

Lifblood Of The Valley

Watering Spearfish And Its Croplands

by Paul Higbee



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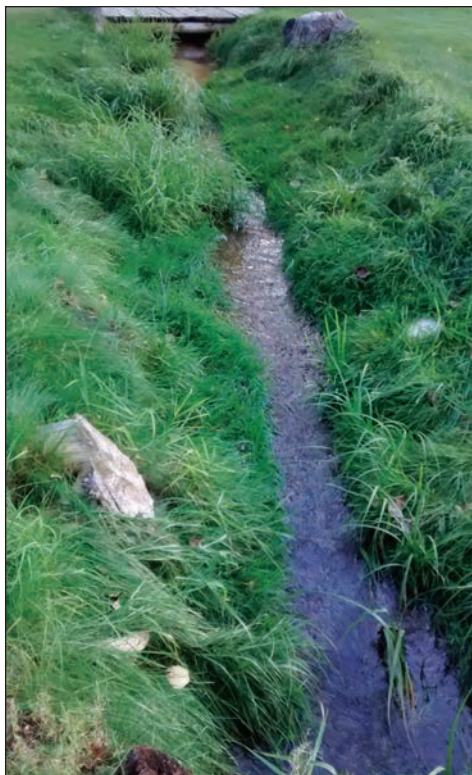
Watering Spearfish And Its Croplands

S*emi-arid western South Dakota only rarely* sees abundant water. But historically, residents made the most of every drop, thanks to bold and often completely innovative hydrology.

In the first half of the 20th century, prominent Black Hills area water projects included Homestake Gold Mine's hydroelectric system that helped revolutionize American industrial power (and simultaneously made South Dakota the number one gold producing state for most of the century), and creation of what was in 1912 the world's largest earthen dam—creating Belle Fourche reservoir. Less impressive in development but no less significant economically were private property stock dams that were keys to pulling South Dakota out of the 1930s Dust Bowl. In the middle of the century, the Black Hills were transformed by a series of man-made lakes, serving as both reservoirs and recreational sites, and fitting into the landscape so perfectly that most visitors assume they are natural.

Pre-dating all of this by decades was water development led by Irish immigrant Robert Evans in the 1870s. His venture transformed dry, mostly treeless Spearfish Valley into fertile fields that grew much-needed crops as the Black Hills population boomed. The water also made possible an enviable townsite: Spearfish.

Evans wasn't formally educated in the principles of hydrology. He picked up what he needed to know as he lived a true Old West adventure, seeking gold in Montana. Gold mining required lots of water, and if it wasn't available at hand, mine entrepreneurs like Evans moved it through ditches and flumes. Later, when Evans first



Ramsdell ditch near Spearfish City Park.

saw Spearfish Creek dropping out of a steep canyon at the Black Hills' northern tip, the stream reminded him in volume and flow of McClellan Creek near Helena, Montana. Evans had tapped McClellan Creek for mine water, and he calculated its Black Hills counterpart could irrigate Spearfish Valley if he and neighbors cut ditches stemming off it that dropped two inches per every hundred feet forward. Spearfish Creek's drop averages five inches every hundred

feet. The two-inch ditch drop, Evans calculated, would keep water flowing steadily, but not with enough force to erode the banks. Horse or mule drawn scoops called slip-arounds or fresnos would cut the ditches, which would be narrow and shallow enough for anyone to wade across in a step or two (or, just as often, leap across).

The engineering worked, but the builders likely guessed, correctly, that securing the water for the long term would prove an ongoing challenge. In the 19th century West, control of water determined who remained on the land and who moved on. Fights were common, sometimes with fists and sometimes in court, often pitting neighbor against neighbor or town against town, and occasionally great industries against everybody who stood in their way. Spearfish Valley irrigators would face all such threats.

Robert Evans, born in Ireland in 1840, emigrated to Canada at age 11. His mother died when Evans was a baby, and a few years later his father crossed the Atlantic to build a new life. In 1851, Evans and a sister joined their father north of Toronto. A schooling opportunity later landed Evans in Detroit, but as a young adult in the 1860s he was looking west. He had, he later reflected, caught “gold fever,” and in the 1860s Montana drew many adventurers with that affliction. Evans experienced the rough and tumble life of Virginia City and Bannock.

“He was really a part of the Old West, but didn’t have the personality some people associate with that time and place,” said Evans’ grandson, Billy Evans. “My dad said



Robert and Rebecca Evans in their later years.

he never heard him cuss or lose his temper. He was a mild man, the kind who made a lot of friends.”

Among his Montana friends were three who became his business partners. They struck gold near Helena and turned their diggings into a full mine operation by moving water 27 miles from McClellan Creek through ditches, a 300 foot tunnel they cut, and a flume they built. The process taught Evans much of what he needed to know a few years later in the Black Hills.

At first the gold mine proved profitable. At the same time, the Helena Valley was filling up with new arrivals, including farmers, who questioned the mine’s right to so much water that they wanted to use for food production. The matter would go to court, where Evans and partners won. They established they legally held prior water rights.

“Although we won,” Evans told a newspaper years later, “the lawsuit

had cost us a lot and meanwhile the diggings had been reduced to the point where they could no longer be worked profitably by white men.”

In the parlance of the time, that meant white laborers would not work for what Evans’ mining company could afford to pay—and that the only companies willing to buy it would be those who employed ultra-cheap (in fact, abusively cheap) Chinese labor. One such company gained control of Evans’ mine and its impressive water system.

The experience, apparently, left Evans with no hard feelings toward farmers, and it didn’t cure his gold fever. In 1876, he joined a party of 200 Montanans, bound for the Black Hills Gold Rush. Their cross country journey was dangerous, playing out just weeks before Custer’s defeat at the hands of Lakota and Cheyenne defenders of the Black Hills. Evans’ group aligned themselves with Crow scouts, then enemies of the Lakota. All party members were armed with 500 to 1,500 ammunition rounds. Their main concern was that their horses might be chased away. They and their animals survived skirmishes as they pushed southeast through today’s Montana and Wyoming, skirting the Bighorn Mountains to the south. But their uneasiness did not fade as the Black Hills filled their view. “We were attacked by Indians after we reached the Black Hills,” Evans recalled. “They shot one of our men dead.”

When the Montanans first gazed into wide Spearfish Valley from its western ridge, the view was very much what buffalo hunter (and future Spearfish grain miller) Daniel Toomey remembered while passing through in 1875: a sloping valley between high ridges, cut in half by a swift stream that nurtured “only a light fringe of oaks, ash, and elm with a few cottonwoods” along the water. In short order, Toomey committed to a creek-powered mill operation at Spearfish.

As for Evans, his grandson believes, his decision to become a farmer instead of a goldrusher was almost instantaneous as he camped along Spearfish Creek. If people who knew Evans only as a Montana miner were surprised by the occupational switch, it was

because they didn't know that Evans' father had farmed in both Ireland and Canada, and passed down his considerable knowledge and skills. The party moved on from the campsite but within a few miles Evans and some others turned around and staked out 160-acre claims each in the Valley. They learned a man in Crook City owned a plow they could rent for a pricey \$30 per week. Breaking soil would commence immediately.

Evans (and Toomey) recognized Spearfish Creek

as a classic Western mountain stream, perennially ice-cold and clear except in flood conditions. The water force that both men would commercialize stemmed from the creek's steep vertical drop of nearly 3,000 feet in less than 40 miles. It formed from springs high in the northern Black Hills, rushed through Spearfish Canyon and the future Spearfish townsite at the canyon's mouth, and then into the wide Valley north of town. From there it flowed into the Redwater River seven miles from Spearfish. What kind of crops might those virgin soils support if watered, Evans wondered. And would water fed onto the croplands flow beneath the soil back to the creek and recharge it, or drop into a deep aquifer? Time and experimentation would tell.

Evans, along with Michael Tonn, James Ryan, Henry Folsom, G.E. Reed, and J.E. Smith began creating the ditches in May, 1876, typically working backwards from a patch of land they planned to water, extending the ditch back to the creek. Keeping the two-inch drop per hundred feet consistent was important, and the only measuring tools they had were a slightly tapered six-foot board and a water level (similar to a carpenter's level). If the tools indicated they were dropping an eighth of an inch every six feet, they were on track. Initially the irrigators watered a combined 800 acres.

Watered fields did, indeed, spring to life with yields. There were crops of barley, rye, corn, and wheat. The farmers also grew a food considered a staple in the 19th century but somewhat overlooked in the 21st—turnips. Apple seedlings from Missouri would arrive

shortly and thrive, as would other fruits and vegetables that newcomers hoped to grow. No less important was hay and oats for draft animals, and feed for dairy cattle.

As the ditches were being dug, Spearfish's first settlers posted observers atop Lookout Mountain—called Joe's Peak then but in fact serving as a true lookout—to watch for Lakota raiding parties. A log stockade was constructed in today's downtown Spearfish, mostly as a place to shield animals during horse-stealing attacks although there was room for people, too, if matters turned unusually dangerous. One such raid a few miles west of Spearfish proved fortuitous for both Evans personally and the community as a whole. The C.W. Pettigrew family passed through Spearfish, part of a wagon party bound for Oregon. The attack forced the party back to Spearfish and the Pettigrews decided to make the fledgling town home rather than the West Coast. Daughter Rebecca was away at boarding school during the adventure with plans to join her family later. Rebecca made Spearfish home in 1878, is credited as the town's first teacher, and became Robert Evans' bride. The couple had eight children and built a handsome two-story home just north of Spearfish, notable for its fine hardwood wood-

working. In late summers, the house stood almost obscured by tall corn.



Fayette Cook

*Leland D. Case Library for Western
Historical Studies collection*

Another pioneering Spearfish educator arrived by stagecoach in August, 1885. If his first name, Fayette, suggested an eastern tenderfoot, meeting him dispelled the notion instantly. Fayette Cook stood tall, lean, and muscular, with piercing eyes and a thick moustache. His long legs had marched him into the Civil War as a teenage Union infantryman, and now at age 35, he backed

down from no one. In fact, his confrontational manner made him very much the opposite of mild-tempered Robert Evans. He put his assertiveness to work in arguing with Black Hills school leaders who,



*Fayette Cook developed an orchard and berry field where
Black Hills State University's football field sits today.*

he felt, were quick to hire unprepared eighth-grade graduates as “teachers” instead of educators who met professional standards after training at Spearfish Normal School. The school, today Black Hills State University, made teacher preparation its main mission, and Cook was the first president to keep it open and financially solvent for a full academic year. Cook took an immediate interest in the irrigation ditches adjacent to his campus. He thought all teachers should understand farming principles, for instructional purposes and because in that era many would live at rural, one-room schools where growing gardens would help them sustain themselves. Also, Cook was personally interested in knowing what high-elevation crops would thrive in the Black Hills as compared to his native Michigan. Researching local agriculture became a secondary mission for his state-supported institution. In 1893, he leased six acres just below the ridge where he had built a handsome stone academic hall. Cook took great interest in strawberries, and in 1894, the six acres grew 3,000 quarts of them. The next year, he increased his strawberry harvest (he eventually grew 198,000 pounds one season). Along with strawberries, raspberries and blackberries and currants grew, as did apples, pears, and plums in an orchard he planted.

Much of the investment for Cook's gardens and orchard came from his own pocket, and when he paid himself back, there were detractors who claimed he was profiting from what he described as a school experimental farm. Defenders pointed out that Cook hired students to work the crops, and that helped them with tuition and college living costs, and also that much of the fruit ended up in the college kitchen for student consumption.

Valley irrigators supplied grain for Toomey's mill and other nearby mills, and they transported produce of all kinds by a new rail line that connected Spearfish to Lead and Deadwood via Spearfish Canyon, beginning in 1893. Good profits were to be made up there, where thousands of people lived and the mile-high elevation and rocky terrain made large-scale gardening next to impossible. Still, the biggest agricultural profits flowing into Spearfish during the 1890s came from beef cattle. Great herds that originated in Texas grazed west and north of town, and also on Lookout Mountain's shoulders.



Irrigation made possible this strawberry garden, photographed in the early 20th century, just north of Spearfish.

Cattlemen tended to congregate in Spearfish and make their homes there, and indeed, their dollars largely built the business district and banks. But the product from the biggest outfits was mostly for national

sales or treaty obligations, shipped live to distant slaughterhouses by rail from Belle Fourche. Spearfish fruits and vegetables, to a much greater degree, stayed local.

In fall, 1897, all Spearfish citizens were alarmed when Deadwood mayor Sol Star and his city council proclaimed a water shortage, and a remedy to it. The official city proclamation read:

Whereas it is necessary for the city of Deadwood to acquire for domestic, fire and other purposes a supply of water amounting to 200 miners' inches and

Whereas there is no other source of supply for such a quantity of pure water except Spearfish Creek;

Be it resolved by the Mayor and city of Deadwood, that said city of Deadwood acquire by condemnation two hundred miners' inches of waters of the main branch of Spearfish Creek.

Spearfish's weekly newspaper, the *Queen City Mail*, spoke to Daniel Toomey and Spearfish sawmill operators who used creek power, and they estimated the water Deadwood wanted would reduce their power by one-fifth. Similar calculations told the paper's editorial staff that Valley crop production would fall by one-sixth.

"To deprive Spearfish Valley of one-sixth of the annual crops raised by irrigation would result in damage which is hardly possible to estimate," the newspaper editorialized in its November 10 issue. "Will the people of this Valley stand by idly and permit this gigantic outrage to be perpetrated?"

No, they wouldn't. The Spearfish-Deadwood water fight of 1897 commenced. Immediately, Deadwood stated it would share water with Lead and small communities that formed a "belt" between Deadwood

and Lead. Combined, the population of Deadwood, Lead, and belt towns was 10,000, while Spearfish counted about 1,500 residents. The much larger population up the hill from Spearfish, Deadwood leaders asserted, was what allowed the town to declare condemnation. Each of those 10,000 people, obviously, needed water to live.

Water, the *Lead Daily Call* newspaper wrote, “to irrigate our palates and perform our bodily ablutions at least once a day.”

Spearfish people sounded, frankly, a bit haughty in mentioning their town hadn’t relied on Spearfish Creek in 1887 when it established a municipal water system for domestic use and fire protection (the previous year irrigation ditch water had been used to battle a devastating business district blaze). In 1887, Spearfish tapped Clemmons Springs, a couple miles west of town, and built a reservoir 160 feet above street level. That was as much about a fortunate lay of the land as about far-sighted town building, some outside observers noted, and they sometimes called Spearfish wasteful for using water for keeping lawns green. The result, two decades after Spearfish’s founding, was a community on its way to becoming one of the prettiest in the American West—an achievement not yet in vogue across most of that hard-scrabble region.

Residents of Spearfish thought it strange that citizens of Deadwood and Lead—self-proclaimed leading communities of the Black Hills—didn’t find it embarrassing for their leaders to suddenly declare a crippling water crisis that no one saw coming. Moreover, the fact that Lead was so quickly part of the water distribution formula led some people to wonder if the crisis wasn’t really about Homestake Gold Mine using Deadwood to acquire more water. Since 1882, the mine had taken water from upper Spearfish Creek for its use and domestic purposes in Lead, where most residents were company miners and their families. Was Homestake hiding behind Deadwood in attempting to get more water for some unannounced mining development?

Whatever the case, Spearfish irrigators took the lead in making certain no pipe was laid from Deadwood into Spearfish Creek. They

did so without violence. “Word was sent,” said Billy Evans, Robert and Rebecca’s grandson, more than a hundred years after the conflict. “How it was sent, I have no idea, but it was said if Deadwood came over to Spearfish Creek, they were going to meet shovels, picks, and pitchforks.”

Actually, a clue in how word was sent may lie in the musty pages of northern Black Hills newspapers of the time. An unnamed *Lead Daily Call* writer in November, 1897, described meeting Robert Evans and C.W. Pettigrew in Lead as they brought Valley produce to town. The two men were firm in saying that “attempting to purloin” water wouldn’t be allowed. “And these old settlers are pretty apt to keep their word,” the writer mused. “When they begin to lose faith in the statutes, they will take to sitting up nights with buffalo guns.”

The crisis was averted, but in Spearfish many still interpreted the affair as an attempt by Homestake Gold Mine to control Spearfish Creek. The Lead mine, purchased in 1877 by California’s future U.S. Senator George Hearst and with corporate offices in San Francisco, had become the Black Hills’ leading industry. It was never hesitant to remind South Dakotans of that fact. An acquaintance of Robert Evans, who had lived in the Black Hills but now made Idaho his home, read about the 1897 controversy from afar. He saw in Homestake the potential for becoming a menacing giant that could dictate land and water policy. If it controlled enough of those resources, the man believed, it could demand forms of “tribute” from others using them. He offered to help pay legal bills if the 1897 fight landed in court, and he suggested a motto: “Not one cent for tribute, but millions for defense.”

Early in the 20th century, Homestake did, indeed, have a plan in the works for Spearfish Creek. It began buying up all creekside land it could. Its remarkably skilled engineer, Richard Blackstone (like Fayette Cook a Union Civil War veteran who headed west), studied the creek and its canyon course. He devised a way to divert the water through tunnels and use it to spin turbines in a new

hydroelectric plant at Spearfish, and to electrify the mine after connecting it to the plant with an eleven-mile transmission line. If Blackstone's calculations were correct, Homestake's new power could make it the nation's most advanced operation of its type. How much water did Blackstone want for his hydroelectric project? Every drop in Spearfish Canyon, he said, though he doubted that would be possible because of springs and small Spearfish Creek tributaries in the canyon. The *Queen City Mail* in 1908 took a position much different than its take in 1897, noting, "it is well understood that Homestake has riparian rights through purchase in the Spearfish Canyon and in the Valley which gives it an unlimited water supply for power...". The newspaper understood that Spearfish stood to gain jobs as the system was constructed and the plant activated.

Spearfish irrigators knew full well how a mine could damage a stream. In Deadwood, Whitewood Creek ran through town gray and lifeless, polluted by Homestake mine tailings. But the plan Homestake announced for Spearfish Creek in 1908 was different. The same clean water would be returned to the creek bed at the Spearfish power plant after being diverted south of town. From the diversion point, the water would rush four-and-a-half miles through a series of tightly-connected tunnels Homestake laborers would cut, penetrating the canyon's west wall. The creek was anything but cooperative as the project progressed, flooding massively in 1909. Still, when the plant began supplying electricity for the mine in April, 1912 (as it would for the next 90 years), the system worked almost perfectly. The public saw little difference in the creek's flow as it left the plant on Spearfish's south end and passed through town and filled the ditches. The canyon between the diversion point and Spearfish was greatly altered, however, and the creek bed sat mostly dry.

While water disputes involving towns and industries were public, another form of conflict did not usually make headlines. Families who shared the ditch system didn't always see eye to eye.

“Of course there have been questions from time to time about whose turn it was to take the water, or about how much they really needed,” said Billy Evans. Originally by damming a ditch temporarily with boards, irrigators took a “head of water,” a loose designation based on reasonable need rather than a defined quantity. The subjective definition naturally led to misunderstandings. Sometimes an irrigator insisted he needed more water than his neighbor because of more porous soil.

“In the old days, the rule often was the toughest got it,” Evans explained. “There were lots of fist fights, pushing, and threats. There were feuds between families that carried over to fights on the school playground. Other people would sort of laugh, but resentment could be pretty serious. That water was a family’s livelihood.”

Failure by a family to properly maintain the section of ditch running through its property, resulting in impeded water flow, would certainly trigger dispute. Fallen tree branches, tumbleweeds, silt build-



Horse or mule-drawn shovels, called slip-arounds or fresnos, cut the ditches.

up, and ditch edges worn down by livestock were common impediments. Since the beginning of the system, it has been common for irrigators to walk the length of a ditch in April, inspecting it

before the water gates open in early May. Often families band together to help one another with labor-intensive maintenance projects.

As irrigators came to greater understanding of the Valley and creek over the years, they could predict things that the settlers of 1876 could not. In the Black Hills, a warm March doesn’t necessarily mean

a mild spring is underway. Cold and snow in April and even May can kill livestock and delay planting for weeks. During the growing season, water put on crops isn't entirely lost to downstream users, thanks to the Valley's steady northward decline and its underlying gravel bed; water seeps through the gravel and recharges springs that feed the creek to the north. In fact, some farmers claim, they can irrigate a certain section of land and know the approximate time the creek will begin rising downstream. If possible, irrigation season should end and the ditches emptied before the first frost, but that timing is harder to predict. Spearfish people know that even after the hottest summers, nights turn quickly chilly in September, even though days may remain warm. Typically, the first frost hits late that month or early October. That became the target for closing the ditches.

Irrigators also learned that, contrary to popular Black Hills belief, Spearfish Creek doesn't run perennially strong. It always runs fast due to its slope, but dry summers will reduce its flow and lessen its power. Homestake learned that in 1916 when its hydroelectric plant lacked incoming water power to justify three turbines, as the plant had been designed. The company removed one and developed a secondary plant with it upstream.

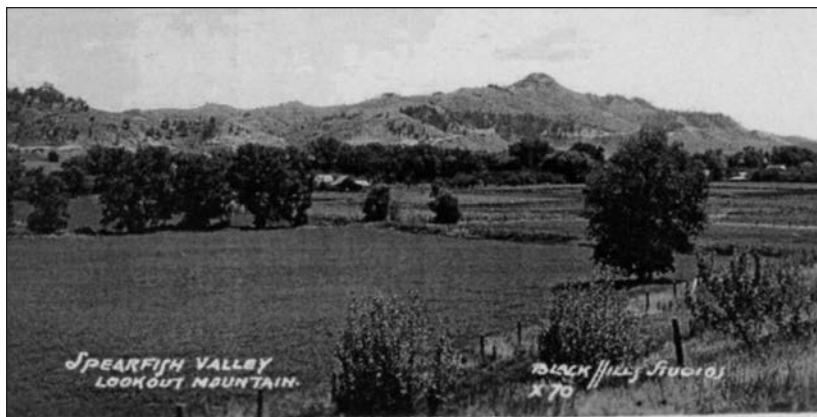
That was the same time when it appeared to the public that Valley irrigators were squabbling among themselves over who had enough water and who didn't—to the point of going to court. The case was Evans et al. versus Cook et al. (the litigant named Cook was Charles, not Fayette). But the real force behind the case was Homestake, who induced an irrigator to initiate it. The case was a successful move to allow the court system to set Spearfish Creek water policy as opposed to enforcers of standard state policy. In 1921, the South Dakota Supreme Court ruled that any agreements Spearfish Creek irrigators made among themselves or others prior to February 28, 1877, were invalid because until that date the federal government considered the Black Hills reserved for the Lakota people. Therefore, water policy should be based on the federal Dry Lands Act of March 3, 1877.

Three-fourths of an inch per acre of continual flow should be uniform for all users, the Supreme Court ruled in November, 1921, regardless of how porous the land might be, or prone to “extra seepage.” The court confirmed that land owners who held several parcels up and down the creek could draw water at any point in proportion to total land owned, and it stressed that Spearfish Creek water was public. As such, water appropriations were to be made, “not only for the appropriators, but also for the benefit of the public. The very foundation of the right of appropriation is the fact that it is to the public interest that waters shall not be allowed to run to waste and the use not benefit mankind—and what benefits man benefits society, of which he is a unit.”

Homestake Gold Mine could document that it benefitted American society profoundly. During the rapidly approaching Great Depression, it would stand as a corporation barely touched by economic woes, and it would use some of its profits to buy still more property adjacent to Spearfish Creek. Although its board of directors sat in a San Francisco board room, and while disagreements over water usage would persist, Valley irrigators came to see plenty of benefits in having an industrial giant as a partner in protecting the creek.

It was in the 1920s that the last of the original ditch developers and Valley farm pioneers passed away. Fayette Cook died in 1922, three years after retiring from his long tenure as college president. In 1929, at age 89, Robert Evans passed on. He and Cook and dozens of others who dug the system and planted crops and trees, usually in cooperation with each other but sometimes looking over their shoulders, knew they had truly transformed a piece of the American landscape, in the spirit of pioneers of their era.

The 1930s, however, would challenge South Dakota farmers and ranchers as never before. Deep drought gripped the Great Plains, and winds whipped dry soil into clouds that could obscure sunlight. The Dust Bowl drove many people off the land permanently. Still,



Irrigated croplands in the Valley as they appeared in the middle of the 20th century. Black Hills Studios collection

Spearfish fared better than most of the state's communities, actually growing in population as mining and timber industries drew displaced workers. There's no doubt the ditches helped Valley irrigators hold on, but the system was stressed. The worst year was 1936. As early as May, just after the water gates opened, established irrigation practices were draining a two-mile stretch of Spearfish Creek through the Valley.

"Several thousand game trout as a result were stranded in the still pools," reported the *Queen City Mail* in its May 29 edition, "unable to make their escape to flowing and cold water which is essential to their existence."

The same year, Works Progress Administration laborers began building a reservoir on Iron Creek, a Spearfish Creek tributary above Spearfish. The resulting Iron Creek Lake was successful later in releasing a more consistent flow during droughts. Better yet for South Dakota irrigators were steady rains that returned in the 1940s.

Until the middle of the 20th century, field irrigation usually meant damming ditches and flooding the croplands. New technologies, beginning with mechanical pumps, made it possible to saturate fields evenly as water passed through pipes or hoses and was dripped or sprinkled into the soil.



Water flowing along Spearfish's Main Street keeps in-town lawns, vegetable gardens, and flowers growing.

In 1961, the state Water Resources Commission photographed the Spearfish Creek irrigation system from the air and determined how many acres each ditch watered. The Commission's survey reported that in the system's 85th year, 3,738 acres were irrigated by ditches that stemmed from the creek's main branch, plus another 412 acres from two tributaries—Higgins Gulch and Big Spring. Ditches still bore the names of early families across whose land they were cut: Evans-Tonn, Ramsdell,

Owens-Gay, Walton, Cook, Ackless, Mann, Stabio, as well as Spring Branch and Homestake ditches.

But the 1961 Water Resources Commission survey wasn't what irrigators remembered most vividly about that year. Rather, they recalled another dry, blistering hot summer. In the time just before most of Spearfish's streets were paved, rusty-red dust kicked up by cars and trucks coated tree leaves. Children kept cool by splashing in the irrigation ditch that ran along north Main Street. Gardens withered in neighboring towns, but half a dozen truck farms along Lower Valley Road (Evans Lane) north of the college proved their worth. In August, reported the *Queen City Mail*, "The Valley Road often carries as much

traffic in a day as U.S. highway 14 north of the city. As a result, numerous Valley farmers are earning a living for their families, and hundreds of families in the Northern Black Hills are daily sitting down to their tables to enjoy the products of the irrigation gardeners' labors." Sweet corn by the ear or bushel, tomatoes, beans, beets, carrots, onions, cucumbers, and apples were frequently requested foods, and often customers purchased flowers from the gardens, as well.

"Irrigation has again beat the drought in Spearfish Lower Valley," noted the paper.

Four years later drought conditions felt like a different world when a late spring snowstorm, followed five days later by three-and-a-half inches of rain, filled Spearfish Canyon with raging flood waters. The torrent hit Spearfish and knocked out roads and bridges, swept homes and businesses from their foundations, and killed one person. Third Street, reported the *Queen City Mail*, became "just a tributary of Spearfish Creek." The Soil and Water Conservation Sub-District for Lawrence County described the May 14, 1965, flood from a different angle, focusing on a wasted resource. Its report said that "during the first three days of the flood it is estimated that the amount of water that flowed through Spearfish would have supplied the normal needs of the city for 35 years...if that 3 day flow of water could have been used for irrigation it would, in a normal year, have irrigated an estimated 20,000 acres of dry land by providing one acre foot of water."

Irrigators, especially those closest to Spearfish, faced crop losses, as well as soil erosion and uprooted trees that compromised water flow. The northern Black Hills were designated for federal disaster relief dollars but, said the South Dakota Attorney General, irrigators could have problems securing that funding because their ditches weren't part of a governmental entity. The state and local Soil and Water Conservation organizations stepped up to keep Valley irrigators in the emergency funding loop. Of course, along the ditches, there was no shortage of repair expertise, muscle, and back-hoes.



The 1965 flood wiped out Spearfish structures, including the Grant Street bridge, and damaged parts of the irrigation system, especially in and close to town.

Not being a formal part of government (although legal entity ditch associations elected leaders and conducted business formally) kept the irrigation system under the radar in other ways, too. Around the time of the flood, state highway engineers made initial plans for Interstate 90's construction that would have wiped out ditches. Irrigators hastily arranged a meeting, and the plan was revised to allow for irrigation flow under the highway.

The late 1960s and 1970s ushered in a period of vast change for Spearfish. Much of it stemmed from a population boom that continued for the next half century (and likely beyond). Soon, in a complete reversal from community status during the Spearfish-Deadwood water fight of 1897, it was Spearfish claiming a population several times that of Deadwood and Lead. Some newcomers didn't fully understand what the ditches were; elevation drops in neighborhoods experienced mostly from cars weren't always discernible, sometimes making it appear the water ran uphill. What's more, late 20th century lifestyles didn't necessarily value seeking out fresh, local produce over supermarket stock, leading to declining truck farm stands along Lower Valley Road.

That alarmed Klink Garrett, who beginning in the 1920s helped his parents, Bill and Mary, run a popular irrigated truck farm in the Valley. After a long career in New York City and Washington, D.C. as a Railway Express Agency executive, Garrett returned to Spearfish and built Garrett's Barn, a Valley sales venue where farmers would sell produce collectively. "There are still a lot of people growing vegetables in the Valley, in Red Water, and even in town," Garrett told the *Queen City Mail* in 1974. He said he hoped to preserve a tradition, "and make possible a place where people can sell and people can buy."

The long lines of cars carrying people through Lower Valley in search of fruits and vegetables and maybe flowers wouldn't last forever, but Garrett's Barn would help carry the tradition into the 21st century.

As new housing developments took form immediately north of Spearfish, in the 1980s and 1990s on both the east and west sides of Spearfish Creek, builders had to take the ditches into account. The Evans Addition, for example, saw 80 homes lots sold in just four years, on acres originally irrigated nearly 120 years earlier by Robert Evans. But by the 1990s, Homestake had owned those acres for decades, and under its court-established rights, elected not to allow Evans-Tonn ditch water to become a resource for Evans Addition residents. Developer Joe Jorgensen consulted with Soil and Water Conservation in installing an underground concrete pipe, more than 1,300 feet long, to carry the irrigation water through the Evans Addition, re-emerging as it rushed on to irrigators farther north. Actually, irrigation water passing unseen was nothing new. From the earliest years, water had been piped under roads, businesses, and homes in parts of Spearfish. In fact, in 1939, the Works Progress Administration built a City Hall on Main Street, with Ramsdell water running southwest to northeast beneath the building's front yard. For more than 50 years, people walking across the yard to conduct city business stepped over the Ramsdell ditch, four feet below. After a new City Hall opened in 1995, Rand Williams bought the old building and transformed it for office and retail space. Williams



Ramsdell ditch water flows through a "pocket park" created at Spearfish's old City Hall.

also decided to dig and permanently expose the water, “for aesthetics and also to demonstrate our history,” he said. The result was a small “pocket park” in the heart

of downtown, where residents and summer visitors would relax along the open water.

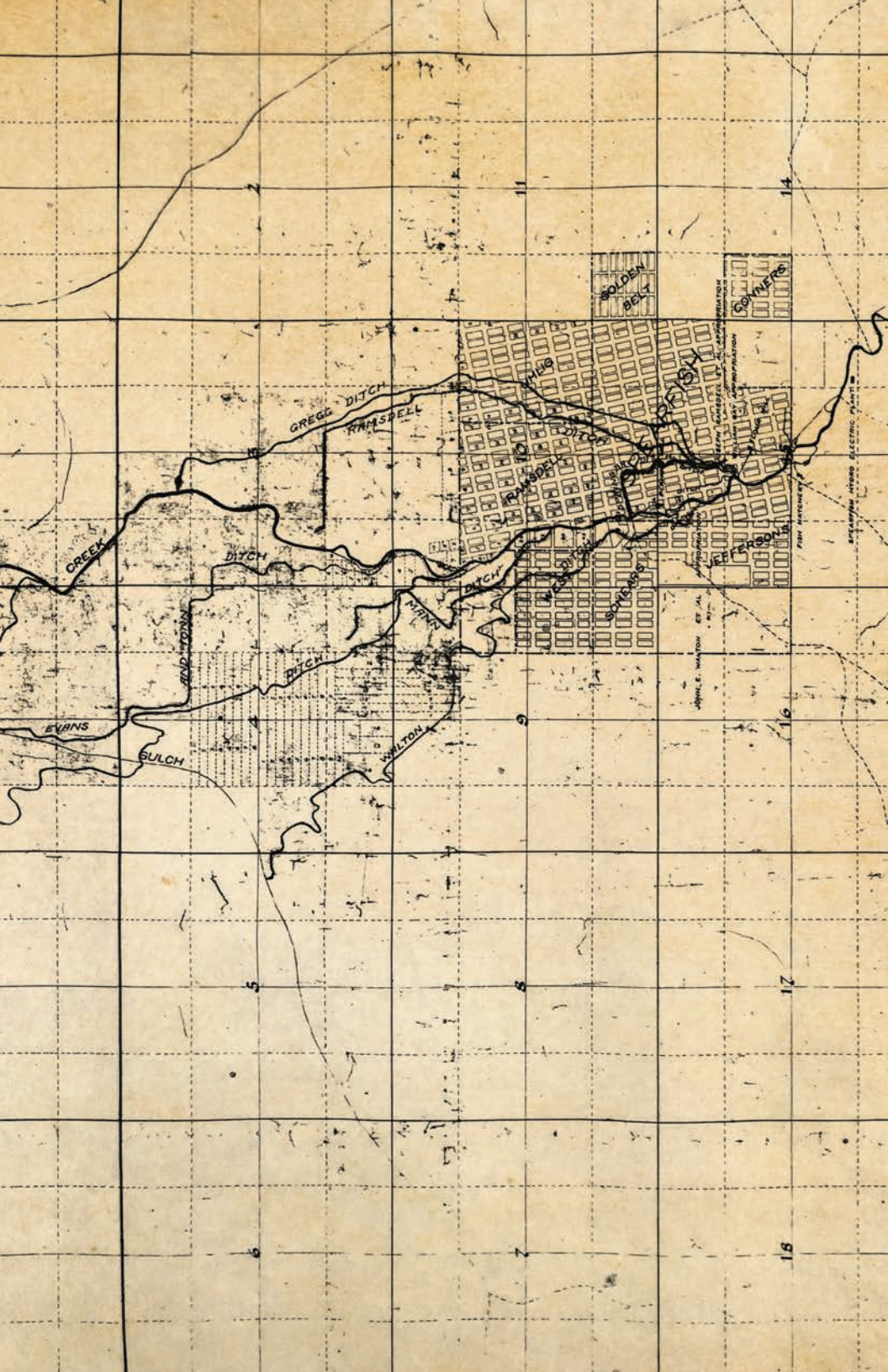
In an era of constant change, nothing impacted the Black Hills more than Homestake Gold Mine’s announcement, in 2000, that it would cease operations on the last day of 2001, after 125 years. Immediately Spearfish Mayor Jerry Krambeck let it be known that his town wanted to buy the 1912 hydroelectric plant. There were several reasons. The plant still generated electricity, it held historical value, plus securing the diversion system would ensure creek flow consistent with what irrigators had known since 1912. Spearfish was successful in its acquisition. The hardest part was working with the Federal Energy Regulatory Commission (FERC) to justify continuing to move Spearfish Creek through the hydroelectric plant at a time when the original reasons for the diversion—mining and processing ore—were gone.

Today the waters continue to flow through the ditch system, sometimes above ground and sometimes through underground piping. If the public in the 1970s seemed to be moving away from valuing local farming as trucks moved a great variety of produce from distant fields and ports, the 21st century has endorsed the concept of agricultural sustainability and local foods. Unlike many urban and suburban communities embracing the farm-to-table concept, enough land remains in and around Spearfish so that local produce can truly

be local. If the public remains loyal to farm-to-table values, sustainable gravity-flow irrigation will likely remain a Spearfish staple.

The resource, as Billy Evans and others state, is truly “the lifeblood of the Valley.”

The Author -- Paul Higbee is best known to readers as *South Dakota Magazine's* longtime Black Hills feature writer and columnist. He is a past recipient of the Governor's History Award, the author of seven South Dakota-themed books, and has been published extensively out of state, as well.



In 1876, Irish immigrant Robert Evans led the way in creating a gravity-flow irrigation system in Spearfish Valley. The system has survived feuds that pitted neighbor against neighbor, town against town, and a great industry against everyone who stood in its way. But the vital water still flows, nearly a century-and-a-half later.

