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RESOURCES

OF

MARICOPA * COUNTY,

Arizona Territory.

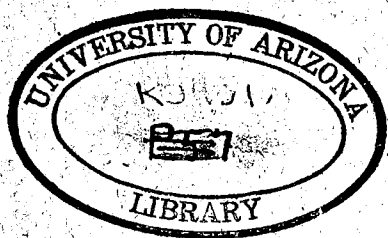


REPORT OF THE

Phoenix Chamber of Commerce.

ARIZONA GAZETTE, PHOENIX, ARIZONA.

1889.





J. W. EVANS,
Real Estate
AND LOANS,
PHOENIX, ARIZ.

Resources of Maricopa County.



To Hon. Wm. M. Stewart, Chairman Senate Committee on
Arid Lands:

SIR: The people of Maricopa county, A. T., through the Phoenix Chamber of Commerce, submit the following for the consideration of your committee:

Accompanying this report is a map of the county of Maricopa, showing its canals, flowing streams and suitable points for the storage of water. The county contains 5,986,560 acres of land, 3,000,000 of which, including that covered by canals, can, by a judicious system of impounding the storm-flood waters, be reclaimed to cultivation and settlement. The report of Wm. M. Breakenridge, county surveyor, to our board of supervisors, which is herewith submitted, shows that by building a dam in the Salt river in the northeastern part of the county enough water can be stored to reclaim all the desert mesa land lying north of the Gila river between Phoenix and the Colorado river at Yuma, and it is not too much to say that they will prove to be the best and most valuable on the continent. Sufficient quantities of water annually flow through the Salt river to fill this reservoir several times. Of this there is no question.

Although we cannot speak with such confidence as to the possibilities of water storage on the Gila river, yet it is our be-

lief that by the selection of suitable reservoir sites along that stream, water enough can be stored to reclaim all the lands south of the river in this county.

The Agua Fria, where it enters the valley, in the driest season carries a stream of several thousand inches of water. If properly utilized there is sufficient in this river to irrigate all the land, some 75,000 acres, lying between it and Cave Creek, and by a reservoir the land could be made available for several crops, as in the valleys of the Salt and Gila.

In Maricopa county more has been done in reclaiming desert land than in any other portion of the territory.

In the Salt River valley the following canals have been taken from the Salt river:

NAME.	LENGTH.
Arizona.....	41
Grand.....	22
Maricopa.....	14
Salt River Valley.....	18
San Francisco.....	9
Tempe.....	19
Mesa.....	9
Utah.....	6
Farmers.....	5
Highland.....	22
Dutch Ditch.....	4
Monterey.....	4
Griffin.....	3

These waterways cover in the aggregate 250,000 acres of land, of which 187,500 have been reclaimed and 125,000 acres are annually cultivated.

On the Gila are the following canals which have been completed:

NAME.	LENGTH.	ACRES.
Buckeye.....	30	20,000
Gila River.....	8	5,000
Enterprise.....	12	6,000
Gould & Bro's.....	8	3,000
Palmer.....	22	12,000
Citrus.....	14	5,000

Besides which are the following canals now in process of construction: The Monarch ditch, eight miles long, which will cover 2,000 acres. The Gila River Irrigation Co., which takes the water at Black Butte, below the mouth of the Hasyampay river. The company have twelve miles of their canal

completed and propose to put in a dam 1,755 feet long and 75 feet high, and carry the water south and southwest, taking in the entire valley on the south and east sides of the river to the line of Yuma county, making a canal 75 miles long and covering 500,000 acres. The Gila Bend Canal Co. starts from Gila Bend on the south side of the river. They have completed twenty-two and a half miles of the canal, which is to have a total length of thirty miles and cover 18,000 acres. Under this canal about 3,400 acres has been cultivated this season. The same company are building a large canal, taking the water about two miles above and running southwesterly a distance of fifty miles, intending to reclaim 80,000 acres, much of which has been filed upon.

Owing to the dryness of the atmosphere, the evaporation is very great in the valleys. During the summer months it will average about four-tenths of an inch every twenty-four hours; so that reservoirs should, wherever possible, be constructed in the higher altitudes.

In the irrigation of lands it is the general policy of our people to flood them in winter, when water is abundant, which, by creating a reservoir of absorption, making frequent and heavy irrigations unnecessary during the months of June and July, when water is scarce. Since the first settlement of the valley of the Salt River, the water has risen thirty feet nearer the surface. In some places fruits and alfalfa are grown without irrigation. It seems reasonable to suppose that when the lands on the high mesas along the foot-hill mountains are more generally cultivated, the area of land requiring no irrigation will be very largely extended. Another fact is noticeable; the water used in irrigation, except that lost by evaporation, percolates through the soil and finds its way back to the river. More water flows into the Gila from the Salt River in the dry season, covered by the months of May, June and July, than before the first canal was built in the valley. Forty miner's inches of water is calculated to make a cubic foot flow per second. One miner's ^{inch} ~~foot~~ is sufficient to cultivate three acres in grain or alfalfa, and five acres in fruits or vineyard.

The principal grain crops of the county are wheat and barley. The past season there has been produced about 40,000,000 pounds of barley and about 30,000,000 pounds of wheat. The yield of wheat is from 1,200 to 1,800 pounds per acre; and of barley from 1,800 to 3,000 pounds per acre. Sorghum and sugar cane are grown to a considerable extent for the sugar they

contain and for feed. Corn is not extensively raised, being confined to a few hundred acres each year. Oats are a native of the soil, and are cut in quantities every year for hay. Timothy, bermuda and blue grass does well, but alfalfa is the principal grass grown. Once rooted, it requires no attention except to irrigate it three or four times during the year; grazed, an acre will support two and a half head of horses during the year, and from ten to twelve head of sheep or hogs. It can be cut from four to five times annually, and yields from six to eight tons to the acre. The hay is very nutritious, and as a pasture for all kinds of stock cannot be surpassed. Three and four-year old steers driven from the ranges, upon alfalfa pastures, gain, if poor, two pounds per day for the first three months, becoming at the end of that time, most excellent beef in any market.

The mesquite and cottonwood are native trees, but the ash, cork elm, pepper tree, catalpa, willow, umbrella, lombardy, poplar, North Carolina poplar, mulberry, palm, magnolia, locust and tamarack, have been introduced with marked success.

Up to five years ago very little fruit of any kind was grown in the county, and that only by way of experiment. Since then the planting of orchards and vineyards has increased every year. It has been fully demonstrated that no better section exists for the growing of nearly all citrus and deciduous fruits. In the lower Gila valley lemons, oranges, figs, grapes and pomegranates can be grown in great perfection, but it is not well adapted to the culture of other fruits. In other portions of the valley and through the valley of the Salt River, peaches, pears, apricots, pomegranates, figs, French prunes, apples, oranges, almonds, quinces, dates, blackberries and strawberries, and every variety of grapes grow in perfection.

There are now planted through the Salt River valley 8,000 acres in vinyard and 3,000 in orchard trees. Of oranges 200 acres are in cultivation; from experiments made the growing of this fruit will be a success. Olives have been planted in an experimental way. It is too soon to speak confidently as to the results, but as they have been successfully cultivated near Florence, in Pinal county, there seems to be no reason to doubt that good results will attend their culture in this county. Apricots, peaches and kindred fruits bear heavily, yielding from three hundred to five hundred pounds per tree. Vineyards in full bearing give from six to eight tons to the acre. Raisins

in a short time; the muscat, of Alexandria, grown in this valley contains a greater quantity of saccharine matter than elsewhere, and from experiments made in raisin making we are justified in the statement that three pounds of this grape will make one pound of raisins, which is greater than in any part of this habitable globe. Another advantage which our county has in the prosecution of this industry over the raisin districts of Spain or California, is that the drying and curing can be done in the open air without damage from rain or dew.

Some experiments have been made in the manufacture of sherry wine, with satisfactory results. All our wines have a strong sherry flavor, and expert viticulturists, who have examined into the matter, claim this to be the only port and sherry district in America. On this subject the Hon. J De Barth Shorb, commissioner at large of the state viticulturist society of California, writes: "I directed what should be done with one barrel of so-called white wine, from the Salt River valley, as a matter of experiment, and upon examination a few months later, found, as anticipated, it had turned into a sherry of most excellent quality. I have no hesitation in saying that the Phoenix country is the only port and sherry country in America; so far as known, and with trained judgment in the selection of proper varieties of grapes, adapted to your conditions, wines of the highest commercial value, if scientific methods be substituted for those now in vogue in the manufacturing of the wines, will be the inevitable result."

The growing of early and late vegetables will also, when railroad facilities are general, be a source of great profit to the people of this county—a country that produces fresh fruits and vegetables every month in the year; where grown in the open air peaches, figs, tomatoes and cantaloupes can be gathered in December, and where the soil's a rich alluvial, varying in depth from ten to twelve feet, inexhaustible in its durable fertility, will assuredly be the center of a great and prosperous community. Such are the mesa lands of this county. When reclaimed all vegetation has most rapid development.

The cottonwood and North Carolina poplar grows from eighteen to twenty feet in a season, fruit trees from twelve to fifteen feet, grape vines from twenty-five to forty feet.

The Indians occupying a reservation in this county have

crude method of farming they raise better crops of grain than are harvested in any of the wheat growing districts in the Mississippi valley.

That in the dim past this portion of Arizona was the home of a large population supported by agriculture is unquestioned. Near Gila Bend are found the traces of their old canals. All through the eastern portion of the Salt River valley are the mounds covering their ancient dwellings, and the lines of the canals that spread the life-giving waters over the arid soil.

Lieutenant Frank H. Cushing, under the direction of the Smithsonian institute, has spent sometime in exploring the old ruins of this county and gives it as his opinion that at one time it contained a population of more than half a million.

We have in a brief way adverted to what has been done in the reclamation of desert land and the value of such land when reclaimed, in order to show you the importance of well-directed efforts to utilize every gallon of water that now flows to the sea. These lands made productive through irrigation will, in a high state of cultivation, support in easy independence three hundred souls to the square mile.

In Maricopa county we have of this quality of land three millions of acres that, if a liberal policy is pursued on the part of congress, will be reclaimed and placed under cultivation in the next ten years; and on these lands, within the lives of young men now living, will be supported a population of one million and a half of souls. We invite attention to what has been accomplished by our people. Within three years the arable area of the county has been doubled; the population and property values have increased in like ratio. Maricopa county has a population of fifteen thousand and property values amounting to fifteen millions and is rapidly growing. If the laws respecting desert land entries are not repealed, we are certain that every year will add to the quantity of land reclaimed in this county, but if entries are confined to homesteaders then we are equally certain that such a policy would work most serious injury to our material progress, unless congress should lend the nation's credit to the construction of the necessary canals and reservoirs. In our judgment any restriction would delay, indefinitely, the settlement of arid lands. Had they been open to

taken out at small cost; and that the lands under the Arizona, Highland, Buckeye and other canals in this county, would have been desert today, for the capital necessary for their construction would not have been forthcoming had those advancing it been deprived of all advantages to be derived from filing upon lands their money was to reclaim.

The interests of the county, territory and nation at large are identical in this matter, and that is, to have these lands made productive and as soon as possible made to share their portion of the burthens of taxation, and contribute their quota to the products of the country. While we would rejoice to see a family on every forty acres, yet if it is going to take a hundred years to accomplish this result, as seems probable if this restrictive legislation is persisted in, we submit that better results would follow could they be reclaimed in ten years, even if every settler owned a full section. The cost of conducting water upon land in this territory is from eight to twelve dollars per acre. If the land owner is not to be peoned to the ditch owner, he should have an interest in the canal, otherwise he is always at the mercy of the corporation controlling the water. To expect community enterprise to construct waterways, costing from one hundred thousand to several millions of dollars for the purpose of allowing each individual to enter a homestead, is chimerical and visionary. If done at all it must be by capitalists, and capital entering a new country always asks large returns upon its investment.

We invite your attention to this subject and respectfully submit that the people of America will be best served by leaving the laws relative to desert entries as they were before the passage of the act creating the United States Geological Survey.

The map herewith submitted shows the principal reservoir site, marked No 1; reported upon by Mr. Breakenridge with four other sites that can be utilized, if necessary. It also shows the lines of the present canals and those of the ancients. Respectfully,

to
Mr
Calle
1906

To the Honorable Board of Supervisors of Maricopa County:

GENTLEMEN: I beg leave to submit the following report in regard to water storage in Maricopa county. After a careful examination of the river I find that about 400 yards below the junction of Tonto creek with Salt river, the river runs through a box canyon, the sides of which are nearly vertical for about 100 feet, and then slope back at about 1 to 1. It is about 201 feet wide at the river edge and the bed rock is very near the surface. At this point a dam could be erected, 200 feet high, that would back the water up Salt river to where the river cuts through the Sierra Aucha mountains, a distance of sixteen miles. The valley is wide, and as it is irregular, I herewith give you the dimensions in sections, commencing at the dam site and measuring up the river for a distance of sixteen miles:

	AVER. WIDTH.	AVER. DEPTH.
First two miles.....	2,640 feet	180 feet
Then two and one-half miles.....	2 miles	140 "
" one mile.....	1,320 feet	130 "
" ten and one-half miles.....	2 miles	70 "
Besides the water would block up Tonto creek for a distance of ten miles.....	1½ miles	80 feet

Total on both streams in cubic feet, 93,689,128,000. Add to this 10 per cent for the water that would back up Pinto creek, Sallamay and other streams and gulches, would give a total of 103,058,040,800 cubic feet; making the largest reservoir in the United States. Limestone and sandstone are in abundance, and about 600 feet below the proposed dam site, a box canyon empties into the river from the south. The material that would have to be taken out of the side of the canal to build the dam, would form a waste weir for the river into the said box canal, so that no water from the river, after the reservoir was filled, need ever flow over the dam, thus obviating all wear by water on the dam.

There is plenty of timber on the Sierra Aucha mountains for all building purposes, twenty miles from the proposed site. A large limestone ledge crosses the river about 100 feet above the site, which would furnish all lime necessary, and there is plenty of timber in the vicinity for burning it. There are in the Salt River valley, which would be covered by the proposed

are cultivated. On Tonio creek there are 2,040 acres taken up, of which 224 acres are cultivated.

Total acres settled on	6,104
Total acres cultivated	902

The cost of building the proposed dam and reservoir would not exceed \$1,500,000; and it would supply enough water to irrigate all the land in the valley from the Arizona canal dam to Yuma.

95000 The present capacity of the canals in this valley is about 60,000 inches per second, covering a body of 240,000 acres of land, of which 160,000 acres are under cultivation. It would take over two years to empty the reservoir with the canals we have at present, running at their full capacity, and the water would irrigate all the cultivated land fifty times, allowing three inches of water in depth, for each irrigation.

Very Respectfully,

W. M. BREAKENRIDGE,

County Surveyor.