big Tree road,



eighty-four inches of snow fell on the ninth of January, which is equivalent to about eight inches of rain for that day only, or nearly six times what fell during the same twenty-four hours here. We thus see, that in estimating the amount of rainfall which produced a flood, how necessary it is, not only to have accurate measurements of what fell in the immediate locality on the days preceding, but also the total amount over the whole water shed of the river during the same period. Utterly fallacious, therefore, must be any estimate based upon merely the average of the seasons at Sacramento.

# **STATISTICAL TABLES.**

## TABLE OF STATISTICS

*Compiled from the Official Reports of County Assessors, for the Year 1861, returned to the Surveyor-General.*

COUNTIES.	Acres of Land enclosed.	Acres of Land cultivated.	WHEAT.		BARLEY.	
			Acres.	Bushels.	Acres.	Bushels.
Alameda.....	81,460	84,320	18,000	600,250	6,000	240,300
Amador.....	38,483	10,200	1,460	34,800	1,540	46,200
Butte.....	75,000	38,500	10,000	250,000	8,000	240,000
Calaveras.....	43,053	8,242	201	2,887	1,263	23,466
Colusa.....	105,360	42,051	16,538	-	17,961	-
Contra Costa.....	-	-	-	611,696	-	193,062
Del Norte.....	-	-	-	-	-	-
El Dorado.....	-	-	178	-	1,958	-
Fresno.....	4,975	3,980	450	8,500	1,000	19,000
Humboldt.....	15,120	8,558	1,388	31,653	65	3,918
Klamath.....	2,185	1,383	667	10,005	-	-
Lake.....	24,550	4,593	1,713	34,260	903	13,475
Los Angeles.....	-	11,040	2,500	4,000	2,400	7,000
Marin.....	97,960	10,881	3,055	61,100	800	20,000
Mariposa.....	9,436	2,469	-	-	200	6,000
Mendocino.....	95,500	50,400	11,000	300,000	7,200	200,000
Merced.....	18,720	14,340	1,650	34,720	4,700	76,800
Monterey.....	98,000	19,765	5,350	107,000	7,460	223,800
Mono.....	-	-	-	-	-	-
Napa.....	78,641	26,525	21,253	425,060	681	20,430
Nevada.....	-	-	180	3,740	-	220
Placer.....	-	-	5,000	170,000	4,450	130,400
Plumas.....	-	-	-	-	-	-
Sacramento.....	80,089	29,998	7,357	102,069	15,523	263,379
San Bernardino.....	20,000	15,000	2,000	42,000	4,000	40,000
San Diego.....	4,500	3,000	600	1,000	1,300	20,000
San Francisco.....	-	-	806	31,421	-	7,240
San Joaquin.....	257,225	164,150	65,850	987,750	49,400	988,000
San Luis Obispo.....	30,000	2,000	300	3,000	700	6,000
San Mateo.....	104,200	26,353	10,000	220,000	4,252	140,000
Santa Barbara.....	-	6,000	-	800	-	5,600

Santa Clara.....	375,000	160,000	75,000	1,500,000	20,000	500,000
Santa Cruz.....	55,632	17,616	5,275	145,422	3,439	129,930
Shasta.....	-	-	1,200	124,000	3,000	20,000
Sierra.....	300	150	-	-	3	100
Siskiyou.....	53,000	10,000	3,900	175,000	1,800	54,000
Solano.....	360,582	82,828	32,388	1,133,580	4,048	161,920
Sonoma.....	193,161	47,794	14,051	386,283	4,040	137,729
Stanislaus.....	20,000	13,580	3,616	10,848	4,416	13,848
Sutter.....	80,200	28,850	6,400	145,860	10,150	200,000
Tehama.....	39,841	19,919	-	78,315	-	39,163
Trinity.....	8,457	2,534	100	2,000	100	2,500
Tulare.....	25,000	10,225	500	150,000	3,000	90,000
Tuolumne.....	14,370	11,200	1,585	3,758	795	1,762
Yolo.....	110,000	50,976	25,000	750,000	16,600	560,000
Yuba.....	83,148	31,572	2,840	62,634	10,670	348,300
Totals.....	2,703,148	1,071,082	361,351	8,805,411	223,217	5,293,442

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors.* – Continued.

COUNTIES.	OATS.		RYE.		CORN.		BUCKWHEAT.		PEAS.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Alameda.....	1,000	4,000	-	-	-	-	-	-	-	-
Amador.....	110	3,300	5	70	720	28,800	-	-	16	320
Butte.....	350	10,500	-	-	100	3,000	-	-	-	-
Calaveras.....	143	1,942	-	-	13	537	-	-	-	-
Colusa.....	-	-	-	-	792	-	-	-	-	-
Contra Costa.....	-	87,551	-	200	-	-	-	-	-	-
Del Norte.....	-	-	-	-	-	-	-	-	-	-
El Dorado.....	2,083	-	-	-	-	-	-	-	-	-
Fresno.....	-	-	-	-	160	3,200	-	-	-	-
Humboldt.....	491	23,490	-	-	56	1,400	-	-	-	-
Klamath.....	265	3,975	35	455	-	-	-	-	-	-
Lake.....	459	11,475	-	-	616	12,320	-	-	6	120
Los Angeles.....	50	1,000	10	250	1,500	60,000	-	-	20	500
Marin.....	3,001	60,000	-	-	-	-	-	-	-	-
Mariposa.....	200	1,000	-	-	-	-	-	-	4	-
Mendocino.....	5,700	170,000	100	2,000	2,000	60,000	50	700	100	-
Merced.....	-	-	42	830	550	14,760	-	-	-	-
Monterey.....	300	9,000	-	-	600	12,000	75	2,250	50	1,200
Mono.....	-	-	-	-	-	-	-	-	-	-
Napa.....	441	13,230	110	-	1,215	-	30	-	23	-
Nevada.....	-	300	-	-	-	200	-	-	-	-
Placer.....	80	3,274	4	-	6	-	-	-	-	-
Plumas.....	-	-	-	-	-	-	-	-	-	-
Sacramento.....	1,674	25,625	10	2,000	265	8,295	-	-	15	-
San Bernardino.....	-	-	50	1,000	100	4,000	-	-	-	-
San Diego.....	-	-	5	-	100	-	-	-	-	6
San Francisco.....	-	1,200	-	-	-	-	-	-	-	200
San Joaquin.....	1,800	36,000	700	1,400	650	19,500	580	11,600	20	1,200
San Luis Obispo.....	-	-	-	-	-	-	-	-	-	-
San Mateo.....	4,500	180,000	-	-	-	-	-	-	50	-
Santa Barbara.....	-	2,500	-	-	-	1,500	-	-	-	-
Santa Clara.....	2,000	60,000	-	-	500	20,000	-	-	-	-
Santa Cruz.....	941	26,493	-	-	148	3,986	-	-	-	-

Shasta.....	900	13,150	-	-	500	10,000	-	-	-	-
Sierra.....	-	-	-	-	-	-	-	-	-	-
Siskiyou.....	2,100	63,000	40	1,000	150	6,000	10	300	40	1,200
Solano.....	500	25,000	12	300	20	600	-	-	20	-
Sonoma.....	4,477	173,685	-	-	2,652	80,463	-	-	-	-
Stanislaus.....	-	-	130	3,000	135	6,000	-	-	-	-
Sutter.....	85	950	-	-	800	14,000	-	-	-	-
Tehama.....	100	5,000	-	-	-	-	-	-	-	-
Trinity.....	75	2,000	-	-	6	108	-	-	2	50
Tulare.....	200	8,000	-	-	1,000	33,000	-	-	-	-
Tuolumne.....	763	312	87	-	95	-	-	-	11	-
Yolo.....	-	-	75	3,000	150	6,000	-	-	50	2,500
Yuba.....	1,819	30,640	-	-	1,840	68,500	-	-	-	-
Totals.....	36,607	1,057,592	1,415	15,505	17,339	478,169	745	14,850	427	7,196

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors* – Continued.

COUNTIES.	BEANS.		POTATOES.		SWEET POTATOES.		ONIONS.		HAY.	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Tons.
Alameda.....	-	-	800	50,000	-	-	500	5,400	2,050	4,000
Amador.....	12	260	115	9,200	2	240	-	-	5,780	6,180
Butte.....	8	-	30	5,250	20	6,000	-	-	8,500	10,000
Calaveras.....	16	-	87	1,829	-	-	-	-	4,323	5,218
Colusa.....	18	-	-	-	-	-	-	-	8,221	-
Contra Costa.....	-	5,791	-	8,000	-	-	-	-	-	-
Del Norte.....	-	-	-	-	-	-	-	-	-	-
El Dorado.....	-	-	-	-	-	-	-	-	-	-
Fresno.....	1	15	4	371	4	520	-	-	900	1,050
Humboldt.....	-	-	457	27,680	-	-	-	-	-	-
Klamath.....	-	-	25	2,500	-	-	-	-	-	-
Lake.....	-	-	22	2,500	2	200	2	375	2,001	2,966
Los Angeles.....	150	4,500	70	700	6	600	5	100	250	400
Marin.....	20	-	1,225	133,500	-	-	-	-	1,800	3,600
Mariposa.....	5	-	50	5,000	-	-	10	2,000	2,000	3,000
Mendocino.....	30	-	6,000	-	-	-	30	-	16,000	30,000
Merced.....	230	2,560	175	4,750	10 ¾	830	-	-	1,837	2,470
Monterey.....	400	6,000	425	170,000	-	-	10	400	3,000	6,500
Mono.....	-	-	-	-	-	-	-	-	-	-
Napa.....	25	-	-	-	-	-	-	-	7,254	8,224
Nevada.....	-	-	300	-	-	-	-	-	900	1,850
Placer.....	-	-	8	-	-	-	-	-	2,200	1,877
Plumas.....	-	-	-	-	-	-	-	-	-	-
Sacramento.....	19	-	374	129,000	125	23,000	160	25,550	9,104	11,725
San Bernardino.....	10	500	20	2,000	-	-	10	500	300	600
San Diego.....	25	-	10	-	-	-	15	-	-	600
San Francisco.....	37	751	160	17,200	-	350	42	2,042	1,260	1,840
San Joaquin.....	20	1,600	1,200	120,000	10	500	100	8,000	43,724	49,780
San Luis Obispo.....	800	50,000	200	8,000	-	-	-	-	-	-
San Mateo.....	300	-	1,200	144,000	-	-	-	-	6,000	6,000
Santa Barbara.....	-	10,500	-	1,500	-	-	-	300	-	800
Santa Clara.....	-	-	700	7,000	-	-	-	-	20,000	30,000
Santa Cruz.....	1,144	9,861	430	79,095	-	-	-	-	3,159	5,561

Shasta.....	-	-	250	8,000	-	-	-	-	3,000	3,000
Sierra.....	-	-	41	26,000	-	-	-	-	69	125
Siskiyou.....	100	3,000	400	24,000	-	-	50	20,000	5,300	9,000
Solano.....	30	-	400	40,000	320	48,000	160	80,000	44,890	44,890
Sonoma.....	35	250	3,398	185,375	-	-	-	-	10,330	17,337
Stanislaus.....	-	-	-	-	-	-	-	-	9,233	9,233
Sutter.....	-	600	125	9,900	-	1,400	-	1,200	11,900	9,400
Tehama.....	-	5,000	125	12,500	-	-	50	6,250	-	-
Trinity.....	-	-	60	6,000	-	-	-	-	360	449
Tulare.....	150	3,000	250	20,000	150	12,000	20	600	100	200
Tuolumne.....	-	-	170	23,224	-	-	7	-	4,260	2,061
Yolo.....	25	-	350	-	10	-	30	-	-	-
Yuba.....	14	336	124	14,400	-	-	-	-	10,468	14,850
Totals.....	3,624	104,524	20,771	1,298,474	659 ¾	93,640	901	152,717	250,464	304,791



TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors* – Continued.

COUNTIES.	FLAX.		HEMP.		TOBACCO.		ALFALFA.		COTTON.		RICE.	
	Acres.	Pounds.	Acres.	Pounds.	Acres.	Pounds.	Acres.	Pounds.	Acres.	Pounds.	Acres.	Pounds.
Alameda.....	-	-	-	-	-	-	-	-	-	-	-	-
Amador.....	-	-	-	-	-	-	-	-	-	-	-	-
Butte.....	-	-	-	-	17	-	-	-	-	-	-	-
Calaveras.....	-	-	-	-	-	-	-	-	-	-	-	-
Colusa.....	-	-	-	-	-	-	50	-	-	-	-	-
Contra Costa.....	-	-	-	-	-	-	-	-	-	-	-	-
Del Norte.....	-	-	-	-	-	-	-	-	-	-	-	-
El Dorado.....	-	-	-	-	-	-	-	-	-	-	-	-
Fresno.....	-	-	-	-	-	-	-	-	-	-	-	-
Humboldt.....	-	-	-	-	-	-	-	-	-	-	-	-
Klamath.....	-	-	-	-	-	-	-	-	-	-	-	-
Lake.....	-	-	-	-	4	-	3	9	-	-	-	-
Los Angeles.....	-	-	-	-	3	3,000	-	-	-	-	-	-
Marin.....	-	-	-	-	-	-	-	-	-	-	-	-
Mariposa.....	-	-	-	-	-	-	-	-	-	-	-	-
Mendocino.....	-	-	-	-	10	1,500	-	-	-	-	-	-
Merced.....	-	-	-	-	-	-	45	60	-	-	-	-
Monterey.....	2	-	-	-	10	-	500	-	-	-	-	-
Mono.....	-	-	-	-	-	-	-	-	-	-	-	-
Napa.....	-	-	-	-	5	-	103	-	-	-	-	-
Nevada.....	-	-	-	-	-	-	-	-	-	-	-	-
Placer.....	-	-	-	-	-	-	-	-	-	-	-	-
Plumas.....	-	-	-	-	-	-	-	-	-	-	-	-
Sacramento.....	-	-	-	-	-	850	-	-	-	-	-	-
San Bernardino.....	-	-	-	-	-	-	10	50	-	-	-	-
San Diego.....	-	-	-	-	4	-	5	-	-	-	-	-
San Francisco.....	-	-	-	-	-	-	-	-	-	-	-	-
San Joaquin.....	-	-	-	-	6	-	40	-	-	-	-	-
San Luis Obispo.....	-	-	-	-	-	-	-	-	-	-	-	-
San Mateo.....	-	-	-	-	-	-	-	-	-	-	-	-
Santa Barbara.....	-	-	-	-	-	-	-	-	-	-	-	-
Santa Clara.....	-	-	-	-	18	-	-	-	-	-	-	-
Santa Cruz.....	-	-	-	-	-	-	-	-	-	-	-	-

Shasta.....	-	-	-	-	-	-	-	-	-	-	-	-
Sierra.....	-	-	-	-	-	-	-	-	-	-	-	-
Siskiyou.....	-	-	-	-	-	-	250	500	-	-	-	-
Solano.....	-	-	-	-	-	-	30	-	-	-	-	-
Sonoma.....	-	-	-	-	6	-	16	30	-	-	-	-
Stanislaus.....	-	-	-	-	-	-	-	-	-	-	-	-
Sutter.....	-	-	-	-	23	-	-	-	-	-	-	-
Tehama.....	-	-	-	-	-	1,500	-	-	-	-	-	-
Trinity.....	-	-	-	-	-	-	-	-	-	-	-	-
Tulare.....	-	-	-	-	35	28,000	100	300	-	-	-	-
Tuolumne.....	-	-	-	-	-	-	7	5	-	-	-	-
Yolo.....	-	-	-	-	7	-	-	-	-	-	-	-
Yuba.....	-	-	-	-	-	-	114	234	-	-	-	-
Totals.....	2	-	-	-	148	34,850	1,273	1,188	-	-	-	-

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors* – Continued.

COUNTIES.	Acres of Sugar Cane.	Acres of Broom Corn.	Pounds of Butter.	Pounds of Cheese.	Dozens of Eggs.	Pounds of Wool.	Bee Hives.	Pounds of Honey.
Alameda.....	-	-	-	-	-	-	-	-
Amador.....	-	100	3,800	2,700	16,700	32,600	284	3,000
Butte.....	20	15	-	-	-	-	175	-
Calaveras.....	-	-	-	-	-	-	164	-
Colusa.....	-	120	-	20,000	8,000	109,334	363	-
Contra Costa.....	-	6	-	-	-	-	500	-
Del Norte.....	-	-	-	-	-	-	264	-
El Dorado.....	-	-	-	-	-	-	-	-
Fresno.....	-	-	-	500	5,500	29,000	168	2,100
Humboldt.....	-	-	37,638	12,162	6,860	-	210	-
Klamath.....	-	-	-	-	-	-	65	650
Lake.....	-	-	30,250	55,150	30,850	5,097	284	7,775
Los Angeles.....	-	30	7,100	1,100	10,000	41,000	-	-
Marin.....	-	-	200,000	300,000	-	28,800	129	-
Mariposa.....	-	-	1,500	750	15,000	5,000	40	1,900
Mendocino.....	-	-	-	-	-	-	75	-
Merced.....	-	-	7,360	50	8,690	183,760	537	11,310
Monterey.....	-	6	23,000	67,540	45,000	529,836	130	1,250
Mono.....	-	-	-	-	-	-	-	-
Napa.....	-	87	60,323	2,000	31,000	27,425	1,575	1,025
Nevada.....	-	-	-	-	-	-	206	-
Placer.....	-	-	-	-	-	-	-	-
Plumas.....	-	-	-	-	-	-	-	-
Sacramento.....	-	-	48,931	75,120	28,225	32,860	1,161	8,754
San Bernardino.....	-	10	20,000	10,000	50,000	15,000	500	5,000
San Diego.....	-	-	7,000	4,000	11,000	21,000	-	-
San Francisco.....	-	-	-	-	-	-	25	-
San Joaquin.....	50	-	100,000	7,000	225,000	100,000	1,924	30,000
San Luis Obispo.....	-	-	-	-	-	-	-	-
San Mateo.....	-	-	150,000	75,000	6,000	-	-	-
Santa Barbara.....	-	-	8,000	2,500	16,000	330,000	150	1,500
Santa Clara.....	-	200	35,000	250,000	-	65,000	-	-
Santa Cruz.....	-	-	44,000	25,910	30,641	10,200	720	500

Shasta.....	-	-	20,000	1,500	7,000	18,000	200	10,000
Sierra.....	-	-	800	-	400	50	2	100
Siskiyou.....	-	15	67,000	13,000	34,000	2,000	85	1,890
Solano.....	-	10	48,960	40,000	15,000	532,371	240	12,000
Sonoma.....	-	893	191,400	66,700	165,717	46,010	1,033	700
Stanislaus.....	-	20	-	-	-	136,500	829	2,496
Sutter.....	-	130	45,830	-	44,600	82,346	430	8,000
Tehama.....	-	5	4,985	680	45,670	75,000	225	2,250
Trinity.....	-	-	3,975	1,600	390	-	27	-
Tulare.....	-	15	60,000	30,000	260,000	141,447	1,112	1,101,200
Tuolumne.....	-	-	-	-	11,500	-	179	1,322
Yolo.....	40	45	-	-	-	34,200	905	-
Yuba.....	-	15	-	-	11,540	160,000	850	24,600
Totals.....	110	1,722	1,226,852	1,064,962	1,080,283	2,793,830	15,766	1,239,322

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors* – Continued.

COUNTIES.	LIVE STOCK.									
	Horses – American.	Horses – Spanish (Tame).	Horses – Spanish (Wild).	Horses – Total Number.	Mules.	Asses.	Cows.	Calves.	Stock Cattle.	Beef Cattle.
Alameda.....	9,650	3,000	-	-	-	-	18,500	4,000	-	8,000
Amador.....	-	-	-	1,674	190	44	1,980	1,110	2,700	-
Butte.....	2,375	1,830	1,725	5,935	1,050	125	2,150	1,075	2,350	630
Calaveras.....	328	1,722	190	2,240	344	72	3,117	1,791	4,275	-
Colusa.....	-	-	-	5,206	843	4	7,323	6,457	23,534	-
Contra Costa.....	-	-	-	4,239	470	3	-	-	23,953	-
Del Norte.....	-	-	-	100	57	-	190	145	465	-
El Dorado.....	-	-	-	3,093	1,351	48	3,058	1,197	3,900	-
Fresno.....	153	1,356	2,248	3,757	103	70	433	241	55,913	-
Humboldt.....	-	-	-	2,035	593	8	5,456	7,188	3,730	-
Klamath.....	-	127	-	-	217	5	156	100	1,176	-
Lake.....	-	-	-	1,629	39	5	1,261	1,100	7,291	-
Los Angeles.....	210	3,100	8,200	11,510	1,070	340	11,000	8,000	14,000	6,000
Marin.....	427	1,478	1,680	3,585	78	-	8,095	6,500	20,692	1,824
Mariposa.....	150	850	-	1,000	276	59	174	1,001	5,000	-
Mendocino.....	600	900	1,200	2,700	200	6	10,300	4,500	4,200	400
Merced.....	-	-	-	3,013	241	6	-	15,335	34,212	-
Monterey.....	825	1,850	4,800	7,475	375	70	4,702	-	85,000	-
Mono.....	-	-	-	-	-	-	-	-	-	-
Napa.....	-	-	-	6,070	2,027	8	2,878	2,000	3,071	2,025
Nevada.....	784	-	-	-	153	90	1,520	-	2,076	-
Placer.....	-	-	-	2,195	470	18	2,241	673	8,490	-
Plumas.....	-	-	-	3,314	754	62	2,116	-	7,428	-
Sacramento.....	-	-	-	4,378	385	15	4,655	3,495	7,148	-
San Bernardino.....	150	500	1,000	1,650	200	100	1,500	1,500	6,000	1,000
San Diego.....	20	1,300	2,789	4,109	375	100	1,100	4,500	11,156	1,550
San Francisco.....	-	-	-	3,800	358	275	5,440	621	-	-
San Joaquin.....	4,525	5,000	4,900	14,425	2,500	37	10,500	5,000	80,350	400
San Luis Obispo.....	-	3,000	5,000	8,000	200	-	500	-	-	-
San Mateo.....	424	1,532	407	2,363	58	30	3,300	2,000	4,624	3,000

Santa Barbara.....	40	2,760	5,559	8,359	124	24	-	-	-	-
Santa Clara.....	-	-	-	-	-	-	-	-	-	-
Santa Cruz.....	-	-	-	2,203	65	-	2,375	-	10,000	-
Shasta.....	1,000	600	-	-	300	25	2,000	1,000	4,000	3,000
Sierra.....	51	-	-	-	175	-	99	4	-	105
Siskiyou.....	927	1,548	-	2,475	715	23	2,830	1,810	8,415	-
Solano.....	-	-	-	5,573	328	12	3,278	2,200	14,484	-
Sonoma.....	1,166	2,333	3,103	7,600	348	9	11,760	7,678	11,288	3,763
Stanislaus.....	477	1,100	2,500	4,077	226	4	2,732	900	31,117	-
Sutter.....	2,015	1,901	630	4,546	508	2	300	1,501	4,000	600
Tehama.....	1,870	2,000	1,740	5,610	-	-	4,531	2,265	4,748	1,699
Trinity.....	-	-	-	241	276	11	226	175	284	100
Tulare.....	943	3,807	1,000	4,807	411	95	25,664	12,000	22,000	10,665
Tuolumne.....	430	1,071	-	1,501	517	173	1,970	1,229	-	1,457
Yolo.....	-	-	-	4,806	392	7	-	-	-	-
Yuba.....	-	-	-	3,000	2,300	108	2,850	2,250	8,400	400
Totals.....	29,540	44,665	48,671	164,293	21,762	2,093	175,260	112,541	554,470	46,618

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors* – Continued.

COUNTIES.	LIVE STOCK – Continued.									
	Oxen	Total Number of Cattle.	Sheep.	Goats.	Hogs.	Chickens.	Turkeys.	Ducks.	Geese.	Guinea Fowls.
Alameda.....	-	30,500	72,000	-	6,340	-	-	-	-	-
Amador.....	473	6,363	6,770	476	4,876	13,916	994	635	347	-
Butte.....	475	6,675	42,730	150	28,000	36,200	850	430	285	-
Calaveras.....	683	9,866	11,062	640	4,654	13,666	941	1,195	357	-
Colusa.....	151	37,465	54,667	117	14,970	8,793	5,638	298	157	-
Contra Costa.....	762	-	25,715	-	-	-	-	-	-	-
Del Norte.....	168	-	800	26	391	445	-	12	-	-
El Dorado.....	1,263	-	2,138	651	4,220	-	-	-	-	-
Fresno.....	213	56,800	43,353	1,321	7,692	4,953	170	30	-	-
Humboldt.....	772	17,146	584	41	5,498	5,161	178	-	83	-
Klamath.....	74	2,506	356	23	457	959	25	-	-	-
Lake.....	194	9,846	3,871	15	5,500	12,250	3,029	364	210	-
Los Angeles.....	800	39,800	31,000	320	2,000	8,000	250	300	200	-
Marin.....	988	38,099	9,618	75	2,623	9,000	623	908	425	-
Mariposa.....	750	7,925	2,500	200	3,000	10,000	5,000	100	50	-
Mendocino.....	700	20,100	9,000	300	25,000	-	-	-	-	-
Merced.....	53	-	56,618	206	5,114	6,013	487	89	53	-
Monterey.....	750	90,452	137,479	175	760	24,300	240	450	85	-
Mono.....	-	-	-	-	-	-	-	-	-	-
Napa.....	427	10,401	20,375	-	10,328	12,150	978	720	110	-
Nevada.....	708	-	3,024	490	1,490	3,020	500	125	-	-
Placer.....	510	11,914	24,634	52	11,488	9,230	900	563	342	-
Plumas.....	920	-	-	28	-	-	-	-	-	-
Sacramento.....	238	-	15,175	137	8,924	16,230	5,647	1,423	418	-
San Bernardino.....	350	10,000	15,000	200	1,000	10,000	300	500	100	-
San Diego.....	200	28,406	12,000	900	500	4,000	40	150	35	-
San Francisco.....	50	-	3,070	412	7,377	7,329	274	3,130	800	-
San Joaquin.....	1,000	97,250	44,300	1,000	63,250	16,500	5,360	1,950	1,050	-
San Luis Obispo.....	600	35,000	22,000	300	500	1,200	-	-	-	-
San Mateo.....	928	13,852	3,300	200	1,400	12,000	1,000	800	300	-

Santa Barbara.....	280	91,208	112,261	300	1,200	7,000	100	500	50	-
Santa Clara.....	-	19,000	26,000	-	-	-	-	-	-	-
Santa Cruz.....	885	13,325	6,400	322	4,000	10,550	156	350	125	-
Shasta.....	750	-	6,000	100	8,000	12,000	400	800	100	-
Sierra.....	-	-	16	9	134	1,200	-	55	-	-
Siskiyou.....	600	11,845	1,913	10	3,116	23,010	563	751	249	-
Solano.....	400	20,362	101,404	-	10,304	25,000	12,000	10,870	540	-
Sonoma.....	1,482	35,971	19,070	255	15,298	37,206	1,530	2,210	543	-
Stanislaus.....	972	-	45,500	350	4,300	9,900	500	300	200	-
Sutter.....	500	9,601	2,850	130	7,048	11,800	5,080	403	150	-
Tehama.....	350	13,593	36,400	150	7,625	25,016	530	350	115	55
Trinity.....	180	1,252	41	13	239	4,636	11	50	12	-
Tulare.....	1,000	71,329	47,149	332	8,497	15,000	375	400	70	-
Tuolumne.....	472	5,128	4,320	1,000	1,142	3,700	270	420	63	-
Yolo.....	-	13,460	46,800	-	14,300	-	-	-	-	-
Yuba.....	680	14,580	22,280	265	10,350	38,635	10,880	1,550	100	14
Totals.....	23,751	900,920	1,154,543	11,591	322,905	469,968	79,919	33,181	7,722	69



TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors* – Continued.

COUNTIES.	STOCK SLAUGHTERED.					
	CATTLE.		HOGS.		SHEEP.	
	Number.	Value.	Number.	Value.	Number.	Value.
Alameda.....	3,000	-	1,000	-	5,000	-
Amador.....	4,973	\$49,730	3,084	\$21,672	2,560	\$5,120
Butte.....	-	-	-	-	-	-
Calaveras.....	2,905	43,575	2,661	21,288	1,934	3,868
Colusa.....	-	-	-	-	-	-
Contra Costa.....	-	-	-	-	-	-
Del Norte.....	-	-	-	-	-	-
El Dorado.....	-	-	-	-	-	-
Fresno.....	-	-	-	-	-	-
Humboldt.....	-	-	-	-	-	-
Klamath.....	700	1,400	300	1,800	356	1,068
Lake.....	-	-	-	-	-	-
Los Angeles.....	4,100	-	1,000	-	5,000	-
Marin.....	1,200	-	500	-	700	-
Mariposa.....	8,000	48,000	5,500	11,000	5,000	10,000
Mendocino.....	-	-	-	-	-	-
Merced.....	-	-	-	-	-	-
Monterey.....	1,085	8,680	205	820	470	940
Mono.....	-	-	-	-	-	-
Napa.....	-	-	-	-	-	-
Nevada.....	-	-	-	-	-	-
Placer.....	-	-	-	-	-	-
Plumas.....	-	-	-	-	-	-
Sacramento.....	-	-	-	-	-	-
San Bernardino.....	400	4,000	300	600	500	1,000
San Diego.....	-	-	-	-	-	-
San Francisco.....	36,500	-	25,550	-	54,750	-
San Joaquin.....	4,890	51,180	2,720	19,540	4,400	7,800
San Luis Obispo.....	2,000	-	100	-	500	-

San Mateo.....	1,800	18,000	400	2,000	1,400	2,000
Santa Barbara.....	4,000	24,000	100	100	7,200	7,200
Santa Clara.....	-	-	-	-	-	-
Santa Cruz.....	-	-	-	-	-	-
Shasta.....	-	-	-	-	-	-
Sierra.....	-	-	-	-	-	-
Siskiyou.....	3,000	45,000	2,500	20,000	1,000	2,400
Solano.....	2,450	-	1,200	-	3,100	-
Sonoma.....	-	-	-	-	-	-
Stanislaus.....	1,200	14,400	1,000	7,000	2,000	1,500
Sutter.....	-	-	-	-	-	-
Tehama.....	2,820	-	3,813	-	6,000	-
Trinity.....	1,624	32,480	932	5,592	500	1,500
Tulare.....	1,095	8,760	800	4,800	700	1,400
Tuolumne.....	8,785	141,750	7,870	75,000	9,700	19,400
Yolo.....	-	-	-	-	-	-
Yuba.....	8,240	114,750	6,480	40,000	10,640	21,280
Totals.....	104,767	\$618,305	68,015	\$231,212	123,410	\$86,476

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors* – Continued.

COUNTIES.	IMPROVEMENTS.							
	GRIST MILLS.							
	Number.	Steam Power.	Run of Stone.	Value of Steam Grist Mills.	Water Power.	Run of Stone.	Value of Water Power Mills.	Bushels of Grain Ground.
Alameda.....	4	3	14	\$40,000	1	4	\$80,000	81,000
Amador.....	3	1	3	5,000	2	4	5,000	68,000
Butte.....	4	1	2	2,500	3	6	29,200	-
Calaveras.....	-	-	-	-	-	-	-	-
Colusa.....	2	2	2	-	-	-	-	-
Contra Costa.....	2	2	4	10,000	-	-	-	50,000
Del Norte.....	2	1	3	4,000	1	2	2,000	7,400
El Dorado.....	2	-	-	-	2	4	3,500	20,300
Fresno.....	-	-	-	-	-	-	-	-
Humboldt.....	4	2	-	-	2	-	-	-
Klamath.....	1	-	-	-	1	2	10,000	10,000
Lake.....	3	-	-	-	3	3	3,000	4,000
Los Angeles.....	8	-	-	-	8	11	-	53,000
Marin.....	-	-	-	-	-	-	-	-
Mariposa.....	-	-	-	-	-	-	-	-
Mendocino.....	2	-	-	-	2	2	4,500	-
Merced.....	4	-	-	-	4	8	9,600	29,000
Monterey.....	-	-	-	-	-	-	-	-
Mono.....	-	-	-	-	-	-	-	-
Napa.....	4	2	9	10,000	2	8	8,000	-
Nevada.....	1	1	3	12,000	-	-	-	-
Placer.....	2	1	2	5,500	1	-	4,000	-
Plumas.....	4	-	-	-	4	12	-	-
Sacramento.....	7	5	15	110,000	2	10	85,000	2,025,000
San Bernardino.....	2	-	-	-	2	3	5,000	-
San Diego.....	-	-	-	-	-	-	-	-
San Francisco.....	9	9	-	-	-	-	-	-

San Joaquin.....	7	7	21	46,200	-	-	-	600,000
San Luis Obispo.....	-	-	-	-	-	-	-	-
San Mateo.....	-	-	-	-	-	-	-	-
Santa Barbara.....	1	-	-	-	1	-	500	-
Santa Clara.....	10	7	14	50,000	3	5	35,000	130,000
Santa Cruz.....	6	1	3	6,000	5	9	16,200	40,600
Shasta.....	3	-	-	-	3	6	28,000	100,000
Sierra.....	-	-	-	-	-	-	-	-
Siskiyou.....	6	2	4	10,000	4	6	11,500	150,000
Solano.....	2	1	3	13,000	1	2	2,000	77,887
Sonoma.....	6	4	6	15,200	2	2	1,500	71,000
Stanislaus.....	-	-	-	-	-	-	-	-
Sutter.....	-	-	-	-	-	-	-	-
Tehama.....	4	1	6	8,000	3	7	37,000	-
Trinity.....	3	-	-	-	3	6	9,000	5,000
Tulare.....	2	1	2	5,000	1	2	8,000	95,000
Tuolumne.....	4	1	1	4,000	3	6	4,000	-
Yolo.....	3	3	7	27,000	-	-	-	-
Yuba.....	7	5	18	30,350	2	5	6,000	750,280
Totals.....	134	63	139	\$413,750	71	135	\$335,500	4,362,467

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors* – Continued.

COUNTIES.	IMPROVEMENTS – Continued.					
	SAW MILLS.					
	Number.	Value.	Steam Power.	Water Power.	Number of feet of Lumber sawed.	Shingles.
Alameda.....	-	-	-	-	-	-
Amador.....	11	\$17,000	10	1	9,000,000	1,000,000
Butte.....	19	34,700	12	7	-	-
Calaveras.....	15	27,600	8	7	7,040,000	1,212,000
Colusa.....	2	-	1	1	-	-
Contra Costa.....	-	-	-	-	-	-
Del Norte.....	2	-	1	1	75,000	-
El Dorado.....	36	-	23	13	19,000,000	-
Fresno.....	4	10,800	1	3	50,000	-
Humboldt.....	7	-	-	-	14,968,955	5,000,000
Klamath.....	2	50,000	-	2	-	-
Lake.....	3	-	1	2	600,000	200,000
Los Angeles.....	-	-	-	-	-	-
Marin.....	1	-	1	-	-	-
Mariposa.....	10	40,000	10	-	15,000,000	250,000
Mendocino.....	9	199,000	6	3	30,000,000	-
Merced.....	-	-	-	-	-	-
Monterey.....	-	-	-	-	-	-
Mono.....	-	-	-	-	-	-
Napa.....	4	-	3	1	720,000	-
Nevada.....	32	116,000	20	12	6,430,000	-
Placer.....	22	44,200	13	9	2,056,000	-
Plumas.....	23	-	2	21	-	-
Sacramento.....	1	4,000	1	-	600,000	-
San Bernardino.....	5	-	2	3	-	-
San Diego.....	-	-	-	-	-	-
San Francisco.....	5	-	5	-	-	-

San Joaquin.....		1	-		1	-	-	-
San Luis Obispo.....	-		-	-		-	-	-
San Mateo.....		6	-	-		-	3,800,000	20,000,000
Santa Barbara.....	-		-	-		-	-	-
Santa Clara.....		10	-		3	7	9,500,000	-
Santa Cruz.....		9	-		3	6	4,960,000	-
Shasta.....		14	56,000		1	13	7,000,000	-
Sierra.....		16	32,200		6	10	5,441,000	80,000
Siskiyou.....		15	25,500		2	13	2,500,000	300,000
Solano.....	-		-	-		-	-	-
Sonoma.....		3	-		3		690,000	-
Stanislaus.....	-		-	-		-	-	-
Sutter.....	-		-	-		-	-	-
Tehama.....		1	2,500			1	1,500,000	-
Trinity.....		6	-	-		6	755,000	-
Tulare.....		1	2,000		1	-	-	-
Tuolumne.....		22	33,000		8	14	10,000,000	-
Yolo.....		2	-		2	-	700,000	-
Yuba.....		23	60,400		17	6	14,000,000	65,000
Totals.....		342	\$754,900		167	162	166,385,955	28,107,000

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors.* – Continued.

COUNTIES.	IMPROVEMENTS – Continued.									
	QUARTZ MILLS.			MINING DITCHES.			FERRIES.		TOLL BRIDGES.	
	Number.	Value.	Number of tons of Quartz crushed.	Number.	Value.	Miles in Length.	Number.	Value.	Number.	Value.
Alameda.....	-	-	-	-	-	-	-	-	-	-
Amador.....	32	-	56,100	13	\$144,000	592	4	\$3,000	1	\$2,000
Butte.....	-	-	-	-	-	-	7	5,300	2	20,800
Calaveras.....	40	\$47,805	-	58	196,728	514	5	4,050	3	7,500
Colusa.....	-	-	-	-	-	-	4	-	-	-
Contra Costa.....	-	-	-	-	-	-	1	-	-	-
Del Norte.....	-	-	-	2	700	11	-	-	1	200
El Dorado.....	5	-	-	60	-	662	-	-	9	-
Fresno.....	-	-	-	-	400	3	6	5,000	-	-
Humboldt.....	-	-	-	-	-	-	-	-	-	-
Klamath.....	1	-	20,000	31	-	34	2	1,500	2	2,500
Lake.....	-	-	-	-	-	-	-	-	-	-
Los Angeles.....	-	-	-	1	-	4	-	-	-	-
Marin.....	-	-	-	-	-	-	-	-	-	-
Mariposa.....	20	2,000,000	100,000	10	4,500	50	3	1,500	-	-
Mendocino.....	-	-	-	-	-	-	-	-	-	-
Merced.....	-	-	-	-	-	-	3	1,500	-	-
Monterey.....	-	-	-	-	-	-	5	4,000	1	2,500
Mono.....	-	-	-	-	-	-	-	-	-	-
Napa.....	-	-	-	-	-	-	1	-	-	-
Nevada.....	21	-	63,000	47	-	900	-	-	9	-
Placer.....	5	7,800	-	28	217,600	394	-	-	3	5,000
Plumas.....	28	-	-	65	-	-	4	-	2	-
Sacramento.....	-	-	-	8	-	120	5	-	7	-
San Bernardino.....	2	-	-	1	-	1	-	-	-	-
San Diego.....	1	30,000	1,200	-	-	-	2	-	-	-

San Francisco.....	1	-	100	-	-	-	1	-	-	-
San Joaquin.....	-	-	-	1	-	4	7	5,000	4	10,000
San Luis Obispo.....	-	-	-	-	-	-	-	-	-	-
San Mateo.....	-	-	-	-	-	-	-	-	-	-
Santa Barbara.....	-	-	-	-	-	-	-	-	-	-
Santa Clara.....	-	-	-	-	-	-	-	-	-	-
Santa Cruz.....	-	-	-	-	-	-	-	-	-	-
Shasta.....	2	4,000	600	30	100,000	200	11	8,000	10	11,000
Sierra.....	8	110,000	27,000	45	273,900	143	2	800	1	3,000
Siskiyou.....	6	-	385	14	30,600	170	4	12,000	1	1,500
Solano.....	-	-	-	-	-	-	1	-	-	-
Sonoma.....	-	-	-	-	-	-	-	-	1	500
Stanislaus.....	-	-	-	5	20,000	10	10	150,000	-	-
Sutter.....	-	-	-	-	-	-	8	-	2	-
Tehama.....	-	-	-	-	-	-	5	10,000	2	3,000
Trinity.....	-	-	-	45	-	101	1	-	3	-
Tulare.....	7	-	-	3	-	-	2	-	-	-
Tuolumne.....	30	65,000	-	-	265,000	277	5	2,500	4	16,300
Yolo.....	-	-	-	-	-	-	-	-	-	-
Yuba.....	3	16,000	-	14	86,000	110	2	-	12	80,400
Totals.....	192	\$2,279,605	286,385	481	\$1,339,428	4,300	111	\$214,150	80	\$166,200



TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors.* – Continued.

COUNTIES.	IMPROVEMENTS – Continued.								
	TURNPIKE ROADS.				RAILROADS.				
	Number.	Miles in Length.	Cost.	Income.	Cost of Repairs.	Number.	Miles in Length.	Cost.	Income.
Alameda.....	-	-	-	-	-	-	-	-	-
Amador.....	2	53	-	\$800	-	-	-	-	-
Butte.....	-	-	-	-	-	-	-	-	-
Calaveras.....	-	-	-	-	-	-	-	-	-
Colusa.....	-	-	-	-	-	-	-	-	-
Contra Costa.....	-	-	-	-	-	-	-	-	-
Del Norte.....	1	58	-	-	-	-	-	-	-
El Dorado.....	17	126	-	-	-	-	-	-	-
Fresno.....	-	-	-	-	-	-	-	-	-
Humboldt.....	-	-	-	-	-	-	-	-	-
Klamath.....	-	-	-	-	-	-	-	-	-
Lake.....	-	-	-	-	-	-	-	-	-
Los Angeles.....	-	-	-	-	-	-	-	-	-
Marin.....	-	-	-	-	-	-	-	-	-
Mariposa.....	4	15	\$30,000	7,200	\$1,800	1	3	\$15,000	-
Mendocino.....	-	-	-	-	-	-	-	-	-
Merced.....	1	6	4,000	-	-	-	-	-	-
Monterey.....	-	-	-	-	-	-	-	-	-
Mono.....	-	-	-	-	-	-	-	-	-
Napa.....	-	-	-	-	-	-	-	-	-
Nevada.....	15	-	93,000	-	-	-	-	-	-
Placer.....	11	35 ½	63,500	-	-	-	-	-	-
Plumas.....	4	-	-	-	-	-	-	-	-
Sacramento.....	-	-	-	-	-	3	30	1,500,000	\$220,000
San Bernardino.....	1	-	-	-	-	-	-	-	-
San Diego.....	-	-	-	-	-	-	-	-	-
San Francisco.....	1	8	-	-	-	1	3	250,000	-

San Joaquin.....	-	-	-	-	-	-	-	-	-
San Luis Obispo.....	-	-	-	-	-	-	-	-	-
San Mateo.....	-	-	-	-	-	-	-	-	-
Santa Barbara.....	-	-	-	-	-	-	-	-	-
Santa Clara.....	5	30	36,000	-	-	1	17.15	-	-
Santa Cruz.....	-	-	-	-	-	-	-	-	-
Shasta.....	4	60	20,000	-	-	-	-	-	-
Sierra.....	3	58	31,000	-	-	-	-	-	-
Siskiyou.....	-	-	-	-	-	-	-	-	-
Solano.....	-	-	-	-	-	-	-	-	-
Sonoma.....	-	-	-	-	-	-	-	-	-
Stanislaus.....	-	-	-	-	-	-	-	-	-
Sutter.....	-	-	-	-	-	-	-	-	-
Tehama.....	-	-	-	-	-	-	-	-	-
Trinity.....	2	75	-	-	-	-	-	-	-
Tulare.....	-	-	-	-	-	-	-	-	-
Tuolumne.....	-	-	-	-	-	-	-	-	-
Yolo.....	2	-	-	-	-	-	-	-	-
Yuba.....	7	106	-	-	-	1	12	-	-
<b>Totals.....</b>	<b>80</b>	<b>630 ½</b>	<b>\$277,500</b>	<b>\$8,000</b>	<b>\$1,800</b>	<b>7</b>	<b>65.15</b>	<b>\$1,765,000</b>	<b>\$220,000</b>

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors.* – Continued.

COUNTIES.	HORTICULTURAL PRODUCTS – NUMBER OF TREES AND VINES.							
	Apple.	Peach.	Pear.	Plum.	Cherry.	Nectarine.	Quince.	Apricot.
Alameda.....	150,000	3,000	10,500	-	2,053	-	-	-
Amador.....	32,000	36,300	5,319	3,144	1,758	1,378	840	1,410
Butte.....	17,270	112,500	7,175	1,934	1,130	5,700	380	3,760
Calaveras.....	29,610	26,252	5,110	2,519	1,051	1,011	746	1,131
Colusa.....	11,727	29,385	2,371	2,271	2,360	1,122	76	721
Contra Costa.....	33,720	30,885	8,536	2,751	1,770	-	1,000	1,000
Del Norte.....	1,732	-	720	100	264	-	-	-
El Dorado.....	80,427	44,289	8,741	5,908	1,474	875	1,110	1,200
Fresno.....	1,150	2,575	160	85	96	-	-	22
Humboldt.....	17,600	9,968	630	975	417	-	147	245
Klamath.....	1,443	740	75	200	129	17	15	25
Lake.....	7,673	5,186	969	678	157	107	39	203
Los Angeles.....	2,500	14,000	715	400	370	281	708	1,500
Marin.....	25,926	812	355	150	105	-	126	304
Mariposa.....	4,000	7,000	500	1,600	201	378	106	260
Mendocino.....	13,000	9,000	3,000	1,600	700	200	200	300
Merced.....	4,009	4,375	1,176	281	81	134	52	185
Monterey.....	1,780	850	480	350	120	60	80	75
Mono.....	-	-	-	-	-	-	-	-
Napa.....	99,282	90,000	14,152	3,975	4,228	1,535	1,065	2,542
Nevada.....	14,350	38,430	4,358	1,350	1,440	399	748	488
Placer.....	23,360	40,740	7,521	6,436	6,036	1,400	1,000	1,836
Plumas.....	-	-	-	-	-	-	-	-
Sacramento.....	65,325	56,547	16,920	5,820	2,944	1,683	3,064	3,314
San Bernardino.....	3,000	5,000	500	500	100	100	150	500
San Diego.....	300	4,000	2,000	200	-	60	110	120
San Francisco.....	4,679	428	2,771	196	401	32	71	50
San Joaquin.....	22,300	19,000	16,000	12,000	1,000	750	300	800
San Luis Obispo.....	450	1,200	600	75	150	-	50	25
San Mateo.....	10,000	3,200	2,500	1,000	900	-	300	200
Santa Barbara.....	750	1,600	625	350	220	800	225	650
Santa Clara.....	150,000	44,481	41,500	9,800	5,400	750	3,500	3,000

Santa Cruz.....	33,765	3,090	2,159	1,829	1,135	80	188	462
Shasta.....	15,000	30,000	3,000	1,000	1,000	1,000	200	1,000
Sierra.....	1,625	2,400	406	40	77	28	25	12
Siskiyou.....	3,710	1,805	110	884	450	83	15	42
Solano.....	5,384	26,920	4,080	3,160	3,050	3,000	2,100	4,400
Sonoma.....	140,478	71,910	12,913	10,102	4,149	841	1,249	2,683
Stanislaus.....	2,556	3,975	642	260	321	400	-	440
Sutter.....	9,980	12,500	2,000	10,000	400	460	100	1,010
Tehama.....	5,761	15,650	490	1,100	360	185	130	515
Trinity.....	4,993	3,471	1,366	236	86	20	44	26
Tulare.....	25,000	37,000	4,000	3,500	3,000	250	250	2,200
Tuolumne.....	23,750	41,111	4,967	1,871	243	167	294	315
Yolo.....	31,400	88,500	13,300	9,500	2,264	20,000	1,810	4,808
Yuba.....	38,540	84,630	6,800	4,800	4,500	8,220	1,400	6,600
Totals.....	1,171,305	964,705	212,212	115,030	58,090	53,506	24,013	50,379

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors.* – Continued.

COUNTIES.	HORTICULTURE PRODUCTS – NUMBER OF TREES AND VINES – Continued.													
	Fig.	Aloe.	Citron.	Lemon.	Orange.	Olive.	Pomegranate.	Pine Apple.	Prune.	Persimmon.	Pecan.	Cherimoya	Almond.	Walnut.
Alameda.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Amador.....	258	-	-	-	-	-	-	-	-	-	-	814	72	
Butte.....	980	-	-	-	-	-	-	-	-	-	-	200	-	
Calaveras.....	650	-	-	6	19	2	120	-	26	-	-	316	62	
Colusa.....	90	-	-	-	-	-	-	-	-	-	-	280	-	
Contra Costa.....	425	-	-	30	30	-	-	-	-	-	-	-	-	
Del Norte.....	-	-	-	-	-	-	-	-	-	10	-	-	10	
El Dorado.....	451	-	-	-	-	-	-	-	-	-	-	462	-	
Fresno.....	6	-	-	-	-	-	-	-	-	-	-	-	-	
Humboldt.....	-	-	-	-	-	-	-	-	-	-	-	-	-	
Klamath.....	3	-	-	-	-	-	-	-	-	-	-	-	-	
Lake.....	23	-	-	-	-	-	-	-	-	-	-	45	-	
Los Angeles.....	1,200	-	109	500	4,000	1,100	870	-	40	-	-	420	1,000	
Marin.....	60	-	-	-	-	-	-	-	-	-	-	30	-	
Mariposa.....	150	-	-	-	-	-	25	-	-	-	-	36	-	
Mendocino.....	100	-	-	-	-	-	-	-	-	-	-	-	-	
Merced.....	157	-	-	-	5	-	6	-	-	-	-	14	5	
Monterey.....	20	-	-	-	-	30	-	-	-	-	-	15	60	
Mono.....	-	-	-	-	-	-	-	-	-	-	-	-	-	
Napa.....	762	-	-	25	5	3	61	-	-	-	-	920	910	
Nevada.....	350	-	-	-	50	-	-	-	-	-	-	145	-	
Placer.....	400	-	-	-	16	-	60	-	-	-	-	700	80	
Plumas.....	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sacramento.....	2,587	500	465	356	567	385	284	-	-	110	-	795	967	
San Bernardino.....	150	-	-	-	50	50	60	-	-	-	-	150	50	
San Diego.....	180	-	45	35	75	1,200	160	-	15	-	5	75	120	
San Francisco.....	6	-	-	-	-	-	-	-	-	-	-	5	-	
San Joaquin.....	725	-	-	-	4	6	10	-	-	-	-	40	300	
San Luis Obispo.....	25	20	-	-	-	80	-	-	-	-	-	-	-	
San Mateo.....	50	-	-	-	-	-	-	-	-	-	-	-	200	
Santa Barbara.....	550	-	-	40	80	700	300	-	-	-	-	225	150	

Santa Clara.....	475	-	-	7	415	56	114	-	-	-	-	-	660	900
Santa Cruz.....	91	-	-	-	-	-	-	-	-	-	-	-	-	-
Shasta.....	300	-	-	-	-	-	-	-	-	-	-	-	-	-
Sierra.....	-	-	-	-	-	-	-	-	-	-	-	-	12	-
Siskiyou.....	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solano.....	3,749	-	5	-	-	20	-	-	-	10	-	-	890	-
Sonoma.....	1,162	-	-	30	353	41	41	-	-	-	9	-	9,212	2,157
Stanislaus.....	165	-	-	-	-	-	-	-	-	-	-	-	-	-
Sutter.....	400	-	-	-	-	-	-	-	-	-	-	-	460	200
Tehama.....	300	-	-	-	-	-	-	-	-	-	-	-	1,050	216
Trinity.....	2	-	-	-	-	-	-	-	-	-	-	-	2	-
Tulare.....	125	-	-	6	10	100	100	-	-	-	-	-	75	100
Tuolumne.....	319	-	-	-	70	-	27	-	-	-	-	-	7	-
Yolo.....	500	-	-	-	-	-	-	-	-	-	-	-	-	-
Yuba.....	840	-	-	20	45	10	48	-	-	-	14	-	300	250
Totals.....	19,056	520	624	1,055	5,794	3,777	2,286	-	81	10	133	5	18,335	7,809

TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors.* – Continued.

COUNTIES.	HORTICULTURE PRODUCTS – NUMBER OF TREES AND VINES – Continued.								
	Filbert.	Gooseberry.	Raspberry.	Strawberry.	Grape.	Tons of Grapes.	Gallons of Wine.	Gallons of Brandy.	Value of Fruit.
Alameda.....	-	-	-	-	-	-	-	-	-
Amador.....	-	2,256	3,170	121,670	311,140	-	2,740	-	\$15,080
Butte.....	-	1,450	1,960	400,000	-	310,000	-	-	-
Calaveras.....	-	1,697	6,105	54,058	300,049	-	2,367	40	-
Colusa.....	-	79	-	-	39,284	-	-	-	-
Contra Costa.....	-	-	-	-	184,200	-	-	-	-
Del Norte.....	-	100	100	1,000	-	-	-	-	-
El Dorado.....	-	-	-	-	772,547	-	-	-	-
Fresno.....	-	-	6	250	8,000	-	-	-	-
Humboldt.....	-	8,630	6,300	11,800	-	-	-	-	-
Klamath.....	-	1,000	180	3,700	1,625	-	-	-	2,000
Lake.....	-	100	65	-	5,595	-	-	-	-
Los Angeles.....	50	400	200	4,000	2,570,000	3,100	280,000	-	150,000
Marin.....	-	-	-	4,900	20,000	-	-	-	-
Mariposa.....	-	50	3,000	60,500	50,000	125	10,000	1,000	15,000
Mendocino.....	-	-	-	-	25,000	-	-	-	-
Merced.....	-	102	620	308	45,630	-	300	-	8,050
Monterey.....	-	750	460	4,500	3,480	-	-	-	-
Mono.....	-	-	-	-	-	-	-	-	-
Napa.....	-	6,175	10,323	9,528	540,828	-	2,891	300	-
Nevada.....	-	1,500	500	20,000	21,336	-	-	-	-
Placer.....	-	400	7,000	200,000	135,532	-	-	-	-
Plumas.....	-	-	-	-	-	-	-	-	-
Sacramento.....	-	8,586	12,878	18,126	412,092	-	5,568	-	38,000
San Bernardino.....	-	150	50	500	500,000	250	2,000	1,000	20,000
San Diego.....	-	40	200	1,500	70,000	-	-	-	-
San Francisco.....	-	1,707	2,089	3,390	107	-	-	-	-
San Joaquin.....	-	2,100	16,000	87,500	300,000	-	-	-	-
San Luis Obispo.....	-	-	-	-	-	-	-	-	-
San Mateo.....	-	-	-	-	4,500	-	-	-	-
Santa Barbara.....	-	100	150	400	115,000	-	3,300	650	-
Santa Clara.....	-	4,900	500	100,000	600,000	-	7,000	500	25,000

Santa Cruz.....	-	2,268	2,183	34,250	32,675	-	-	-	6,663
Shasta.....	-	1,000	1,800	40,000	45,400	-	-	-	10,000
Sierra.....	-	48	205	-	5,374	-	-	-	-
Siskiyou.....	-	450	915	5,210	4,100	-	-	-	-
Solano.....	-	1,000	-	10,000	400,000	-	-	-	-
Sonoma.....	-	14,151	14,972	65,653	1,701,661	-	15,041	650	23,635
Stanislaus.....	-	-	-	-	9,983	-	-	-	-
Sutter.....	-	-	-	-	19,850	-	2,600	180	-
Tehama.....	-	630	870	35,000	30,000	150	1,500	-	13,605
Trinity.....	-	300	134	22,000	520	-	-	-	2,000
Tulare.....	-	3,000	6,000	100,000	225,000	24,000	1,000	200	-
Tuolumne.....	-	1,079	713	-	197,300	137	6,570	2,057	-
Yolo.....	-	-	-	-	234,430	-	600	700	-
Yuba.....	-	2,650	3,850	155,600	650,450	-	-	-	-
Totals.....	50	65,648	103,498	1,588,643	10,592,688	337,762	343,477	7,277	\$329,033



TABLE OF STATISTICS – *Compiled from the Official Reports of County Assessors.* – Continued.

COUNTIES.	ASSESSED VALUE OF PROPERTY.				INCREASE OR DECREASE IN VALUE OF PROPERTY.		
	Real Estate.	Improvements.	Personal Property.	Total Valuation of Property.	Assessed Value of Property for 1861.	Increase.	Decrease.
Alameda.....	\$3,000,000	-	\$1,100,000	\$4,100,000	\$4,169,834	-	\$69,834
Amador.....	1,155,040	-	1,032,668	2,187,708	2,616,872	-	429,164
Butte.....	1,604,357	-	1,346,194	2,950,551	3,811,119	-	860,568
Calaveras.....	2,624,312	\$1,191,044	1,433,268	5,248,624	2,737,708	\$2,510,916	-
Colusa.....	-	-	-	2,643,809	2,643,809	-	-
Contra Costa.....	920,000	-	920,000	1,840,000	1,952,395	-	112,395
Del Norte.....	58,235	87,595	154,605	300,435	483,707	-	183,272
El Dorado.....	463,260	1,341,049	2,058,340	3,862,649	3,794,120	68,529	-
Fresno.....	197,454	-	708,958	962,985	1,045,895	-	82,910
Humboldt.....	320,725	291,705	740,360	1,352,790	1,308,801	43,987	-
Klamath.....	1,072	1,2002	289,372	291,645	365,487	-	73,842
Lake.....	72,356	41,180	199,710	313,246	373,401	-	60,155
Los Angeles.....	1,160,190	-	1,048,505	3,065,330	3,065,330	-	-
Marin.....	1,089,033	75,523	652,997	1,817,553	1,755,893	61,660	-
Mariposa.....	671,064	-	865,266	1,536,330	1,367,823	168,507	-
Mendocino.....	273,870	341,294	550,338	1,165,502	646,469	519,043	-
Merced.....	313,287	-	652,934	966,221	1,092,803	-	126,582
Monterey.....	406,802	146,046	744,567	1,297,422	1,475,094	-	177,672
Mono.....	-	-	-	310,896	310,896	-	-
Napa.....	-	-	-	2,937,760	3,179,752	-	241,992
Nevada.....	-	2,273,397	2,781,973	5,055,370	4,225,085	830,285	-
Placer.....	989,953	-	2,088,878	3,225,248	3,225,248	-	-
Plumas.....	-	-	-	1,070,000	904,418	165,582	-
Sacramento.....	5,471,225	-	3,348,793	8,820,018	12,076,003	-	3,255,983
San Bernardino.....	-	-	-	417,238	417,238	-	-
San Diego.....	118,020	71,675	282,111	471,806	471,806	-	-
San Francisco.....	36,990,654	-	29,540,553	66,531,207	42,362,242	24,168,965	-
San Joaquin.....	1,379,043	1,165,832	2,125,319	4,670,194	4,598,375	71,819	-

San Luis Obispo.....	234,721	-	278,021	512,742	805,005	-	292,263
San Mateo.....	1,507,359	-	658,207	2,165,366	1,401,711	763,655	-
Santa Barbara.....	426,730	-	392,675	819,405	1,038,645	-	219,240
Santa Clara.....	2,671,825	1,476,325	1,890,227	6,038,375	5,012,670	1,025,705	-
Santa Cruz.....	647,018	-	439,900	1,086,918	713,895	373,023	-
Shasta.....	125,000	73,080	1,167,948	1,364,998	1,564,998	-	200,000
Sierra.....	-	-	-	1,159,205	1,159,205	-	-
Siskiyou.....	533,000	-	1,100,000	1,653,000	2,404,199	-	751,199
Solano.....	1,963,784	-	1,637,387	3,601,171	3,882,700	-	281,529
Sonoma.....	1,665,733	841,894	1,483,050	3,990,677	4,697,063	-	706,386
Stanislaus.....	265,278	-	502,780	768,058	846,298	-	78,240
Sutter.....	658,312	293,368	994,396	1,946,076	2,532,324	-	586,248
Tehama.....	789,731	-	1,124,018	2,013,749	2,086,213	-	72,464
Trinity.....	-	314,620	851,794	1,166,414	1,325,917	-	159,503
Tulare.....	372,667	-	893,821	1,266,488	1,034,341	232,147	-
Tuolumne.....	151,425	1,365,925	1,225,100	2,742,450	2,742,450	-	-
Yolo.....	-	-	-	2,322,975	2,156,482	166,493	-
Yuba.....	1,221,272	1,512,091	1,189,061	5,022,424	6,187,773	-	1,165,349
Totals.....	\$72,523,807	\$12,904,843	\$71,331,494	\$169,053,028	-	\$31,170,319	\$10,186,790
						10,186,790	
Total Increase	-	-	-	-	-	\$20,983,529	

# **APPENDIX.**

# REPORTS OF COUNTY SURVEYORS.

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FRESNO COUNTY.

J. C. WALKER.....County Surveyor.

OFFICE COUNTY SURVEYOR,  
Millerton, July 1<sup>st</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In compliance with instructions contained in your circular, I have the honor to submit the following report of the effects of the recent floods in this county.

The extreme height of the San Joaquin above low water at Millerton, was about twenty-six feet, which was on January eleventh.

The greatest height at Fresno City, which is at the head of navigation on the San Joaquin, was about sixteen feet above low water, and the general depth over the adjacent lands at that place was four feet.

The land which was overflowed in this county is so extensive that it would be difficult for me to ascertain the approximate quantity of it.

Some bars were formed, and a change of channel occasioned for a short distance, at different places in the San Joaquin.

There is considerable deposit upon the submerged lands in this county, and varies from half an inch to one foot in depth. It was washed from the rich soil in the low hills, and it has improved the quality of the land.

The San Joaquin and King's rivers have been very high the present season, from the thawing of snow in the mountains. I have made inquiries of men living in various parts of the county, and have learned from them that many crops have been destroyed the present summer by being overflowed on land which was reported as high.

My business has not called me away from home sufficiently to gain a very extensive information concerning the effects of the recent floods. I trust you will therefore excuse me for my meager report.

Very respectfully, your obedient servant,

J. C. WALKER,  
County Surveyor.

HUMBOLDT COUNTY.

J. B. KNISELY.....County Surveyor.

OFFICE COUNTY SURVEYOR,  
Eureka, Nov. 27<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In accordance with the law defining the duties of the County Surveyors, I respectfully submit the following:

Since my term of office my business has been so limited that I have no regular report to make as I would wish. Owing to the great Indian difficulties, property is depreciating in value, and many of our citizens are leaving in consequence to Indian troubles, which does not seem likely to subside soon. Whatever work I may have I will prepare for my next report.

As to the table of statistics required by your instructions, I shall have to refer to you to the report of the Assessor of this county, as my business has not called me from home enough to collect material for a report of my own.

Respectfully submitted.

J. B. KNISELY,  
County Surveyor.

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LAKE COUNTY.

JOEL WILLARD.....County Surveyor.

OFFICE COUNTY SURVEYOR,  
Lake County, July 3<sup>rd</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In accordance with law and instructions, I herewith submit the following:  
Not having made any surveys for individuals, I have nothing in that line to report upon.

I have received one application for Swamp Land, dated April seventeenth, eighteen hundred and sixty-two, a plat and field notes of which I transmitted to your office, since when I have heard nothing of it. You will oblige me, as well as the

applicant, by stating whether it has been received, and if so, whether it has been approved, and why not sent back to me.

In regard to the information required of County Surveyors in your circular of February thirteenth, eighteen hundred and sixty-two, I have collected the following information:

First – The extreme height at the head of Clear Lake was, as near as I can determine, about eleven feet.

Second – Date of highest water, January twenty-second, eighteen hundred and sixty-two.

Third – From one inch to five feet, the farms in the valleys around the lake being all more or less submerged.

Fourth – Outside of the line of segregation of Swamp and Overflowed Lands, probably between ten and fifteen thousand acres.

Fifth – The banks of streams have not been seriously affected.

Sixth – No bars have been formed or channels changed at the head of the lake, where the principal streams that feed the lake put into it.

Seventh – The deposit varies according to the current, in many places it is washed, and left in eddies from one to four feet deep; as a general thing the lands will be benefited, the deposit being a fine sand, the finer and clayey parts being carried into the lake.

Eighth – I can answer this questions better next October, the water now being only about six inches lower than high water mark of previous winters, made since the settlement of the valley by Americans.

Very respectfully, your obedient servant,

JOEL WILLARD,  
County Surveyor.

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MARIN COUNTY.

A. D. EASKOOT.....County Surveyor.

OFFICE COUNTY SURVEYOR,  
San Rafael, Nov. 15<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In reply to your circular under date of February thirteenth, eighteen hundred and sixty-two, in regard to the flood in this county, I beg leave to report:

The highest tide in this county was in the month of January, eighteen hundred and sixty-two. The extreme highest above low water mark was about eight feet. The depth of water on the marshes was about three and a half feet. The deposit on the submerged land was a light soil, to the depth of about one inch, except at the mouths of the mountain streams, where they intersect the marshes; there the deposits were stone, gravel, and sand, to the depth of about two feet. The navigable streams that run through these marshes were partly obstructed by the deposits, and some small bars were formed, but not so large as to stop navigation.

I subjoin a list of School Land warrants surveyed in accordance with the provisions of an Act approved April twenty-second, eighteen hundred and sixty-one, entitled an Act amendatory of and supplemental to an Act entitled an Act to provide for the location and sale of the five hundred thousand acres of land granted to this State for school purposes, and the seventy-two sections donated to this State for the use of a seminary of learning, approved April twenty-third, eighteen hundred and fifty-eight, and the Act amendatory thereof, approved February eighteenth, eighteen hundred and fifty-eight. I have surveyed as a portion of the grant of the sixteenth and thirty-sixth sections, for school purposes, the following tracts of land:

Survey No. 1 – Surveyed March twenty-seventh, eighteen hundred and sixty-two, for Joseph Irwin, being for the northwest quarter of the west half of the northeast quarter of Section 30, Township No. 5, North, Range 9, West, containing two hundred and forty acres.

Survey No. 2 – Surveyed April fourth, eighteen hundred and sixty-two, for George W. Burbank, being for the east half of the southeast quarter, and southeast quarter of the northeast quarter, Section 19, and the southwest quarter of the northwest quarter and southwest quarter, Section 20, Township No. 5, North, Range 9, West, containing three hundred and twenty acres.

Survey No. 3 – Surveyed April eighth, eighteen hundred and sixty-two, for William Burkland, being for the southwest quarter and west half of southeast quarter and southwest quarter of northeast quarter, Section 19, Township No. 5, North, Range 9, West, containing two hundred and eighty acres.

Survey No. 4 – Surveyed April first, eighteen hundred and sixty-two, for Andrew Manning, being for the northeast quarter, Section 26, and the west half of northwest quarter, Section 25, Township 5, North, Range 10, West, containing two hundred and forty acres.

Survey No. 5 – Surveyed March twenty-ninth, eighteen hundred and sixty-two, for William Vanderbilt, being for the fractional south half of the northeast quarter, and fractional southeast quarter, Section 36, Township No. 5, North, Range 10, West, containing two hundred and six and ninety-nine one-hundredths acres.

Survey No. 6 – Surveyed March twenty-ninth, eighteen hundred and sixty-two, for William Vanderbilt, being for the fractional northeast quarter, Section 1, Township No. 4, North, Range 10, West, containing seventy-six and sixty-one one-hundredths acres.

Survey No. 7 – Surveyed March twenty-eighth, eighteen hundred and sixty-two, for Alexander S. Marshall, being for the southwest quarter, Section 29, Mount Diablo meridian, containing one hundred and sixty acres.

All the above described land is claimed under a Spanish grant, and has been confirmed by the United States District Court, but it has been appealed to the Supreme Court of the United States, and the settlers think it will be decided in their favor.

COUNTY ROADS.

This county has done a great deal towards improving our county roads. Within the last year bridges have been built and roads made; and if the roads should remain where they are at present located for two or three years, I have no doubt but we shall have roads that can be traveled in the rainy season without endangering our lives.

My confidence in my proposed road law, which will be found in my report of last year, is undiminished, and I commend it to your careful consideration, being well assured that until it shall have been adopted, we will not have any roads; for I think when a county road is viewed and surveyed, it should be made a permanent location, and not be changed except it be found absolutely necessary. Many times, changes have been made in our county for no other purpose than to benefit some private individual, to the inconvenience of the public.

No Swamp and Overflowed Land surveyed since my last report.  
All of which is respectfully submitted.

Very respectfully, your obedient servant,

A. D. EASKOOT,  
County Surveyor.

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SAN JOAQUIN COUNTY.

GEORGE E. DREW.....County Surveyor.

OFFICE COUNTY SURVEYOR,  
Stockton, Dec. 3<sup>rd</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

DEAR SIR: - In compliance with my duties and instructions from your office, I herewith transmit my report of work done by this office for the year ending December first, eighteen hundred and sixty-two.

SWAMP AND OVERFLOWED LANDS.

During the year, I have made thirty-five surveys, numbering eight hundred and fifteen to eight hundred and forty-eight, inclusive, covering an area of seven thousand



seven hundred and fifty-eight and thirty-nine one-hundredths acres; of this amount, seventeen surveys, including an area of three thousand two hundred and fifty-one and sixty-four one-hundredths acres, were re-surveys of old locations, which have been forfeited and relinquished. In consequence of the great flood of last winter, it will be observed that a very limited number of surveys have been made, as our citizens are now very timid about investing in the tule lands.

#### SCHOOL LAND UNDER OLD WARRANTS.

Of these, I have made nine locations, numbering four to twelve inclusive, under warrants numbers six hundred and fifty-one, six hundred and fifty-seven, seven hundred and ninety-nine, eight hundred, eight hundred and one, eight hundred and two, two hundred and fifty-three, one hundred and eighty-one, five hundred and eighty-five, two hundred and seventy-seven, five hundred and fifty-one, six hundred and forty-seven, eight, sixty-six, and seventy-three, including an area of three thousand two hundred acres, the warrants having all been surrendered.

#### SCHOOL LAND LOCATIONS IN LIEU OF SIXTEENTH AND THIRTY-SIXTH SECTIONS ON UNSURVEYED LANDS.

Of this class I have made thirty-six surveys, numbering one to thirty-six, inclusive, including an area of ten thousand one hundred and five and forty-nine one-hundredths acres.

The above is the total amount of work done and necessary to be returned to your office.

I have received a circular from your office, propounding eight questions, having reference to the floods of last winter. By personal examinations and inquiry I have endeavored to collect such information as was possible, and will give you only such as may be reliable, as in many cases it is so conflicting as to be unavailable.

First – The highest water in Stockton was on the twenty-fourth day of January, eighteen hundred and sixty-two, being twelve feet one inch above the low tide of this date; December third, ten feet six inches above the high tide of this date, and three feet six inches above the highest water in the flood of eighteen hundred and fifty-two. About fifteen miles northwest from this city, in Township 3, North, Range 5, East; the highest water was on the twenty-fourth day of January, being fourteen feet higher than the summer low tides.

In Township 1 South, Range 5, East, twelve miles from this city, in a southwesterly direction, and near the forks of the San Joaquin river, the highest water was, on the twenty-fourth day of January, twelve feet above the summer low tides, and five feet above the highest water of eighteen hundred and fifty-two.

Second – The first heavy flow of water, from the east or mountain streams, occurred on the twenty-sixth day of December, on which day the city was slightly submerged. On the twenty-eighth day of December, the water in the city was a few inches higher than on the twenty-sixth.

On the eleventh day of January occurred the greatest overflow of the country to the northeast, east, and southeast, caused by the water from the mountain streams. The highest water in this city and on the land to the west, was on the twenty-fourth day

of January, being twenty-four inches higher than on the eleventh of January. This was back water, and came from the north, or Sacramento river; no current near the city. A short distance to the west of the city, on this and several subsequent days, there was a strong current running past the city from the north, and running nearly due south, to a point six miles south from this city, there meeting the waters of the San Joaquin, and changing the direction of the current to a northwest course.

Third – It is difficult to answer this question satisfactorily. I believe about two thirds of or entire county was inundated. Of the agricultural and grazing portion, about one half. Over this portion the water would average one and a half to two feet in depth.

Fifth – The banks of the streams have not been seriously affected.

Sixth – No considerable bars or changes of channel have been occasioned by the flood.

Seventh and Eighth – There was no large amount of deposit left on the agricultural portion – perhaps an average of two inches – except at a few points on the river bottoms. This deposit was very fine sand or *slum*, and to the most of our land was an advantage. It is impossible to tell the amount of deposit there may be on the tule lands, as they are still submerged.

The greatest danger we have of a recurrence of the events of last winter is from the waters of the Sacramento and American rivers breaking over the plains to the north, as it was the waters from those rivers which caused the greatest amount of damage in this vicinity. Aside from the Sacramento water, the damage in this vicinity would not have exceeded ten thousand dollars.

Several propositions have been made to protect the city from another inundation. I have made one survey and estimate for a canal and levee around the city on three sides, about three and a half miles in length, estimated cost, one hundred and ten thousand dollars, which plan was objected to on account of its cost. I have also made an examination of an entire new channel for the Calaveras, the earth taken from the channel to be placed in embankment for a turnpike road. This would protect the middle and southwesterly portion of the county, then by raising the grades in the lower portion of the city two feet, and we are safe. This plan would also involve the expenditure of a larger amount of money than our county and city authorities feel justified in expending. In fact, no protective plan can be adopted that will not cost a large amount of money, as it would be useless to do the work in a cheap manner.

I would be happy to inform you that we are making rapid progress in road making, but such is not the fact. Some improvements have, however, been made, and I am in hopes that it is but the beginning of a good work.

Of railroads, we have several in embryo, but none in course of construction, so far as I am informed. A thorough survey and estimate has, however, been made from this city to Copperopolis.

By the present law relative to county officers, the County Surveyors retire from office on the first Monday in October next following the election, while all other officers hold over until the next April. There is no good reason for this, and I would respectfully suggest to you to propose an amendment to the revenue law including County Surveyors.

There are many other things of which I would like to speak or write, but have already occupied too much paper, and will therefore forego them.

All of which is respectfully submitted,

GEORGE E. DREW,  
County Surveyor of San Joaquin County.

SOLANO COUNTY.

JOHN PEABODY.....County Surveyor.

OFFICE COUNTY SURVEYOR,  
Fairfield, Dec. 10<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - The undersigned, County Surveyor of Solano County, reports according to law, to-wit:

SWAMP AND OVERFLOWED LANDS.

Surveyed and Returned Land.	Acres.
Up to December, eighteen hundred and sixty-one, at which time I transmitted to your office a map of all the Swamp and Overflowed Lands, there had been surveyed and returned to your office about.....	69,210
Surveyed and returned since.....	6,162
Total surveyed and returned.....	75,372

I have now finished the survey of the Swamp and Overflowed Land in Townships 3 and 4, North, Range 2, West, lying between Suisun bay and Suisun slough and the high land of the Suscol Ranch, and shall transmit the papers as soon as the calculations are made. That piece will contain about thirteen thousand five hundred acres. After this, there will only remain unsurveyed of the Swamp and Overflowed Lands about seven thousand two hundred acres, lying for the most part in Township 5, North, Range 3, East. I have affidavits for a portion of this land, and will survey it as soon as the high tule can be burnt, thereby finishing the survey of all the Swamp and Overflowed Lands in this county, except a small portion on Pablo Bay and Napa River.

LOCATION OF SCHOOL WARRANTS, (FIVE HUNDRED THOUSAND ACRES ACT.)

Up to this date I have located only seven thousand eight hundred and forty acres. There have been a large quantity of locations made anteriorly, but of which I have no data.

SIXTEENTH AND THIRTY-SIXTH SECTIONS.

The number of acres taken as the sixteenth and thirty-sixth sections, or in lieu thereof, and which have been returned to the different Locating Agents, is about eighty-one thousand acres, the almost totality being on unsurveyed land. This large sale of land has been occasioned by the rejection, this spring, of the Suscol grant, in which alone about forty-five thousand acres have been taken.

About a mode of reclaiming the Swamp and Overflowed Lands above Cache slough I can at present give you no information, but will do so as soon as I will be able to survey in Township 5, North, Range 3, East, which will be in a month from now. In the meantime I may say, that from former information, a canal will be necessary to drain the waters of Cache creek and Putah river, but where to located it I cannot now say.

As to the height of the waters above low water mark in the last flood, it was impossible for me to keep any memorandum of it; but I have been told that at the head of Cache slough, at a place called Main Landing, the water was ten feet above the ground, which would make it about eighteen feet above low water mark. In the marshes around Suisun City, the greatest height attained was only about two feet six inches, which would give about nine or ten feet above low water mark. In the islands in Suisun Bay the water did not rise more than six inches above the marsh, and that only at the highest tides. All these islands were covered with cattle, and they continued on them all winter without the least inconvenience, and have been doing all the time exceedingly well.

In your letter of the twenty-eighth of November last, accompanying your circular, you mention the washing away of Baca's house on Putah river. I never heard of it, but, however, it is possible, as that house was built very near the bank and immediately below a ford, and the least overflow of the river would wash any adobe building.

JOHN PEABODY,  
County Surveyor, Solano County.

YOLO COUNTY.

AMOS MATHEWS.....County Surveyor.

OFFICE COUNTY SURVEYOR,  
Washington, Dec. 2<sup>nd</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In accordance with the law I transmit the following report:

Yolo County, as any map of the State indicates, is bounded on the east by the meanderings of the Sacramento river for a distance of nearly one hundred miles; on the south by the Township line between Townships 5 and 6, North, and by the centre of Putah creek; on the West by the Range line between Ranges 2 and 3, East, and by the main ridge of the Coast Range Mountains; on the north by the Township line between Townships 12 and 13, North. The agricultural portion of the county includes about two hundred and fifty-five thousand six hundred acres. The grazing portion, including the swamp district, occupies about two hundred and thirty-four thousand acres. The Coast Mountains terminate in a succession of out hills, losing themselves in the level plain.

Cache creek, the outlet of Clear Lake, is a mountain stream of pure water to its debouch from the mountains, where it receives the turbid waters from numerous arroyos, and during the rainy season continues a rapid muddy stream to a point within three miles of the Sacramento river, where it spreads over the flat and low swamp known as Tule.

The debouch of Putah creek is about on the line of Section 30, Township 8, North, Range 1, West. This stream is a counterpart of Cache creek, and likewise sinks in the tule. Water may be obtained from these creeks at a light expense for the complete irrigation of the dry lands. There is a gradual decline in the face of the country toward the river to a point about one and a half miles from the bank, where is found the lowest point. I found, in making a survey for a road west from Sacramento, the lowest point in the tule is but about thirteen feet below the river bank. At the lower end of the county, I am of the opinion the deepest part of the swamp is not more than eight feet below the river bank.

The natural outlet for the tule water is through the numerous sloughs making inland from Steamboat slough, above the town of Rio Vista. From Cache creek, extending to the river at Knight's Landing, is the old bed of a slough, supposed to have once been the continuation of Cache creek. The banks of this slough are high. No water during the late great flood passed over this natural barrier. Above this point, running about parallel with the river bank, is the Sycamore slough, extending northward into Colusa County. This slough is the natural but inefficient outlet to the tule water which comes partly from the mountains and partly from the overflow of the river. A great part of this water must await evaporation during the series of dry years. Previous to eighteen hundred and sixty-one, the tule lands were almost sole pasture of the immense herds of cattle then in the county; and they had, within the knowledge of residents, receded from earlier limits to the extent of more than a mile. The

unprecedented flood of last year swept away whatever of improvements has been placed upon these lands. But confidence is again being established in their availability for agricultural and grazing purposes.

I am of the opinion that such a flood as the last has not occurred within the last hundred years, and, perhaps, never since the Great Flood receded from the land. The evidence upon which I found my opinion, in part, is the undoubted fact, that many years ago, the banks of the Sacramento were inhabited by populous tribes of Indians, who have disappeared from the face of the earth. In witness, we see the numerous mounds scattered along the river bank through the whole valley. These mounds must be very old; some of them had large oak trees, grown from acorns carelessly thrown aside by this extinct race. These mounds, till within a year, retained their shape as left by the aborigines; there could be seen the excavation scooped out where stood the principal hut, with numerous small cavities, used for like purposes. Now the flood has destroyed the original shape of the mounds, and we see but a heap of earth strewn with skulls which, for centuries, had lain covered with the light ashes and mould of which the mounds were composed. Some say the Indians did inhabit the valley, but were destroyed by a great flood, wherefore we do not find their descendants; but all of us have seen just such mounds on high lands, where no modern flood has ever reached; and the apparent age of these mounds indicates their inhabitants to have been coeval with those who lived along the river. The mounds are of the lightest material, and accumulated slowly, in long years, from ashes and decayed vegetable matter. In my opinion, if floods had often occurred, they would have been washed away ages ago. In one place on the river I saw an innumerable number of skulls, the mound in which they were buried having been almost entirely swept away. In many places great oak trees, centuries old, have been uprooted and carried away. The Indians have no knowledge of any disaster which happened to their ancestors by reason of floods, and their traditions must certainly extend back a hundred years, as many of them have lived three quarters of that time.

In the valley, away from the Sacramento river, are small streams upon whose banks the early Spaniards built their adobe houses. In one such case, whose history is verified by many men, the last winter's flood carried away the houses which stood, above all thought of floods, for twenty-five years. I mentioned the last fact as one upon which we can reasonably rely. I spoke of the material of which the mounds are composed, that you may see they could not withstand a great current of water. I spoke of the mounds as evidence that the Sacramento valley is inhabitable. I spoke of the great age of these mounds as showing the valley not to have been submerged so lately as many believe. It is needless for me to say we require levees and canals. The Sacramento valley is composed of the sediment which, from creation, slowly washed from the mountain sides and settled in the lake, which, I imagine, one day bordered on the foot hills. The heaviest of this sediment settled near the mountains, the lighter further down towards the bay, or what I suppose to have been the outlet to the lake. This process was continued through time till the lake became shallow; the points near the mountains still more rapidly filling up, the slope was finally established from the mountains to the sea, which gave current through the centre of the shallow lake. This current threw sediment along its eddies, which, in time, became the banks of the Sacramento river. If the course of nature had been allowed to go on, the low lands

would have been gradually filled, the banks of the river gradually raised, accumulating faster near the mountains, till, in time, the river would have gained sufficient fall to have carried, by its rapid current, without overflow, all the waters from the mountains. But, unfortunately, we prematurely found the El Dorado, and ever since have sought to guide nature in her work of reclamation; and we must so guide her henceforth.

In reply to your request for statistics of the late flood, I can state, perhaps, but little not generally known. This county was pretty generally overflowed, either by the river or by the rush of water from the coast mountains. The greatest depth of water in the tule, west from Sacramento, was about fifteen feet. Considerable quantities of sediment were deposited. I think we should ask to know how the water stood at different points with reference to the river when its banks were full, with no regard to height above low water mark. The river, at this point, rose about two feet above its banks; fifteen miles farther down, about three feet; and at Rio Vista, where the incline plane of the river meets the horizontal plane of the Bay, it rose nearly eight feet. There was but little current in the river during the flood. The water, as is natural, ran where was the greatest fall; that is, where there is a fall of one in sixteen by the tortuous course of the river, there may be a fall of one in four on a direct line. In one instance, the counter current carried a barn two miles up the river, and deposited it on the opposite bank, where it now stands. To reclaim the valley, we must adopt a general system. I think the present reclamation law needs some radical changes. The surveys obtained under it are, perhaps, worth all they cost. Under the law, we must permanently reclaim a district, or let it alone altogether. We cannot cut a drain which would render the worst swamp fit for grazing, unless the Engineer reports that the district will be permanently reclaimed. Some Engineers have been forced to do so, most of them have refused, and so but little is accomplished. I think the executive of the Swamp Land Department should be given more authority. I think money should be expended for partial reclamation. To do this with success, a thorough system for the main valleys must be adopted. There must be a thorough survey, unless from the detached surveys a general system can be determined upon. The executive of the department should have power to direct works for reclamation, without regard to persons immediately interested as land holders. Without a general system, we will be, by the breaking of detached levees from time to time, inundated, or if the levees stand, the water will be forced into some unnatural channel, and thus render all insecure. It has been proposed, and, I think, with wisdom, that an additional outlet be made, from the Sacramento river to the Bay. I believe such a channel might be made sufficiently large to carry a great portion of the waters of the upper Sacramento, and also the waters of Cache and Putah creeks, which would, perhaps, permanently reclaim the main tule in this county. I judge, if this policy were adopted, the river should be tapped above the mouth of Feather river, and its waters carried into an arm of Suisun Bay. This Bay rose scarcely higher this year than at other times. The supposition that the Straits of Carquinez would not let the water pass as rapidly as it accumulated, is, as you know, entirely erroneous if a channel is to be cut for the purpose of relieving the Sacramento, it will be a work in which the whole Sacramento valley is interested. This county will be but little more interested than Sutter, Sacramento, San Joaquin, and Solano Counties. Any survey, with such an object in view, the Board of Swamp Land Commissioners have no power to order. If it is desirable to cut away an obstruction in the channel of

any stream, the Board find no authority in the law. Our valleys will always have to be guarded, and it is proper that we take measures thus early for the systematic construction of all improvements. I would, therefore, respectfully ask you to consider and recommend some practical amendments to the reclamation law.

Respectfully yours,

AMOS MATHEWS,  
County Surveyor.

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STOCKTON, December 26<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

DEAR SIR: - In response to your questions in relation to the late flood, I have obtained from Mr. J. D. Morley, of Stanislaus County, the following replies in relation to the effects of the flood in that county, and also certain other information which is thereto appended:

First – The extreme height above low water mark at well designated points upon the Tuolumne and Stanislaus rivers, was twenty feet, but where the Tuolumne river flows through the mountains, the extreme height was fifty or sixty feet. The extreme height above low water mark at well designated points on the Merced river and Dry creek, was fifteen or sixteen feet.

Second – The water attained its greatest height on the tenth or eleventh of January, eighteen hundred and sixty-two.

Third – The lands in Stanislaus County adjacent to the Tuolumne, Stanislaus, and San Joaquin rivers, and Dry creek, were overflowed to the depth of eight or ten feet.

Fourth – All lands bordering upon streams in Stanislaus County were overflowed. The Tuolumne and Stanislaus rivers overflowed land to the width of about a mile; the San Joaquin, in Stanislaus county, overflowed lands to the width of from five to twenty miles. Persons living upon lands overflowed by that stream, only saved their lives by fleeing to the mountains and high lands. Dry creek overflowed lands to the width of from one-quarter to two miles.

Fifth – The banks of the Tuolumne and Stanislaus rivers have been very seriously affected by washing; in some places the width has been increased from two hundred to fifteen hundred feet; and whenever those rivers rise five or six feet, there will be three or four channels at different points, all occasioned by the washing of the late floods. The banks of the San Joaquin are very little changed, the river retaining its original channel. Tuolumne river, by changing its channel and overflowing its banks, has destroyed many ranches by washing away the soil.



Sixth – The Tuolumne and Stanislaus rivers have changed their channels in many places, and large sand bars have been formed in those rivers. The San Joaquin retains its original channel, and there are no bars to obstruct the navigation.

Seventh – There was a deposit of light sandy material upon most of the submerged lands in Stanislaus County, varying in depth from six inches to four feet.

Eighth – Upon the Swamp and Overflowed Lands in Stanislaus County the depth of water was about ten feet, the current running west-northwest. The deposit was less than upon some of the higher lands, varying in depth from four inches to two feet, the deposit upon submerged lands near the mountains and low hills being always greater than upon the lower lands. The deposit upon Swamp Lands was more of a vegetable character than that upon the higher lands.

Nine tenths of the crops upon the Tuolumne and Stanislaus rivers were destroyed, and many houses were swept off; a general destruction of fencing occurred; many cattle and horses perished in the flood; the destruction of timber was very great, caused entirely by the soil being washed away from the roots of the trees by the immense volume and velocity of the water. Many of the ferry-boat landings were entirely destroyed by washing of the banks, changes of channel, and formation of bars.

In relation to Merced County, on the Merced river the effects of the flood were very similar to those occasioned by the Tuolumne and Stanislaus rivers.

The effects of the flood in Mariposa County, generally, in consequence of the face of the country being more hilly, were, that so great an area was not overflowed, and the injuries were confined principally to mining improvements upon the banks of the Merced river and various creeks – the water rising as much as fifty or sixty feet above the low water mark.

At such times as I receive information in relation to the flood, I will send it to you.

Yours respectfully,

W. H. LYONS.

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BRANCHE'S FERRY, Stanislaus County,  
December 5<sup>th</sup>, 1862.

W. H. LYONS, Esq.:

DEAR SIR: - In answer to your note of the first instant, I would state that it gives me great pleasure to impart any information in my power regarding the subjects mentioned in the Surveyor-General's circular:

First – On the Tuolumne river, at this point (Section 35, 3, South, 13, East,) the extreme height was about thirty feet above low water mark of the flood of eighteen hundred and fifty-one and eighteen hundred and fifty-two.

Second – About meridian, on the tenth of January, eighteen hundred and sixty-two. On Saturday, the eleventh, at twelve o'clock, it having fallen three or four feet in the interval, it was a few inches lower.

Third – From seven to twenty feet.

Fourth – All the bottom lands on the Tuolumne river, from bluff to bluff. I should think that ten times as much land was submerged as lies within the United States meandering posts.

Fifth – The banks of the river have all been washed away; in some places to the extent of five or six rods.

Sixth – Old bars were washed away, and new ones formed. The channel was changed every half mile, in many instances sweeping away all the bottom lands, in others, cutting a new channel through the centre of a ranch.

Seventh – In some instances the flood left large deposits on the land of a light sandy character, unfit to sustain vegetable life. The flood appears, in most cases, to have swept off the soil and original deposits to the depth of from five to twenty feet, and as the water subsided, to have deposited sand and loose gravel of various depths.

Eighth – I can only state that I believe that nearly every acre of overflowed land within the United States meandering lines on the Tuolumne river has been swept away, or rendered valueless by a deposit of sand, as the water fell.

In reply to the concluding clause of your letter I would state that no flood of like character and extent has occurred on the Pacific slope for many hundred years. The evidences in support of this conclusion are to be found in the facts that the land washed away along the river banks was originally formed from alluvial deposits, in some places ten or twelve feet above the bed rock, where the Indians had for years bruised acorns and seeds for food, forming dozens of small and large holes in the rock. The period of time occupied in forming ten or twelve feet of deposit, including a foot or two of soil, geologists can determine. Upon that deposit grew oak trees from five to ten feet in diameter, washed up and carried down that stream. Some of them must have been more than three hundred years old. In some places the hearts of large oak trees can now be seen lying on the bed rock where ten or twelve feet of the original deposit has been washed down stream.

My ranch, as well as those of many of my neighbors, were rendered nearly valueless by the sweeping away of the soil and depositing afterwards of loose gravel and fine sand, which the wind blows hither and thither as it changes.

In a hurried manner I have given you all the information thought of at this moment; any further questions answered with pleasure.

I should estimate the damage caused by the flood on the Tuolumne river, from Jacksonville to its mouth, at not less than one hundred and fifty thousand dollars.

Yours respectfully,

LOUIS M. BOOTH, M. D.

# REPORTS OF COUNTY ASSESSORS.

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BUTTE COUNTY.

S. Y. HALE.....County Assessor

OFFICE COUNTY ASSESSOR,  
Oroville, December 1<sup>st</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In accordance with law, I send you my annual report for the present year. The agricultural business in this county is steadily increasing. The crops this year have generally been good, and the farmers have received fair prices for their grain and hay. Wheat and barley are the principal crops raised.

Tobacco, in small quantities, has been grown in different parts of the county, and wherever planted has produced well.

The Chinese sugar cane has been successfully grown here this year. Mr. F. Phillips, an enterprising farmer on Pine creek, has erected a mill, driven by water power, for crushing the cane, and has succeeded in manufacturing a good article of syrup.

The raising of fruit trees and grape vines is yearly increasing, and we have already many large orchards and vineyards in full bearing. But the insecurity of land titles in this county has been a great drawback to the branch of business.

This county, in common with the other stock raising counties, suffered severely in the loss of cattle last winter, which has been the cause of the falling off of the assessable property, compared with last year. Farmers and stock raisers are now turning their attention more to raising horses and sheep, and are improving the breeds of each.

The keeping of bees is attracting the attention of farmers and others, and where proper attention has been paid to them, they have done remarkably well, and have been profitable to the owners.

Mining still continues to pay well; the yield of gold has been greater this year than last, and the miner has been better remunerated for his labor. Tunnel and hydraulic mining is now the principal mining that is carried on. River and quartz mining is not as good paying business as it has been in years past.

Very respectfully yours,

S. Y. HALE,  
Assessor of Butte County.

CALAVERAS COUNTY.

J. THOMPSON AND OTHERS.....Township Assessors

OFFICE COUNTY ASSESSOR,  
Mokelumne Hill, Dec. 6<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - We beg to enclose to your address herewith the annual report from this county, in compliance with Act of the Legislature.

You will observe there is a small falling off in total amount of assessable property in this county, as shown by the returns made, from the amount of eighteen hundred and sixty-one. This is to be accounted for by the general depreciation and loss arising from the unusually severe winter last past; but for this, we might figure up, perhaps, at least one quarter of a million of dollars more in total value:

Value of Real Estate and Improvements.....	\$1,191,044
Value of Personal Property.....	1,433,268
Total value of Property.....	\$2,624,312

The mines of this county continue to yield their treasures, though not in the great abundance of former years, still in remunerative quantities; but the great feature and ultimate mining interests, and we might say the real basis of our future prosperity and wealth is our copper mining interests. We are not shipping from the various lodes already opened, not less than four hundred tons of ore per month, which varies in quality from that which assays twenty-five per cent to that which will reach as high as fifty-two or fifty-three per cent in metal. By the return of another year, from the progress made in explorations, we may look for a monthly shipment of at least some eight hundred tons. Our busy miners are now at work exposing some of the best lodes to be found in the known world. The lodes run through the county in a southeast and northwest direction in several localities. Those opened at Hog Hill, Copperopolis, Campo Seco, San Domingo, John Bull Diggings, and at several other localities in the county, will place Calaveras at the head of the copper producing counties of the State, and be one of the chief sources of its revenue. And in this connection, we would again urge upon our State authorities the necessity of lending us a helping hand by means of practical scientific knowledge in the speedy development of this large means of future prosperity to our county, and, as a necessary consequence, to the State.

The extreme winter lately passed was very destructive to our mining ditches and other improvements of like character, so much so that some of the larger ones have been compelled to make an outlay of many thousand dollars to bring them to a condition to pass water through; while many of the small ones were entirely destroyed

or rendered valueless; this will account for the decrease in the number as compared with last year's returns.

In agriculture, the county is not, we are sorry to say, making much improvement, while in horticulture, for a mountain county, we think Calaveras will vie with the most advanced. We boast of trees and vines, as follows:

Description.	Number.
Apple.....	29,610
Peach.....	26,252
Pear.....	5,110
Plum.....	2,519
Cherry.....	1,051
Nectarine.....	1,011
Apricot.....	1,131
Fig.....	650
Pomegranate.....	120
Almond.....	316
Gooseberry.....	1,697
Raspberry.....	6,105
Currant.....	1,344
Strawberry.....	54,058
Grape vines.....	300,049

Besides many of the more rare specimens, such as lemon, orange, pepper, prune, etc. The quality of fruit produced will bear favorable comparison with that of any other part of the State.

Nevada Territory, and our neighboring County of Mono, are still drawing largely from the wealth and labor of this county, and in the spring of eighteen hundred and sixty-three will take from us an amount of capital and enterprise which, unless replaced from other quarters, may tend to still lessen our taxable property. This, in connection with the generally unsettled titles to valuable districts of agricultural lands – particularly in the foot-hills – will cause property in the mountain counties to be more or less fluctuating until a final title, clean and unclouded, is vested in the occupant.

All of which we respectfully submit for your perusal.

Yours, etc.,

J. THOMPSON, Assessor Fourth Township.  
 B. K. THORNE, Assessor Fifth Township.  
 D. S. BATES, Assessor Sixth Township.  
 S. W. BRIGGS, Assessor Seventh Township.  
 JOHN GILLILAND, Assessor Eighth Township.  
 VOLNEY SHEARER, Assessor Ninth Township.

DEL NORTE COUNTY.

GEORGE W. RUSSELL.....County Assessor

OFFICE COUNTY ASSESSOR,  
Crescent City, Sept. 15<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

DEAR SIR: - Herewith please find my report as County Assessor of Del Norte County for the year eighteen hundred and sixty-two.

If it had not been for the appearance of total neglect I would not have made any return at all, having found it impossible to make anything like a correct one. Nearly all of the stock was driven out of the county very early in the spring, and that which was left was so left in the hands of agents, who could only account for them in figures, and it is a matter of impossibility for an Assessor to make a report when things are in that state.

Nearly all the farmers left early in the spring for the new mines, leaving their ranches and property in the hands of agents, which agents can only give the taxable value of such ranges and property from figures left with them by the owners previous to leaving, and as for getting any information from them, as is required, it is impossible. Consequently, even my very lame report as rendered I cannot vouch for as correct. Our county at present is truly in a dilapidated condition.

Very respectfully yours,

GEORGE W. RUSSELL,  
Assessor of Del Norte County.

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EL DORADO COUNTY.

GEORGE McDONALD.....County Assessor

OFFICE COUNTY ASSESSOR,  
Placerville, Nov. 10<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - I have the honor to transmit the following report, as Assessor of El Dorado County, for the year eighteen hundred and sixty-two:

Total number of acres of land claimed is.....	211,410
Agricultural land.....	30,271
Grazing land.....	181,139
Acres in Wheat.....	178
Acres in Barley.....	1,958
Acres in Oats.....	2,083
Acres in Grass.....	5,122
Number of Apple Trees.....	80,427
Number of Peach Trees.....	44,289
Number of Plum Trees.....	5,908
Number of Cherry Trees.....	1,474
Number of Pear Trees.....	8,741
Number of Apricot Trees.....	1,200
Number of Nectarine Trees.....	875
Number of Quince Trees.....	1,110
Number of Almond Trees.....	462
Number of Fig Trees.....	451
Number of Grape Vines.....	772,547
Number of Wagons.....	990
Number of Buggies.....	69
Number of Carriages.....	15
Number of Harness.....	1,561
Number of Horses.....	2,821
Number of Colts.....	272
Number of Mules.....	1,351
Number of Jacks.....	48
Number of Cows.....	3,058
Number of Calves.....	1,197
Number of Oxen.....	1,263
Number of Stock Cattle.....	3,900
Number of Hogs.....	4,220
Number of Sheep.....	2,138
Number of Goats.....	651
Number of Stands of Bees.....	264
Number of Steam Saw Mills.....	23
Number of Water Power Saw Mills.....	13
Number of feet of Lumber for 1862.....	19,000,000
Value of Lumber.....	\$285,000
Water Power Grist Mills.....	2
Run of Stones.....	4
Value of Mills.....	\$3,500
Bushels of Grain Ground.....	20,300
Value of Grain Ground.....	\$32,750
Number of Toll Roads.....	17
Aggregate length in miles.....	126

Canals and Ditches.....	60
Aggregate length in miles.....	662
Miles of Telegraph line.....	200
Toll Bridges.....	9
Steam Quartz Mills.....	3
Water Power Quartz Mills.....	2
Cement Mills.....	3
Steam Marble Mills.....	1
Soda Factories.....	3
Breweries.....	11
Marble Quarries.....	5
Foundries and Machine Shops.....	1
Money on hand.....	\$316,619
Gold Dust.....	18,216
Money at interest.....	285,160
Solvent Debts.....	229,917
Stocks of Goods.....	\$355,127
Furniture.....	61,055
Total value of Property for 1862.....	3,862,649
Total value of Real Estate.....	463,260
Total value of Improvements.....	1,341,049
Total value of Personal Property.....	2,058,340
Increase over 1861.....	68,529

The unprecedented floods of the past winter destroyed a large amount of property in this as well as other counties in the State. The loss of cattle and other stock was immense, nearly every bridge in the county was swept away, and great damage done to canals, ditches, gardens, saw mills, etc. Under these circumstances it was expected there would be a large decrease in the amount of taxable property as compared with last year. Yet, notwithstanding these reverses, the energy and perseverance of the people of our county are rapidly recovering and repairing the losses. Already the assessments show a small excess over the total valuation of eighteen hundred and sixty-one. I regret being unable to furnish you with much of the valuable information required in your circular of February last. Many and unforeseen difficulties have prevented the collection of much statistical matter. This, it is believed, can, in a measure, be obviated during the next season.

The agricultural interests of the county are in a highly satisfactory state, and steadily advancing, more attention being given to horticulture than to the raising of cereals.

Much difficulty attends the assessing of possessory rights to lands at anything above a mere nominal value, all the lands in the county being considered mineral.

The two interests – agricultural and mining – come in frequent collision, and occasion many and vexatious law suits, from the uncertain tenure by which they hold their respective claims.



The brief report I hereby furnish you is far from doing justice to the great and growing resources of El Dorado County; her energies, heretofore devoted almost exclusively to mining, are gradually being directed to other enterprises, and the change of pursuit, it is believed, will result in the highest advantage to our condition, both moral and material.

The successful culture of the vine, and the consequent manufacture of wine, gives promise of an early future when our hillsides, now frowning in barrenness, will be dotted all over with happy homes of contentment and plenty, and our broad acres yield at each returning vintage abundant reward for the patience and toil of the laborer.

GEORGE McDONALD,  
Assessor of El Dorado County.

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PLACERVILLE,  
Nov. 29<sup>th</sup>, 1862.

The foregoing is a true copy of my original report.

GEORGE McDONALD,  
Assessor of El Dorado County.

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FRESNO COUNTY.

THOMAS J. ALLEN.....County Assessor

OFFICE COUNTY ASSESSOR,  
Millerton, November 4<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In compliance with law I respectfully submit my report for the current year. Owing to the many difficulties in the way, occasioned by last winter's floods, it is impossible for an Assessor this year to get any accurate information in regard to the statistics of the county.

The area of our county I have no means of arriving at correctly, its boundaries are irregular, as there is a great portion not yet surveyed, and I think there are certain portions of the county line should be ordered surveyed this fall, as it is very hard for an Assessor to know where he is; as he has to go, in many cases, by nothing but

imaginary lines, it would also make it more satisfactory to people living close to the line to know for certain what county they are living in. The lines most needed to be run are as follows: the line commencing at the Newton crossing of the Chowchilla, running up as high as inhabited; the said line was run, at the time of the organization of the county, for a short distance up, but was considered incorrect; also, the line on lower Kings river, below Blisses' Ferry, Kingston, commencing at a point to which the last survey was taken to, running to Tulare Lake, thence from the other side of where the line strikes the lake to summit of the Coast Range, or to where this county joins with San Luis Obispo County.

AGRICULTURAL STATISTICS.

Description.	Number.
Land enclosed, acres.....	4,975
Land cultivated, acres.....	3,980
Wheat, acres.....	450
Wheat, bushels.....	8,500
Barley, acres.....	1,000
Barley, bushels.....	19,000
Corn, acres.....	160
Corn, bushels.....	3,200
Beans, acres.....	1
Beans, bushels.....	15
Potatoes, acres.....	4
Potatoes, bushels.....	371
Sweet Potatoes, acres.....	4
Sweet Potatoes, bushels.....	520
Hay, acres.....	900
Hay, tons.....	1,050
Cheese, pounds.....	500
Eggs, dozens.....	5,500
Wool, pounds.....	29,000
Honey, pounds.....	2,100

Fruit Trees and Vines.	Number.
Apple Trees.....	1,150
Peach Trees.....	2,575
Pear Trees.....	160
Plum Trees.....	85
Cherry Trees.....	96
Apricot Trees.....	22
Fig Trees.....	6
Raspberry Bushes.....	6

Strawberry Vines.....	250
Grape Vines.....	8,000

Live Stock.		Number.
Horses, American.....	153	
Horses, Spanish, tame.....	1,356	
Horses, Spanish, wild.....	2,248	
Total number of Horses.....		3,757
Mules.....		103
Assess.....		70
Cows.....	433	
Calves.....	241	
Stock and Beef Cattle.....	55,913	
Oxen.....	213	
Total number of Cattle.....		56,800
Sheep.....		43,353
Goats.....		1,321
Hogs.....		7,692
Chickens.....		4,953
Turkeys.....		170
Ducks.....		30
Bee Hives.....		168

Description.	Number.	Value.
Animals slaughtered.....	-	\$25,650
Saw mills, steam power.....	1	8,000
Saw mills, water power.....	3	2,800
Lumber sawed, feet.....	50,000	900
Mining Ditches, miles in length.....	3	400
Amount of water, inches.....	80	-
Ferries.....	6	5,000

Description.	Value.
Land and improvements.....	\$197,454 53
Improvements on Public Land.....	56,572 00
Amount of Personal Property.....	708,958 75
Total value of property.....	\$962,985 28
State and County Tax.....	18,297 36

Our county is better adapted at the present time for grazing purposes than farming, although there are thousand of acres of rich land, well adapted for farming purposes, but on account of the drought natural to the country, and no water to irrigate with, it cannot be cultivated. But the time is not far distant, in my opinion, when Fresno County will show by her statistical reports to be not far behind the foremost county in the State for farming. This year there is not much grain raised, it being so wet last winter that many farmers could not plough in time to plant. As a general thing considerable grain is raised for fattening hogs, and considerable cut for hay. It is more profitable to cut for hay than for the grain.

The farming at present is confined to valleys in the mountains and foot-hills, and to the river bottoms, where, as a general thing, the soil is rich and deep, producing well.

Of Swamp and Overflowed Land there is an immense quantity, but as yet nothing has been done to reclaim it. There is considerable of it that would produce well if cultivated.

The increase of live stock since last year has been small, and in some species of stock (as you will see by the report) has run behind, owing to losses occasioned by last winter's floods, and removal of stock from the county.

The mining interest of this county is small compared with the other counties north. As there has been no heavy hill or bank diggings discovered yet, mining is confined to small gulches in the winter season, and the river beds in the summer and fall. The San Joaquin, Fresno, and Chowchilla, are the principal streams worked for gold, although there are quite a number of minor streams which yet afford employment for a number of hands. The bed of the San Joaquin has been but little worked as yet, on account of a large amount of water to contend against, and being late in the season before it is low enough to commence operations, although there have been many claims worked to advantage, paying well, and ground enough left to give employment to many hands for years to come. As the white mining population of the county is small, the diggings are worked mostly by Chinese, who pay considerable revenue to the county.

There is considerable quartz in the county, but it has been prospected very little as yet, although I have seen as rich specimens from veins here as from any section in the State.

The New Idra quicksilver mine, which is located in the lower end of this county, in Coast Range Section, when in operation pays very well, making from ten thousand

(\$10,000) to fifteen thousand (\$15,000) dollars per month, clear of expenses. They keep from two to three hundred men employed at the mines.

The whole line of Coast Range in this county, I think, is rich in mineral. There has been found, silver, lead, copper, coal, and quicksilver, and I think when that part of the county is fully developed it will prove to be one of the richest mining sections in the State.

We have now four saw mills in our county, three are water mills, located on the North Fork of the San Joaquin river – there was but one located there last year, two have been built since – cutting from fifteen hundred to three thousand feet per day to the mills, and, from all appearance, will do a lucrative business. The one that was operating last year, as you will see by the report, sawed but a small amount of lumber, much under the demand; the other mills is steam-power, located on the waters of the Cowee, or Mill creek, and, owing to last winter's flood having cut up the roads so bad, and no person being at the mill, I could not get the information desired, but from the large amount of lumber hauled from there last year, and from what I can learn, lends me to believe that there was a large quantity of lumber sawed. The above mills are all located in the best of timber.

We have some of the finest timber in the world, comprising the sugar, yellow, white, and spruce pine, the fir, and cedar, which grows inexhaustible in forests in the high mountains. The valleys and low hills are timbered with the pitch, or scrub pine, post and white oak, and you may also find a species of live oak, resembling that found in the Atlantic States; and on the creek bottoms grows the cottonwood, willow ash, and alder; the manzanita grows in great abundance in the low hills, but is very seldom used for any purpose.

We have about seventy-five miles of telegraph running through the lower end of the county.

There are six ferries in this county, three on the San Joaquin, and three on King's river; they all do a fair business, from what I can learn.

Bees in this county do very well; on King's River, where they are mostly raised, they do as well, and perhaps better, than in any section of this State. Already they have cut at least one hundred bee trees, the bees having swarmed and went to the timber. Trees have been found that turned out over one hundred pounds of strained honey. The climate and range is well adapted for their culture.

Yours, respectfully,

THOMAS J. ALLEN,  
Assessor of Fresno County.

HUMBOLDT COUNTY.

R. WILEY.....County Assessor

OFFICE COUNTY ASSESSOR,  
Eureka, November 18<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In conformity to law, and in compliance with your circular of February twenty-eighth, I respectfully submit the following report of the statistics for the present year for Humboldt County, and if they are not as full and complete as they should be, the fault may be attributed to the difficulties appertaining to the collecting of statistics in a country that is groaning under all the horrors incident to an Indian war.

Humboldt County is situated immediately on the coast, and embraces all the country between the fortieth and forty-first degrees of north latitude, and running back to the summit of the Coast Range, and embraces within its limits Cape Mendocino and Humboldt Bay. Said Bay extending inland from the entrance to the town of Arcata, (situated at the head of the Bay,) a distance of sixteen miles from the coast. The county seat is located at Eureka, situated on the south side of the Bay and about midway between Arcata and the entrance of the Bay.

The number of votes polled at last election was eight hundred and forty.

The number of persons assessed was eight hundred and forty.

Humboldt County may be strictly called an agricultural county, from the fact that the Indians have driven the citizens entirely from the grazing portions of the county, and where last year twenty-six thousand head of cattle were feeding on the most luxurious grass the State affords, now scarce seventeen thousand can be found; showing a loss of over nine thousand head in one year, besides the increase.

The aggregate amount of grazing lands exceeds the amount of farming lands by two or three to one, but the total amount cannot be obtained, from the fact that the county lines have never been surveyed, nor has the larger portion of the county been surveyed by the United States.

There is a dense forest of redwood timber running through the county from north to south, and parallel with the coast, from ten to fifteen miles in width, outside, or east of which, is our grazing land, (Bald Hills), and all of which, from its alluvial soil, is susceptible of the highest state of cultivation.

Our farming land, however, at the present time is confined to the small valleys around the Bay and Eel River Valley, which is the finest body of farming land in the county.

The following table will show the amount of stock now in this county:

Description.	Number.
Horses, Spanish and American.....	2,035
Mules, (mostly Pack Mules).....	593

Asses.....	8
Cows.....	5,456
Calves.....	7,188
Beef Cattle.....	3,730
Oxen.....	772
Sheep.....	584
Goats.....	41
Hogs.....	5,498
Chickens.....	5,161
Turkeys.....	178
Geese.....	83
Bee Hives.....	210
There is in this county, lands inclosed, acres.....	15,120
Lands under cultivation, acres.....	8,558

FARM PRODUCE.

<i>Wheat.</i>	
Numbers of acres in Wheat.....	1,388
Number of bushels.....	31,653
<i>Barley.</i>	
Number of acres.....	65
Number of bushels.....	3,918
<i>Oats.</i>	
Number of acres.....	491
Number of bushels.....	23,490
<i>Corn.</i>	
Number of acres.....	56
Number of bushels.....	1,400
<i>Potatoes.</i>	
Number of acres.....	457
Number of sacks.....	27,680
<i>Dairy Produce.</i>	
Butter, pounds.....	37,638
Cheese, pounds.....	12,162

<i>Eggs.</i>	
Number of dozen.....	6,860
<i>Fruit Trees, Etc.</i>	
Apple Trees.....	17,600
Peach Trees.....	9,968
Pear Trees.....	630
Plum Trees.....	975
Cherry Trees.....	417
Quince Trees.....	147
Apricot Trees.....	245
Gooseberry.....	8,630
Raspberry.....	6,300
Strawberry.....	11,800

There are four steam mills and two grist mills, also three water power saw mills and two grist mills. The steam mills are valued at fifty-one thousand dollars (\$51,000); the water power mills at fifteen thousand dollars (\$15,000.)

The saw mills have produced in the past year:

Lumber, feet.....	14,968,955
Lath.....	1,260,875

There is also one shingle machine which will produce five millions of shingles per annum.

The total amount of the assessment for Humboldt, for the present year, is as follows:

Description.	Value.
Real Estate.....	\$320,725
Improvements on same.....	291,705
Personal Property.....	740,360
Total assessments.....	\$1,352,790

All of which is respectfully submitted.

R. WILEY,  
Assessor of Humboldt County.



LAKE COUNTY.

E. L. MUSICK.....County Assessor

OFFICE COUNTY ASSESSOR,  
Lake Port, October 10<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In compliance with your circular, and in conformity with the law, I herewith submit the following as my annual report.

Lake county was organized one year ago last June, with but a small population. It is situated in the Coast Range of mountains, west of Sacramento river, with a beautiful lake of fresh water in its centre, from which it takes its name.

It is principally a grazing county, although it contains some of the finest farming lands in the State; though the valleys are generally small, confined principally to the borders of the lake and along the streams running through the mountains, they are admirably adapted to the production of grain and fruits of almost every variety, and vegetables of every description, and in the greatest abundance.

Of timber, it is generally abundant, and in many localities inexhaustible. The varieties are sugar, pitch, and spruce pines; some cedar on the mountains. The valleys are generally covered with oak and ash; the former is the finest that grows in the State for the building of wagons and the making of staves.

Of the agricultural lands it is necessary to say but little. Practical experience has proven them capable of producing, in abundance, all the grains and fruits indigenous to almost every clime and zone. Wheat, barley, oats, corn, buckwheat, beans, peas, potatoes, onions, melons, etc., yield up to the husbandman an abundant harvest, while the growing of tobacco is no longer an idle speculation, but a proven fact.

Of the Swamp and Overflowed Land of the county, I have but little knowledge. I will refer you to the County Surveyor's report.

Mineral lands, we have but little in the county. We have some flattering prospects of quicksilver in the southern portion of the county, which bids fair to become an item of interest.

In conclusion, I would urge the more definite location of the county lines between this county and Yolo and Colusa Counties, as there is much difficulty experienced by the officers in ascertaining the true limits of their respective counties, and a number of the settlers have had their property assessed in both counties this year.

Enclosed please find my statistical table.

All of which is respectfully submitted.

E. L. MUSICK,  
Assessor of Lake County.

By J. B. ROBINSON, Deputy.

MARIPOSA COUNTY.

GEORGE W. CORNELL.....County Assessor

OFFICE COUNTY ASSESSOR,  
Coulterville, November 5<sup>th</sup>, 1861.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In accordance with the laws of this State, and in compliance with your request, I have the honor to submit my report for the current year. The Board of Supervisors of this county, sitting as a Board of Equalization, have this day completed their labors. You will find by reference to the accompanying schedule an approximate estimate of all things pertaining to the resources of this county. It is almost impossible to furnish figures and facts in the premises, but by due and diligent inquiry, I think the return will approximate very near the truth.

You will observe a large increase in the assessed valuation of real and personal property. This fact is to be attributable to the energy of our Board of Supervisors, and to their impartial but inflexible execution of our revenue laws. This is a gratifying fact when it is remembered that our county has ever lain under an incubus of a heavy debt. There being under the present assessment, the supposed amount of nine thousand dollars increase income on property tax, and citizens of the county can now soon hope confidently of the extinguishment of our public debt.

Our county is emphatically a mining county. Its geographical situation is from the foot hills on the west, extending to the summit of the Sierra Nevadas on the east, and bounded on the north by the first township line south of the Mount Diablo meridian. Through the centre of our county runs the great back bone quartz lode, with its ramifications of metalliferous deposits. Heretofore, these deposits have been sought for the gold contained in them, but recent experiments and discoveries have demonstrated the fact that large deposits of the sulphates of copper exist, and that enterprise and capital are only needed to develop one of the many rich resources of the wealth of California. A company already organized are now at work opening the lode on the Merced river, about two miles above Flint & Peabody's mill. Scientific men express confidence in the richness of the deposit, and say that the indications rival the far famed Copperopolis country.

To the southeast of the town of Mariposa about eight miles, on the waters of the Chowchilla, recent discoveries have been made of rich deposits of silver ore. Assays have been made, and the results therefrom have been sufficient to induce parties to commence the development of these mines. The stage of productiveness of these mines is yet incipient, therefore no absolute assurance can be given of their ultimate value.

The parties controlling the Las Mariposa estate in this county, have erected and now have several quartz mills running, in the aggregate, about one hundred and fifty stamps, sixty-four of which are driven by water power, and the remainder by steam. The gross product of these mills is variously estimated at from fifty to one hundred

thousand dollars per month. The approximate amount will be near sixty thousand dollars per month.

We have no large bodies of agricultural land. Our arable soil is confined to small patches along the courses and deltas of our streams, and even but a few of these are under cultivation, the adjoining Counties of Merced and Stanislaus furnishing us our supplies of cereals cheaper than we can grow them. Even our wants in vegetables are partially supplied from the Tuolumne and Merced country, at a point west of our county line. Nearly all grain grown in this county is found most profitable to cut green and make into hay. By this means a portion of our wants are supplied.

I respectfully refer you to the schedule for statistics concerning grapes.

You will observe that though our county is deficient in cereals and table vegetables, yet the grape flourishes largely in proportion to our population. This fact demonstrates the certainty that our mountain and hill sides are eminently adapted to the growth of the grape.

The vine will ultimately be a source of revenue and profit to producers.

Of timber, it is generally abundant in the mountainous districts of our county. From the western county line to Mariposa town the variety is small, and consists mainly of several species of oak, and inferior species of pine. To the eastward of the latter point the supply is inexhaustible, and consists of sugar, spruce, and pitch pines, of the finest and noblest qualities.

Lying about forty-five miles northeasterly of the town of Mariposa, is the valley and falls of the Yosemite. A description of this far famed natural curiosity would possibly be inappropriate in this report; but suffice it to say that it abounds in the wildest and sublimest scenery. A deep gorge in the mountains, it nestles far below the towering cliffs, and clothed in sylvan verdure; it receives at its eastern extremity, from a leap of four hundred feet, the waters of the Merced river, and bears them the distance of ten miles to its western extreme. From either side numerous little streams fall over the cliffs into the valley, seeking their level in the Merced river, forming many fantastic cascades, blending the sublime and beautiful in one view. A sight worth a visit.

We have no toll bridges – the floods of last winter carrying away all we then had, and they never have been rebuilt.

To our county town and vicinity good roads exist, and are kept in excellent order. Freight teams carry full loads to and fro all seasons of the year.

We have six School Districts, four of which now have teachers. No great attention has been given to public schools heretofore, our population being of a nomadic disposition. Attention is being paid; the subject and the School Fund increasing. We can soon hope to boast as good public schools as any in the mountains.

We have no manufactories in our county, unless three lager beer establishments can be dignified by that name. Whatever they are, they brew a sufficient amount of lager for the consumption of our citizens.

I am, Sir, very respectfully, your obedient servant,

GEORGE W. CORNELL,  
Assessor of Mariposa County.

MENDOCINO COUNTY.

JOHN BURTON.....County Assessor

OFFICE COUNTY ASSESSOR,  
Ukiah City, Nov. 14<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - Herewith enclosed I send you the County Assessor's report for Mendocino County.

We have in our county a large amount of redwood timber lands, which are not surveyed, and the most of it reported not worth surveying by the United States Surveyor; but if the same could be located under the School Land law, the principal part would be taken up, thereby creating quite a revenue to the State and county. But as all of our School Lands have been located in this district, there is no chance at present for parties to locate the same. If our delegation in Congress could have a bill passed allowing the School Lands of other land districts to be located in this one, it would cause a large amount of timber and grazing lands to be located in this county. Our timber lands extend from the Gualalla river to the Ten-Mile river, above the Mendocino Indian Reservation, a distance along the coast of seventy miles, and an average width of ten miles, with quite a number of large streams emptying into the ocean, which are all taken up, and mills are located at the mouths of the same; and there is not over ten thousand acres of land located on the above described tract, subject to taxation, when there should be not less than one hundred thousand acres taxed.

Yours respectfully,

JOHN BURTON,  
Assessor of Mendocino County.

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NEVADA COUNTY.

G. B. McKEE.....County Assessor

OFFICE COUNTY ASSESSOR,  
Nevada City.

Hon. J. F. HOUGHTON,  
Surveyor-General:

DEAR SIR: - In conformity with the statute and your letter of instruction, I submit the subjoined statement of the situation and resources of Nevada County.

Nevada county lies in about the thirty-ninth parallel of north latitude, extending from the State line, nearly due west, seventy miles, with an average width of about twenty miles, composing an area of about fourteen hundred square miles. Nearly the whole county is traversed by the ranges of the Sierra Nevada, its eastern boundary being the summit or divide of the Sierras, while its western limit is the foot-hills and the low lands of the main Yuba. The differences in altitude of this mountain range produces a corresponding variety of climate and production, and while in one portion of the county frost and snow are rarely or never seen, and tropical plants flourish in the open air, in another part frost is felt nearly every night in the year, and nothing but the hardier varieties of grasses can be grown.

#### AGRICULTURE.

The broken and uneven character of the county prevents this branch of industry attaining the extent and importance that characterizes other portions of the State. The tillable lands are generally small valleys, of a few miles in extent, scattered through the hills; though small, they are very fertile and produce vegetables and fruit of the finest quality in abundance. These command a higher price in our mountain markets, cheap fencing, and exemption from destructive floods, has made the cultivation of these mountain farms more generally profitable to the farmers than the more extensive and more expensive farming of the Sacramento bottom. Along the summit of the Sierras are quite a number of extensive valleys that furnish pasturage for large herds of cattle from the month of June till about November. The cattle are driven to these valleys from the lower counties of this State. They thrive remarkable, in the cool air and rich pastures of these natural meadows, and furnish with the best of beef the markets of our own mountain towns and of Nevada Territory.

#### FRUIT.

The culture of fruit is receiving increased attention, and though cherries and apricots do not thrive, and the peach crop is sometimes diminished by the late spring frosts, yet apples, pears, plums, and grapes, are grown with the greatest success. Experienced grape culturists are confident that the red soil of our mountains will produce a superior quality of wine grapes. From the number of choice vines now in cultivation through the county, this question cannot long remain in doubt.

#### MINING.

Mining is the principal and staple business of the county, and for the richness, regularity, and extent of the gold mines, Nevada County has been long celebrated. Hydraulic and quartz mines are principally worked, although river mining is still quite extensively prosecuted. Of the extent of the hydraulic mines it would be impossible to give any correct estimate; improvements in the modes of working, and the diminished cost of labor and water, are yearly opening new and extensive mining sections that were formerly abandoned as worthless; as to what new ranges the future may develop,

I shall not attempt to predict, but I am confident that the present generation will have ample employment to work out the mines now opened.

#### QUARTZ MINING.

This great and permanent branch of mining industry is steadily advancing in importance. The great improvements in machinery, in the mode of working the leads, and especially in the management of the business, is working a most important and beneficial revolution in the whole system of quartz mining. The question is no longer with the quartz miner how he shall crush the most rock, but how he can work it most thoroughly; the sulphurets, formerly all wasted, are now saved, and frequently are the principal revenue from the mine. Two or three establishments in this county are employed exclusively in the chemical treatment of sulphurets. They purchase them from the quartz mills, and the business is made not only profitable to the purchaser, but very advantageous to the mill owner. The useless and extravagant expenditure of earlier days is also done away with, and while the miner makes sure that the gold is thoroughly extracted from the rock, he also sees that none of it is wasted in unnecessary expense. One very serious drawback exists, however, to quartz prospecting; it is very great danger that some stale and antiquated claim may be trumped up to deprive the prospector of the fruits of his energy and enterprise. Most of the prominent ledges in the county have at some time been worked and virtually abandoned, yet, upon the strength of this work, the first holder, frequently after years of absence, returns to harass the successful proprietor, either seeking to deprive him of his mine, or to levy black mail upon him for its quiet possession.

There is no legal rule by which the lapse of time necessary to constitute an abandonment is established, and the ownership of a vast number of quartz leads is therefore a matter of utter uncertainty. If some legislation could be had upon this subject, and the fact that a quartz lead was not worked for a period of one or two years, was made *conclusive* evidence of abandonment, it would give a great impetus to quartz mining, not only in this county, but throughout the entire quartz region.

The floods of last winter injured some of the older and deeper mines, filling them with water, and causing slides; they are, however, being repaired and re-opened. New leads are being daily struck, and at no period has this branch of mining appeared as active and promising as at the present.

#### WATER DITCHES.

In these we are highly favored. The regularity of the ridges has greatly facilitated the construction of ditches. While the numerous streams have afforded an abundant supply of water, several of the larger ditches have their sources of supply in the lakes about the summit, and furnish water through the whole year. This water is again taken from the streams by the lower ditches, and the whole county is thus furnished with a regular and almost continuous supply of water. The effect of this, not only upon the business of mining, but upon the habits and character of the miners themselves, is marked. The magnitude and importance of the ditch interests confer a corresponding stability to the mining interests upon which they are dependent. The improvements made are of a more durable and substantial character. Continuous and regular

employment induces regular and settled habits, and the miner, looking upon his employment as a regular and established business, and not a short-lived speculation, provides himself with the comforts and conveniences of a home. That these beneficial influences produce the most decided effect upon both the moral and social character of the miners themselves, need hardly be stated.

#### SAW MILLS.

The middle and eastern portions of the county are heavily timbered with pine, cedar, spruce, hemlock, and oak; in the western portion pine is scarcer, and oak takes its place. A large amount of lumber is used in the mines, and a still larger amount is sent to the valleys in the shape of fencing. Large amounts of lumber are yearly transported to Nevada Territory, and this must increase as the resources of that country are developed.

#### TOLL ROADS.

The principal thoroughfares through the county are toll roads. Experience seems to establish the fact, that if we would have the roads in the mountains we must look to private enterprise, rather than public spirit, to construct and manage them. Nothing less than the interest men feel in their own personal investments will induce them to do anything for a public highway. That interest is, however, enlisted by the establishment of toll roads, and probably the result is fully as beneficial to the community as though the county has undertaken their construction and management.

#### GRIST MILLS.

But little grain is grown in the county, and we have but one heavy flouring establishment. This is at Nevada City, and is capable of turning out one hundred barrels of flour per day, for which it finds a steady demand, both in this county and in Washoe. The mill is supplied with grain from Bear river, in Placer County, and from Yuba County.

#### FINANCIAL SITUATION.

Like most of the other counties of this State, Nevada County suffered severely from the extravagance and mismanagement of earlier days. In addition to this, the county buildings and records were destroyed by fire in eighteen hundred and fifty-six. From these causes a very heavy debt was entailed upon the county. Under the present system of assessing and collecting, with economy in the county government, the debt is being rapidly removed, and in two years, at the farthest, will be entirely paid off. When this shall be accomplished, Nevada County, with her splendid mineral resources, will be the first, as she is now among the foremost counties in the State.

For the statistics upon which the foregoing statement is based, please see the tabular report accompanying this.

All of which is most respectfully submitted:

GEORGE B. McKEE,  
Assessor of Nevada County.

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PLACER COUNTY.

LETTER FROM THE CLERK OF THE BOARD OF SUPERVISORS.

AUBURN, December 10<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - I have labored earnestly in an effort to compile the returns of the District Assessors of Placer County, and find it utterly impossible to arrive at any conclusion which would be at all reliable; in fact, \* ... many statements of whose incorrectness I am positively informed ... am quite as positive that the best compilation in my power to \* ... would be better calculated to mislead than to convey useful information. Permit me to suggest that in future you communicate directly with the Boards of Supervisors, urging them to withhold any allowance to the Assessors for their services until they have made such a report as the law contemplates.

Very respectfully, etc.,

W. A. SELKIRK,  
Ex-Recorder, and Clerk Board of Supervisors, Placer County.

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PLUMAS COUNTY.

WILLIAM W. KELLOGG.....County Assessor

OFFICE COUNTY ASSESSOR,  
Quincy, November 18<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

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\* original document unreadable



SIR: - Inconformity with the law, I herewith transmit the statistics of Plumas County, so far as I have been able to collect them, though I find it almost impossible to give them all correctly.

The mining and agricultural interests of this county are nearly equal. Most of the mining districts have been worked since eighteen hundred and fifty-one, and still the county is hardly prospected. A large number of rich and extensive quartz leads have been discovered the past season, and a number of mills are being built. At Round Valley alone, no less than twelve new mills are in process of construction. The Eureka District is one of the richest in the state. Several silver and copper leads have been found, and companies organized to prospect and work them. The placer and river mines are generally paying well. The hill diggings are very extensive, and a large amount of capital and labor is being expended up them.

The agricultural district comprises American, Indian, Sierra, Humbug, Genessee, Honey Lake, Mohawk, and Long Valleys, and Big Meadows. Wheat, barley, oats, hay, and potatoes, are the staple products, and, after supplying our own market, a large surplus is shipped to the Washoe and Humboldt mines. An immense quantity of hay is cut in Mohawk and Sierra Valleys; the market is at Virginia City.

Great improvements are being made in roads throughout the county. A large share of the Humboldt and Washoe travel passes through Honey Lake and Beckworth's Pass.

Many of our citizens are planting orchards, and I doubt not that within two years enough fruit will be grown to furnish the county, without "hauling" from the lower valleys.

The damage done by the flood of last spring was great, but is mostly replaced, and much more substantial than before.

The assessed value of property is nearly three hundred thousand dollars (\$300,000) more than in eighteen hundred and sixty-one.

And, in conclusion, allow me to call your attention to the fact, that hardly a mile of our county boundary has been run or satisfactorily settled, and great inconvenience and much trouble is occasioned thereby. The line between Nevada and California has never been officially established, and Honey Lake and Long Valley claim at times (say "tax times,") to be in Nevada, and with Nevada claim to be in California.

The line between Sierra and this county has occasioned much trouble and *costs* to the citizens of Sierra Valley, it having been assessed by Assessors of both counties, and some are paying taxes to one county, and some to the other, both claiming jurisdiction over the valley.

Hoping to be able by another year to furnish you a more minute table of statistics, I subscribe myself,

Yours respectfully,

WM. M. KELLOGG,  
Assessor Plumas County.

SAN JOAQUIN COUNTY.

J. M. LONG.....County Assessor

OFFICE COUNTY ASSESSOR,  
Stockton, November 12, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In compliance with your circular and in conformity with law, I respectfully submit to you the following as my annual report:

The County of San Joaquin embraces one of the best agricultural districts of the State, and is admirably adapted from its location for those facilities of commerce which are needed for bringing the productions of the soil to their proper market.

The City of Stockton, which is the chief commercial depot of the county, is situated on a slough connected with San Joaquin river, and daily navigation to and from San Francisco is open at all times.

TERMS OF COURTS.

*District Court* – Hon. C. M. Creanor, Judge; H. E. Hall, Clerk. Regular terms on the first Mondays of January, April, August, and December.

*Court of Sessions* – Hon. G. W. Tyler, Judge; B. G. Weir and R. K. Nobles, Associates; H. E. Hall, Clerk. Regular terms on first Monday in February, second Monday in May, and first Monday in October.

*County Court* – Hon. G. W. Tyler, Judge; H. E. Hall, Clerk. Regular terms on first Mondays of January, March, May, July, September, and November.

*Probate Court* – Hon. G. W. Tyler, Judge; H. E. Hall, Clerk. Regular terms on the fourth Monday of each month.

*Board of Supervisors* – Consists of M. Sevory, John Twoky, and John Sandford. Regular terms on the first Mondays of February, May, August, and November.

COUNTY OFFICERS.

County Judge.....	G. W. Tyler
Sheriff.....	T. R. Hook
Clerk.....	H. E. Hall
Recorder.....	R. E. Wilhoit
Treasurer.....	Dr. J. M. Kelsey
District Attorney.....	H. B. Underhill
County Supervisor.....	G. E. Drew
Assessor.....	J. M. Long
Superintendent Public Instruction.....	C. Collins
Public Administrator.....	A. Blake
Coroner.....	M. H. Bond

## AGRICULTURE.

The natural advantages of this county in regard to its agriculture are great, but its practice, in my opinion, is not yet commensurate with what may be expected from the quality of the soil. In the vicinity of Stockton the soil is a fertile alluvium, generally rich in vegetable matter, and containing a liberal proportion of alkalies. In general, the excess of alkaline matter is deposited in combination with a portion of the siliceous and argillaceous matters of the alluvium in a hard pan, several feet below the surface, thus forming an inexhaustible supply of those matters which in most soils get worn out by cultivation, at all times within the reach of husbandman, if necessary. In some few cases the vegetable mould is so thin as to give to the soil, in consequence of its substratum, the character of alkaline, but there is not much of this soil in the county, and it is to be presumed that by means of deep cultivation, and taking due care in draining off winter rains, which might otherwise stand upon it in pools, the evil might easily be overcome. On the Mokulumne, and in the vicinity of the French Camp, the land varies somewhat from that found in the vicinity of Stockton, and on the Calaveras, a sandy loam being more generally prevalent. This soil is by no means a barren sand, as is found in the neighborhood of San Francisco, and in some other portions of the State. It contains much vegetable matter, and from its lying at a low elevation above the adjoining rivers or sloughs, is sufficiently supplied with a moisture to grow the usual agricultural productions of the State in abundance. Should the cultivation of the sorghum or Chinese sugar cane, as it has been called, be undertaken in this county, there are, perhaps, no other soils on which it is likely to be successful. The soils around Stockton, and on the Calaveras, from their more tenacious character, and from their being rich in all the constituents of wheat, are especially adapted for the cultivation of that grain, and probably as fine samples are grown upon them as any other portion of the State, but it is doubtful whether the general mode of cultivation might not be improved. These lands are generally too flat and liable to be too wet in winter; as yet the plowing is frequently performed in rather a primitive manner, more regard being paid to having done with as much expedition as possible, than to doing it in the best possible way; the advantage of less cost and labor in putting in the crop is thus overbalanced, in many cases, by the loss sustained from not making proper outlets for the water, or rains, or overflows, which loss might be prevented if the land were plowed in regular ridges with water furrows between. As I stated before, the natural advantages of the county are great but the general farm management evidently admits of improvements. Both in town and country, the owners of real estate, in many cases, seem to have a disposition to wait, in the expectation that the value of their property will advance by and by, from the general advance of land, without the necessity of their being at much outlay for its improvement. We consequently find instances of farms of from one hundred and sixty to four hundred acres, and upwards, with one or two men at work upon them getting in as much grain as possible in any shape, and leaving the balance in its natural condition. A more perfect mode of cultivation of a less quantity of land would, in my opinion, be productive of better results, especially as this fine agricultural district might evidently maintain three times its present inhabitants in greater comfort than that of present cultivators, and with at least proportionate profits.

#### FRUIT TREES AND VINES.

Around the city of Stockton, and on the various farms of the county, the cultivators of orchards and vineyards have made considerable progress. The land is admirably adapted for the purpose, as the fine specimens of fruits and grapes exhibited at our District Fairs testify. The cultivation of these orchards and vineyards also admits of much improvement; they are frequently so much incumbered with weeds as not to give fruits a fair chance to reach the perfection which our soils and climate justify us in expecting, and which we find they are capable of producing when the soil is properly cultivated; hence we frequently hear outcries of the crops having been destroyed by insects, which have found a suitable place of deposit for their eggs among the weeds, or from diseases in the trees resulting from over wetness of the soil in winter, or imperfect cultivation.

#### LIVE STOCK.

The live stock of this county has very much improved within the last few years, in consequence, no doubt, of the impetus given to this branch of husbandry by our District Fairs. We have some of the best Durhams and Devons in the State, and the propriety of breeding from them is now universally admitted; the consequence is, that crosses between them and the stock is formerly in the county form almost exclusively the cattle stock of the county. The horses, hogs, sheep, and poultry have greatly improved by the same causes, and no one can say as regards its live stock, our county does not maintain a prominent position among the several counties of the State.

#### COMPILED STATISTICS.

The accompanying schedule shows the various agricultural products of the county; also its fruit trees and vines, live stock, etc., on examining which, it will be seen there is a considerable falling off in some instances from last year's report. There is little doubt that in consequence of the floods of last winter, much loss was sustained, and the statistics of produce are necessarily less. It is to be presumed that next year will exhibit the county in a condition superior to that of any one previous.

Hoping the report will meet with your approbation,

I remain your obedient servant,

J. M. LONG,  
Assessor of San Joaquin County.

SAN LUIS OBISPO COUNTY.

VALENTIN GAJIOLA.....County Assessor

OFFICE COUNTY ASSESSOR,  
San Luis Obispo, Nov., 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

DEAR SIR: - In conformity with law, I have the honor to transmit the following, my annual report as Assessor of San Luis Obispo County:

FRUIT CULTURE.

The fruit culture is on the increase, but the value of all kinds is much less than in former years. The grape culture is improving yearly.

LIVE STOCK.

All kinds of live stock have depreciated in value about one half; yet many of the stock raisers, having seen the necessity of improving the quality of their stock, have introduced fine blood American stallions, bulls, and rams.

LANDS.

Land has depreciated in value one half from last year. The county being a stock-raising county, not much attention is paid to agriculture, anything more than for domestic use; being so remote from market, it would not pay the farmer to send it to the city.

The importance of establishing more clearly the boundary line between this county and Monterey is very urgent. Owing to the difficulty of making the necessary assessment, very many persons in the vicinity of this line are not assessed at all, or state they have been assessed in Monterey County when the San Luis Obispo Assessor arrives to take the assessment, and they state the same to the Monterey Assessor; therefore, they are not assessed at all. I would recommend to have this line run before the time arrives to take the assessment for the year eighteen hundred and sixty-three.

VALUATION OF PROPERTY.

Comparing the value of property of the year eighteen hundred and sixty-one to the assessment of eighteen hundred and sixty-two, you will perceive there has been a great decrease in the valuation of all kinds of property:

<i>Valuation of Property for the Year 1861.</i>		
Real Estate.....	\$366,572 13	
Personal Property.....	438, 433 00	
		\$805,005 13

<i>Valuation of Property for the Year 1862.</i>		
Real Estate.....	\$234,721 50	
Personal Property.....	278,021 66	
		\$512,742 56

TAXES FOR THE YEAR 1862.

Federal Tax on each \$100.....		\$ 15
State Tax on each \$100.....		62
<i>County:</i>		
General Fund, on each \$100.....		65
Sinking Fund on each \$100.....		1 00
Court House and Jail Fund on each \$100.....		50
Road Fund on each \$100.....		25
School Fund on each \$100.....		25
Total Tax on each \$100.....		\$3 42

All of which is respectfully submitted.

VALENTIN GAJIOLA,  
Assessor San Luis Obispo County.

By BENJAMIN F. HOOK, Deputy.

SAN MATEO COUNTY.

S. H. SNYDER.....County Assessor

OFFICE COUNTY ASSESSOR,  
Redwood City, Nov. 1<sup>st</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - I respectfully deliver you the report of the statistics of San Mateo County, which is as full and correct as I have been able to ascertain by diligent investigation of its productions and resources. This county is not chiefly an agricultural county. A great portion of its inhabitants are engaged in the manufacture of lumber, shingles, and cord wood. The principal productions of the county are wheat, barley, oats, and potatoes, of which the yield this year is about an average crop.

FRUIT.

There are but very few of the farmers that have raised any, as the orchards and trees are too young to bear. It is thought that certain portions of the county will be good fruit-growing soil.

In the way of improvements, we have twenty-two miles of railroad in progress, which will be completed the coming year.

The principal timber is oak and redwood, which is fast diminishing.

The number of acres of Swamp and Overflowed Land is supposed to be ten thousand.

Yours, etc.,

S. H. SNYDER,  
Assessor of San Mateo County.

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SANTA CRUZ COUNTY.

NELSON TAYLOR.....County Assessor

OFFICE COUNTY ASSESSOR,  
Santa Cruz, Nov. 11<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In conformity to law and in compliance with your circular, I herewith send the statistics of this county, as collected during the summer. Although not as full as could be desired, still it approximates somewhat near to facts, a great part of it being guess work.

Santa Cruz represents a variety of interests – agriculture, grazing, lumbering, tanning, paper making, lime, etc. – being well adapted to all of these interests. The blanks not calling for leather, lime, etc., I will here state there is five tanneries in this county. The statistics of three show the value of leather manufactured, seventy-five thousand dollars (\$75,000.) One was entirely swept off last winter, the value of which was not obtained. The floods of last winter were very severe, sweeping off several saw mills and materially injuring others. Three steam saw mills are being built this summer. There are four lime kilns, two of which made sixty-five thousand barrels of lime last year. There are other interests being prosecuted, and others in prospect, that will enhance the value of the productions of our county.

All of which is respectfully submitted.

Yours, etc.,

NELSON TAYLOR,  
Assessor of Santa Cruz County.

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SIERRA COUNTY.

A. MARMON.....County Assessor

OFFICE COUNTY ASSESSOR,  
Downieville, Dec. 4<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In compliance with law I have the honor to submit to you my annual report for the year eighteen hundred and sixty-two, as County Assessor of Sierra County. I find it almost impossible to comply strictly with the requirements of the law, but have done so to the best of my knowledge.

This county is a mining county, or principally so, and its population rather migratory for the steady advance of its resources. Notwithstanding the great floods of last December and January, which swept away many thousand dollars' worth of property in buildings, bridges, flumes, ditches, and numerous other improvements, there has been a steady development of the mineral resources, as well as the permanence and interest attached to agricultural pursuits, which seems to overbalance the destruction caused by the floods, as the assessment roll of eighteen hundred and sixty-one and eighteen hundred and sixty-two will show. The latter year shows a gain over the former of eighty-three thousand and eight dollars and twenty-nine cents,



(\$83,008 29,) and as the energy of our people is somewhat aroused in the more permanent advancement of the county's interests, good roads and trails are being built to all places of importance. And during the past summer two permanent bridges have been built: one across the Main Yuba at Downieville, and one across the North Fork of the North Yuba; and many other improvements which show progress. We feel assured, as we are gradually liquidating our county debt, that old Sierra is building from the bed rock.

QUARTZ MILLS.

In the way of quartz mills, we have eight in successful operation; assessed value, one hundred and ten thousand dollars, (\$110,000), crushing about twenty-eight thousand tons of rock annually, and extracting therefrom four hundred and fifty-one thousand dollars, (\$451,000.) But such sums have not been the happy results to all that have been engaged in this branch of mining. A number of quartz mills are now standing idle in the county, but many of them will be brought into operation when they come into the hands of men that have means, and will be made to yield a competence to the owners thereof.

SAW MILLS.

Saw mills, steam and water-power, are sixteen in number, valued at forty thousand two hundred dollars, (\$40,200), cutting, in the aggregate, about six million four hundred and ten thousand feet of lumber annually. The value of lumber on hand at these different mills is about one hundred and seven thousand five hundred and seventy dollars, (\$107,570,) with an abundance of timber to amply supply them for a number of years. The timber is generally of the pine species, such as sugar, spruce, and pitch pine, with an occasional oak, cedar, etc.

MINING DITCHES.

The total number of mining ditches is forty-five; valued at two hundred and seventy-three thousand nine hundred dollars, (\$273,900,) and about one hundred and forty-three miles in length, with a capacity of twenty-six thousand inches.

TURNPIKE ROADS.

There are three turnpike roads in the county, valued at thirty-one thousand dollars (\$31,000,) fifty-eight miles in length, with the fair prospect of the Yuba Gap Road being completed through our county by June next.

FRUIT TREES.

Description.	Number.
Apple.....	1,625
Pear.....	406

Peach.....	2,400
Cherry.....	77
Quince.....	1,625
Almond.....	12
Plum.....	40
Nectarine.....	28
Apricot.....	72
Grape Vines.....	5,374

LIVE STOCK.

Description.	Number.
Horses.....	51
Mules.....	175
Cows.....	99
Calves.....	4
Beef Cattle.....	105
Sheep.....	16
Goats.....	9
Hogs.....	134

I would here add that the principal part of the live stock which is owned in this county was kept in Yuba County about seven months in the year, and is generally assessed in that county before the owners in this county bring them away, hence you see the poor showing in the way of live stock.

LAND.

We have about three hundred acres enclosed, and about one hundred and fifty acres under cultivation. All the cultivated land is in small parcels, where water can be had for irrigation. The lands have proved remunerative to the laborer.

All of which is respectfully submitted.

A. MARMON,  
Assessor of Sierra County.

SISKIYOU COUNTY.

THOMAS O. ROURKE.....County Assessor

OFFICE COUNTY ASSESSOR,  
Yreka, Nov. 12<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - Agreeably to your request, and in compliance with the law, I beg leave to submit the following report for the year eighteen hundred and sixty-two:

REAL ESTATE.

Value of real estate and improvements.....	\$553,000	
Value of personal property.....	1,100,000	
Total value.....		\$1,653,000

LAND, RANCHES, ETC.

There are about fifty-three thousand acres of land under improvement, and the most of it enclosed with substantial fence. There are two hundred and ninety ranches averaging a little over a quarter section to the ranch. There is very little, if any, land that would properly come under the head of Swamp and Overflowed Land.

TIMBER.

There is an inexhaustible quantity, and of every variety known to the mountains of California.

AGRICULTURAL STATISTICS.

Description.	Acres.	Bushels.
Wheat.....	3,900	175,000
Oats.....	2,180	63,000
Barley.....	1,800	54,000
Rye.....	40	1,000
Corn.....	150	6,000
Buckwheat.....	10	300
Peas.....	40	1,200
Beans.....	100	3,000
Potatoes.....	400	24,000
Alfalfa.....	250	-

Hay.....	5,300	-
Vegetables.....	510	-

Description.	Number.
Apple Trees.....	3,710
Peach Trees.....	1,805
Plum Trees.....	884
Cherry Trees.....	450
Nectarine Trees.....	83
Apricot Trees.....	42
Quince Trees.....	15
Grape Vines.....	4,100
Strawberry Vines.....	5,210
Raspberry Bushes.....	915
Gooseberry Bushes.....	450
Blackberry Bushes.....	913

Live Stock, Etc.	Number.
American Horses.....	927
Spanish and Indian Horses.....	1,548
Total number of Horses.....	2,475
Mules.....	715
Jacks.....	13
Jennets.....	10
Cows.....	2,830
Calves.....	1,810
Oxen.....	600
Stock Cattle.....	8,415
Sheep.....	1,913
Hogs.....	3,116
Hens.....	23,010
Ducks.....	751
Geese.....	249
Turkeys.....	563

Stock Slaughtered.	Number.	Value.
Cattle.....	3,000	\$45,000
Sheep.....	1,000	2,400

Hogs.....	2,500	20,000
Calves.....	300	1,500
Total.....	6,800	\$68,900

There are eighty-five stands of bees in the county, worth in the aggregate one thousand five hundred and fifty-dollars (\$1,550.)

TOLL BRIDGES AND FERRIES.

Description.	Number.	Value.
Toll Bridge.....	1	\$1,500
Ferries.....	4	12,000
Total value.....	5	\$13,500

DITCHES AND CANALS.

Description.	Miles.	Value.
Shasta River Canal Company.....	80	\$10,500
Scott River Water and Mining Company.....	10	4,000
Cottonwood Mill and Mining Company.....	8	3,000
Altona Ditch Company.....	12	3,000
Oro Fino Ditch Company.....	13	4,000
Cottonwood and Rancheria Ditch.....	10	1,500
Greenhorn Ditch.....	5	1,000
Hawkinsville Ditch.....	5	800
Lower Cottonwood Ditch.....	4	500
Newell's Ranch.....	4	300
Siad Water Ditch.....	7	500
Evens' Ditch.....	3	400
Mill Creek Ditch.....	4	400
Whiting's Ditch.....	5	700
Totals.....	170	\$30,600

QUARTZ MILLS, ETC.

There are six quartz mills in the county, and one only in operation at present. Our quartz leads have not been very remunerative, while our placer mines are not

surpassed by the mines of any county in the State. There is one arastra in operation, making fair wages for its owners.

SAW MILLS.

There are fifteen saw mills in the county, worth in the aggregate, twenty-five thousand five hundred dollars, (\$25,500); they saw about twenty-five hundred thousand feet of lumber annually.

GRIST MILLS.

There are six grist mills in the county – four water, and two steam power – valued at twenty-one thousand five hundred dollars, (\$21,500).

MISCELLANEOUS.

We have one iron foundry, which supplies all but the heavy castings for this county and southern Oregon. We have two salt springs just opened, yielding at present one hundred and fifty pounds per day. We have four breweries, two tanneries, and one gas factory.

CONCLUSION.

Siskiyou County has suffered from the floods full as much as any mountain county in the State, while her loss in population, owing to our proximity to the northern mines, has been far greater; full fifteen hundred have left this county the past year, taking property to the amount of three hundred thousand dollars, while our loss by flood, and the general depreciation of property, will reach two hundred and forty thousand more making a total loss in property the past year of five hundred and forty-thousand dollars.

Respectfully submitted.

THOMAS O. ROURKE,  
County Assessor.

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SOLANO COUNTY.

CYRUS AYER.....County Assessor

OFFICE COUNTY ASSESSOR,  
Fairfield, Nov. 10<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

DEAR SIR: - Permit me to congratulate you on the honorable position you hold in a State that is the richest in the world. Richest in everything that goes to make a State great and its people happy. A State that has sprung from chaos (if you will allow me that expression) to be a monarch, in the short space of thirteen years. The Cotton was called King. If it was King, it was of limited power, and had to submit to a mightier power, to the monarch of California, called Gold, whose power will be as unlimited in comparison to its present power, as are its resources now greater than they were thirteen years since. California is not confined to gold as a mineral, but she possesses all the various minerals necessary to make a nation great and happy.

But, Sir, great as are the mineral resources of California, they are as a drop compared to the ocean, as a grain of sand to the mountain, when compared to her agricultural department.

But pardon my digression, for on reflection you did not ask me for a dissertation on California in general, but for statistics of Solano county in particular. A very small part of the great State, in point of size, but as worthy of the name of California as any child was every worthy of the name of its noble sire.

Solano boasts not of mineral resources, but of agricultural and commercial advantages. If surpassed at all, it is only by a few of the many rich and prosperous counties of the State.

Solano is watered partly on the west by San Pablo Bay, and on the south by Suisun Bay and Sacramento river, making a navigable front of about eighty miles, besides many sloughs running into the country fifteen or twenty miles, which are navigable for steamboats and other vessels, of two hundred and fifty tons burden, enabling the farmer to get his produce to market at a trifling expense, besides causing many smart and thriving villages to spring up in every section of the county – villages producing institutions of learning that any old settled country might feel proud of.

Among the most thriving villages in the county are Vallejo, Benicia, Suisun, and Vacaville.

Vallejo is on the west of the county, and is a smart and thriving place, supported by as good an agricultural district as could be wished, and by the Government Works and Navy Yard, on Mare Island. Population, about one thousand five hundred.

Benicia, seven miles southeast of Vallejo, has a larger population, and is likewise in a thriving condition, and supporting no less than three private schools which would be a credit to any New England village. One of the schools is under the supervision and instruction of Miss Atkins – popularly known as the Benicia Female Seminary. It is one of the most popularly known and flourishing institutions of the kind in the State. The present number of pupils is about one hundred and twenty.

The Saint Catharine's Academy, a Catholic Institution, under the direction of Sister May Goemare, is in a prosperous condition, the pupils now in attendance numbering over one hundred and forty.

The Benicia Collegiate Institute, under the charge of C. J. Flatt, is for males only; the present number of pupils being about seventy-five.

The Pacific Mail Steamship Company's works are located here, where all repairs, etc., are made on the ocean steamers, employing a great number of the best workmen, mechanics, and engineers.

The United States Arsenal is also located at Benicia, and the soldiers and Government officers help to give life to the business of the town.

Suisun is in the Township of Suisun, so is Fairfield, both being almost the same as one village. They are at the head of navigation of Suisun slough, a branch of Suisun Bay, extending inland about twenty miles, and is navigable for vessels of one hundred tons burden. Commercially speaking, Suisun is one of the best locations in the county for business purposes. As an evidence of its prosperity, I will say it contains more substantial brick buildings than all the rest of the county besides, unless Government buildings. Amongst the best of these is the steam flouring mill of Marston & Stackman, that is kept running night and day, like its owners, who never sleep, but always buy the best wheat and make the best flour, it is said, in the State.

There are also a number of brick stores and shops in this place. The county buildings are also built of brick, and are said to be the finest in the State, and what is better, they are paid for.

As an evidence of the thrift of this village, I will say it has six sail vessels and one steamboat running to and from this place constantly.

Suisun has a back country of the richest fruit, vegetable, and grain lands, in the State, and is destined to be one of the most substantial villages in the county.

The next village is Vacaville, about eight miles from Suisun, inland. It is surrounded by a rich agricultural region, and being pleasantly situated in a healthy and beautiful valley of the Coast Range, it has been selected as the proper location for a College, which was established in eighteen hundred and sixty, and chartered in eighteen hundred and sixty-one. It has two large and well constructed brick buildings, and ten acres of land. There are five teachers and one hundred and sixteen pupils – seventy-five males, and forty-one females. The last examination satisfied all present that the association of the sexes in the same class contributed to the success of both, besides securing much better discipline. The course of study is extensive, embracing the “ornamental” as well as “useful” branches of liberal education. This institution is known as the Pacific Methodist College at Vacaville, and at present it is under the charge of Reverend W. T. Lucky, whom to know is a sufficient guaranty of its success. The appearances are that it is destined to be one of the most popular institutions of the kind in the State. It has an endowment fund of twenty thousand dollars, (\$20,000,) the interest of which, together with a small tuition fee, are sufficient to defray all expenses.

There are other small villages and shipping points well worthy of note, as they will soon be places of much importance, being so naturally located commercially that they will soon rival some of the older villages.

In point of soil, I think this county is not excelled by any in the State. Such a variety of soil, with its fertility, can hardly be found in California besides. The cereals are produced in as great abundance per acre as anywhere in the State. The average yield of wheat is about thirty-five bushels per acre, although there are some fields which produce over sixty per acre.

Barley is not so extensively sown, but it is raised with but little labor, producing about forty bushels per acre on an average, many fields producing twice that. Corn is not much grown, except for green corn. Irish and sweet potatoes are grown in the greatest perfection and abundance. All the various vegetables that I ever saw in my life are produced in Solano County with the greatest ease and abundance imaginable.



As to the various kinds of fruit, I will say that I think we can beat any part of California. I believe there is no place in the State where fruit and vegetables can be produced earlier than in some of the valleys of this county. I tried to obtain the amount of fruit and vegetables shipped from here annually, but could not get a very correct account; but it is not far from three hundred thousand dollars (\$300,000) per annum. All kinds of fruit grow in the greatest perfection. Figs produce two crops per year.

Wine making is beginning to attract attention, and soon the county will produce wine for export, and what is singular, it is said that the wine made here is better than that made in any other place in the State. I do not know whether the excellence exists in the soil or the manufacture.

About one fourth of the land of this county is hill land, lying in the northwest part of the county, containing the principal timber district, one half is valley land, lying between the hills and the sloughs, which is the principal grain land, although some of the rolling lands, and even hill lands, produce excellent crops of grain.

The people are generally turning their attention to agricultural and horticultural pursuits, believing it the surest road to wealth and happiness.

There is plenty of Government land yet that will make splendid farms. The plains have been thought to be of little value in years gone by, but they are now taken up, fenced, and nice houses and outbuildings put on them, with as nice gardens and front yards, filled with ornamental trees and shrubs, with vines and flowers of every variety.

Crops of grain have been raised on these lands that really astonished those who made the experiment.

I say we have no poor land in Solano County, and I think time and experiment will prove the assertion. The last one fourth is the tule land, which is the part bordering on the river and Bay, (and was thought to be a useless waste of God Almighty in making it,) has been taken up and cultivated with success – and it is found to be the best land on the globe, and has fully demonstrated that the Creator understood his business.

The cry this spring that “tule land is a failure,” and many abandoned their claims on account of the floods of last winter, very unceremoniously, protesting against all tule lands, and declaring an eternal evacuation for all time to come. The calm and thoughtful, who always succeed in life, have remained in the enjoyment of their lands, and find what many call ruin and destruction was only one of the greatest blessings that Heaven could bestow, by raising the whole surface from one inch to six feet, making in some cases from fifty to sixty acres of dry land where there was nothing but tule; and on other ranches, filling up holes from one to ten acres in the centre of a man’s farm. If these new-made lands are not a blessing, what would be? Yes, Sir, they are a blessing; and I say the county is worth more to-day than it was before the flood, although some men were ruined by it. Yet, let me say, there are some of the prettiest farms in the tule that can be found in California, and no better land can be found anywhere.

If a canal was cut from Knight’s Landing, in Yolo Couty, to Nurse’s Landing, in Solano County, (which is eight miles from Suisun City,) it would forever prevent such an overflow as was experienced last winter. I believe it is the opinion of most tule men that it is the only thing that will be of much value to the tule. So let me say, if the State would take hold of the project, and work its criminals to dig such a canal, it would not

only reclaim the tule lands of Solano, but also of Yolo, and Sacramento County and City would be greatly relieved from so great a surplus of water as they had last winter. You may think that I am chimerical, but let me say that whenever there is a Legislature that cares one groat about doing any thing for the benefit of the State at large and the tule bordering on the Sacramento River, *that* is what will be done. If the Legislature could but see what the tule is capable of doing for the country, and what it has already done, they would do something besides squander the funds of the State.

Allow me to say a few words in respect to roads, although it is not much to the credit of the county to say much about them. Suffice it to say that when the present able Board of Supervisors commenced their term of office, there was scarcely such a thing as a regularly laid out road in the county. They have taken the responsibility like men, and laid out roads and built bridges all through the county, much to the convenience of man and also of horses. I think if they could retain their offices a few years more, our roads would be a credit to the county, and our present indebtedness much less than at present.

Government lands are fast being taken up by substantial settlers, who are fencing and improving the country, and it really makes one feel proud to think that he lives in a land of such prosperity.

Fine horses and fine implements of husbandry are the order of the day. The stock of horses, cattle, and sheep, are not behind in the progress of improvement. To look at the fine imported stock, shows that we are not behind the other counties of the State in that respect. As an evidence of what I say, I would refer you to the list of premiums awarded to the citizens of Solano County. You may look at all the industrial interests of the county, and prosperity is the order of the day. It is to be seen at every turn of the eye.

We have two newspapers, which are published at Suisun City. They are well supported, and will compare favorably with any in the State so far as ability to edit the same is concerned.

In assessing the property on the Solano and Napa line, I found that the people were unable to tell whether they lived in Solano or Napa. Now, Sir, I am told that the Napa folks have had different surveys, and every time they make a new survey, they take a slice from Solano. I do not know the truth about it, but for fear they might look upon Vallejo, Benicia, and perhaps on Suisun, with their filibustering eyes, and some time find a pliant Legislature to second their rapacity, I would advise and recommend, for the good and safety of Solano County, (if it is desirable to have any county by that name,) to drive them back a few miles, where they belong, and have the boundary defined, that a stop be put to filibustering, and enable the Assessor to find where his county lines are.

You will see by the statistics I send you that our assessment is much larger than last year. Now, since our county lost by the flood of last winter to the extent of one half of our stock, and as the tract of land about Benicia and Vallejo, together with the Suscol Rancho, has been declared United States Government land, I was obliged to make a light assessment in comparison with former assessments, which, together with the loss of stock, must have been half a million at least. I must say I am astonished to see the assessment so large as it is, for I assure you I have invariably assessed property lower than formerly assessed.

For fear I am burdening your patience in my lengthy report, let me say, notwithstanding the Government under which we live and are willing to fight for is distracted, and being impoverished by a desolating rebellion, we of Solano were never more at our ease, never more comfortable, prosperous, and happy.

CYRUS AYER,  
County Assessor.

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TEHAMA COUNTY.

SAMUEL ENGLISH.....County Assessor

OFFICE COUNTY ASSESSOR,  
Tehama County, Nov. 13<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In accordance with my duty, as prescribed by law, I herewith enclose to you the report of my labors as Assessor for the fiscal year eighteen hundred and sixty-two. I much regret that it is not in my power to furnish you with as complete a report as your blanks would indicate necessary, but the cause was such as I could not possibly control, and hence must of necessity send it in its incomplete state.

Without entering into detail, I refer you to the schedule enclosed, as showing an approximately true list of the wealth and resources of this county; and in doing so I cannot refrain from calling your attention to the fact that, within the boundaries of this county, and occupied by actual settlers, there are in the vicinity of from twenty-five to fifty thousand acres of unsurveyed land enclosed, partially cultivated, and to a large extent improved, and on which there is not one dollar of taxes can be levied. From such a state of facts you will at once see that not only our county, but the State also, is greatly the loser thereby.

By a late law of Congress, passed, I believe, last winter, the whole matter is left in the hands of the United States Surveyor-General for this State, and I am strongly inclined to think, were the matter brought to his notice in the proper manner, a large portion of this land, if not all, might be made to yield a handsome revenue to the county, State, and the General Government.

In this county there are five whole, and four fractional parts of grants, embracing in the aggregate, seventy-seven thousand seven hundred and forty-eight acres of land. Outside the lines of and adjoining these grants, are all fractions of land which have never been surveyed, and consequently are not in market; of course the settlers can have no other title than that of mere possession. Could this land be surveyed and

thrown open to legal location, I am satisfied the balance in favor of both county and State would be largely increased.

In addition to the above, we have the Nome Lackee Indian Reservation, supposed to contain two thousand five hundred acres of land. At this time it is only nominally a reservation. The buildings and improvements are in ruins, and were it not for the presence of a few miserable Indians, who, from affection, still frequent the hunting grounds of their fathers, and glean a scanty subsistence therefrom, would be entirely deserted. Were this fair tract of land, (the finest in the upper Sacramento Valley,) and the fractions outside of its boundaries, secured to actual settlers, we might flatter ourselves that but few counties in our Golden State could outstrip in the march to wealth that which lies near the navigable head of Sacramento.

Since the report of my predecessor, our Senator, J. G. Doll, Esq., has secured a franchise from the Legislature, to construct a turnpike road from the Town of Red Bluff to Honey Lake Valley, but as yet, little or no action has been taken in the premises. The importance of the road to the interests of the whole county, no one undervalues – it is only the money that is wanting, and which the friends of the enterprise are afraid cannot be raised in time to do any good this season. The subject, however, is agitated, and I think will not be laid until we have a road leading to the untold wealth of the eastern mountains.

In regard to industrial enterprises, I may mention that, in connection with our or five of the finest grist mills in the State, there is a project on foot to introduce a woolen mill into the county. A company from San Francisco have recently purchased the large grant until recently owned by J. F. Dye, containing some one thousand seven hundred acres, and they intend to convert a fine grist mill already on the premises into a mill of the above description. I need scarcely say that the benefits likely to arise therefrom to wool-growers in this county can scarcely be overestimated.

Regarding agricultural products, I have only to say that whatever can be raised elsewhere in the State can also be raised with us. Cotton, to a small extent, and simply as an experiment, has been tried, and proved successful. Tobacco is indigenous to the soil, and whenever the tame seed has been planted, and even the most ordinary attention given to it, it has proved a bountiful crop.

With regard to wine, I would say that last year there were manufactured about fifteen hundred gallons from grapes grown in this county, which was pronounced by judges to be a very superior article.

As a wool growing county, taking into consideration the small extent of it compared with others, we believe it will vie with any other in the State. It is worth while to remark that in the future this branch of industry promises to be the most lucrative of any other in our midst.

In conclusion, I would remark that as regards fine horse stock, Tehama County is behind no other in the State. Of late years special attention has been given the subject, and the result is she can now produce as fine animals as can be found, I believe, on the American continent.

Regretting that time will not permit me to enlarge further, and hoping this will meet your approbation, I herewith submit the same.

SAMUEL ENGLISH,  
Assessor of Tehama County.

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TRINITY COUNTY.

G. F. MIERS.....County Assessor

OFFICE COUNTY ASSESSOR,  
Weaverville, November 7<sup>th</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In accordance with the laws of the State respecting the duties of County Assessors, I herewith transmit my report for the current year. It is not as full as I could wish, owing to the migratory character of our inhabitants, and to the fact that our agricultural operations are so limited, (being confined to small valleys and benches on the creeks and rivers,) the county being decidedly mineral, that it is impossible to arrive at anything like a correct estimate of the agricultural productions of the county. There is, however, a falling off since the last year, a good deal of our arable land having been destroyed by the high waters of last winter.

Our fruit crop is abundant, but of an inferior quality, the climate in a large portion of the county being unfavorable to the production of fine fruit.

Our mines, comprising surface, hill, and river diggings, are as extensive, and, with the exception of the river mining, in as flourishing condition as in previous years. The latter suffered severely from last winter's freshets, almost every wheel, flume, and ditch, having been destroyed, and the miners have not fully recovered from their losses. This, with the destruction of the numerous bridges over Trinity river, will account for the falling off in the amount of our taxable property, none of the bridges being completed in season for this assessment.

We are well supplied with the timber usually found throughout the State.

We have made some improvement both in the quality and number of our roads, having been constructed two roads by private enterprise, one from Weaverville to Trinity Centre, a distance of twenty-nine miles, connecting at the latter place with the road from Shasta to Yreka; also, one from Lewiston, at the mouth of Rush creek, to Weaverville, a distance of twelve miles.

We have six schools, which will compare favorable with other country schools throughout the State.

For full particulars please refer to schedule enclosed.

All of which is respectfully submitted.

G. F. MIERS,  
Assessor of Trinity County.

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YOLO COUNTY.

G. J. OVERSHINER.....County Assessor

OFFICE COUNTY ASSESSOR,  
Woodland, Nov. 1<sup>st</sup>, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In compliance with the law, and in conformity to the custom of my predecessors, I would most respectfully transmit the enclosed copy of the statement of the condition of the resources and improvements of Yolo County, and if it is not as elaborate and complete as could be desired, it will serve as a slight index to form a judgment upon, and is as full and complete as the materials at hand will admit.

Yolo County, lying in the heart of the great Sacramento Valley, and watered so bountifully by the Sacramento river and Cache and Putah creeks, presents one of the most desirable locations for the agriculturist or grazer within the State. The land lying contiguous to the streams has been so favorably disposed by the hand of nature that the greater portion of the arable land in the county is susceptible of irrigation, so that farmers, if they choose, can by a slight outlay render the condition of their crops wholly independent of the rains. This is a consummation much to be desired. Owing to the peculiar geographical position of this county it has suffered more from drought in former years than perhaps any other portion of Sacramento Valley. But the advantages and benefits of irrigation are becoming so prominent where it has been tested that we may safely look forward to the time, not far distant, when all, or nearly all, the land lying between the foot hills and tule, will bloom and blossom under the influence of irrigation, when directed by the hand of the skillful agriculturist.

The *incubus* of Spanish grants has much retarded the progress and development of this county, but within the past year the tract claimed under the title of the "Rancho de Carmel," or "Knight," comprising eleven leagues, and covering the flourishing village of Knights Landing, has been rejected by the United States Supreme Court, thereby rescuing a large and valuable tract of land from the grasp of iniquity, and devoting it to the happy and prosperous home of *freemen*.

The grant entitled the "Laguna de Santos Calla," lying on the north side of Putah creek, comprising ten leagues, may be considered virtually abandoned, and

improvements permanent and valuable are being erected by the settlers located thereon.

The titles to the other grants are either finally confirmed, or considered so secure that litigation concerning them has ceased, or nearly so; so that we can now look forward to the rapid development of all the agricultural resources of Yolo County. Her soil yields bountifully to the hand of industry, not only of the great staple productions, but "luscious Nature" has spread, with no stinted hand, *all* of the luxuries that spring from her bosom.

According to the statistics, we have:

LAND UNDER CULTIVATION.

Description.	Number.
Land enclosed.....	110,000
Land cultivated.....	50,976
Wheat.....	25,000
Barley.....	16,000
Rye.....	75
Corn.....	150
Peas.....	50
Beans.....	25
Potatoes.....	350
Sweet Potatoes.....	110
Onions.....	30
Tobacco.....	7
Sugar Cane.....	40
Land cultivated in Fruit Trees and Vines, about.....	10,000

FRUIT TREES.

Of the number of fruit trees in this county, you will find a large falling off from the figures of last year, owing to the great destruction to that branch of agriculture from the floods of last winter. We have as follows:

Description.	Number.
Apple.....	31,400
Peach.....	88,500
Pear.....	13,300
Plum.....	9,500
Cherry.....	2,264
Nectarine.....	20,000
Quince.....	1,810
Apricot.....	4,808

Fig.....	500
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VINES.

The vine growing interest in much increased from that of last year, and bids fair to become of the first importance. We have:

Description.	Number.
Grape.....	234,430
Strawberry.....	10,000
Gooseberry.....	4,876
Raspberry.....	3,280

Of farm products, we have:

Wheat, bushels.....	750,000
Barley, bushels.....	560,000
Rye, bushels.....	3,000
Corn, bushels.....	6,000
Peas, bushels.....	2,500
Beans, bushels.....	802
Potatoes, bushels.....	100,000
Onions, bushels.....	6,000
Tobacco, pounds.....	5,500
Sugar Cane Syrup, gallons.....	6,000
Wine, gallons.....	600
Brandy, gallons.....	700

Thus will be seen, at a glance, the returns of the husbandman are no meager quantities, but richly and lavishly is he remunerated.

MINERAL LANDS AND TIMBER.

Yolo is properly classed as an agricultural county, but the rich discoveries of quicksilver in the western part give indications of great mineral wealth yet to be developed. The timber is fit for nothing but fuel, and, with the exceptions of a part of the land watered by Cache creek, and that lying in the Coast Range, it is almost destitute of timber.



IMPROVEMENTS.

The educational and religious interests are assuming a rank that will place them beside those of more favored communities. There are twenty-three Public School houses in the county, many of them being built of brick, and furnished with a strict regard to the comfort and happiness of their occupants. The Hesperian College, located at Woodland, and now nearly completed, is an elegant brick structure, forty by sixty, three stories high, and capable of accommodating two hundred and fifty or three hundred students. It will cost, when complete, nearly twenty thousand dollars, and stands as an honorable testimony to the intelligence and enterprise of the surrounding country.

Our county seat has been permanently located at Woodland, near the centre of the county, and since its location a flourishing village is springing up at this place, and evidences of improvement and prosperity greet the eye on every hand.

The Marysville and Benicia Railroad is graded through the centre of the county, but remains in statu quo, owing to the disorganized condition of affairs on our eastern shores.

There are three grist mills and one saw mill in this county: one located at Knight's Landing, owned by Mr. Gardner; one near Woodland, owned by Mr. Cook; and one at Woodland, owned by Gurlock & Freeman. The first two have been doing a good business. The one at Woodland is just completed, and will prove a valuable acquisition to the people of Yolo County. The saw mill is owned by Messrs. L. S. Hunt & Co., of Washington, and has been doing a very extensive business, but owing to the heavy losses of lumber during the floods, they were prevented making as lengthy a run as they would otherwise have done.

The Cacheville Agricultural Ditch is fully realizing the expectations of its projectors. This ditch is five and a half miles long, twenty feet wide, and six feet deep, and was constructed at a cost of twenty thousand dollars (\$20,000.) Gardens, orchards, and vineyards are being located in the vicinity of its branches, ornamenting and improving the surrounding country. The water works of Messrs. Hunt & Co., attached to their mill in Washington, has added much to that establishment. They have laid about two thousand feet of pipe, at a cost of three thousand dollars.

There are three distilleries, capable of distilling from one hundred to one hundred and fifty gallons per day. Two of them are located in the vicinity of Cache creek.

LIVE STOCK.

Owing to the severity of the winter, the heavy losses of cattle will greatly diminish the number reported last year. We report as follows:

Description.	Number.
Horses.....	4,806
Mules.....	392
Asses.....	7
Cattle.....	13,460
Sheep.....	46,800

Hogs.....	14,800
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While the number of our herds are decreasing, it is gratifying that they are improving greatly in quality. The uncouth Spanish horse is disappearing before the noble specimens of improved blood, and the wild cattle are giving place to the Durham and Devon.

ASSESSED VALUATION FOR EIGHTEEN HUNDRED AND SIXTY-TWO.

Total assessed valuation of all species of property, for the present year.....	\$2,322,975 00
Total taxes assessed on all property in the county.....	38,793 70

Notwithstanding the great destruction to all kinds of property during the past winter, the assessed valuation shows a large increase over that of last year, speaking loudly in the favor of the general prosperity of this county.

Total assessed valuation for eighteen hundred and sixty-two.....	\$2,322,975
Total assessed valuation for eighteen hundred and sixty-one.....	2,156,482
Increase for eighteen hundred and sixty-two.....	\$166,493
Losses sustained by this county during last winter may safely be estimated at.....	200,000
Real increase during one year.....	\$366,493

TAXES.

State tax on each \$100.....	\$ .62	
County tax on each \$100.....	.45	
Road tax on each \$100.....	.15	
School tax on each \$100.....	.15	
Hospital tax on each \$100.....	.15	
National tax on each \$100.....	.15	
Total tax on each \$100.....		\$1.67

In conclusion I would refer you to the County Surveyor's report respecting the tule lands of the county, the benefits of their reclamation, etc., of the streams that water the county, and other topographical features that will come more immediately under his

department of labor. Enclosed you will find my statistical tables, and although deficient in many things that I desired, I trust it will serve the end intended, and receive your approbation.

With high esteem,  
I remain yours respectfully,

G. J. OVERSHINER,  
County Assessor.

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YUBA COUNTY.

T. J. SHERWOOD.....County Assessor

OFFICE COUNTY ASSESSOR,  
Marysville, November, 1862.

Hon. J. F. HOUGHTON,  
Surveyor-General:

SIR: - In compliance with your request and with the law, I have the honor to submit my report for the current year. I find it almost impossible to comply strictly with the requirements of the law, but have done so to the best of my ability:

Number of square miles in Yuba County.....	616
Population of County in 1860.....	14,000
Number of voters in 1861.....	4,298
Number of voters in 1862.....	3,365
Assessed valuation of Real Estate.....	\$1,221,272 00
Assessed valuation of Improvements.....	1,512,091 00
Assessed valuation of Personal Property.....	2,289,061 00
Total assessed valuation of property.....	\$5,022,424 00
Total amount of Taxes on same.....	134,627 47
Total assessed value of property, 1861.....	\$6,187,773 00
Thus showing the assessed value of property for the present year to be (less than last year).....	\$1,165,349 00

Which is accounted for in the following manner: Eighty-four head of horses, two thousand three hundred and fifty head of cattle, eight thousand four hundred and thirty-eight head of sheep, eight hundred and thirty-four head of hogs, and one hundred and fourteen stands of bees, were lost during the floods of last winter. Also, several mining ditches, and several bridges, were taken off by the same cause. Then there is a great depreciation in the value of lands along the Feather and Yuba rivers. Among the fine farms which have been almost entirely destroyed, there are those of C. L. Low, J. C. Fall, C. H. Hedges, C. Covillaud, N. Wescoatt, J. H. Ramirez, G. Woodard, Mrs. H. P. Haun, Mrs. C. Kimmerling, William McCullough, Dr. Teegarden, S. P. Pomyea, G. G. Briggs, and a great many others, too numerous to mention, all of which were damaged more or less by the floods of last winter; and it will be remembered that on the ninth day of December, eighteen hundred and sixty-one, the Merchants' Hotel, and other buildings near it, fell down from the effects of the high water. In February, before I had commenced assessing, a petition was circulated in the City of Marysville, and signed by a large number of the tax payers of the city, which petition was laid before the Board of Supervisors, praying for them to so fix the rates of taxation that their property should be assessed at its actual cash value, (it having been assessed heretofore at what they termed a fictitious valuation). The Supervisors called my attention to the petition, and requested me to comply with the same as near as I could and comply with the law, which I did to the best of my abilities. And after making the assessment on the city property, I find, from a close comparison, that there is a deduction from last year on real estate and improvements of five hundred and forty eight thousand three hundred and eighty-four dollars, (\$548,384,) and yet I think that property in this city is assessed at as much as it is worth.

You will also see from the following report, the number of Poll Taxes collected up to November first:

State Poll Taxes.....2,535 amounting to.....	\$5,684
Federal Poll Taxes.....2,582 amounting to.....	5,164
There were collected last year of State Poll Taxes, 1,517, amounting to.....	3,034
Showing an increase over last year of.....	2,650

And there will undoubtedly be some two hundred or more collected yet this year. Enclosed you will please find schedule of statistics.

All of which is respectfully submitted.

T. J. SHERWOOD,  
Assessor of Yuba County.