

Garden City Project

Robert Autobee
Bureau of Reclamation

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Garden City Project

An early Reclamation project with many firsts, Garden City left behind no great monument the size of Theodore Roosevelt or Arrowrock Dams. It did, however, for many years weigh just as heavily on the Bureau's conscious as its first major failure. For more than a decade, along the dry Arkansas River on the prairies of southwestern Kansas, the fledgling United States Reclamation Service (USRS) found itself locked in two experiments -- one technical, the other social. No dams or reservoirs distinguished project lands, as Garden City was the first Reclamation project to pump all its water from underground; the first Reclamation project to recover all its water strictly from wells, and was one of the rare instances where the local water users association held the authority to control water distribution immediately after Reclamation installed the pumps and wells. The success of the social experiment rested on overcoming the festering distrust of the people of Garden City toward large-scale irrigation plans. Once the ever-changing moods of prairie weather stalled the project's full operation, the USRS was in a showdown with a mutinous water users association unwilling to honor its construction and maintenance charges. The two groups' difference of perception, and variance of philosophy, doomed the partnership between Reclamation and the landowners of Garden City before it had a chance to get started.

Project Location

In the opinion of the USRS, the flow of the Arkansas River was "low, uncertain and insufficient." However, the water bubbling just under its surface intrigued federal engineers. Southwestern Kansas rests on top of the High Plains-Ogallala aquifer, a 225,000-square mile body of water percolating under six states from central Nebraska to eastern New Mexico. In the early twentieth century, developing the region's underground supply was deemed crucial, due to the mercurial nature of southwest Kansas's main tributary. The Arkansas rose in the vicinity of Leadville in the Rocky Mountains of Colorado, but during many nineteenth

century summers, by the time it reached the Kansas state line it had been sucked dry by Colorado irrigators. The summer of 1882 was one of those years, when newspaperman Noble Prentis saw "the bankless, treeless Arkansas, reminding one of a human eye without lashes." It took two decades before one man with a professionally-trained eye revealed the surrounding lands hidden potential. Charles Slichter, a Madison, Wisconsin, professor appointed by the USRS to the ponderous designation of Consulting Engineer for Underground Waters, conducted the initial investigation of the Arkansas' underflow in 1904. The professor's findings validated the fact the Arkansas often ran dry by the time it got to Kansas, but more significant was his discovery that the lands' surrounding the river held water within 10 feet, sometimes less, under its surface.¹

The Garden City Project hugged the bottom lands of the Arkansas River, 14 miles west of the project's namesake, and just east of the town of Deerfield. The project comprised 10,677 irrigable acres of privately held lands along a 15-mile long strip of Kearney and Finney Counties. Reclamation's designs included a pumping plant, sinking 216 wells below Deerfield to intercept groundwater, and constructing 23 pumping stations on both sides of the Arkansas. Each electrified station would pump water into a concrete conduit leading to the Farmers Ditch for delivery to authorized members of the Finney County Water Users Association (FCWUA). Straddling a climatic barrier between the humid midwest and the arid west, Garden City's receives 20 inches of moisture annually. The region's fertile, black sandy loam is capable of growing everything from alfalfa to melons. If conditions were neither too rainy or dry, the USRS hoped the plant and pumps could recover 30,000 acre-feet of water over a 150 day irrigation season.²

Historic Setting

1. U.S., Department of Interior, United States Geological Survey, *Third Annual Report of the United States Reclamation Service, 1903-04*, (Washington, D.C.: Government Printing Office, 1905), 78; Anne M. Marvin, *The Fertile Domain: Irrigation as Adaptation in the Garden City, Kansas Area, 1880-1910*, (Ph.d diss., University of Kansas, Lawrence: 1986), 55; U.S., Department of Defense, U.S. Army Corps of Engineers, *Six State High Plains Ogallala Aquifer Regional Resources Study*, (September 1982), 1.

2. U.S., Department of Interior, United States Reclamation Service, *Descriptive Article of Garden City Project Near Deerfield Kansas*, (December 31, 1914), 2; U.S., Department of Interior, United States Geological Service, *Fourth Annual Report of the Reclamation Service, 1904-5*, (Washington, D.C.: Government Printing Office, 1906), 170.

The fortunes of irrigation and Garden City paralleled one another almost from the arrival of the first homesteader in 1878. Garden City was a hothouse to a number of irrigation experiments, including the introduction of centrifugal steam powered pumps to Kansas in 1896. However, outsiders with elaborate irrigation schemes were a source of apprehension to many of the community's residents. The locals' mistrust was rooted in land speculation schemes of the 1870s and 1880s, when landmen used pumping as a device to promote Southwest Kansas to newcomers who came to the area at the expense of local agriculture. Ranchers, and a few innovative farmers, built the first pumping systems and windmills along the banks of the Arkansas to provide water for cattle and other stock. Drought drove many away in the 1880s, as the flow of the Arkansas disappeared into the porous riverbed. When the occasional rainstorm came, the wide river filled with sand and gravel, causing the river to spill over and form new channels.

Before it was amended out of existence, Section 9 of the 1902 Reclamation Act provided for expenditure of Reclamation funds in states from which it was derived from the sale of public lands. In order to comply, in 1903, the USRS sought feasible irrigation ventures in Kansas, one of the 17 western states included in 1902 Act. In its *Second Annual Report*, published in 1904, Reclamation laced its first impressions of Kansas's irrigation potential with a touch of sarcasm: "In this State reclamation of arid lands has perhaps less importance than in any other of the States mentioned in the reclamation law." Funding and interest in irrigation was practically non-existent in western Kansas, as "The citizens of the State are apparently more interested in putting down deep or artesian wells, in the hope of getting a flow of good water, and incidentally perhaps of finding oil and gas." The report delivered one final insult: "The attitude of the people toward irrigation is in many respects similar to that of citizens of Eastern States. It is regarded as a mere adjunct or incident, such as watering the lawn or kitchen garden, and not as a prime requisite." After Slichter's 1904 groundwater investigation, both Reclamation and private speculators envisioned Garden City as one of the great sugar beet producing regions in the United States, a notion growers

resisted due to the intense labor requirements to raise beets. The government's interest peaked when the United States Sugar Company built a central power plant and installed 14 pumps in the Arkansas Valley to stimulate the area's sugar beet production.³

As federal skepticism waned, in early 1905, the first set of plans and estimates for a pumping system were presented to a board of engineers in Reclamation's Denver office. The board rejected the designs, but a modified layout was accepted by a different group of professionals meeting in Garden City in September of that year. Armed with their plans, the USRS made it known to the people of Southwestern Kansas it would immediately develop their groundwater, build a pumping station, conduit, siphon and deliver water into their Farmers Canal, once interested growers formed an association to distribute water from the canal.⁴

Project Authorization

The government asked interested land holders to subscribe at least 10,000 acres in water rights to a project at Garden City. The Service estimated it would take \$250,000 to complete the project. Owners had to repay the government the quarter million dollars over a ten year period. In addition, the government acquired a lien on the lands earmarked for irrigation to insure repayment of construction costs. After ten years, the water users association would control both the ditch and distribution under the supervision of the Secretary of the Interior. Also, the association would operate the plant, but the government would retain title.⁵

Reclamation engineers presented their offer to the Finney County Farmers' Irrigation Association in March 1905. That summer, stockholders voted 52-to-4 in favor of forming a water users association, agreeing to allow the government to proceed. On June 7, Slichter measured the river's underflow at Deerfield to be 200 second-feet. He filed and posted the

3. U.S., Department of Interior, United States Geological Survey, *Second Annual Report of the Reclamation Service, 1902-3*, (Washington, D.C.: Government Printing Office, 1904), 59; U.S., Department of Interior, United States Reclamation Service, *Descriptive Article of Garden City Project Near Deerfield Kansas*, 2.

4. *Descriptive Article of Garden City Project Near Deerfield Kansas*, 5.

5. Marvin, *The Fertile Domain*, 329-30.

information on behalf of the government in accordance with the laws of the state of Kansas. Secretary of the Interior Ethan A. Hitchcock authorized the Garden City Project on October 5, 1905, and a contract between the United States and the recently incorporated Finney County Water Users Association was signed by Hitchcock on December 28, 1905. As 1906 dawned, the Association received applications to water about 12,000 acres, approving contracts to water 9,625 acres. The Service eventually shaved that amount down to 8,600 acres, but hoped to increase the service area to 15,000 acres if the groundwater supply proved sufficient. Two years later, on March 6, 1908, the government fixed construction charges to project subscribers at \$35 per acre.⁶

Construction History

The technology necessary to complete the plant and the pumps was not available in Kansas, so Reclamation entered into a far-flung bidding process in the summer of 1906. On a bid of \$46,300, the D'Olier Engineering Co. of Philadelphia won the right to supply the machinery at the power plant. The plant housed two De Laval steam turbines direct-connected to 225 kilowatt alternators, a 6,600 volt generator, two boilers, and a Cochrane heater. The boilers firing the turbines generated steam at 160 pounds of pressure, and equipped with superheaters, raised steam temperature to 450 F. First lignite, then bituminous, coal fired the boilers. The fuel came to the boilers on half-ton cars from an adjacent supply room before laborers shovelled it into the furnaces. Above the hearth of each furnace was stamped the legend -- "United States Reclamation Service -- Garden City Project."⁷

The contest to construct the 46-foot wide by 85-foot long plant proceeded in Garden City on July 6, but Reclamation judged none of the bids complete. Reclamation readvertised the project and held the second bid opening on September 28. Again, all six entries did not

6. *Ibid.*, 331-2; U.S., Department of Interior, Bureau of Reclamation, *Repayment of Reclamation Projects*, (Washington, D.C.: United States Government Printing Office, 1972), 158.

7. U.S., Department of Interior, Bureau of Reclamation, Record Group 115, *General Correspondence*, photo negatives, Box 553; F. W. Hanna, "The Garden City Pumping Plant," in *The Engineering Record*, (April 24, 1909): 535. That same year, D'Olier would win the contract to provide pumping machinery for the Buford-Trenton Project in North Dakota. (Record Group 115 hereafter referred to as RG 115).

meet Reclamation criteria, so the government decided on October 6 to implement its "force account" labor policy and work without a contractor. The red brick plant, with its steamstack dominating the skyline, rose next to a spur of the Santa Fe Railroad in the summer of 1907.⁸

In Chicago, Reclamation reviewed offers to furnish ten pumping units on July 7, 1906. In September 1906, the Service awarded the contract to the Camden Iron Works of Camden, New Jersey. In September of the following year, Camden delivered the units for operation on the north side of the Arkansas at a cost of \$14,440. Reclamation entered into a informal contract with Daly & Patry of Kansas City, Mo. on Nov. 8, 1906 to dig 90 shallow wells on the river's north side to intercept the groundwater. Eventually, a total of 216 wells were sunk across the valley. These excavations measured 15 inches in diameter and from 35 to 60 feet deep with a working output of 5 cubic-feet-per-second (cfs). The total length of the line covered by the wells and conduits amounted to 23,000 feet. Individual stations were spaced at intervals of a thousand feet along the main conduit. Ten units were placed north of the river, while the remaining 13 sat on the Arkansas's south bank, requiring a crossing by an inverted siphon.⁹

Each pump drew water from 10 wells drilled into the gravels of the river valley. Every 9-inch centrifugal pump was direct-connected to a General Electric 25-horsepower A.C. electric motor. The pumping units sat in enclosed uniform concrete houses measuring 10 feet wide by 12 feet long and 9.75 feet high. The pumps guaranteed efficiency when running under their rated capacity and the specified head of 200 cfs was 65 per cent of pump capacity. All pumping units operated by alternating current transmitted over a short line from the central power house. On January 27, 1908, Buffalo Steam Pump Co. contracted with the government to install thirteen 10-inch centrifugal pumps on the south bank of the Arkansas. Buffalo Steam's product was similar to Camden's -- 25-horsepower electric motors with a 5 cfs capacity -- but the 13 units cost \$35,700. Not long after installation

8. *Descriptive Article of Garden City Project Near Deerfield Kansas*, 6.

9. *Ibid.*, 7-8.

during the summer of 1908, the Buffalo units averaged more water per pump than those on the north side.¹⁰

The water from the pumps was discharged into a concrete conduit which spilled into the Farmers Canal. The conduit passed under an irrigation ditch in a small concrete siphon and under the river through a 900-foot-long wooden stave pipe siphon. The entire length of the conduit was 20,000 feet, 6,927 feet of which was in a closed box form, the remainder an open trapezoid. The siphon was completed in July 1907.

Whether it was the location, or the kind of work required, internal correspondence illustrates Garden City was not a laborers paradise. Reclamation blamed "renewed economic activity" in Southwestern Kansas for diverting contractors and laborers to other jobs. Sometimes the search for a work crew seemed doubly daunting in Carrie Nation's Kansas. The USRS had their own rules against the use and sale of alcohol in their construction camps that mirrored the temperament of this temperance bastion. In a 1906 inspection report of Garden City, engineer E. T. Perkins surmised the chances a government camp would be drunk and disorderly: "None. This is Kansas. Only red ink and cologne permitted."¹¹

In a later visit, Perkins admitted "there are probably more different kinds of work on the Project than on any other in the service, except the Salt River," as nearly all the work was "of very detailed character." Other observers out from Washington were less complementary. Reclamation's Chief Fiscal Officer E. G. Lind referred to Construction Engineer Charles Gordon as "somewhat of a Martinette (sic)." Another report from Perkins found the Garden City office "dirty and dusty" and "old boxes were used as spittoons." The atmosphere out on the job site was not much better. Gordon complained to Slichter about the cost-cutting hiring methods of operations superintendent Charles E. Hogle. The force account rate of \$2.25 was a day's wages for workers of all races, but Gordon sniped, "I run

10. *Ibid.*, 6, 8; *Maxwell's Talisman*, (June 1906), 7; F. W. Hanna, "The Garden City Pumping Plant," in *The Engineering Record*, (April 24, 1909): 535; *Reclamation Record*, (August 1908), 68.

11. U.S., Department of Interior, Bureau of Reclamation, RG 115, *General Administrative and Project Records*, Box 262.

this job without using any Mexicans. Mr. Hogle is now using some Mexicans and paying them \$2.00. The Santa Fe (Railroad) section foremen says that he would rather have four Americans than five Mexicans." Mexican laborers had already assumed the backbreaking labor and uncertain life of a migrant laborer in this part of Kansas; making them an available source of labor on the Garden City Project. Even the Director of the Reclamation Service, Frederick Newell, came away shocked after a visit, complaining a "few high priced skilled mechanics were doing ordinary laborers work."¹²

With construction over 90 percent complete, the project began pumping at 8 a.m., April Fools Day, 1908. It was evident within a few days that the water supply was less than expected, as fine sand clogged the wells and sixteen miles of unlined, open ditch seeped. Over six months, only 4,885 acres of land received water from the government's pumps. The summer of 1908 was dry in western Kansas, and the plant operated almost continually. The draw on the groundwater was long and heavy, decreasing the discharge from the pumps. Underscoring the perplexing character of the Arkansas, heavy precipitation in Colorado that fall, flooded the river, seriously damaging all north side units and five of the southern wells. Concluding an uneven first season, in November, Reclamation announced a \$2.50 increase, to \$37.50 per acre, to the construction charge to association members. It was a public relations blunder that would sunder any remaining affinity between the water users and Reclamation going into 1909.¹³

Post-Construction History

From Reclamation's vantage point, farmers were the ones responsible for turning the first year into a minor disaster. Growers were used to irrigating with the Arkansas when the river was in flood. In order for pumped water to be utilized to its best advantage, the USRS informed growers during 1908 that groundwater should be spread on the land under

12. RG 115, *General Administrative and Project Records*, letter from Charles Gordon to Charles Slichter, 7 Sept. 1907, Box 483; letter from Frederick Newell to Charles Slichter, 19 August 1907, Box 483; RG 115, *General Administrative and Project Records*, Box 262; U.S., Department of Interior, United States Geological Survey, *Sixth Annual Report of the United States Reclamation Service*, (Washington, D.C.: Government Printing Office, need date), 99. At Garden City, laborers slept in three 14 X 30 foot bunkhouses while another bunkhouse was divided into a kitchen and dining room.

13. *Reclamation Record*, (May 1908): 38; (November 1908), 96.

comparatively high heads so as to quickly cover their acreage. The USRS also objected to the lack of pre-project preparation of the land, and the failure to follow a rotative delivery system to make sure everyone received their share of water. This caused USRS management and water experts to wonder if project farmers could follow a schedule to make the venture work. One example leading to those presumptions was the story of the farmer with no water rights opening two of his laterals to draw water from the canal. In addition, the farmer cut his banks in six different places to run water on to his alfalfa crop. When confronted by Reclamation, the owner explained that the water had been going to waste for three days and he thought he might as well use it himself.¹⁴

The major construction activity of the winter of 1908-09, was switching the furnaces and burners over from coal to oil. Laborers dug and installed a 55,000-gallon concrete oil-storage tank, and the project office noted an almost immediate savings.

Year two of the Garden City experiment commenced in early April 1909, ending once and for all, 96 days and 7 hours later, on September 30. The troubled spring of 1908 returned a year later with a new set of water. The pumps north of the river could hardly keep primed due to the lack of moisture. When heavy rains did arrive in May and June, pumping was soon redundant. Later, a dry, windless August overheated the plant's water condensers hampering general operations. The summer rains of 1909 turned local opinion against the project, and excellent crop yields in the fall were enough to convince growers they did not need an irrigation system. That year, a total of 7,555 acre-feet watered 6,545 acres of land. According to Kansas Senator Charles Curtis that was "not enough to irrigate the land under the ditch." But the most distressing statistic was that only one water user had bothered to pay his operation charges.¹⁵

In a Nov. 8, 1909 letter to Secretary of the Interior Richard A. Ballinger, Acting Supervising Engineer Raymond F. Walter laid out the options facing the USRS after two

14. *Descriptive Article of Garden City Project Near Deerfield Kansas*, 11; "Distribution of Water on Garden City Project," in *Reclamation Record*, (January 1909): 9.

15. *Descriptive Article of Garden City Project Near Deerfield Kansas*, 8-9; *Reclamation Record*, (September 1909), 89.

years of trouble. At that moment, Reclamation could not deliver water to the 10,000 acres they first committed to in 1905, or supply the 2.5 acre-feet called for in the water rights applications. Walter predicted landholders would "refuse to make any payment on the assumption that the United States has not complied with their part of the agreement." The engineer believed the USRS faced four choices: first, draw up a supplementary contract with the Association based on fixed price per acre-foot deliveries; second, decrease irrigated acreage, delivering water to those willing to pay an operation and maintenance tax in advance; third, "close the plant, nail up the windows and refuse to operate it," which Walter advised against, finally, secure authority from Congress in Washington to sell the plant to the highest bidder. Walter was in favor of selling the plant, as "the United States would probably lose considerable money, but it would be better to bring it to a head at once than keep putting in good money with a very faint possibility of ever getting it back."¹⁶

The growing likelihood of the USRS not successfully completing a mission had Reclamation's Director indignant. In February 1910, Frederick Newell wrote, "The conditions around Garden City, with the sugar factory located there, and the excellent transportation facilities, are such that the farmers under intelligent management should be able to pay a large price for water during times of drought, and make substantial profits." A month later, Newell again lambasted landowners in a letter to Senator Charles Curtis, observing, "They have never been accustomed to the methods of care and economy in handling water, as it has usually been feast or famine with them. When they have had water, it has been in abundance and has been wastefully used. At other times when no water was obtainable, they have simply existed."¹⁷

Senator Curtis asked Reclamation to give Garden City a second chance. The Senator felt the government would "render a service of incalculable value by demonstrating how water can be cheaply raised to the surface. If it quits now in its present experiment the

16. RG 115, *General Administrative and Project Records*, letter from Raymond F. Walter to Richard A. Ballinger, 8 November 1909, Box 483.

17. RG 115, *General Administrative and Project Records*, letter from Frederick Newell to R. H. Faxon, 17 February 1910; letter from Frederick Newell to Charles Curtis, 1 March 1910, Box 483.

question would be unsolved." Interior Secretary Ballinger agreed with Reclamation's decision and ordered the plant closed until the Association paid its building and maintenance charges.¹⁸

The fate of Garden City lingered in Congress and the courts. In 1911, Curtis introduced Senate Bill 6784 authorizing sale of the pumps and equipment and releases of the liens. The measure failed to pass the House of Representatives, and landowners applied to the courts for relief. W.A. Ryan, the Service supervisor of irrigation, recommended to Director Newell on August 13, 1914, "the best thing that the Service can do in respect to the Garden City plant is to confess its failure, admit that a mistake was made in the establishment of the project, and recommend the disposal of the plant at public auction to the highest bidder."¹⁹

Ryan would have found agreement from land owner George H. Reeve. In a 1914 deposition against FCWUA seeking release from his subscription to the association, Reeve pointed the finger at USRS for a variety of sins, "The engineers in charge disregarded the advice and counsel of local men who had been putting down pumps for years, with the result that the plan was absolutely inefficient. The wells soon failed; the expense was three or four times what was calculated, and it was further developed that clear water pumped from the underflow could not be delivered any distance in canals and laterals in that sandy soil."²⁰

The summer of 1914 was good to most landowners who had been part of the Garden City Project. Above average precipitation produced strong crops of alfalfa, sugar beets, corn and milo. Over the last three days of July, these owners had a visitor from Washington; Reclamation's Supervisor of Irrigation, I.D. O'Donnell. Secretary of the Interior Franklin K. Lane ordered O'Donnell to call on every man and woman who owned land on the project to discuss whether the venture was worthy of revival. O'Donnell found a total of 95 land

18. RG 115, *General Administrative and Project Records*, letter from Charles Curtis to Richard A. Ballinger, 4 Feb. 1910, Box 483.

19. RG 115, *General Correspondence Engineering*, letter from W. A. Ryan to Frederick Newell, 13 August 1914, Box 553.

20. RG 115, *General Administrative and Project Records*, petition filed by George H. Reeve v. Finney County Water Users Association, 12 April 1914, Box 484.

owners; 38 non-residents, 25 living in Garden City, the rest living on project lands. Of all the lands owned by non-residents and those living in town, 75 per cent were run by tenants, and one company owned and operated a farm of 800 acres. After talking with this group, O'Donnell stated: "About 100% of the land owners are opposed to the Government furnishing water under present conditions and about 98% do not want the Government to furnish water under any conditions." Since Reclamation went away, the farmers had put down wells at about \$10 an acre and were now receiving their power from the sugar plant at about \$1.25 to \$1.50 per acre foot. The majority were not particularly interested in the USRS' return. O'Donnell concluded, "we will have to get out and save what we can from the wreck."²¹

A small flyer with big, black type was the funeral notice for the Garden City Project. It announced an auction in front of the power plant at 2 p.m. September 29, 1917, casting the rights-of-way, plant, wells, and siphon to the highest bidder. The project's most conspicuous landmark, the power plant, fell into the hands of a Deerfield mechanic, W. O. Coerber, after the government accepted his offer of \$1,500. The plant's machinery also remained in Kansas, delivered to the Army base at Fort Riley. Garden City Sugar and Land Co. purchased the government's project lands. All of Reclamation's holdings brought \$16,331.50 from the sale. In 1920, Senator Curtis again presented a motion to cancel the arrangement between the government and the citizens of the project. On June 5, Congress agreed to cancel water supply contracts and discharge any liens between the FCWUA, individual landowners, and the Secretary of Interior. Before closing the ledger on Garden City, the federal government's bottom line showed the powerplant and transmission line cost \$124,612; the pumping station, \$109,289, and the canal system, \$88,473. The final amount charged off as a loss to the Reclamation fund was \$334,474.96.²²

21. RG 115, *General Administrative and Project Records*, letter from I. D. O'Donnell to Franklin K. Lane, 4 August 1914, Box 483.

22. RG 115, *General Correspondence Engineering*, Box 555; U.S., Department of Interior, Bureau of Reclamation, *Repayment of Reclamation Projects*, 158; U.S., Department of Interior, Bureau of Reclamation, *Federal Reclamation and Related Laws Annotated, Vol. 1*, (Washington, D.C.: United States Government Printing Office, 1972), 261.

The events of the Garden City fiasco quickly became an unspoken topic around Reclamation, as traces of its existence were buried deep. Before that happened, one of the founding fathers of the Service, Reclamation Director Arthur Powell Davis, in October 1920 wrote to the head of a Topeka real estate firm, that Garden City failed because, "expectations were placed too high." Whether Davis meant the hopes of Reclamation or of the landowners, he did not elaborate.²³

Settlement of the Project

The USRS could not take credit for it, but irrigation would go on to change the economic and social landscape of Garden City. Unlike other communities with their fates tied to agriculture, Finney County and Garden City have boasted a diverse economy and growing population since the end of World War II. According to the 1990 census, 33,070 people were Finney County residents, and 24,097 of that number lived in Garden City. Irrigation, and the construction of the world's largest beef feedlot, Iowa Beef Processing (IBF), provided a contrast of cultures to this corner of rural America. Hispanics, most of Mexican descent, comprised almost a quarter of Garden City's total population in 1990. Additionally, increasing numbers of Vietnamese and Laotians form Garden City's third and fourth largest ethnic groups.²⁴

Uses of Project Water

Both the Federal and private sectors came away with their own horror stories after their initial attempts to draw water from under Garden City. In late 1909, United States Sugar was daunted from their quest of transforming Garden City into a major sugar beet production center after seepage from the company reservoir flooded the homes and streets of Deerfield. By 1914, the firm abandoned their wells and operation of their plant as too costly. Despite two incidents of bad luck within the space of a decade, local interest in pumping would not die. Only two years after Reclamation decided to shut off the pumps at

23. RG 115, *General Administrative and Project Records*, Box 483.

24. United States Department of Commerce, Bureau of Census, *1990 Census of Population and Housing, West North Central Division*, Summary Tape File 1A, Vol. 2, (Washington, D.C.: 1991).

Garden City, a new Secretary of the Interior, Walter L. Fisher, observed in a January 1912 letter to Senator Curtis, that reports had reached him from southwestern Kansas newspapers contemplating a new round of pumping plants. In spite of "Knowing the cost of the works and of the water at Garden City," Fisher wrote, "these new projects do not seem to be deterred."²⁵

Now left to follow their own course, in 1914, one Kansan crafted a mocking epitaph recounting Federal meddling in local affairs, "The dreamers gave up and went back to Washington, and the reclamation bureaus then wisely announced that irrigation was not feasible in western Kansas. But hard-headed and practical pioneers out there were not sleeping." The progress of technology over the following decades proved the caustic Kansan right. Those making their livelihood along the Arkansas River would never shake their addiction to ground-pumping, always adapting and improving on ways to further tap the underground supply.²⁶

After World War II, the invention and application of center-pivot irrigation systems and deep-well turbine pumps launched irrigation into a \$3-billion-a-year business, extending agriculture to new lands, as the number of irrigated acres in western Kansas tripled. In their quest to bore deeper through clay, silt, sand and gravel to get to the water, today farmers and beef producers face the possibility of groundwater resources drying up as the aquifer drains. The aquifer's future was such that, by the late 1980s, Reclamation was back in Kansas conducting the High Plains States Groundwater Demonstration Program to evaluate different ways of putting water back into the ground, as part of a process known as artificial recharge. Of their stops in Kansas, Garden City was not part of the itinerary.²⁷

Conclusion

After Garden City, Reclamation avoided Kansas for 40 years until the Pick-Sloan

25. RG 115, *General Correspondence Engineering*, letter from Walter L. Fisher to Charles Curtis, 30 January 1912, Box 553; RG 115, *General Administrative and Project Records*, letter from Charles Hogle to Raymond F. Walter, 3 December 1909, Box 483.

26. *The Fertile Domain*, 347.

27. Holly Hope, *Garden City: Dreams in a Kansas Town*, (Norman, Oklahoma: University of Oklahoma Press, 1988), 17; *The Fertile Domain*, 378; "Groundwater Program Report Goes to Congress, in *Centerline*, (January 1988): 1.

projects of the mid-1950s. Moving on from the misadventure on the Arkansas, the Bureau continued to turn out grand designs and imposing dams, while their knowledge of pumping was often a background facet of most projects. Southwest Kansas followed its own course, along the way proclaiming itself the capital of the "irrigation empire" of the west. However, to those aware of Reclamation's past in Garden City, the modern prairie landscape dotted with irrigation rigs offers an ironic conclusion to a story of a place that originally fought pumping when it was first offered.

Suggested Readings

Anne Marvin, *The Fertile Domain: Irrigation as Adaptation in the Garden City, Kansas Area, 1880-1910*. Lawrence, Kansas, Ph.d diss., University of Kansas, 1986.

About the Author

Robert Autobee holds a Masters degree in History from the University of Northern Colorado. The Colorado Historical Society published his thesis, *If You Stick With Barnum: A History of a Denver Neighborhood*, as part of their *Essays and Monographs in Colorado History* series in 1993. He has worked as an editor and reporter for several different Colorado newspapers, and for *Western Resources Wrap-Up*, based in Washington, D.C.

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