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Kenneth Eade pictured on his ranch, "Three Tanks", between San Lucas and San Ardo. His well pumped 1500 gallons per minute.

1951

Inside: Water - The Key to the Garden

THE KEY TO THE GARDEN
WATER DEVELOPMENT IN MONTEREY COUNTY

By Meg Welden, Monterey County Parks Department

Sheets of rain blanketed California during the winter of 1769, leaving behind a verdant landscape. That same year, Don Gaspar de Portola led an expedition into Alta California searching for the fabled Bay of Monterey. Accompanying him was Father Junipero Serra, president of California Missions. Upon reaching California's central coast, they found fertile soil and flowing rivers. Mission San Carlos Borromeo was founded at Monterey in May 1770, followed by Mission San Antonio de Padua in July 1771. Two years later both missions were relocated, for drought had settled in. The mission fathers wrote:

From the first years we have known and experienced that there is no depending on rain.

And so started the battle with drought and flood, which has brought both prosperity and devastation to Monterey County.

The missionaries knew that agriculture was the backbone of their settlements and started channeling streams to water their fields. Mission San Antonio developed one of the most extensive irrigation systems within the mission chain. Their stone-lined ditches fed acres of corn and wheat fields. Reservoirs, wells, a water wheel, and underground aqueducts guided water to gardens and orchards. A sixty-five foot long mortar and rock dam was built. By 1827, Father Juan Bautista Sancho wrote:

Thus with irrigation we have succeeded in not lacking the wheat. (Casey)

Mission Soledad, founded in 1791, battled the same arid conditions as its neighbors. With Indian labor, a fifteen mile aqueduct was built which watered 20,000 acres of crops.

After the missions were secularized in 1833, the ingenious irrigation

systems were abandoned along with associated crops. Attention turned to the profitable hide and tallow trade, and later to rapid producers such as potatoes to supply the gold fields. As early as 1852, settlers started experimenting with dry farming cereal crops. Notwithstanding, Walter Colton wrote in 1845:

Some of the largest crops that ever rewarded the toil of the husbandman have been gathered in California; and yet those very localities, owing to a slender fall of winter rains, have next season disappointed the hopes of the cultivator. The farmer can never be certain of an abundant harvest until he is able to supply this deficiency of rain by irrigation.

Drawn by gold and later by land, settlers still poured into California looking for opportunity. Government surveys were organized to determine just what California had to offer. William Brewer was a member of one of the survey parties. When he traveled through the Salinas Valley during the spring of 1861 he wrote:

I do not know where they got their water in former times, but it is dry enough now. With water this would be finer than the Rhine Valley itself; as it is, it is half desert.

The surveys determined that the Salinas River and its underlying strata were fed by numerous streams, creating a large underground flow through the Valley. During dry seasons no water would surface, but during rainy periods flood waters could spread over the plains. Cartographers duly marked the Valley, "The Salinas Desert".

Meanwhile, large-scale dry farming operations took hold. Technological advances in harvesting equipment, the expansion of the railroad and market demands all contributed to the industry's growth. By 1888, Monterey County was the leading grain producing county in the state.

Although attention was focused on bonanza wheat, dry years still had their effect. Interest in irrigation surfaced once again during these dry years. A mere four inches of rain fell on Monterey County in 1877. Pioneer George Gruver

recalled his family bending down cottonwood boughs along dry streambeds so their cattle could eat the leaves. That same year, Rob F. Hanna and Frank Kopman filed the first claims for Salinas River water. Like other farmers, they knew that the dry years such as 1877 could mean ruin. Somehow the vagaries of California's rainfall had to be controlled.

Monterey County's population began to grow rapidly, especially after the Southern Pacific Railroad reached Soledad in 1874. This same year the Assessor's report listed Monterey County as the third largest dairy producer in California. The dairy industry was growing and dairies needed alfalfa and alfalfa needs water. But farms and ranches still clustered around readily available water sources, leaving much of the county unpopulated. If a steady source of water could be developed, more land could be had for all. But those first claims did not provide the impetus needed. In 1881, Elliot and Moore wrote:

Irrigation has attracted but little attention, because, as a rule, irrigation has not been needed. However, the means for irrigating large bodies of land in the Salinas Valley and other parts of the county are abundant and will gradually be availed of.

In 1882, Brandenstein and Godchaux, owners of the San Bernardo Rancho in southern Monterey County, filed a claim for Salinas River water. Two years later they formed the San Bernardo and Salinas Valley Canal and Irrigating Company. A fifty foot canal was dug from the river to the ranch which could carry three feet of water. With diverging ditches and dams, they were able to irrigate up to 6,000 acres of alfalfa. Like the mission fathers before them, Brandenstein and Godchaux had trouble with the gravity irrigation system supported by canals. Spring floods were hard to control and destroyed their dams. Undaunted, the partners rebuilt as they were convinced of "the practicability and great utility of irrigation".

Only two more claims were filed prior to 1890, resulting in twenty-one irrigated commercial farms - a total of 891 acres. The eleventh census described the status of irrigation in Monterey County as follows:

Irrigation, where practiced, is conducted on a small scale, the waters of springs and rivulets being utilized by individuals having land conveniently situated. On the low grounds near the mouth of the Salinas River there were reported to be 60 flowing wells upon farms in 1890, most of these being not far from Castroville. They range in depth from 60 to 189 feet, the average being 136 feet, and the discharge only about 3 gallons per minute. They are reported to fluctuate with the season, many of them ceasing to flow in summer and in winter, barely discharging at the surface of the ground. At Salinas, about 10 miles from the coast, most of the deep wells are pumped by windmills. . . At Pleyto, in the southern end of the county, there are also reported to be flowing wells.

The year 1895 ushered in a ten year dry spell. The lack of rain, the new sugar beet industry and burgeoning dairy operations all led to renewed interest in irrigation. In 1899, rancho owners, Mariano and Alfred Gonzales filed a claim for water from the Salinas River. A dam and headgate were built on the Field Ranch along with a seven and one half mile canal which ran south to Jack's Ranch. A series of laterals fed 2,700 acres. At the same time, the Gonzales brothers subdivided their vast holdings into 100 acre dairy farms, thus breaking traditional settlement patterns. Farmers jumped at the chance to own watered land. The Gonzales Water Company succeeded in boosting the population of Gonzales and the county's dairy industry.

By 1901, seventy claims had been filed on the Salinas River and its tributaries. Only a few actually used the water. Sometimes claims were filed twice to keep them active until development was possible. Six canals were built which actually made an impact. The nine mile Salinas Canal diverted Salinas River water by means of a dam located six miles south of King City. About 3,500 acres of sugar beets and barley were irrigated. In 1896, the six mile San Lorenzo Canal was constructed. This water, diverted from San Lorenzo Creek, irrigated 800 acres northeast of King City. Three more canals drew from the Arroyo Seco River.

Located up the river the canals totaled twenty-two miles in length and watered 6,300 acres near Greenfield.

Soon after the turn-of-the-century, another canal system was developed which proved to be the backbone of an entire community. In 1904, the Arroyo Seco Improvement Company bought 7,000 acres of the Arroyo Seco Rancho. They secured water rights and began constructing canals. Unsuccessful in their attempts to lure settlers to the area, they sold out to a group of Los Angeles real estate developers. Known as the California Home Extension Association, the group was headed by John S. Clark, an irrigation enthusiast. In 1905, Clark Colony was laid out. Land was sold at $37.50 per acre, including water. Thirty horses and a digger were employed to cut ditches from the canal to the small acreages. Farmers enjoyed an irrigation bargain, for water was available for less than a dollar a year per acre from the Clark Colony Water Company.

Later, Clark Colony's name was changed to Greenfield, after Edward Greenfield, director of the water company. The Salinas Valley Courier reported that:

...**after all [the name] sounds well and is very appropriate for the green field that shall spring up by the perfection of the irrigating system.**

Greenfield grew and prospered. By 1915, resident J. B. Curtis wrote:

It seems as if God had spoken, and out of the desert had sprung fountains of water as tho' He had touched the wilderness and transformed it into a garden.

Although gravity irrigation systems expanded irrigation ten-fold, water was not assured. Springtime torrents made headgates difficult to operate and destroyed both dams and canals. Water flow during the summer could slow to a trickle, making irrigation unreliable when it was most needed. Consequently, if agriculture in Monterey County was to grow and diversify, a dependable water source had to be found.

A vast store of water still flowed beneath the Valley floor. When farmers began to tap this secret resource, the Salinas Valley entered its most significant

phase in irrigation. Irrigation by wells was used on a limited basis before the turn-of-the-century. Blanco district cattlemen, John and Ed Armstrong, drilled the first of these wells. Farmers came from miles around to see this innovation and the Armstrongs were able to grow cattle feed even in the driest years. By 1889, eight hundred ninety one acres were well irrigated.

In 1897, Claus Spreckels built the largest sugar beet factory in the world and ushered in the next important development in irrigation. The Spreckels Plant required a tremendous water supply to operate the factory as well as to irrigate its fields. The old canal system was supplemented and, additionally, the company pumped water directly from the Salinas River. Spreckels also tried wells. Soon it became clear that pumping from wells was the most reliable irrigating system developed to date. Wells were sunk at a rapid rate. Electric power reached King City in 1911, and with it came the development of the deep turbine pump. By 1924, Spreckels Company was pumping over 130,000,000 gallons per day - more water than the City of San Francisco used. At last, a year-round supply of water was available to Salinas Valley farmers.

About the same time a new crop was searching for a foothold in the Valley. After a few successful experimental crops, lettuce acreage exploded. In less than five years, Monterey County became California's top lettuce producer. Both lettuce and other vegetable crops are water hungry. Now growers had even more impetus to develop water supplies. Optimism ran high when the Salinas Chamber of Commerce declared:

There is practically no limit to the amount of water that can be developed for pumping for irrigation purposes.

Then the bubble burst. In 1932, agricultural economist Rutillus Allen wrote:

It cannot . . . be assumed that further expansion can take place on the same basis. There is also the more serious consideration of an annual drain on the underground water supply greater than normal replacement. The existence of

such a situation over a series of years would, of course, result in a lowering of the water table with grave consequences to the agriculture of the region.

Already, between 1901 and 1929, standing water in wells had dropped 17 feet. Salt water was detected in two wells near Monterey Bay. However, both lettuce acreage and water use continued to grow. Double cropping was introduced. By 1946 a State study concluded that there was an annual overdraft of 27,000 acre feet. Surface storage to replenish the aquifer was recommended.

This was not the first time reservoirs had been mentioned as a solution to Valley water supplies. In 1909, the King City Rustler's special Irrigation Edition identified several dam sites stating:

It is necessary that certain impounding works shall be established to hold back and conserve the flood waters of the winter months, so that they shall be available during the season of no rainfall.

Five locations were named along the Arroyo Seco, the principle being the Currier, Foster and Leigh sites. Several spots were named along the Nacimiento together with the Matthews Ranch on the San Lorenzo and the Pinkerton site on the San Antonio. The cost of damming all four rivers was estimated to be $1,346,002 - a stupendous expense in 1909. It was thought that these reservoirs could supply all the Valley's irrigation needs year-round, with perhaps some well irrigation during dry years. Wells would principally be reserved for household and stock use, however.

Support for the reservoirs was impeded by the great cost. Federal water projects in Nevada and on the Salt River were cited as excellent examples, but farmers were hesitant to become partners with Uncle Sam.

Studies in 1913 and 1915 again recommended the construction of reservoirs, for:

being torrential, the surface supplies of the Salinas River and tributaries cannot be extensively used without storage. (Adams)

Now just three sites were proposed: the Arroyo Seco, the Matthews and

the Currier. At a cost of eight hundred forty-two thousand dollars all three reservoirs could be constructed with a combined capacity of 94,000 acre feet. Frank Adams' 1913 irrigation report stated:

In nearly all of the areas of the central coast valleys. . . crops of high value can be grown under irrigation, and considerable expense will be justified for getting water.

No action was taken and wells continued to water the Valley crops.

Between 1946 and 1955, State legislation was passed creating the Monterey County Flood Control and Water Conservation District. New studies were authorized to investigate dam sites. Overdrafting had now reached 40,000 to 50,000 acre feet per year. Some wells near Castroville became so salty that they had to be abandoned.

The threat was real and farmers acted. A local bond issue was passed to build a dam on the Nacimiento at a cost of seven million dollars. As in 1915, farmers resisted including Federal funds, thus keeping water under local control. The reservoir was dedicated in 1958 and filled up the first year. Before Nacimiento dam was completed plans were underway for another reservoir on the San Antonio. A decade later the San Antonio Dam was dedicated at a cost of almost twelve million dollars. The two reservoirs had a combined capacity of 700,000 acre feet.

In 1845 Walter Colton wrote:

The most fertile lands in California lie. . . along the margin of the Salinas. . . These and other insular spots, may be made perfect gardens.

Since mission times water has been the key which unlocked the garden, making the "Salinas Desert" bloom. Innovation and hard work transformed this Valley and the efforts still continue. New dam sites, water reclamation, and drip irrigation are just a few of the methods being researched today. These advances and future discoveries will keep the Salinas Valley a perfect garden for generations to come.

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