

The Imperial Valley: Permanent Oasis

by

Cory Phillips

Imperial County, California has been a major agricultural, political, and commercial center for the in Southeastern California for over 100 years. Although the peripheral agricultural activities have been the focus and source of the region's economy, the area's role in agribusiness has also facilitated much urban growth. The farms in the Imperial Valley bring about \$1,000,000,000 to the state's economy each year. This rural and urban expansion has been enabled, exclusively, by the delivery of water from the Colorado River, via the All-American Canal, to the otherwise desiccated rift zone by the Imperial Irrigation District (IID). To date, the Imperial Valley has no source of water more reliable, so it is working, through numerous partnerships, to play a healthier more robust role in conservation, efficiency, and interagency networking to empower its agrarian community for many years to come.

The Imperial Valley, as it is today, is a product of early settlers desire to push back the frontier to make opportunities for man. By the turn of the 20th century, the region that would be the Imperial Valley began using water from the Colorado River to hydrate its dry, burnt landscape. In fact, the Colorado Desert area in Southern California was an idyllic, flat, fertile land that could be purchased for very cheap. Private developer Charles Rockwood and irrigationist George Chaffey began to foresee an agricultural future in the region. It was after Chaffey's Imperial Land Company, an entity charged with bringing settlers to the area, that the Imperial Valley and County were named. Rockwood and Chaffey's California Development Company (CDC) claimed the southern part of the Colorado Desert with plans for commercial crop farming. The only catch was that the scant 2.4 inches of annual precipitation would not sustain the growth they imagined. They had observed, however, that the mighty Colorado, which naturally flowed south into the Gulf of California in Mexico, would periodically flood its banks and drain into the Alamo River, which in turn flowed north into the Salton Sink. If the sublime Colorado River could be channeled into the basin, the Imperial Valley's fertility could be actualized.

The CDC, with private funding, dug the basic Alamo Canal and began diverting the Colorado River in 1901 (a year before the Reclamation Act was passed). The channel started in the U.S., and traced the international border in Mexico before entering the Imperial Valley. For several years, the diversion induced the settlement of two-thousand new settlers and the cultivation of a hundred-thousand acres of irrigated farmland, mostly owned by a few, wealthy landowners. Then, between 1905 and 1907, a series of heavy floods along the Gila River breached the canal and altered the Colorado River flow, sending the entire volume spilling through channels running northwest into the Salton Trough- pooling into what we know today as the Salton Sea. The valley's agricultural advancements were lost to the deluge, but by early 1907, the flooding subsided. The Southern Pacific Railroad, who had their own particular interests to protect in the region, reset the Colorado River's natural course through great effort and physical intervention. They sold properties acquired from the CDC's bankruptcy to the newly formed Imperial Irrigation District (IID) in 1911.

The IID, formed by large-scale farmers and wealthy Imperial Valley landowners in the wake of the Alamo Canal accident, was named after Chaffey's development marquee and CDC subsidiary. The district, by mandate of the California Irrigation District Act, was to be an intermediary established to enable small farmers to get the water they needed to persevere, but, because the Imperial Valley landowners were overwhelmingly few and large entities, it actually facilitated the expansion and profit of a power-hungry oligarchy. After the Salton Sea debacle, the IID sought to recoup losses. They purchased Imperial Valley land from Southern Pacific, and, by 1922, acquired all the companies that distributed water from the Alamo Canal. Already delivering water to around 500,000 acres, they prioritized a dam and a canal to better (and further) harness the temperamental Colorado.

That year, the U.S. Department of Commerce met with the seven Colorado watershed states to delineate and allot river waters officially among them. General allotments were allocated among the upper basin, lower basin, and Mexico (7.5maf to the upper basin, 8.5maf to the lower basin, 1.5maf to

Mexico), and the “Colorado Compact” was signed by the state delegates in 1922. However, it was not until Congress and the Bureau of Reclamation intervened in 1928 that the new Boulder Dam (later Hoover Dam) and All-American Canal came to fruition. The ensuing California Limitation Act, stating that California would be limited to 4.4maf of the lower basin’s allotment of the Colorado River, and Boulder Canyon Project Act, which would create the largest storage and release facility to date, gave the Imperial Valley the right, the will, and the power to fully transform the area into an agricultural oasis. The Hoover Dam was completed in 1936, and the All-American Canal was flowing from the Imperial Dam by 1942. Imperial Irrigation District constituents paid the full expense of the large-scale project back to the federal government over 52 years.

The valley is a compact 45 by 30 miles- much smaller than California’s other farming center, the Central valley- but with more than three-hundred days of sunshine each year, the Imperial makes up for size with incessancy. It is a desert basin, just below sea level, flanked by two barely-sloping plains, the East and West Mesas. It drops from south to north only about 200 feet toward the Salton Sea; a feature that makes it particularly attractive to irrigation, drainage, and leaching. Annual precipitation is only 2.4 - 2.9 inches; the Imperial Valley boasts the clearest skies and the most days of sun in the nation. Summers are extremely hot and winters are very warm, and though this desert does experience wide variance of temperature between day and night (about 25 degrees) the winters seldom frost.

These conditions offer the region the opportunity for year-round farming; the heat and sunlight aids the growth of a delicious billion dollars in California crops. In fact, more than three-fourths of the nation’s winter vegetables are Imperial Valley grown, all of it is possible through Colorado River water and irrigation. Land in the Imperial Valley consists of extremely fertile, alluvial deposits left behind during the Colorado’s ancient floods. At the beginning of the 1900’s, fields were sectioned off into one mile by one mile plots. Parcels were then subdivided into smaller units, but forty acres was usually the

smallest farmable size. Now, it costs between \$2,000 - \$5,000 per acre depending upon land quality, location, soil type, drainage and underground drainage systems, paved ditches, and access to finished roads. The All-American Canal delivers raw, untreated water for about 80 miles to the valley's southeast corner where approximately 2.8maf is delivered via gravity through about 15,000 miles of irrigation canals managed by the Imperial Irrigation District. The price landowners currently pay for water delivered to their head gates is just over \$20 per acre-foot.

When farmers began using Colorado River water for irrigation, barley and sorghum were popular early crops. As successes compounded, they tried different crops and tested the limits of the soil and climate, and relished in the boon of early irrigation. Cotton was being commercially produced by 1909, and grew immediately into the major valley crop it is today. Alfalfa, today's number one crop, was cultivated as early as 1912, and by 1917 was the pride of Imperial Valley. Rotated with barley, hay, and even cantaloupe, it kept the region productive even when other crops were being harvested. Sugar beets, wheat, onions, lettuce, cabbage, asparagus, and peas were all being shipped by truck across the United States as early as 1918. Today, however, the pattern of cultivating water-intensive crops like alfalfa, hay (both grown for feed), cotton, fruit, and nuts calls public attention to the use of Colorado River water, and even questions the entire nature of Imperial Valley's oasis agriculture industry. When the Imperial Dam was built the Colorado River watershed was experiencing a very wet period. Now, in an extended California drought, everyone but the valley's farmers are speculative of the oasis. Its thirsty plants are cultivated more often because of their consistent success in seasonal crop rotation than for individual profit. Imperial Valley agriculture gulps up 80% of all water utilized in the area, and certainly it would since it grows most of America's vegetables and fruit. However, crops grown for cattle feed use up more water than any other crop in the state, about a third of all irrigation supply. Considering that the region is 'borrowing' water from everywhere else, enterprising growers seem rather arrogant to use it so profligately. The farmers have been hearing this criticism for years, mostly from the Los Angeles and

San Diego metropolitan areas (pot calling the kettle black?). San Diego, specifically, had battled for decades to establish water self-sufficiency for its expanding, northern and eastern boundaries.

Every bit as dry as the valley (San Diego has never succeeded at developing any groundwater supply), California's southernmost metro had been eyeing IID water when the state of California and the U.S. Department of the Interior stepped in. California had been using every bit of Colorado River surplus the other six states could not capture or use for years, but the time had come to wean itself off the oversupply, and limit its use to the 4.4maf limit established in 1922. The Department and the state brokered a multilateral arrangement involving the IID, the San Diego County Water Authority (SDCWA), the Coachella Valley Water District (CVWD), and the Metropolitan Water District (MWD) in 2003. SDCWA was to pay for efficiency improvements in storage and distribution for the IID, CVWD, and MWD in exchange for water transfers to San Diego County for up to 75 years. These improvements were not only to essentially create available water where before there was none, but also securely establish Southern California usage of the Colorado at under the Compact's limits. The exchange began in earnest that year, but following the lining of the Coachella Canal in 2006 and the All-American Canal in 2010, over 200,000af were headed toward San Diego annually.

The Quantification Settlement Agreement (QSA) not only addressed issues of water conservation and the Colorado River dependency, it offered San Diego the opportunity to expand like its predecessor to the north but without having to pay MWD prices. The clever intraregional deal took pressure of all parties in and out of the state. It also arranged a local interagency transference network between previous competitors for future risk aversion.

Still, whenever anyone whispers of drought in California, all eyes peer toward the Southeast where valley farmers continue to cultivate high yields through high intensity farming. Growers in the billion-dollar-a-year industry are vocal about their concerns for water supply season to season, and they know their livelihoods are under the gun. The freak presence of an agricultural oasis in the hottest, driest, most desiccated part of the state makes the Imperial Valley an easy target for criticism and cutbacks, but the boon it is to the California economy has protected its interests for an entire century. And humble interests they are. The El Centro Metropolitan area, comprised of city centers El Centro, Calexico, Brawley, and Imperial, is home to only about 170,000 residents, a figure that paints a picture of conservative aggie culture in Imperial County. In recent years, El Centro made efforts to assure its citizens that agricultural 'priority' was not inhibiting the area's economic growth and addressed them in their recent water plan. Only about 3% of the IID's total water use goes to urban and industrial use in the metro area, so the public was curious as to why they paid \$48 more per acrefoot than farmers. In the 2010 Water Management Report they explained that farmers received cheaper water because it was raw, untreated, and delivered in ditches and canals, and for only a fraction more they were getting treated, purified, clean, sanitarily delivered water. The report went on to describe how the Imperial Irrigation District, with the help of the city, had made extensive provisions to safeguard municipal supply in the event of natural disasters/earthquakes, drought, or terrorism. There was no way that the urban users would be left wanting in lieu of irrigation contract fulfillment.

As Imperial agriculture increases efficiency and attempts to use less water to create the same profits, it appears the only real loser in the valley's intricately spun web is the Salton Sea. The 2003 QSA remanded responsibility of the protected waters to the state, foreseeing that irrigation and canal efficiency would lead to less run-off replenishing the salted basin. The area is an anomaly for sure; it is an enormous migratory bird sanctuary and stopover, and, while 12 times saltier than the Pacific Ocean, is home to robust fish populations, and sportsmen. Presently the recharge of water to the Salton Sea is equal

to its evaporation. If waters did not replenish it, it would dry up in twenty years. A toxic dust bowl of alkali fertilizer and pesticide would stir and wreak havoc on the region. Public health issues would replace Imperial Valley agriculture on the map. Experts are watching the Salton Sea vigilantly because water recharge has already been greatly reduced by water transfers. It is strange to preserve negative impacts of agriculture simply because they've been there long enough to sustain a unique wildlife community, but these oddities define the agricultural oasis.

So what can Imperial Valley do? Can IID infrastructure be so improved that a surplus of water is created just for Salton Sea recharge? They have otherwise successfully covered their bases. The IID seems to be the more ethical of water agencies. The state and federal governments have already come down on any supposed misuse. Unforeseen partnerships between rural and urban areas are actually improving the quality and quantity of water supplies in the area. California can quite possibly begin to repair its interstate reputation with the rest of the West. Cities are afforded the room to grow, and with reasonable water prices. It seems that what at first appears to be the regions ruin is actually the glue binding the region together.

Works Cited

Clark, Krissy. "Fighting For Water In Arid Imperial Valley." *NPR*. NPR, 10 Feb. 2011. Web.

Farr, Finis C. *The History of Imperial County, California*. Berkeley, CA: Elms and Frank, 1918. Print.

"How A Major Water Deal Affected San Diego and Imperial Valley Water Supplies." Interview by Maureen Cavanaugh. *KPBS*. KPBS, 23 Oct. 2013. Web. <<http://www.kpbs.org/audioclips/20125/>>.

McWilliams, Carey. "The Politics of the Colorado." *California: The Great Exception*. New York: Current, A. A. Wyn, 1949. 293-316. Print.

Perry, Tony. "San Diego Water Deal Upheld, Salton Sea Fight Continues." *LA Times Greenspace*. LA Times, 7 Dec. 2011. Web.

"Quantification Settlement Agreement." *IID*. Imperial Irrigation District, Feb. 2006. Web.

Quantification Settlement Agreement. San Diego, CA: San Diego County Water Authority, 2011. *QSA*. SDCWA, Nov. 2011. Web.

Reisner, Marc. "An American Nile (1)." *Cadillac Desert*. New York: Penguin, 1986.